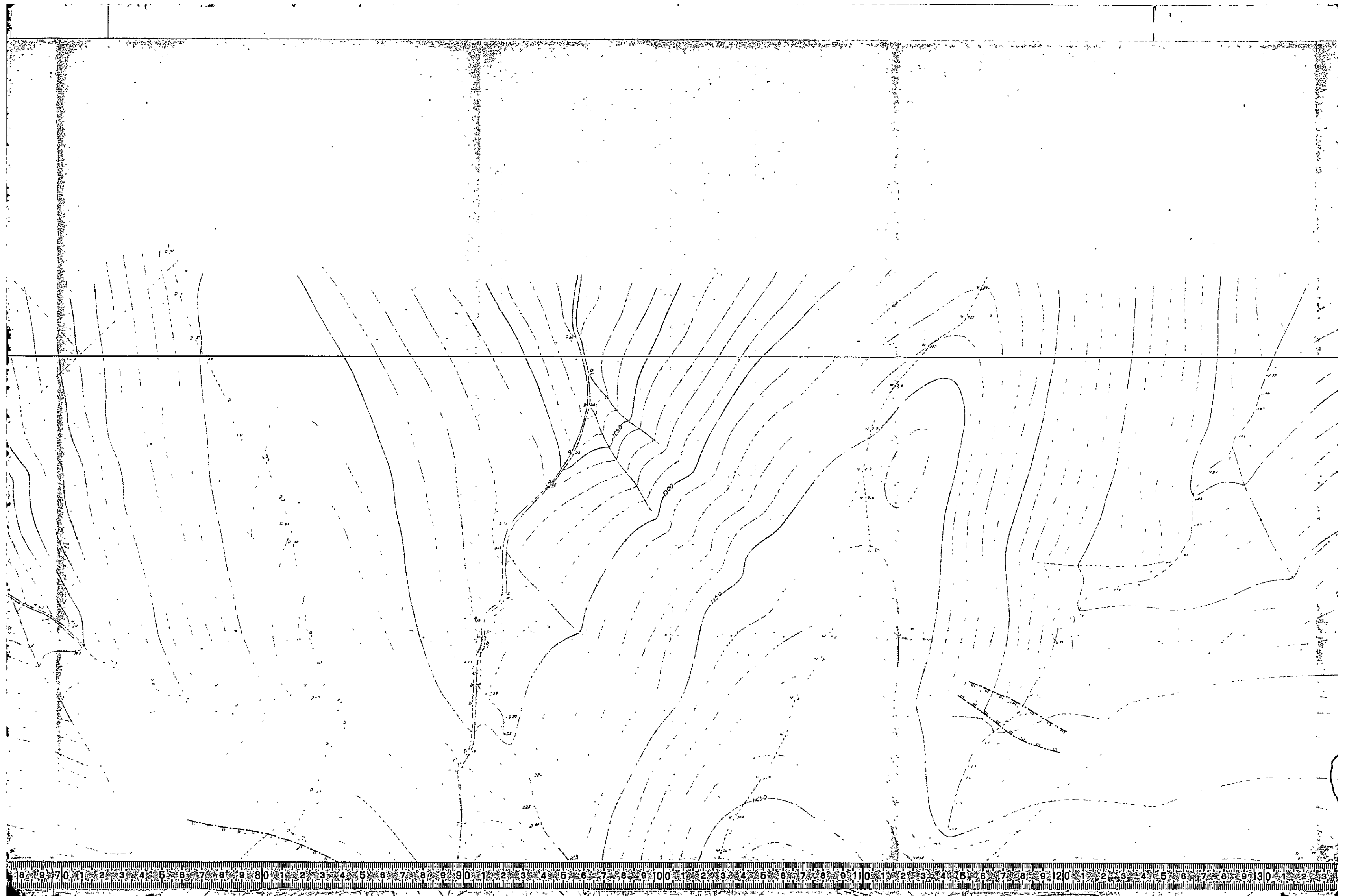


① Pj rich (SpH) Btz vlet
Wd 5-8cm max 10cm

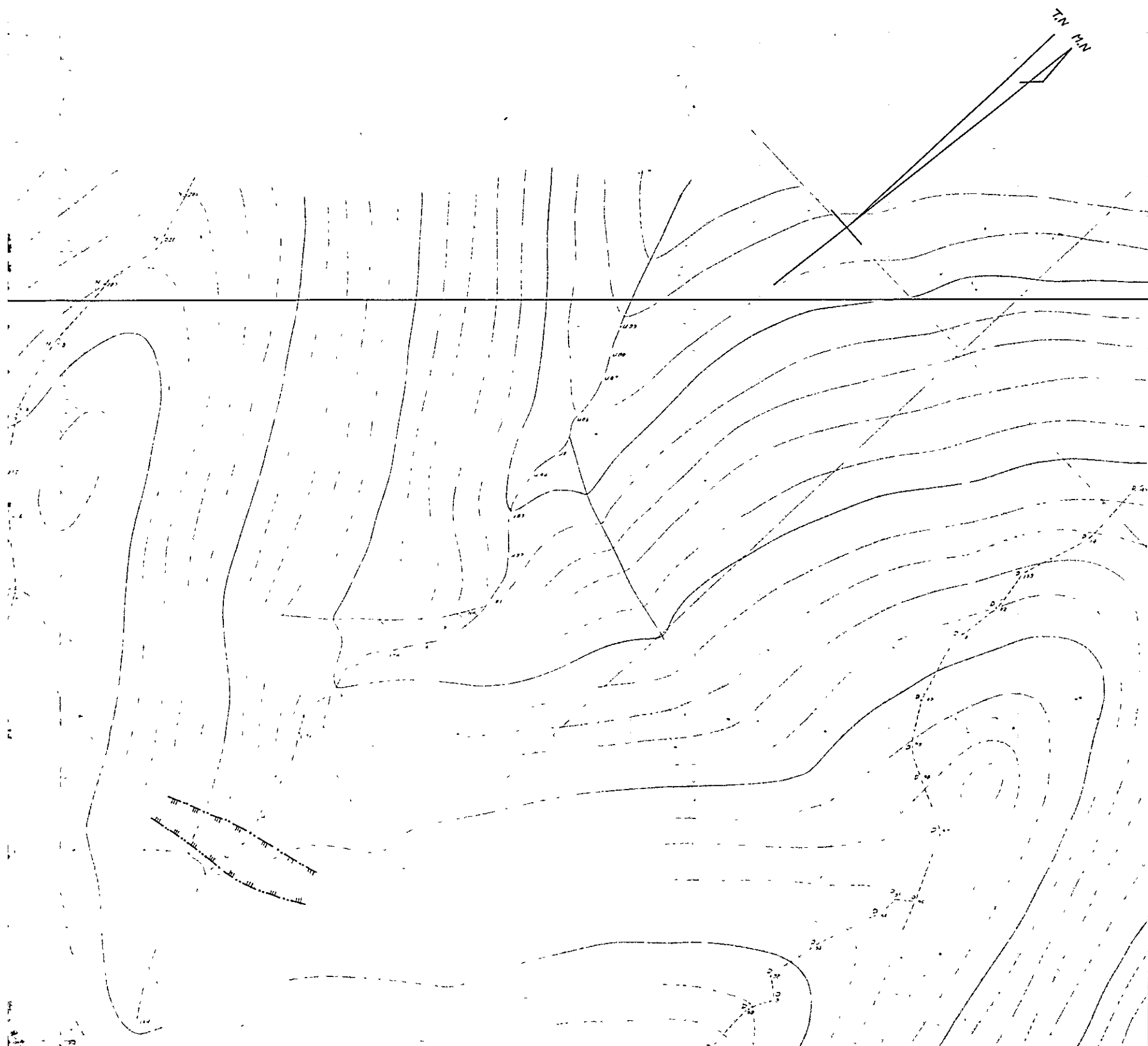




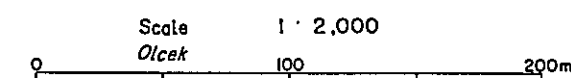
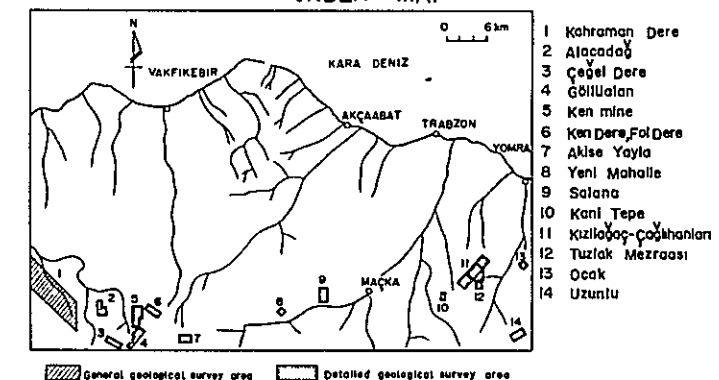
MINERAL RESEARCH AND EXPLORATION INSTITUTE
 GEOLOGICAL SURVEY
 OF
 TRABZON AREA, NORTHEASTERN TURKEY

PHASE III

ALTERATION AND MINERALIZATION MAP
 KIZILAĞAÇ-ÇAĞLIHANLARI AREA
 KIZILAĞAÇ-ÇAĞLIHANLARI SAHASININ
 ALTERASYON VE MİNERALİZASYON HARİTASI



INDEX MAP



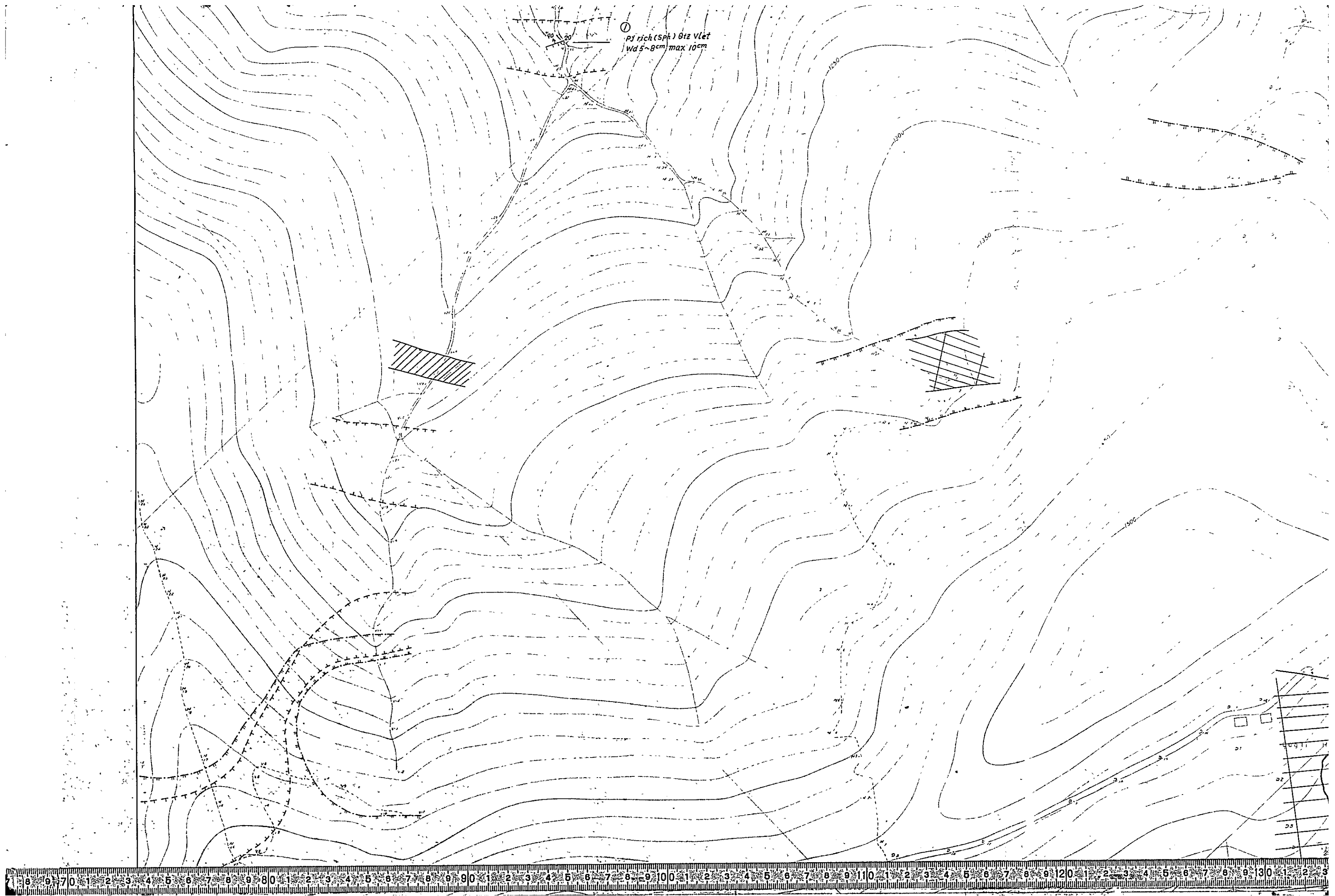
METAL MINING AGENCY OF JAPAN
 JAPAN INTERNATIONAL COOPERATION AGENCY
 FEBRUARY 1977

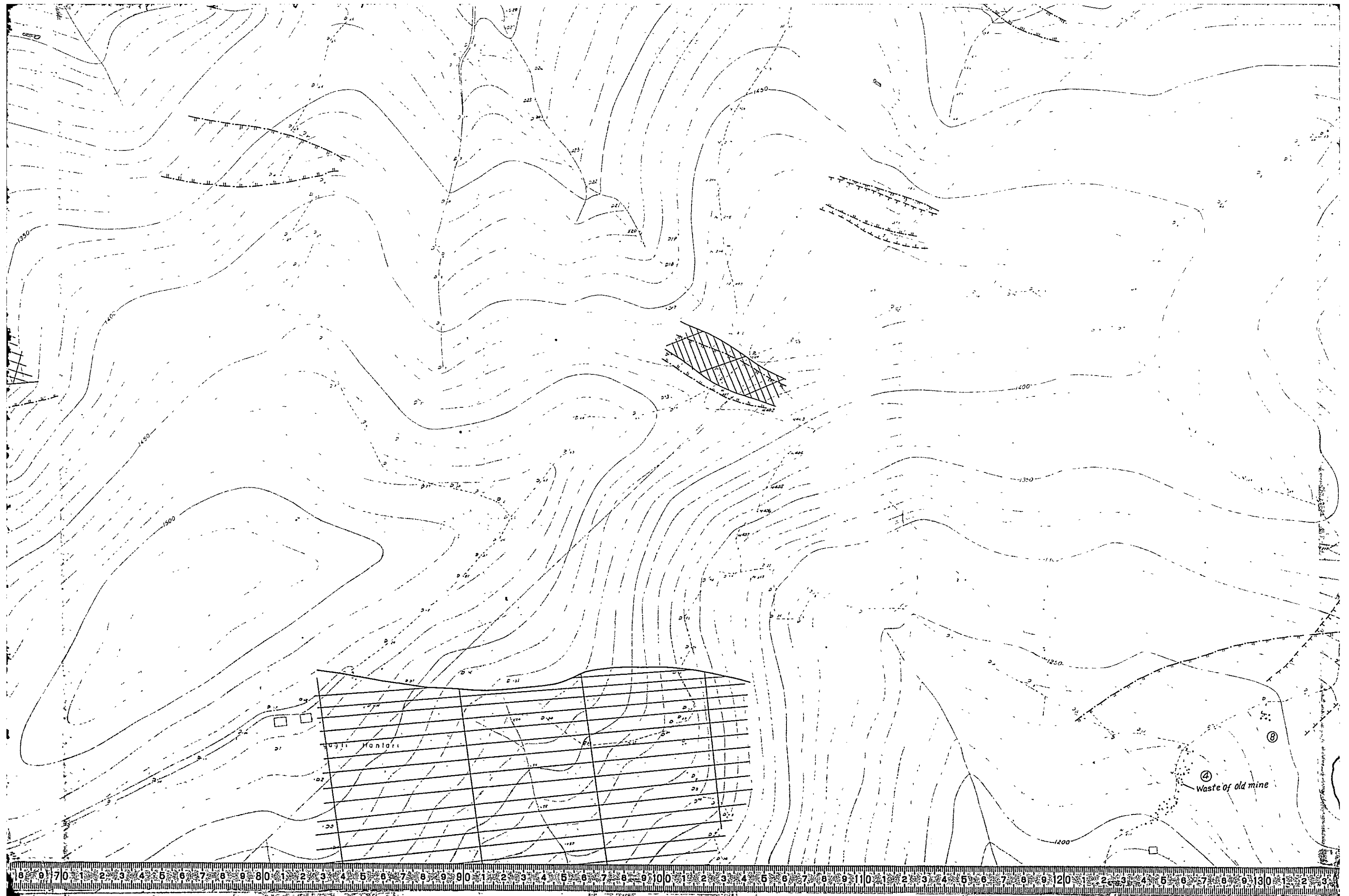
Prepared by Nikko Exploration & Development Co., Ltd.

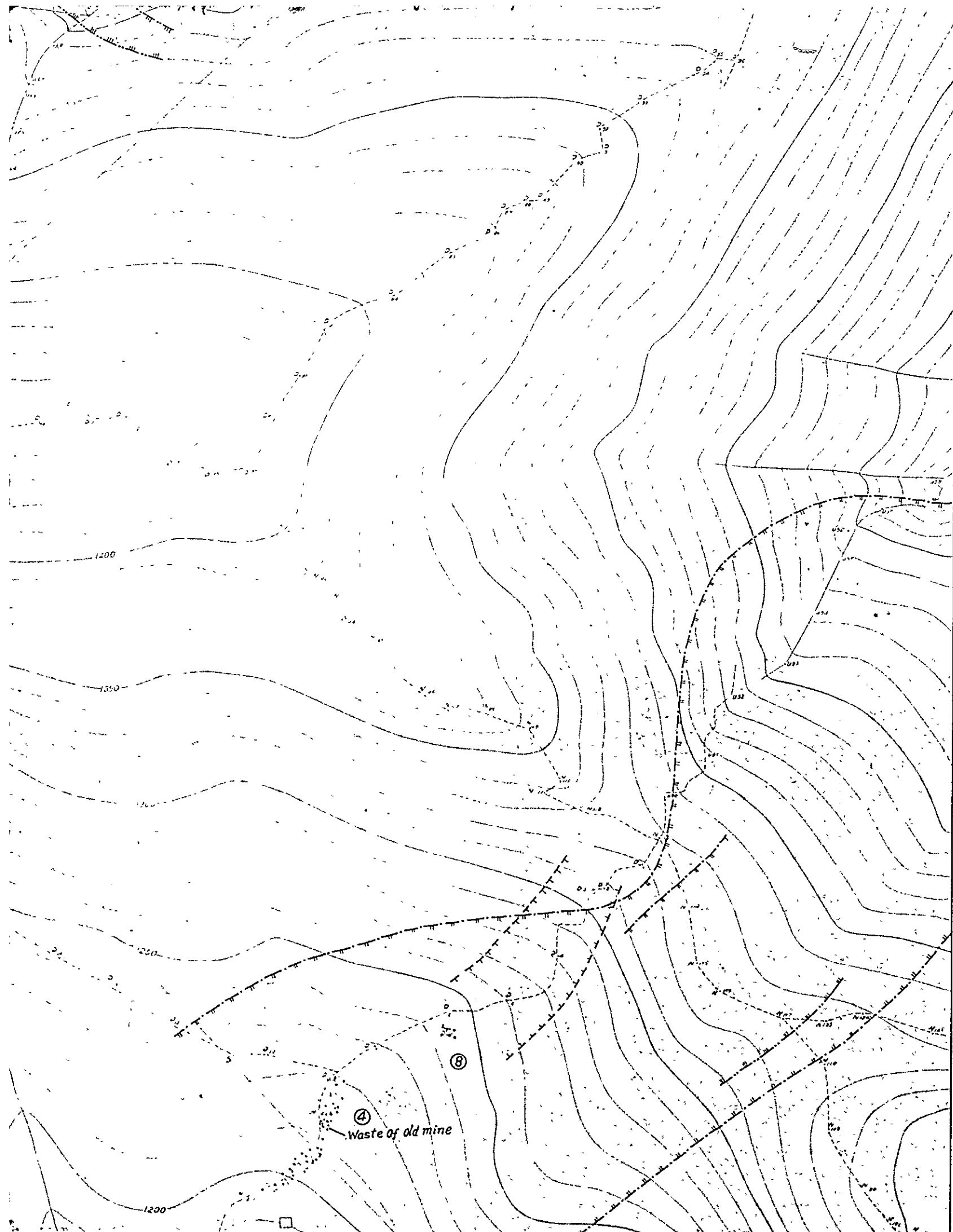
LEGEND
 LEJAND

- old mine, working mine, waste & slag
eski maden, çalışan maden
- mineralization zone
mineralezyon zonu
- vein, veinlet network, stratiform damar, damarcıklar network tabakalı
- dissemination
diseminasyon





















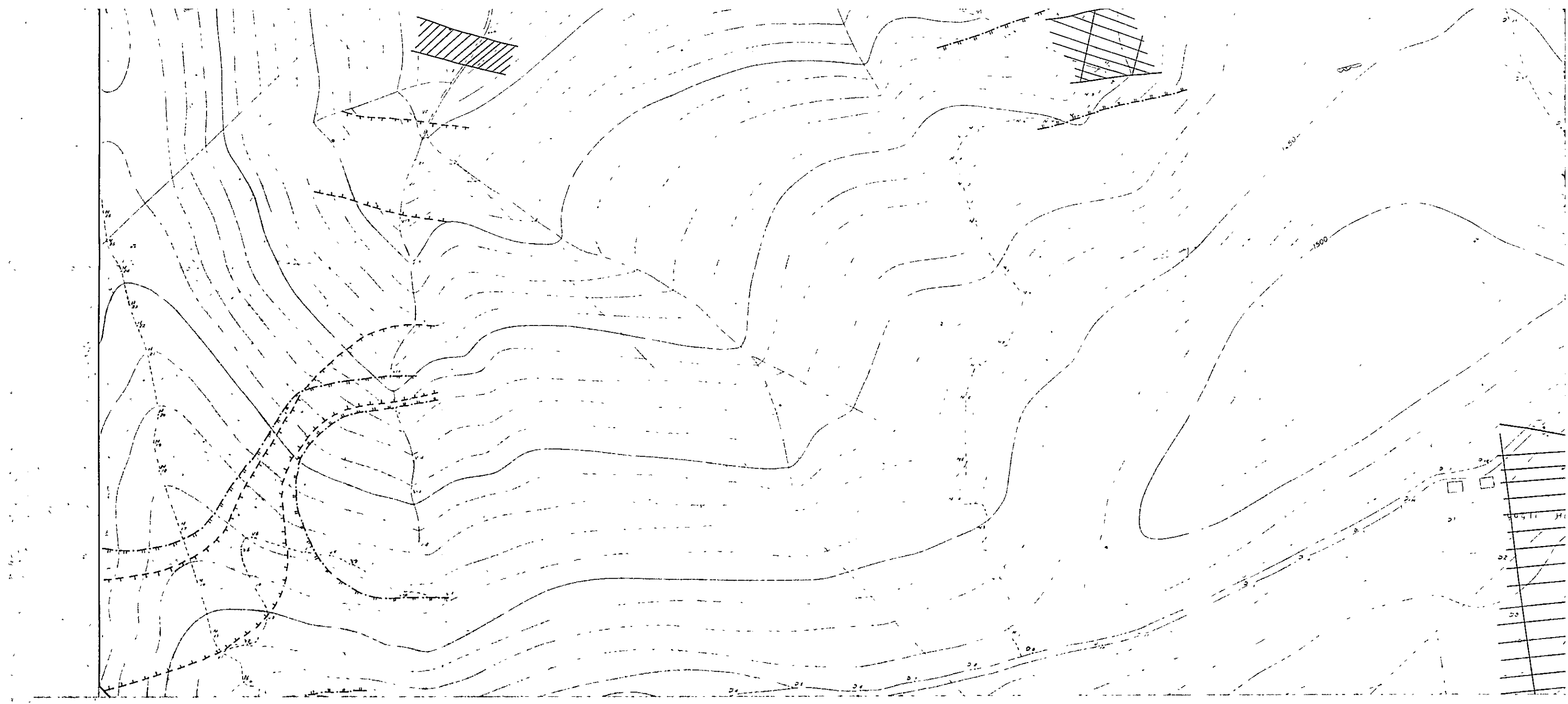
LEGEND
LEJAND

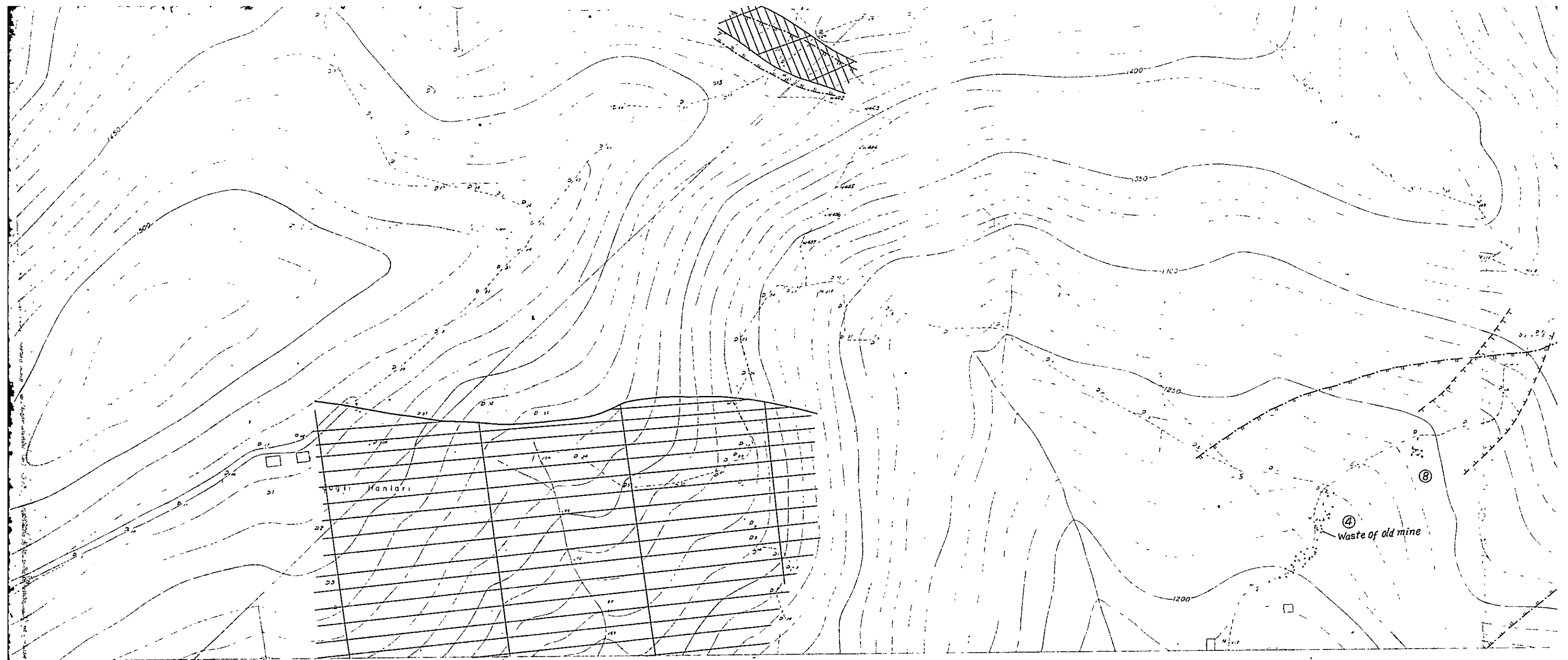
-  old mine, working mine, waste & slag
eski maden, çalisan maden
-  mineralization zone
mineralizasyon zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
-  dissemination
diseminasyon
-  pyrite dissemination and/or limonitization zone
pirit diseminasyon ve/veya limonitlenme zonu
-  silicification zone
silikleme zonu
-  kaolinization zone
kaolinleşme zonu
-  carbonatization zone
karbonatlaşma zonu
-  sericitization zone
serisitleşme zonu
-  montmorillonitization zone
montmorillonitleşme zonu
-  epidotization zone
epidotlaşma zonu
-  skarnitization zone
skarnleşme zonu

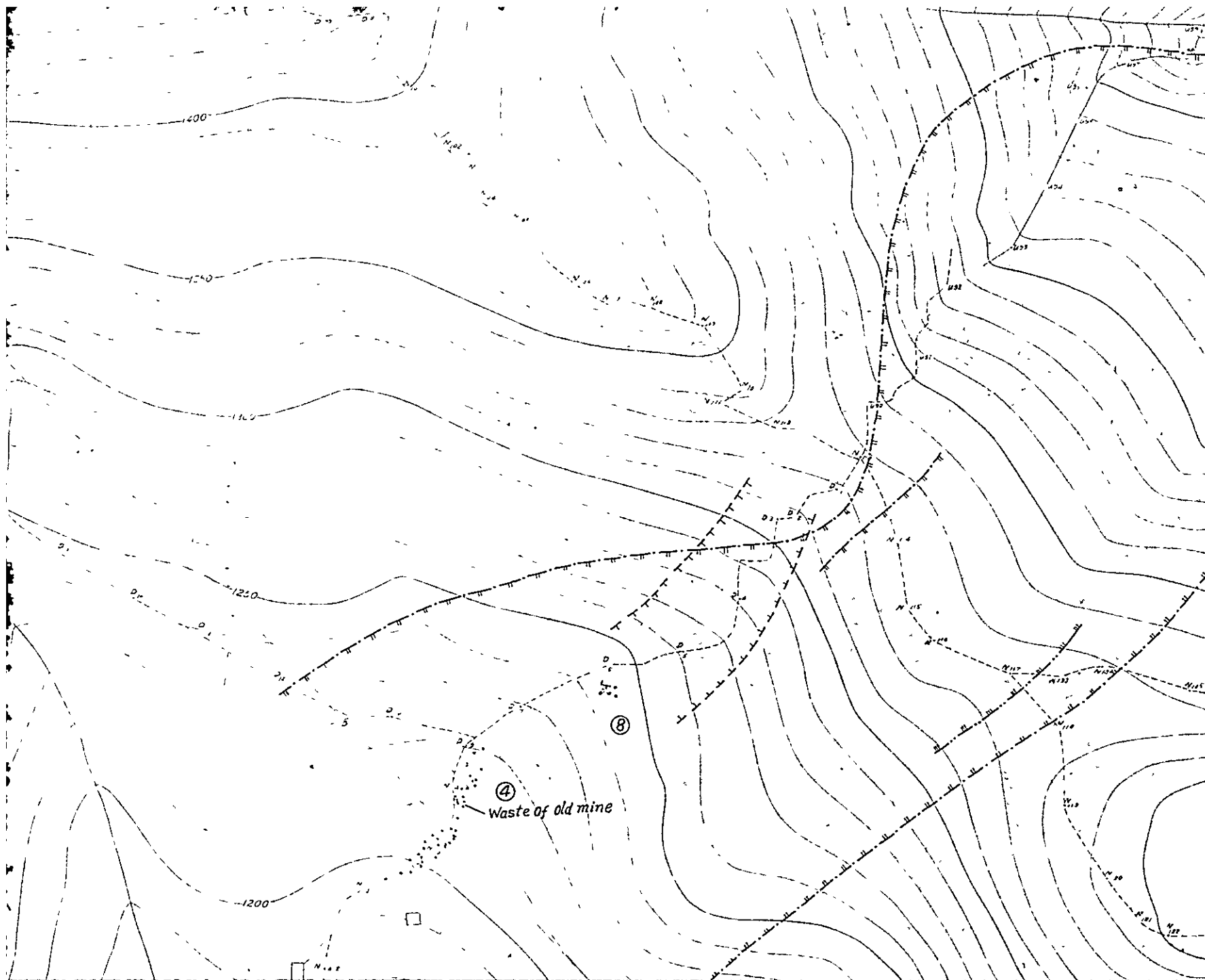
Abbreviation
Kısaltmalar



Ba :	barite	Lim	limonite
Cal :	calcite	Mt :	magnetite
Chl :	chlorite	Py :	pyrite
Cpy :	chlopyrite	Qtz :	quartz
Epi :	epidote	Spc :	specularite
Ga :	galena	Sph :	sphalerite
Kaol. :	kaolinite		
	kaolin		







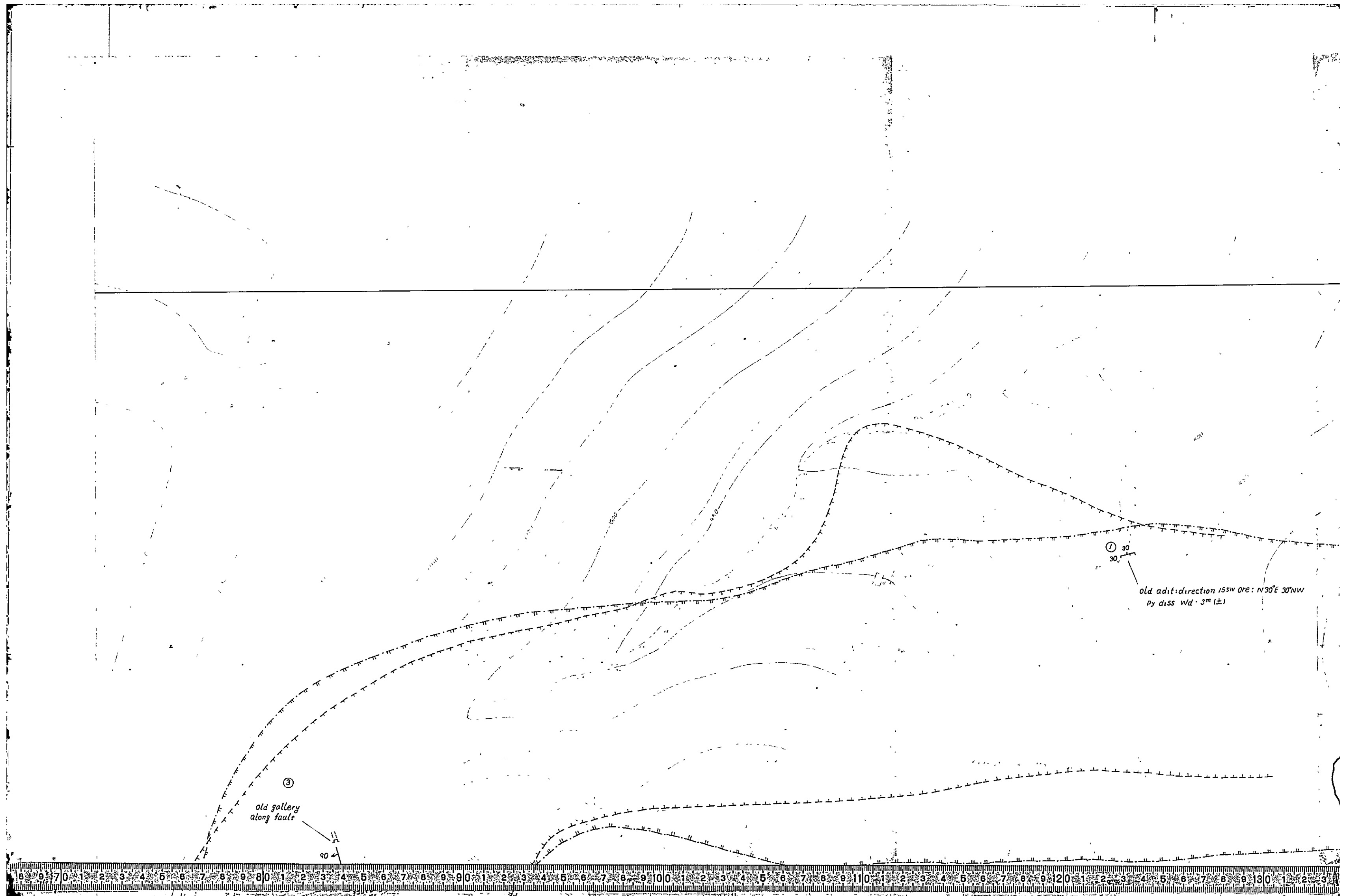


-  epidotization zone
epidotlayma zonu
-  skarnization zone
skarnleşme zonu

Abbreviation
Kısaltmalar

- | | |
|-------------------------------|---------------------------------|
| Ba : barite
barit | Lim : limonite
limonit |
| Cal : calcite
kalsit | Mt : magnetite
magnetit |
| Chl : chlorite
klorit | Py : pyrite
pirit |
| Cpy : chlopyrite
kalkoprit | Qtz : quartz
kuvar |
| Epi : epidote
epidot | Spc : specularite
spekularit |
| Ga : galena
galen | Sph : sphalerite
sfalerit |
| Kaol : kaolinite
kaolin | |



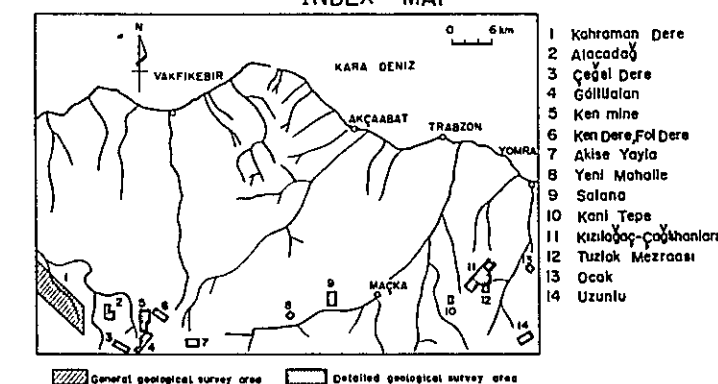


PL.3-11-3

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY
PHASE III

ALTERATION AND MINERALIZATION MAP
OF KIZILAĞAÇ-ÇAĞLIHANLARI AREA
KIZILAĞAÇ-ÇAĞLIHANLARI SAHASININ
ALTERASYON VE MİNERALİZASYON HARİTASI

INDEX MAP







Scale 1 : 2,000
0 Ocak 100 200m

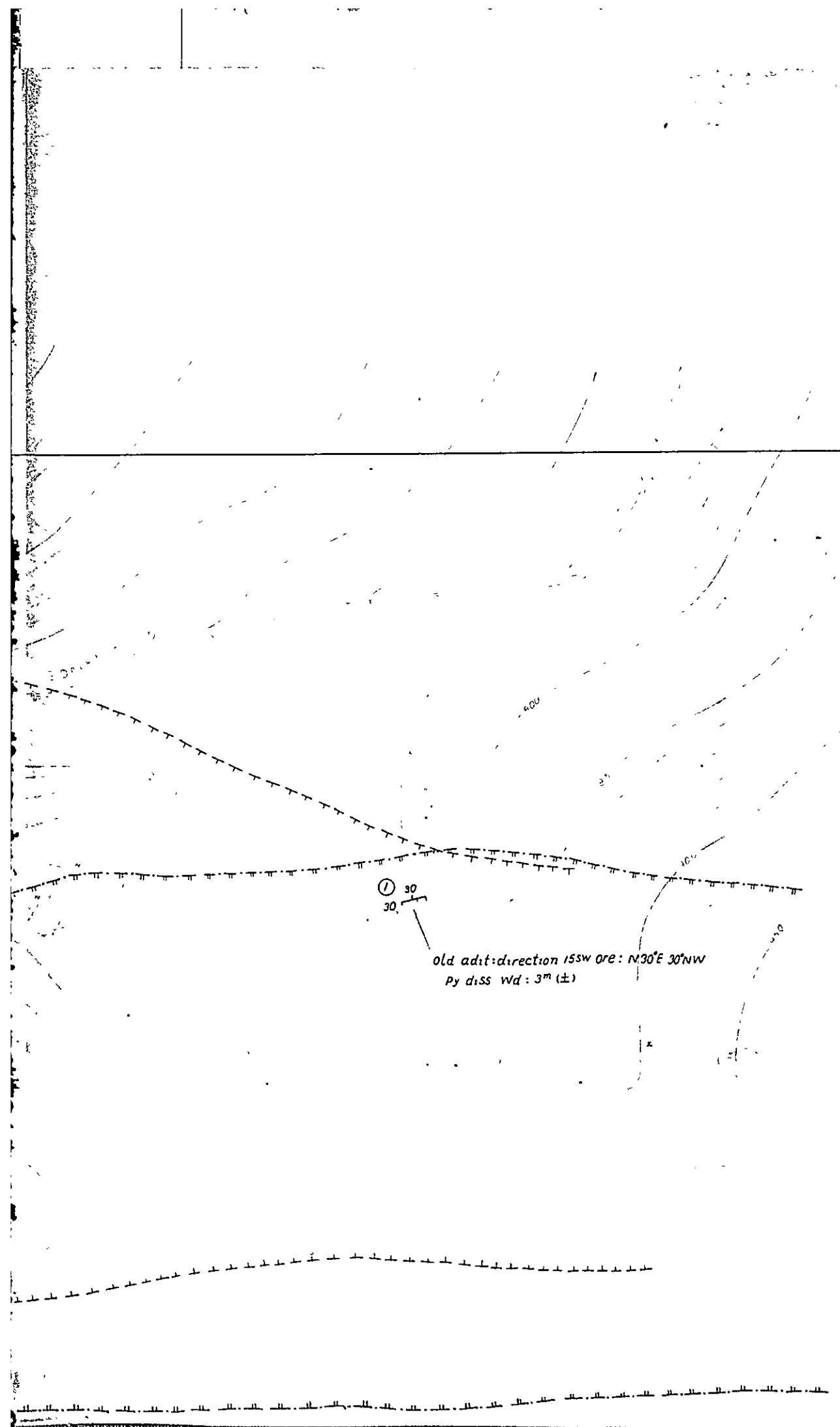
METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY
FEBRUARY 1977

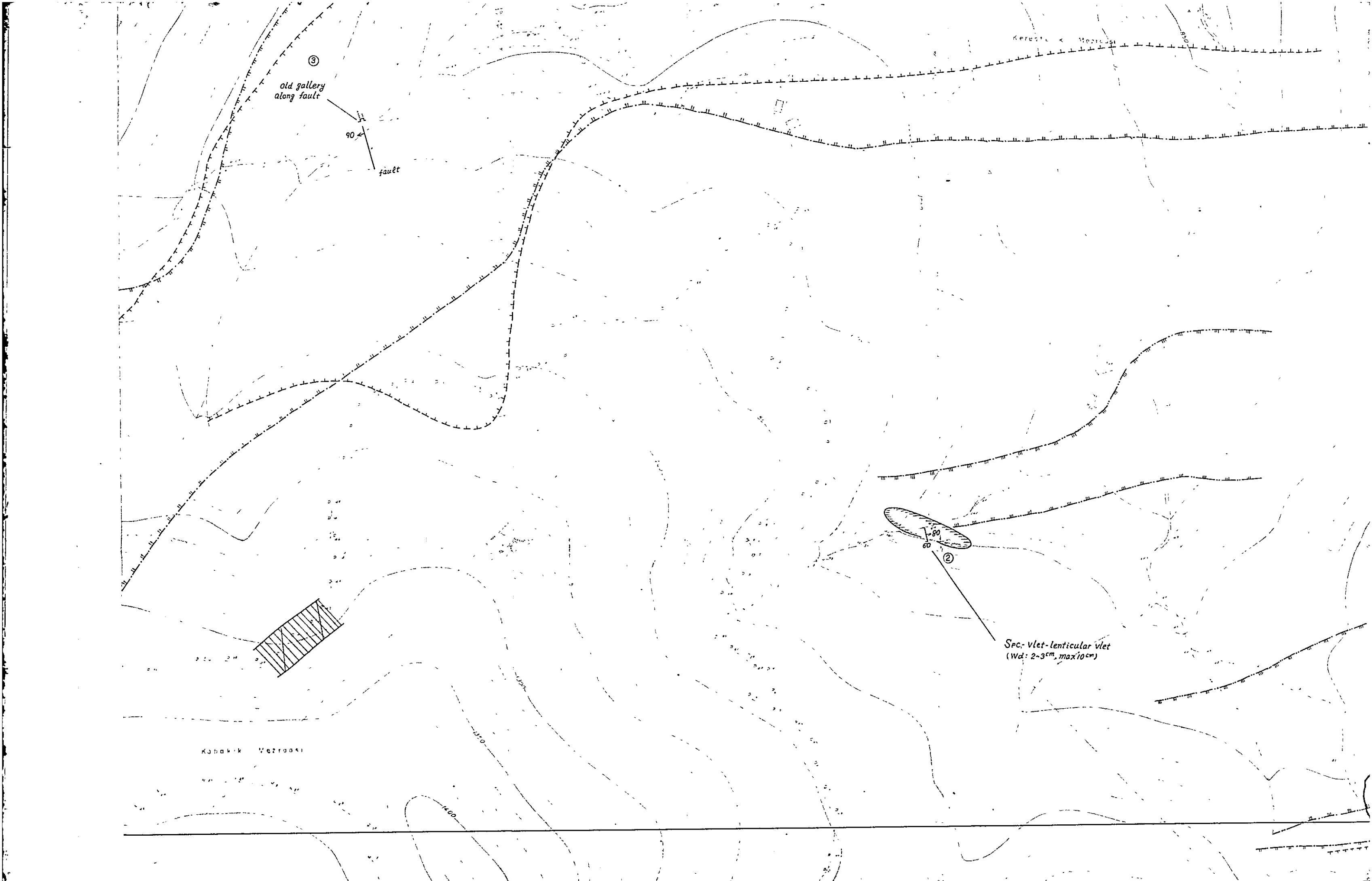
Prepared by Nikko Exploration & Development Co., Ltd

LEGEND
H.J.I.N.D.

-  old mine, working mine, waste & slag
eski maden, çıkan maden
-  mineralization zone
minerallerleşme zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
-  dissemination
diseminasyon

silicification zone





③
old gallery
along fault

90
fault

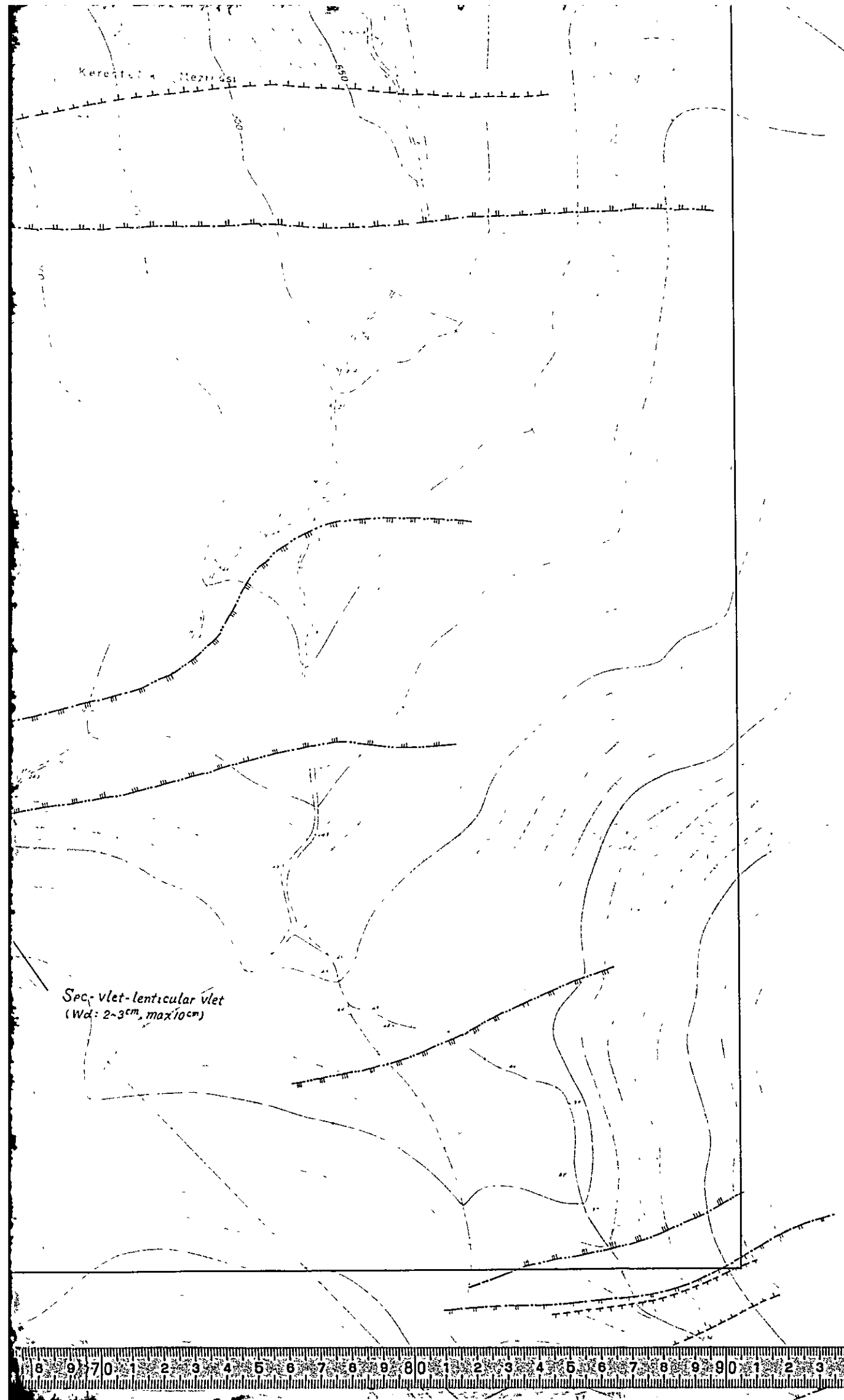
60
②

Spc. vlet-lenticular vlet
(Wd: 2-3cm, max 10cm)













Kahavik Mezraasi

Kereci k. Mezraasi





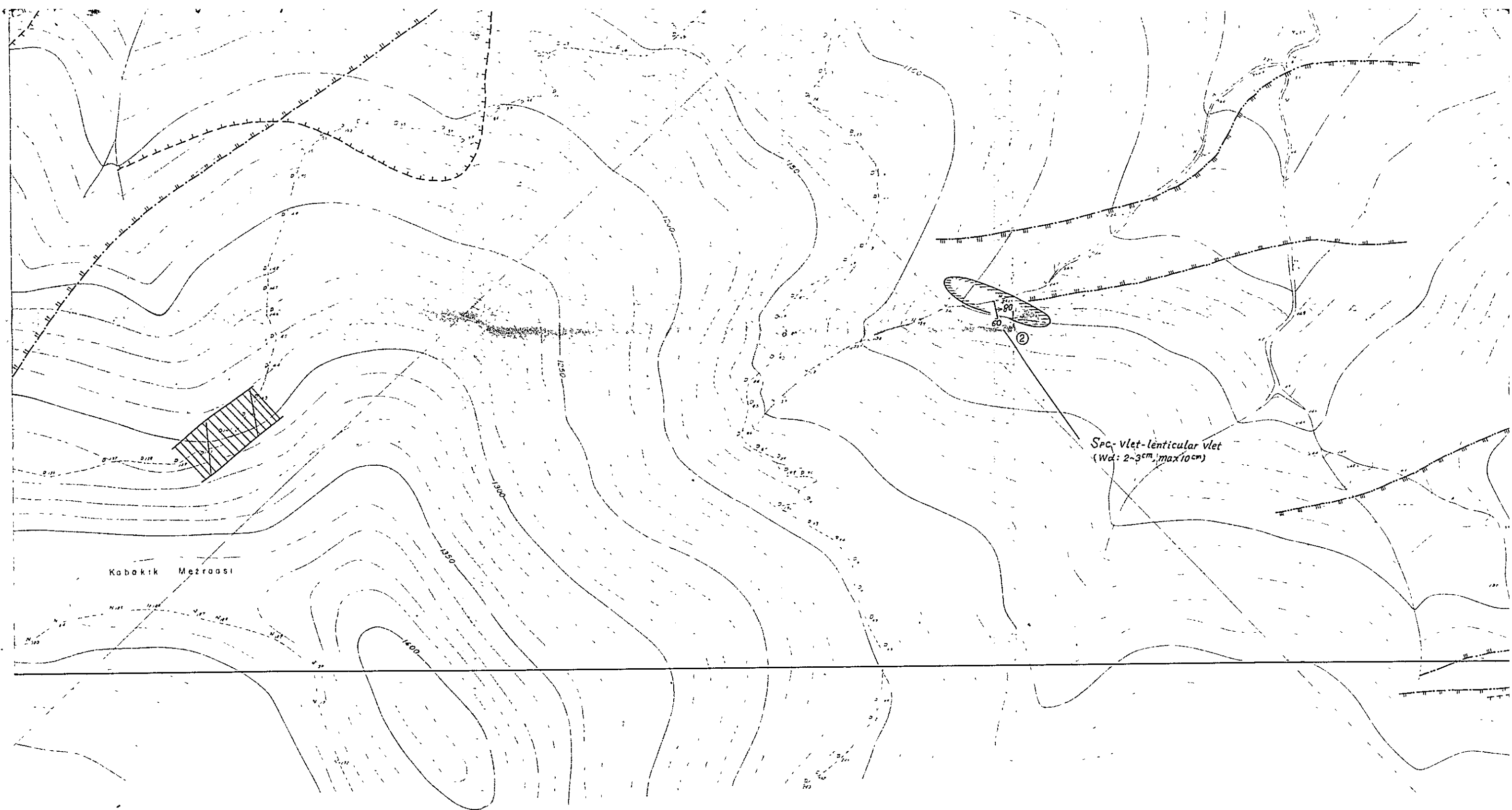
LEGEND
LEJEND

-  old mine, working mine, waste & slag
eski maden, çalisan maden
-  mineralization zone
mineralizasyon zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
-  dissemination
diseminasyon
-  pyrite dissemination and/or limonitization zone
pirit diseminasyonu ve/veya limonitlenme zonu
-  silicification zone
silislenme zonu
-  kaolinization zone
kaolinlenme zonu
-  carbonatization zone
karbonatlaşma zonu
-  sericitization zone
serisitlenme zonu
-  montmorillonitization zone
montmorillonitlenme zonu
-  epidotization zone
epidotlaşma zonu
-  skarnitization zone
skarnleşme zonu

Abbreviation
Kısaltmalar

Ba	barite	Lim	limonite
Cal	calcite	Mt	magnetite
Chl	chlorite	Py	pyrite
Cpy	chalcopyrite	Qtz	quartz
Epi	epidote	Spc	specularite
Ga	galena	Sph	sphalerite
Kaol	kaolinite		
	kaolin		

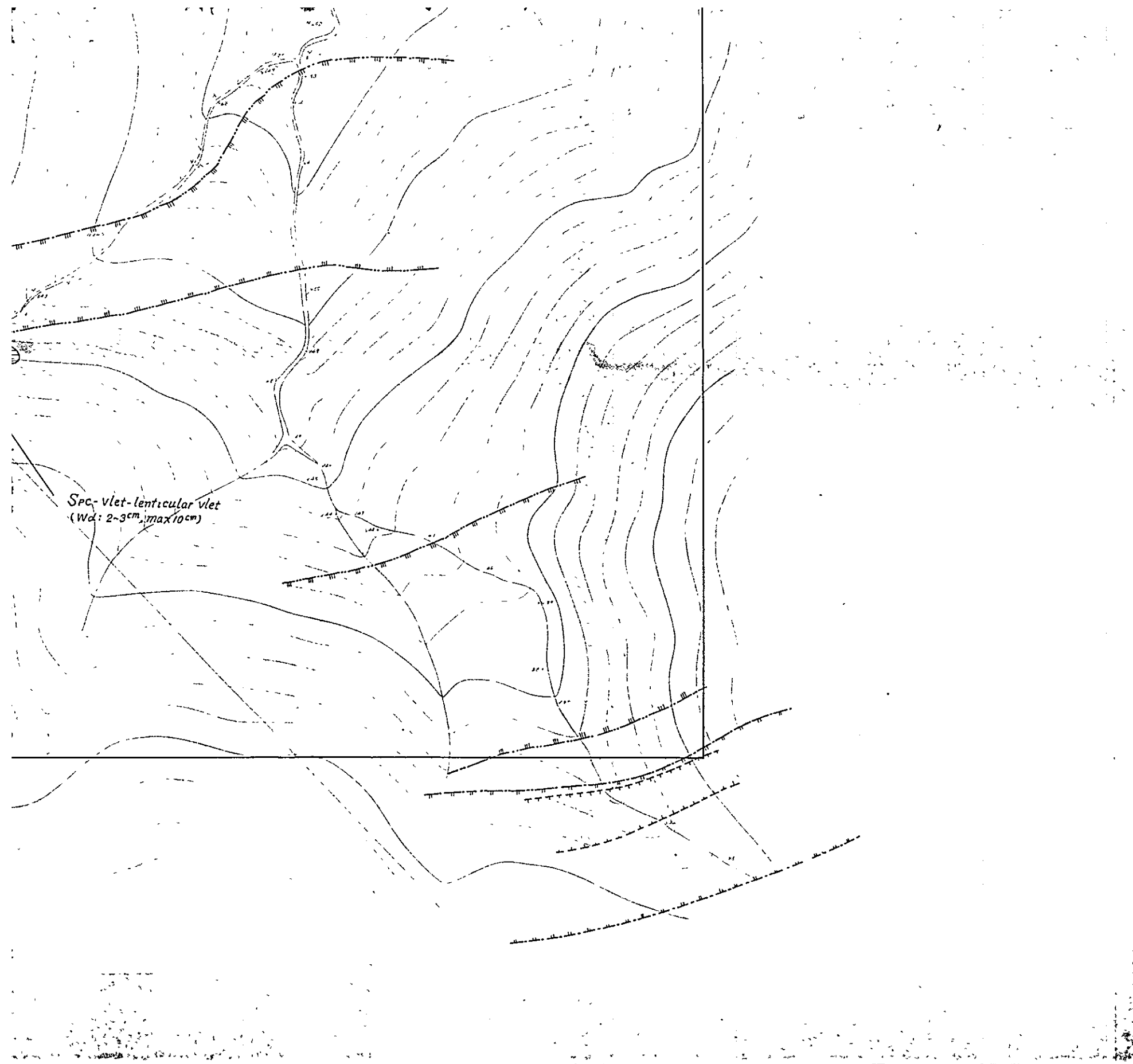




Kabokik Mezraasi

SpC-vlet-lenticular vlet
(Wd: 2-3cm, max 10cm)





montmorillonitization zone
montmorillonitləşmə zonası

epidotization zone
epidotlaşma zonası

skarnitization zone
skarntləşmə zonası

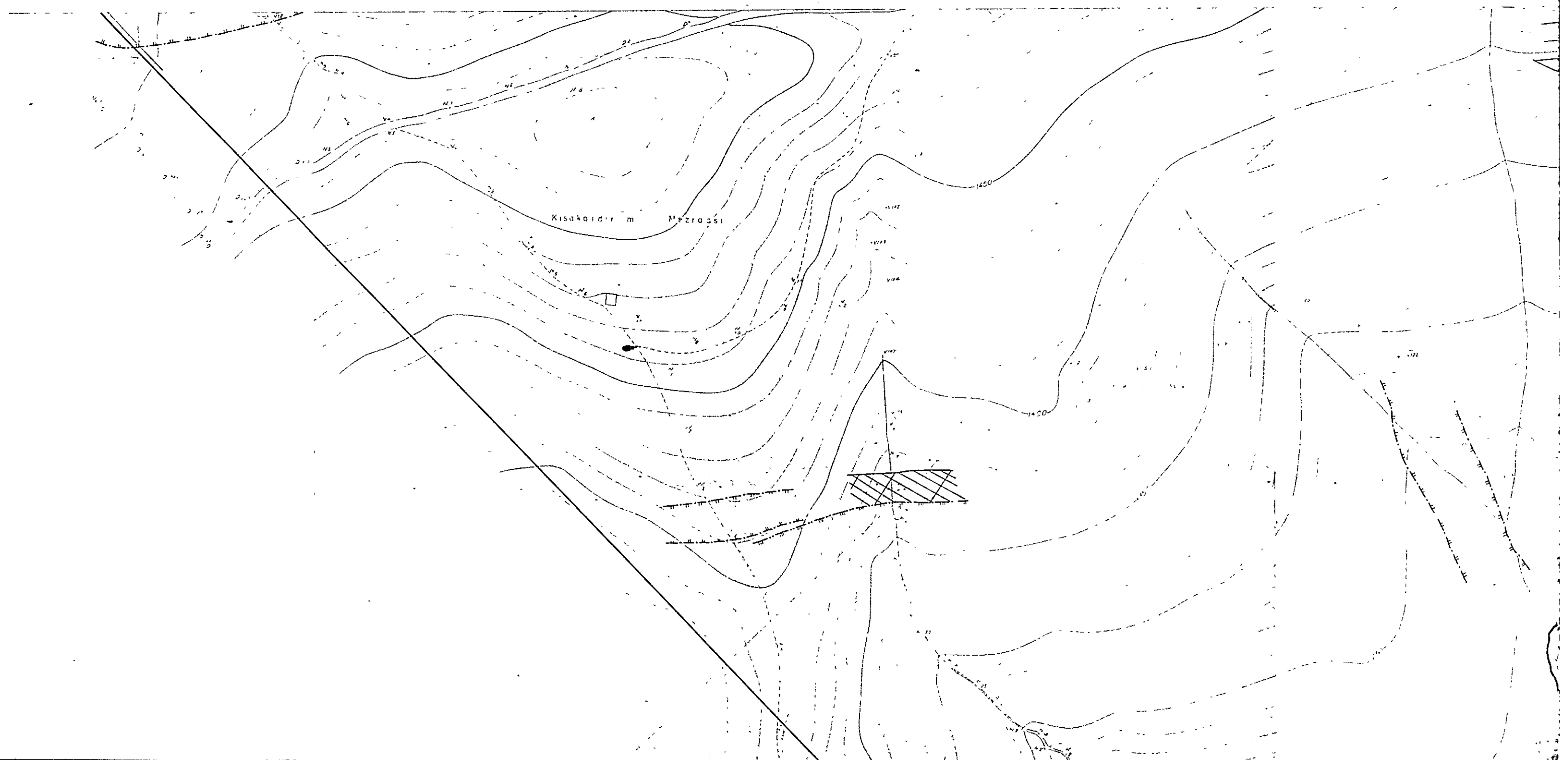
Abbreviation
Kısaltmalar

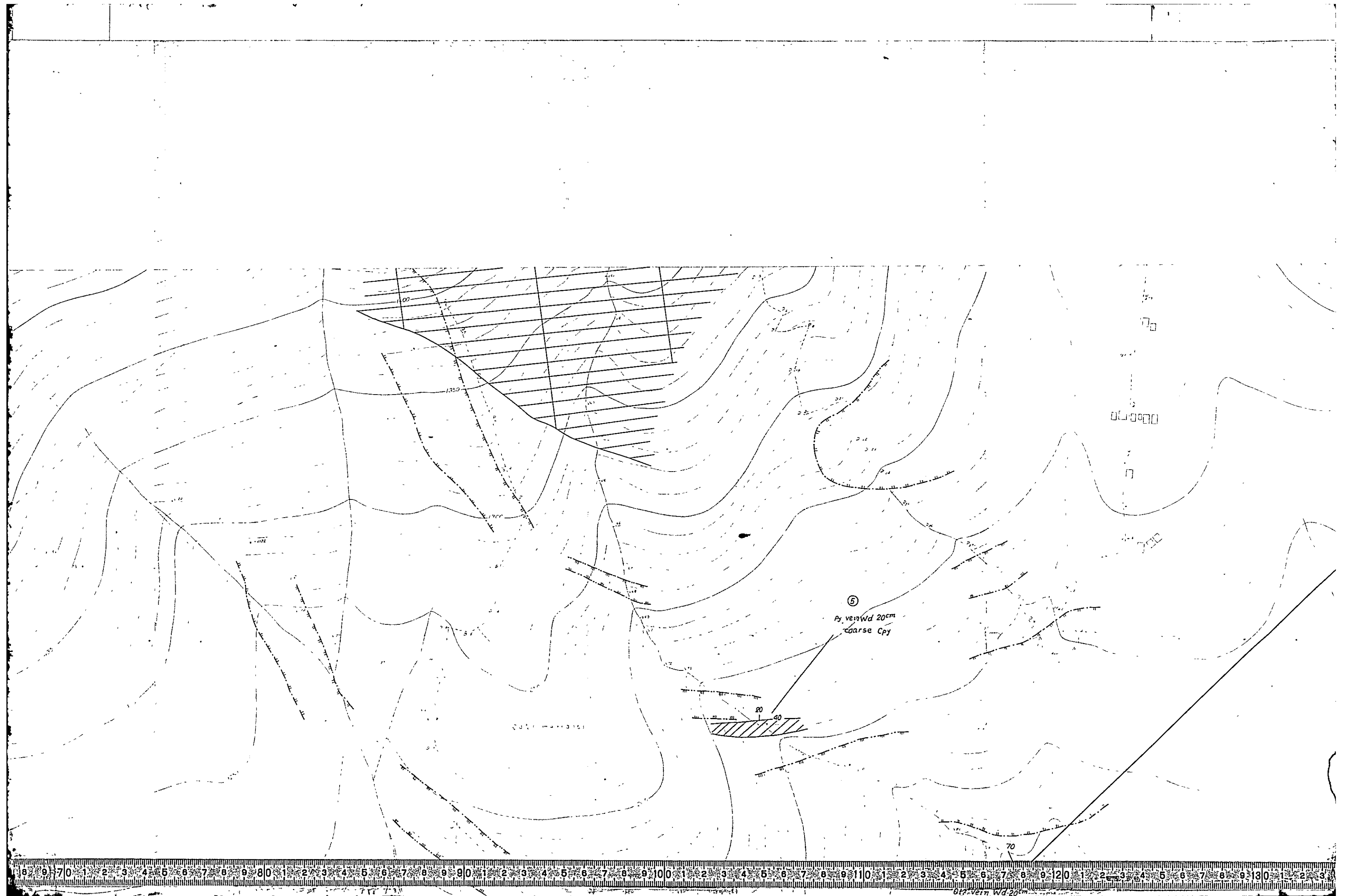
Ba . barite
barit
Cal . calcite
kalsit
Chl . chlorite
klorit
Cpy . chalcopyrite
kalkopirit
Epi . epidote
epidot
Ga . galena
galen
Kaol . kaolinite
kaolin

Lim . limonite
limonit
Mt . magnetite
magnetit
Py . pyrite
pirit
Qtz . quartz
kvartz
Spc . specularite
spekularit
Sph . sphalerite
sfalerit

Spec. vlet-lenticular vlet
(Wd: 2-3cm, max 10cm)







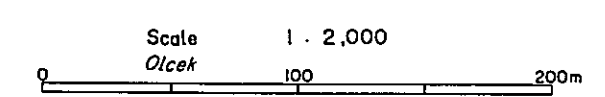
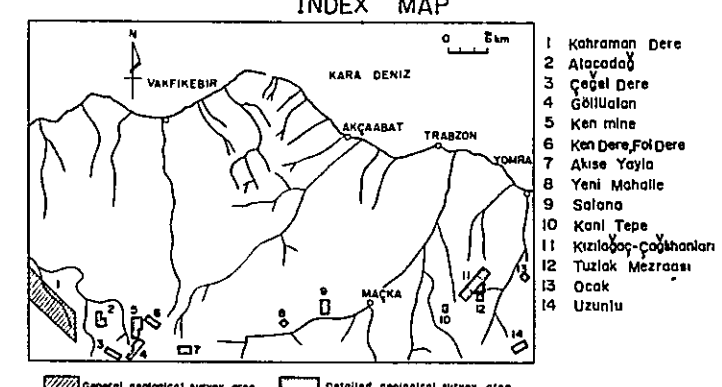
PL.3-II-4

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY
PHASE III

ALTERATION AND MINERALIZATION MAP
OF KIZILAĞAÇ-ÇAĞLIHANLARI AREA
KIZILAĞAÇ-ÇAĞLIHANLARI SAHASININ
ALTERASYON VE MİNERALİZASYON HARİTASI








INDEX MAP

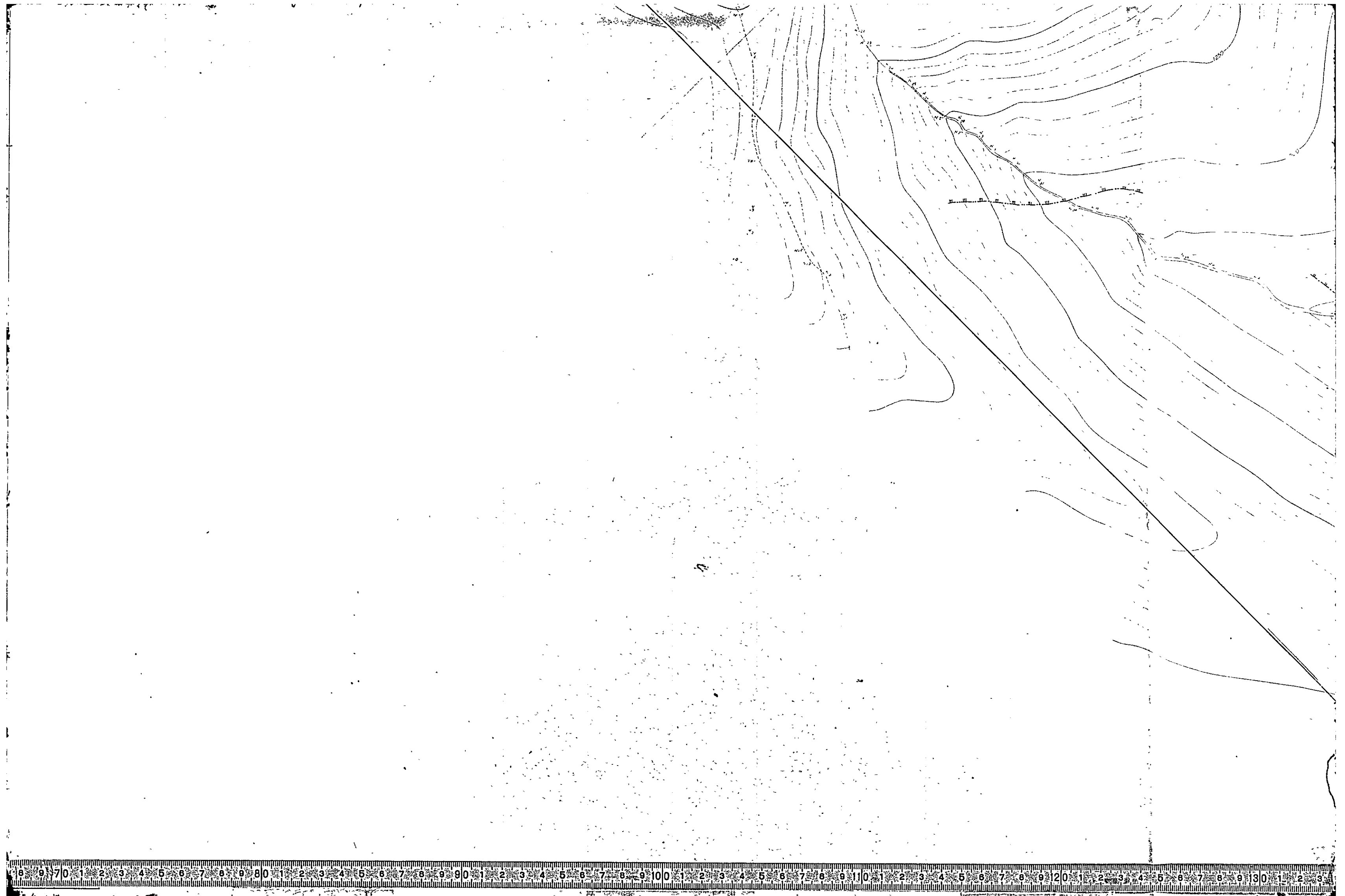


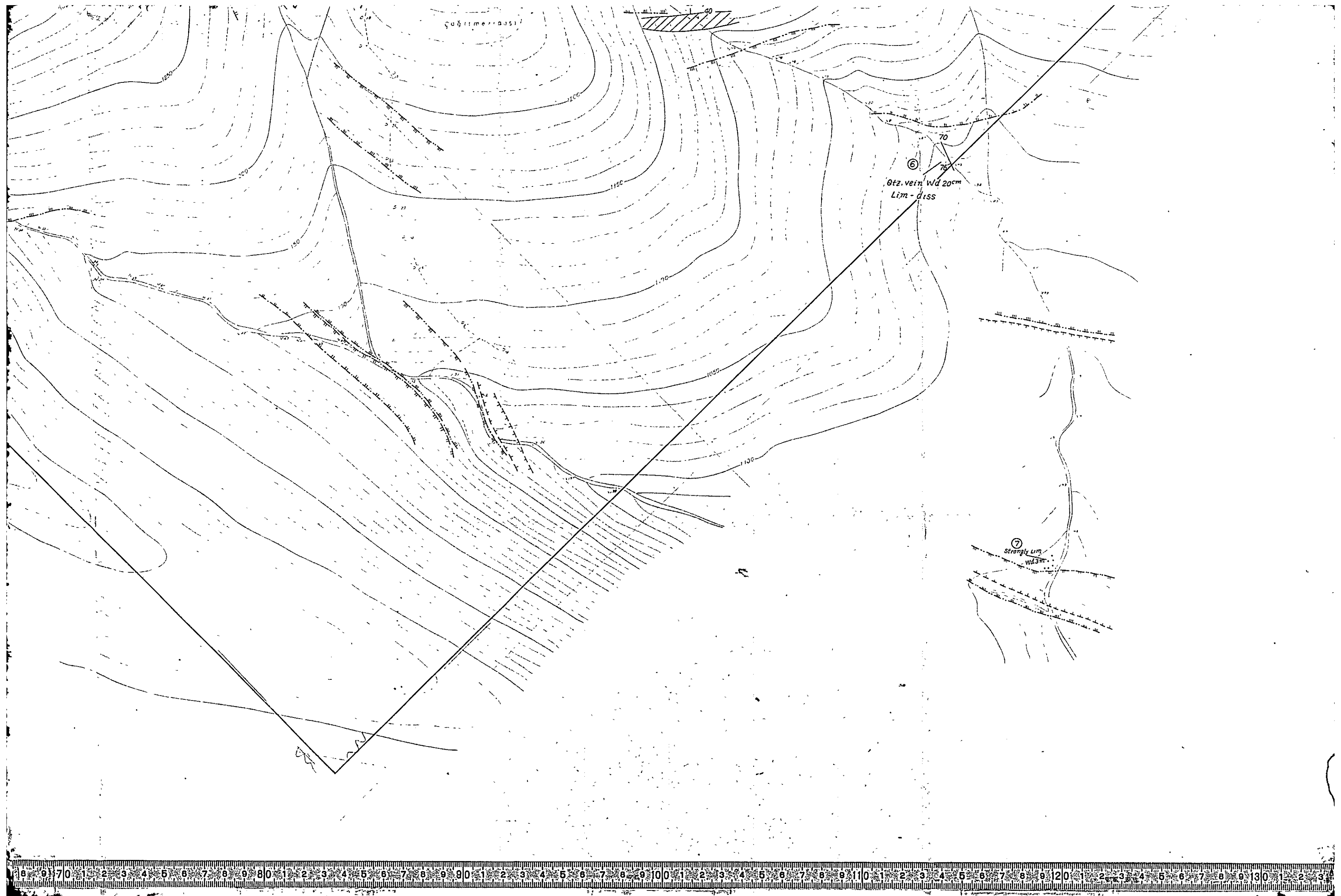
METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY
FEBRUARY 1977
Prepared by Nikko Exploration & Development Co., Ltd.

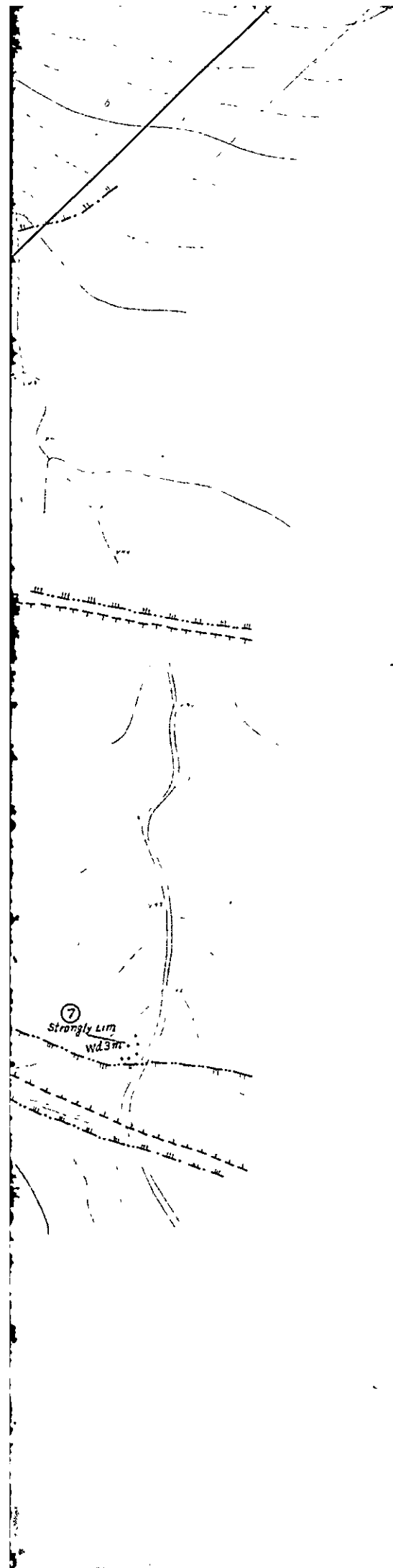
LEGEND

-  old mine, working mine, waste & slag
eski maden, çalıyan maden
-  mineralization zone
mineralezyon zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
-  dissemination
diseminasyon
-  pyrite dissemination and/or ironization zone





















LELAND

-  old mine, working mine, waste & slag
eski maden, çalisan maden
-  mineralization zone
mineralizasyon zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
-  dissemination
diseminasyon
-  pyrite dissemination and/or limonitization zone
pirit diseminasyon ve/veya limonitleme zonu
-  silicification zone
silikleme zonu
-  kaolinization zone
kaolinleşme zonu
-  carbonatization zone
karbonatlaşma zonu
-  sericitization zone
serizitleme zonu
-  montmorillonitization zone
montmorillonitleme zonu
-  epidotization zone
epidotlaşma zonu
-  skarnitization zone
skarnleşme zonu

Abbreviation
Kısaltmalar

Ba	: barite barit	Lim	: limonite limonit
Cal	: calcite kalsit	Mt	: magnetite manyetit
Chl	: chlorite klorit	Py	: pyrite pirit
Cpy	: chalcopyrite kalkopirit	Qtz	: quartz kuvarz
Epi	: epidote epidot	Spc	: specularite spekularit
Ga	: galena galen	Sph	: sphalerite sfalerit
Kaol	: kaolinite kaolin		



T.N. M.N.



Stencu H. Zrady

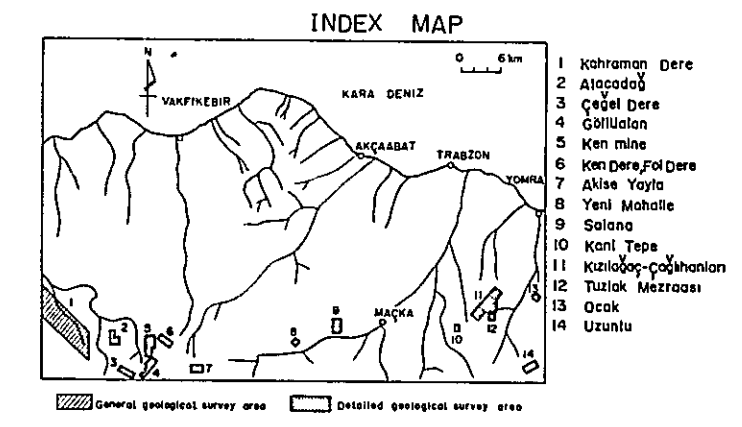
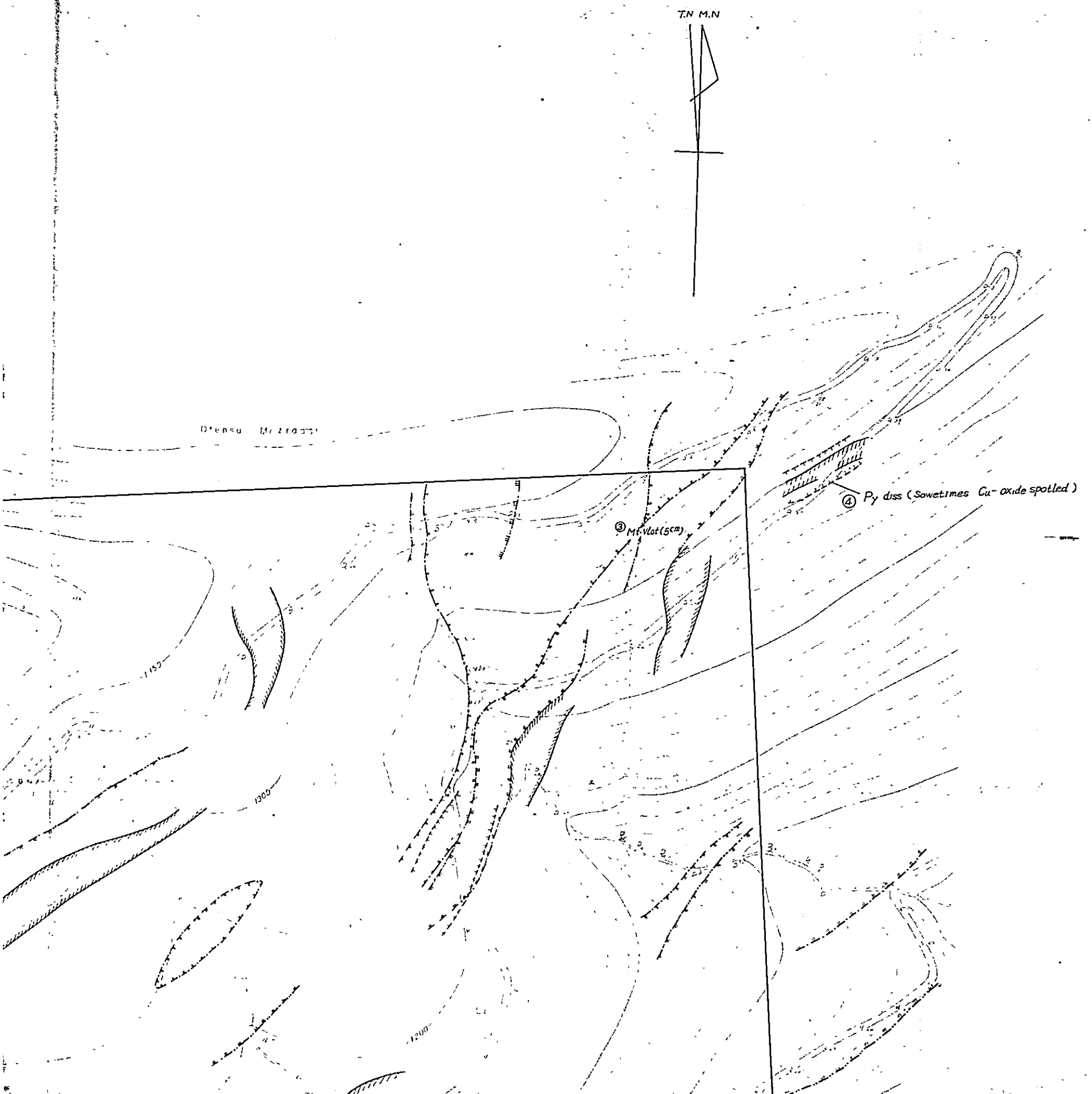
③ Mt. Vlat (500)

② banded py ore (py very rich)

① Py ore (few Mt)
Ore-banded thin layer
and very strong dis
Sometimes massive bed
mineral, jcd wd 25m



MINERAL RESEARCH AND EXPLORATION INSTITUTE
 GEOLOGICAL SURVEY
 OF
 TRABZON AREA, NORTHEASTERN TURKEY
 PHASE III
 ALTERATION AND MINERALIZATION MAP
 OF TUZLAK MEZRAASI AREA
 TUZLAK MEZRAASI SAHASININ
 ALTERASYON VE MINERALİZASYON HARİTASI



- 1 Karaman Dere
- 2 Alaçadı
- 3 Çeşel Dere
- 4 Güllüalan
- 5 Ken mine
- 6 Ken Dere, Fol Dere
- 7 Akise Yayla
- 8 Yeni Mahalle
- 9 Salana
- 10 Kanlı Tepe
- 11 Kızıldağ - Çamhanlı
- 12 Tuzlak Mezraası
- 13 Ocak
- 14 Uzunlu

Scale 1:2,000
 Ölçek 1:2000

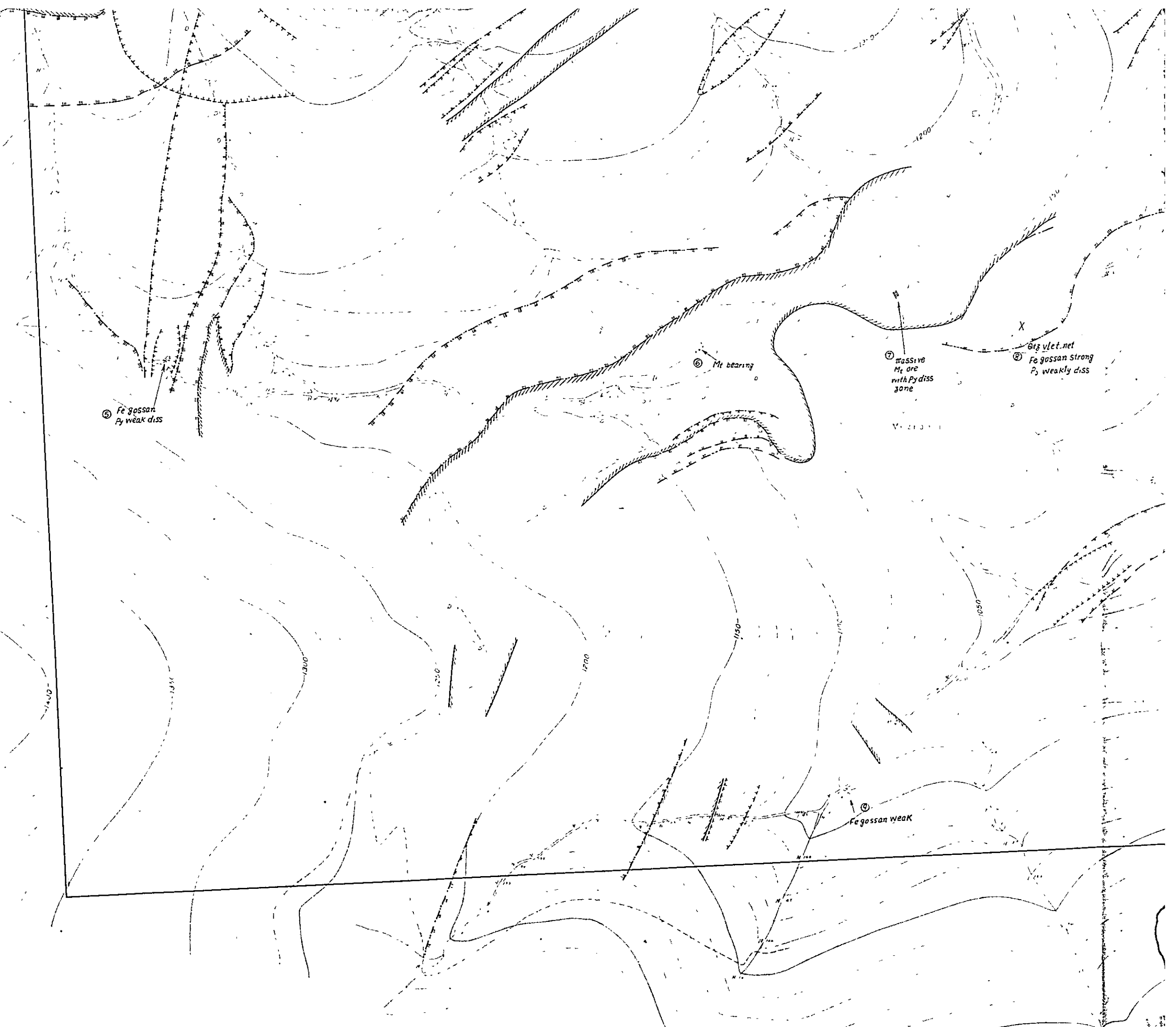
METAL MINING AGENCY OF JAPAN
 JAPAN INTERNATIONAL COOPERATION AGENCY
 FEBRUARY 1977

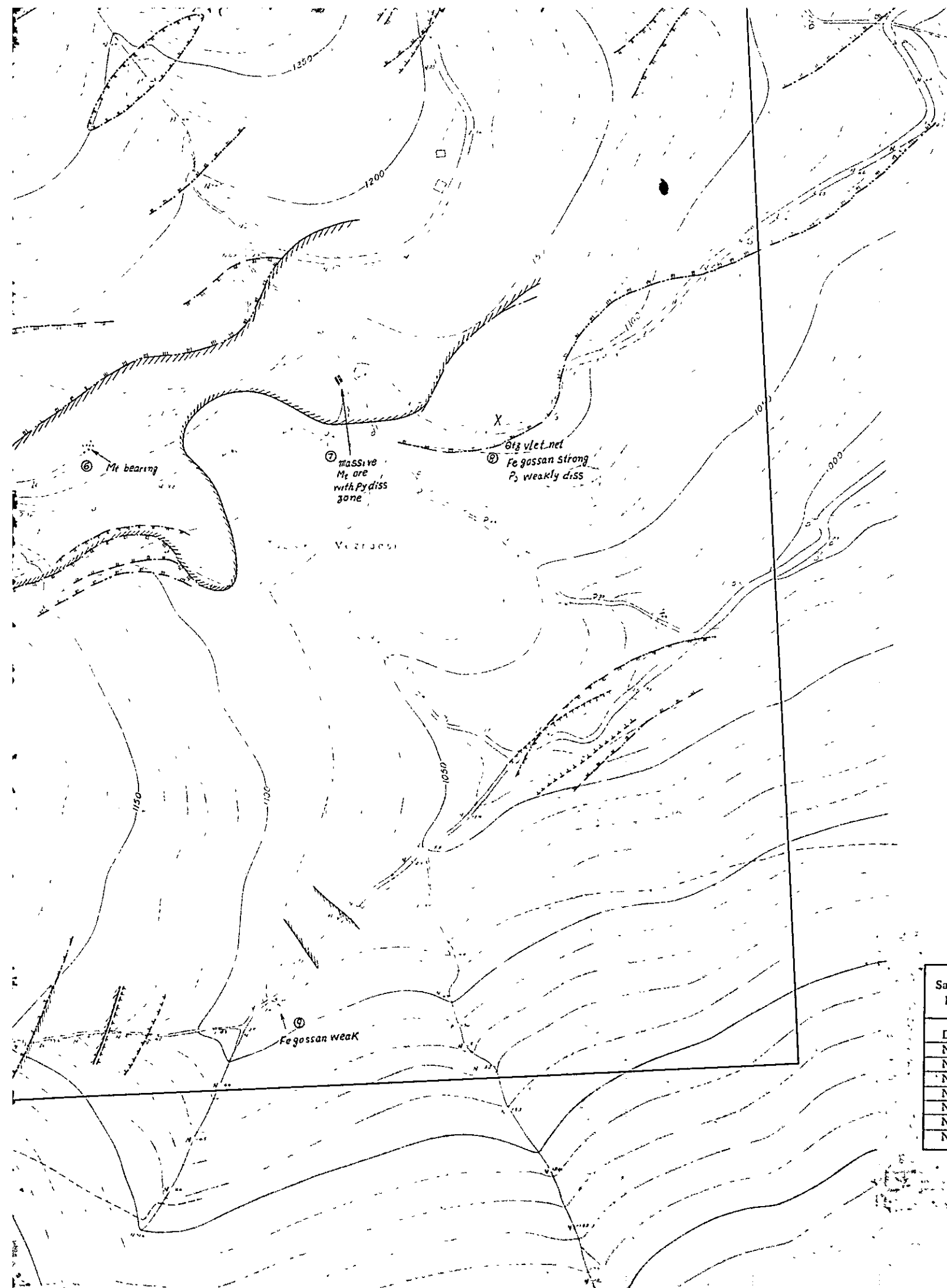
Prepared by Nikko Exploration & Development Co., Ltd.

- LEGEND
- old mine, working mine, waste & slag
 eski maden, çalışan maden
 - mineralization zone
 mineralizasyon zonu
 - vein, veinlet network, stratiform
 damar, damarcıklar network, tabakalı
 - dissemination
 disseminasyon















Sometime massive ore
mineralized wd 25m





LEGEND
LEJEND

-  old mine, working mine, waste & slag
eski maden, çalisan maden
-  mineralization zone
mineralizasyon zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
-  dissemination
diseminasyon
-  pyrite dissemination and/or limonitization zone
pirit diseminasyon ve/veya limonitlenme zonu
-  silicification zone
silislenme zonu
-  kaolinization zone
kaolinlenme zonu
-  carbonatization zone
karbonatlaşma zonu
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serisitlenme zonu
-  montmorillonitization zone
montmorillonitlenme zonu
-  epidotization zone
epidotlaşma zonu
-  skarnitization zone
skarnitlenme zonu

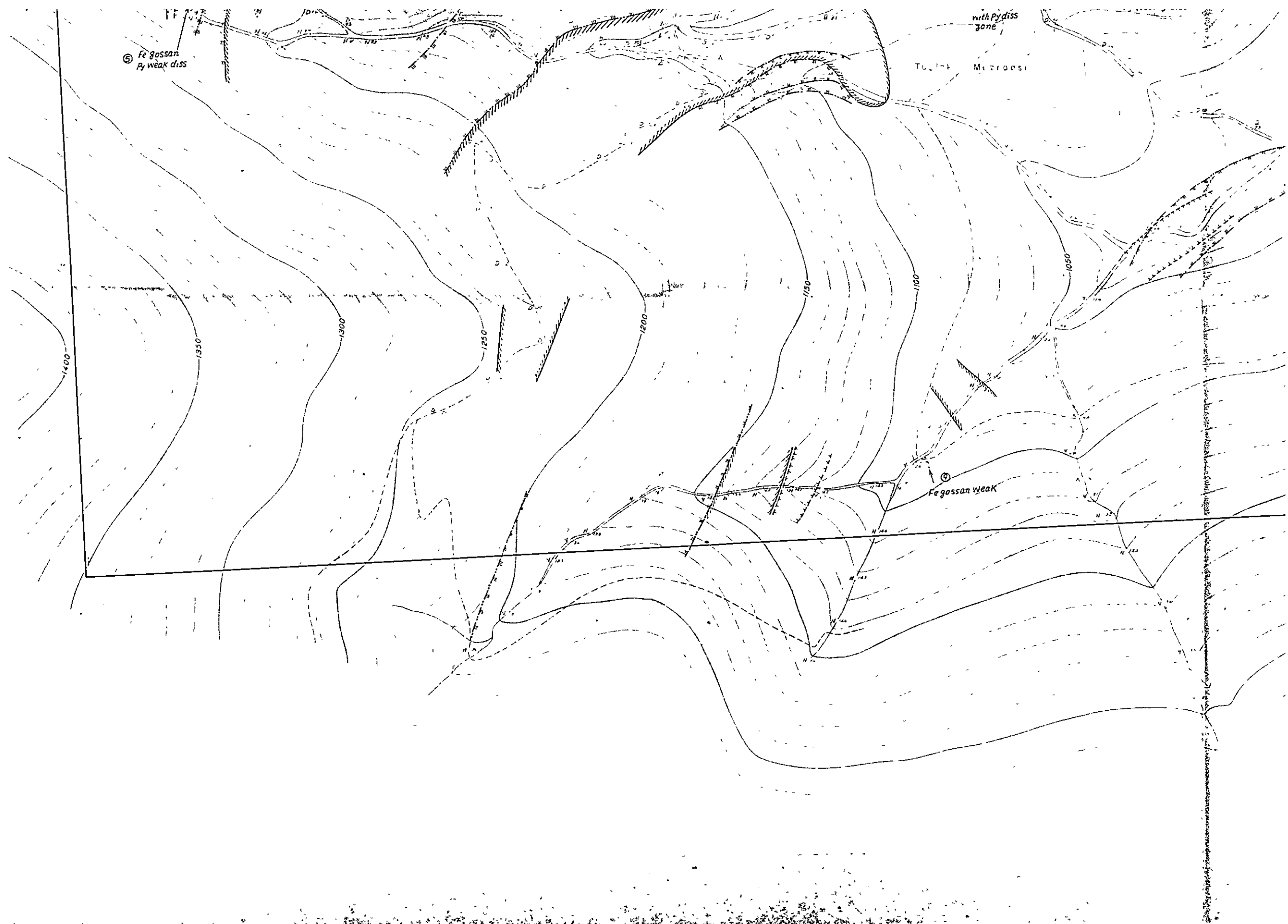
Abbreviation
Kısaltmalar

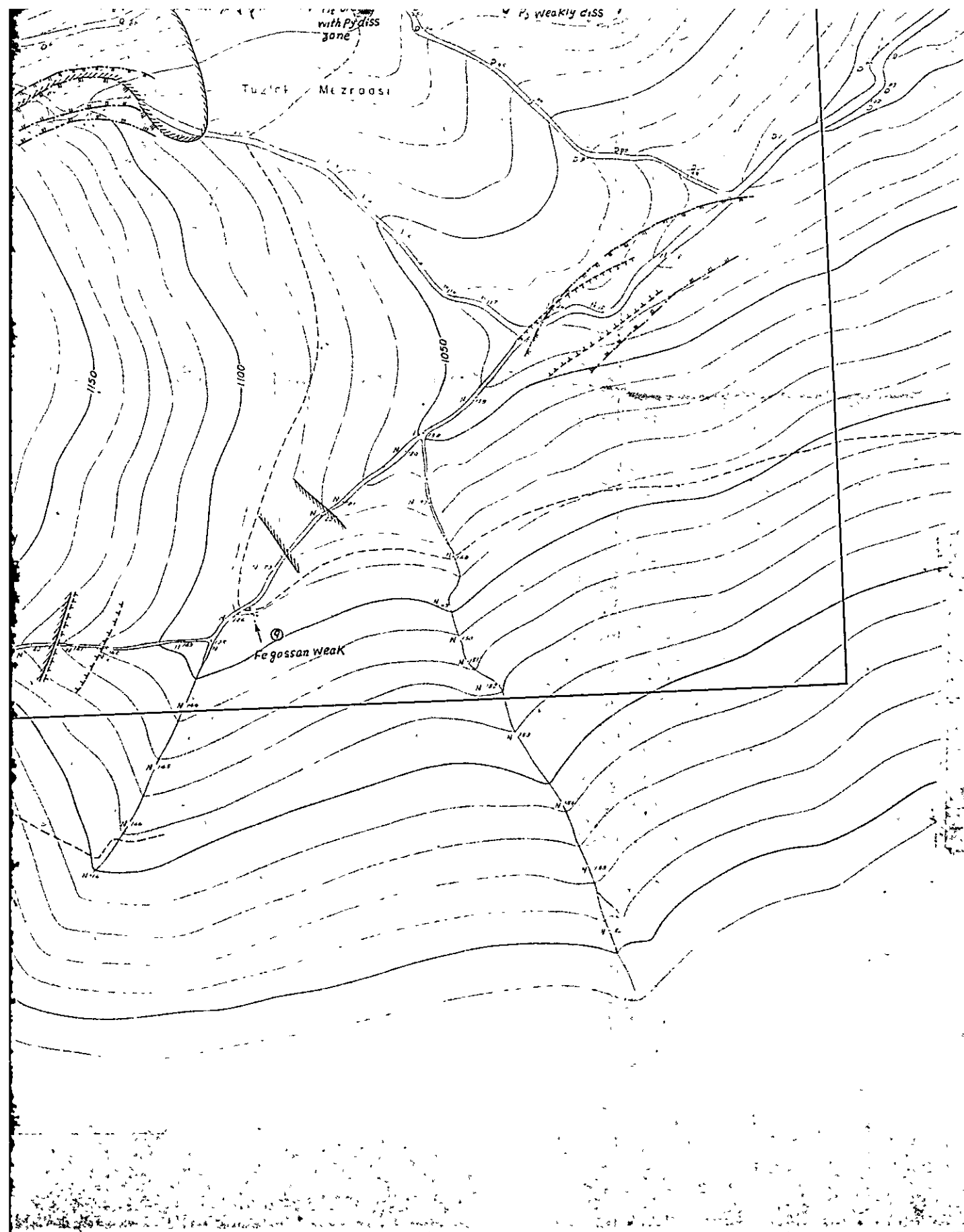
- | | | | |
|------|---------------|-----|-------------|
| Ba | barite | Lim | limonite |
| Cal | calcite | Mt | magnetite |
| Chl | chlorite | Py | pyrite |
| Cpy | chlocoopyrite | Qtz | quartz |
| Epi | epidote | Spc | specularite |
| Ga | galena | Sph | sphalerite |
| Kaol | kaolinite | | sfalerit |




Sample No.	Index No.	Kind of ore mineral	Mode of occurrence	Width or thickness (cm)	Strike & dip	Sampling width (cm)	Sampling method	Cu (%)	Pb (%)	Zn (%)
D-43	-	Py	diss					0.01	-	-
N-142	2	Py	diss				G	0.06	0.01	0.01
N-143	1	Py	diss	150			G	0.19	0.01	0.01
N-145	1	Py	diss	120		120	L	0.19	0.01	0.01
N-147	1	Py	diss	90		90	L	0.14	0.01	0.01
N-148	1	Py	diss	180		180	L	0.11	0.01	0.02
N-164	7	Py-Ht	banded & diss	40	N40W 40W	40	L	0.01	0.01	0.02
N-165	7	Ht	massive	140	N40W 40W	140	L	0.01	0.01	0.01

R : random sampling L : line cutting sampling G : gravel sampling of high grade ore







-  montmorillonitization zone
montmorillonitləşmə zonu
-  epidotization zone
epidotləşmə zonu
-  skarnitization zone
skarnləşmə zonu

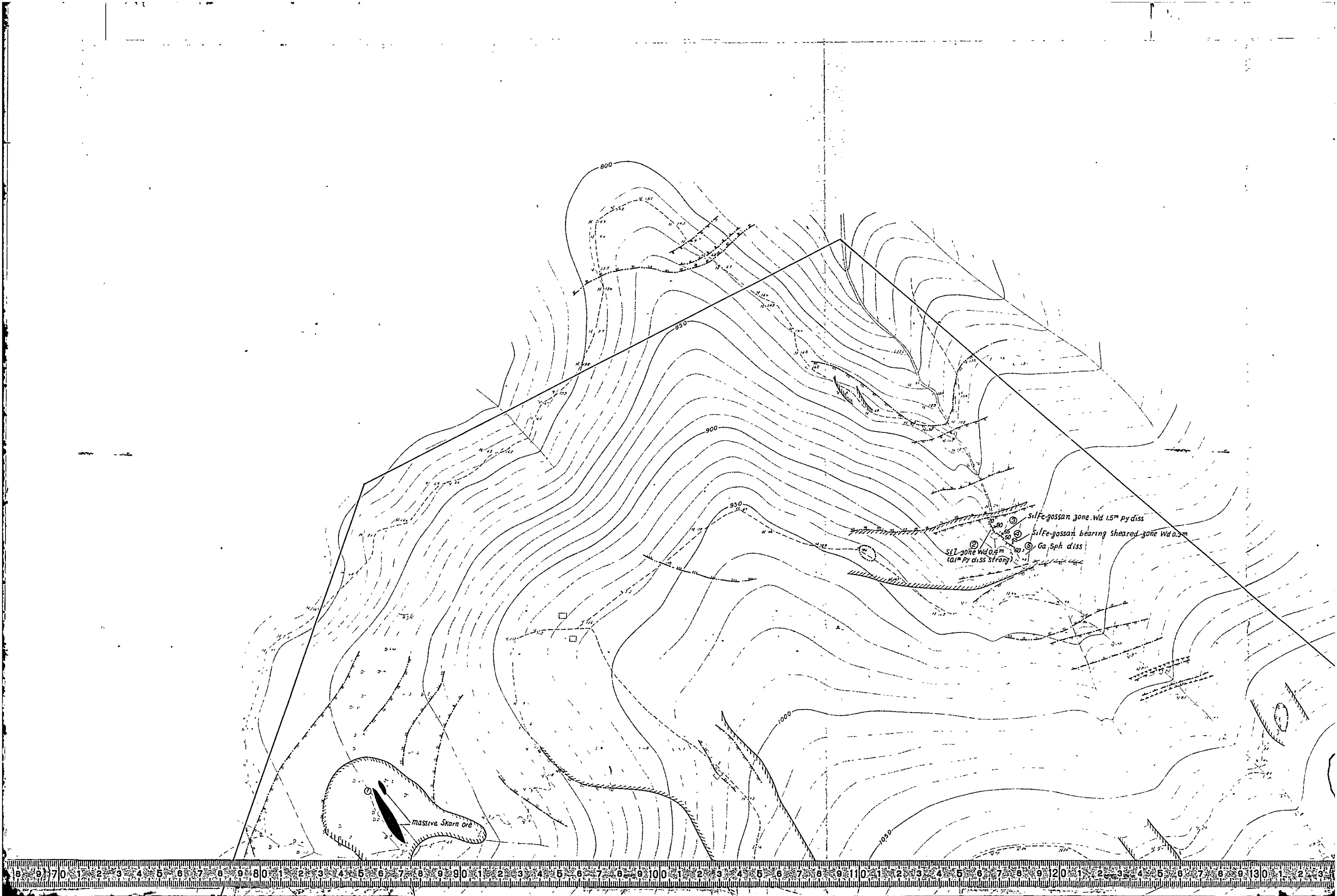
Abbreviation
Kısaltmalar

- | | |
|----------------------------------|---------------------------------|
| Ba : barite
barit | Lim : limonite
limonit |
| Cal : calcite
kalsit | Mt : magnetite
magnetit |
| Chl : chlorite
klorit | Py : pyrite
pirit |
| Cpy : chalcopyrite
kalkopirit | Qtz : quartz
kuvar |
| Epi : epidote
epidot | Spc : specularite
spekularit |
| Ga : galena
galen | Sph : sphalerite
sfalerit |
| Kaol : kaolinite
kaolin | |

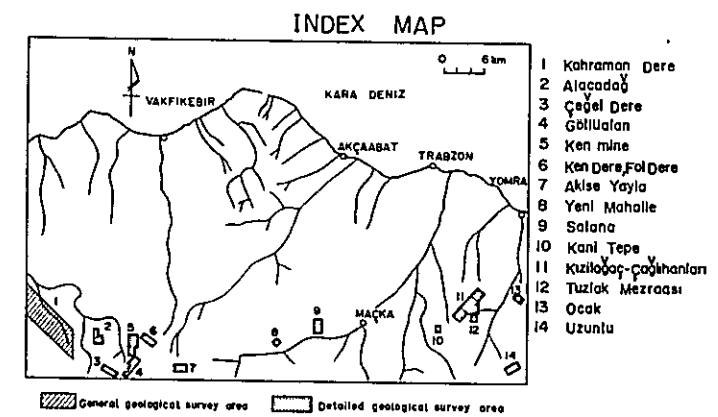
Sample No.	Index No.	Kind of ore mineral	Mode of occurrence	Width or thickness (cm)	Strike & dip		Sampling width (cm)	Sampling method	Cu (%)	Pb (%)	Zn (%)
D-43	-	Py	diss						0.01	-	-
N-142	2	Py	diss					G	0.06	0.01	0.01
N-143	1	Py	diss	150				G	0.19	0.01	0.01
N-145	1	Py	diss	120			120	L	0.19	0.01	0.01
N-147	1	Py	diss	90			90	L	0.14	0.01	0.01
N-148	1	Py	diss	180			180	L	0.11	0.01	0.02
N-164	7	Py-Ht	banded & diss	40	N40W	40W	40	L	0.01	0.01	0.02
N-165	7	Ht	massive	140	N40W	40W	140	L	0.01	0.01	0.01

R : random sampling L : line cutting sampling G : gravel sampling of high grade ore





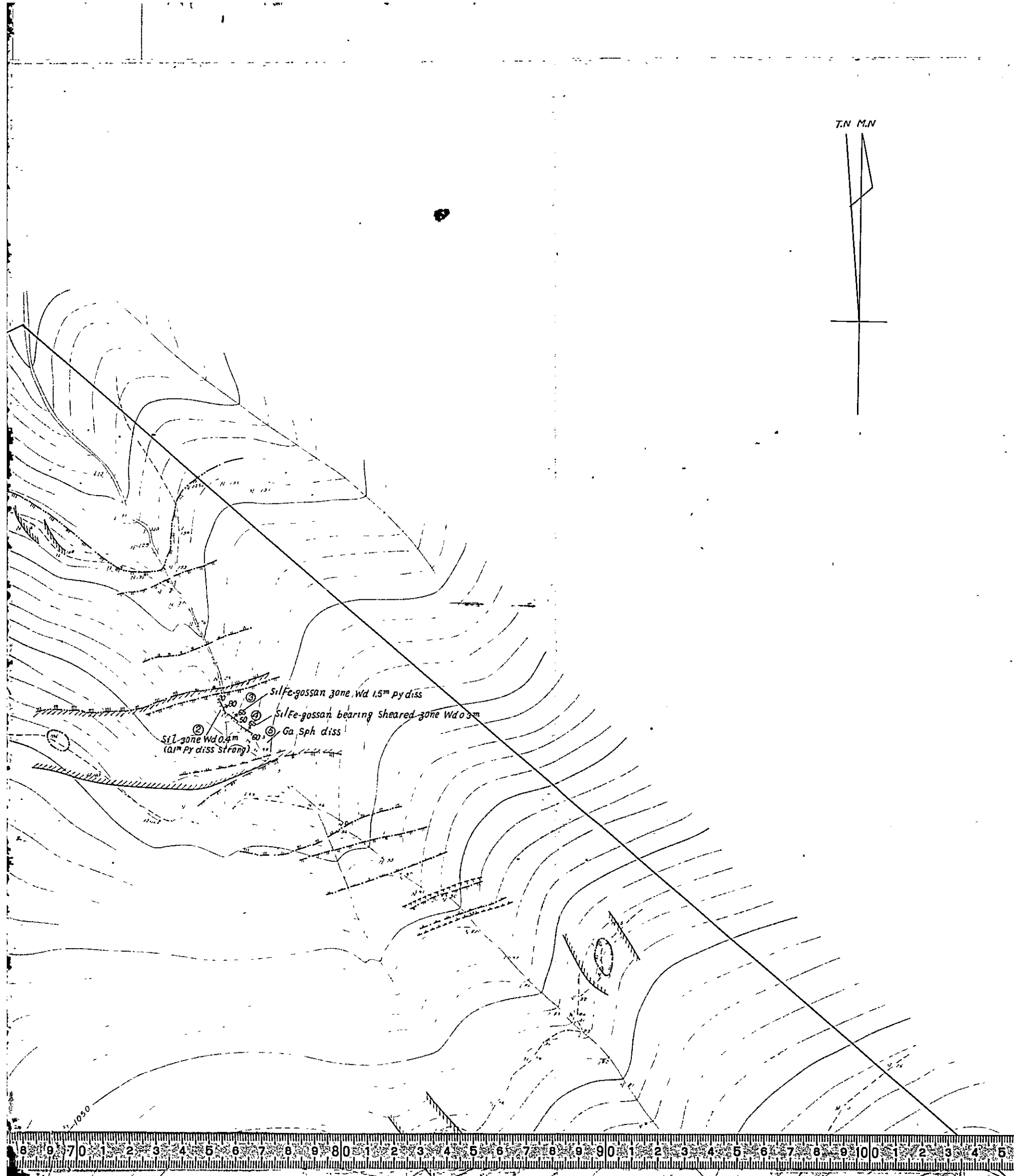
MINERAL RESEARCH AND EXPLORATION INSTITUTE
 GEOLOGICAL SURVEY
 OF
 TRABZON AREA, NORTHEASTERN TURKEY
 PHASE III
 ALTERATION AND MINERALIZATION MAP
 OCAK AREA
 OCAK SAHASININ ALTERASYON
 VE MINERALİZASYON HARİTASI



Scale 1 : 2,000
 Ölçek 100 200m

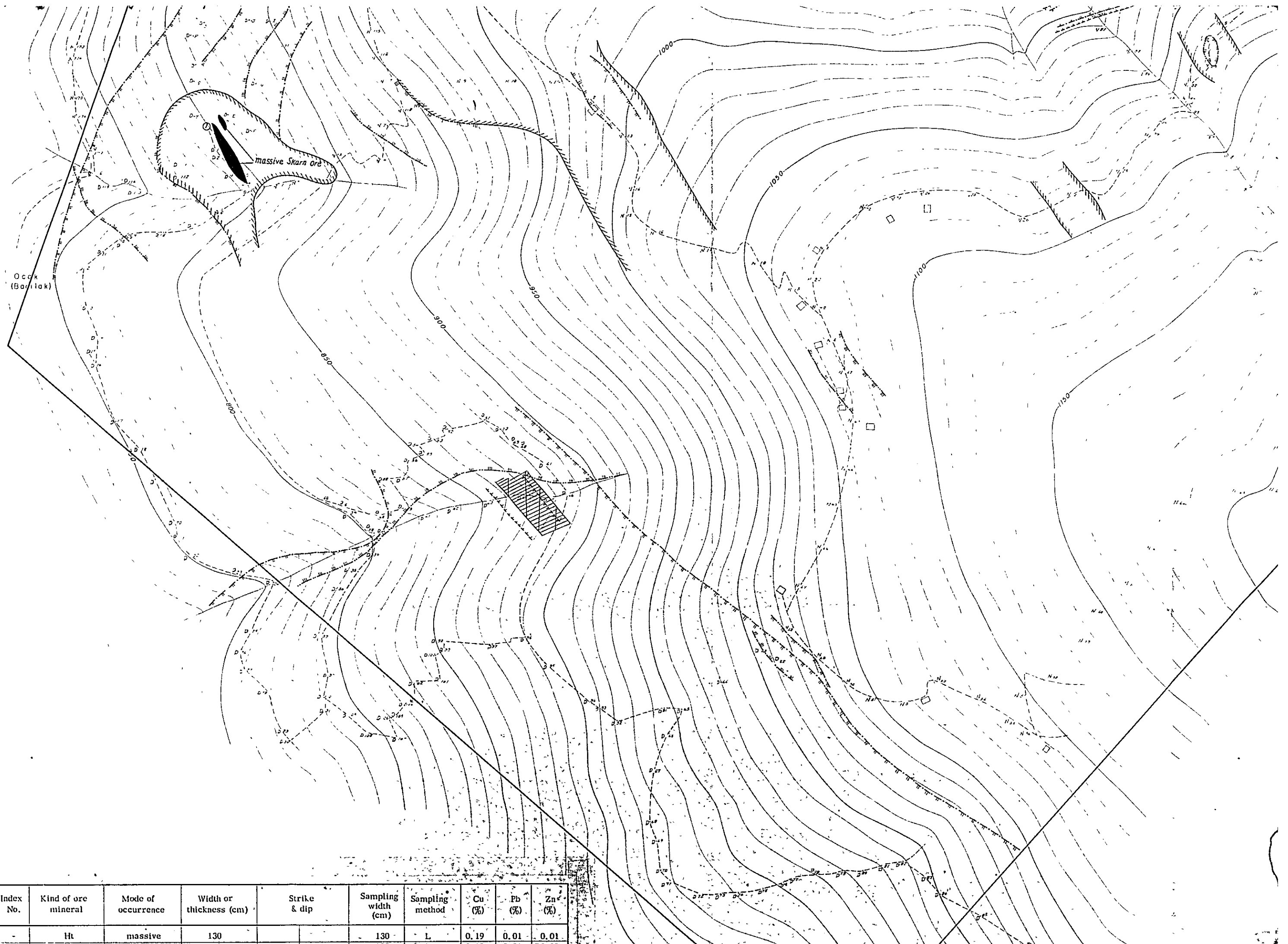
METAL MINING AGENCY OF JAPAN
 JAPAN INTERNATIONAL COOPERATION AGENCY
 FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd.



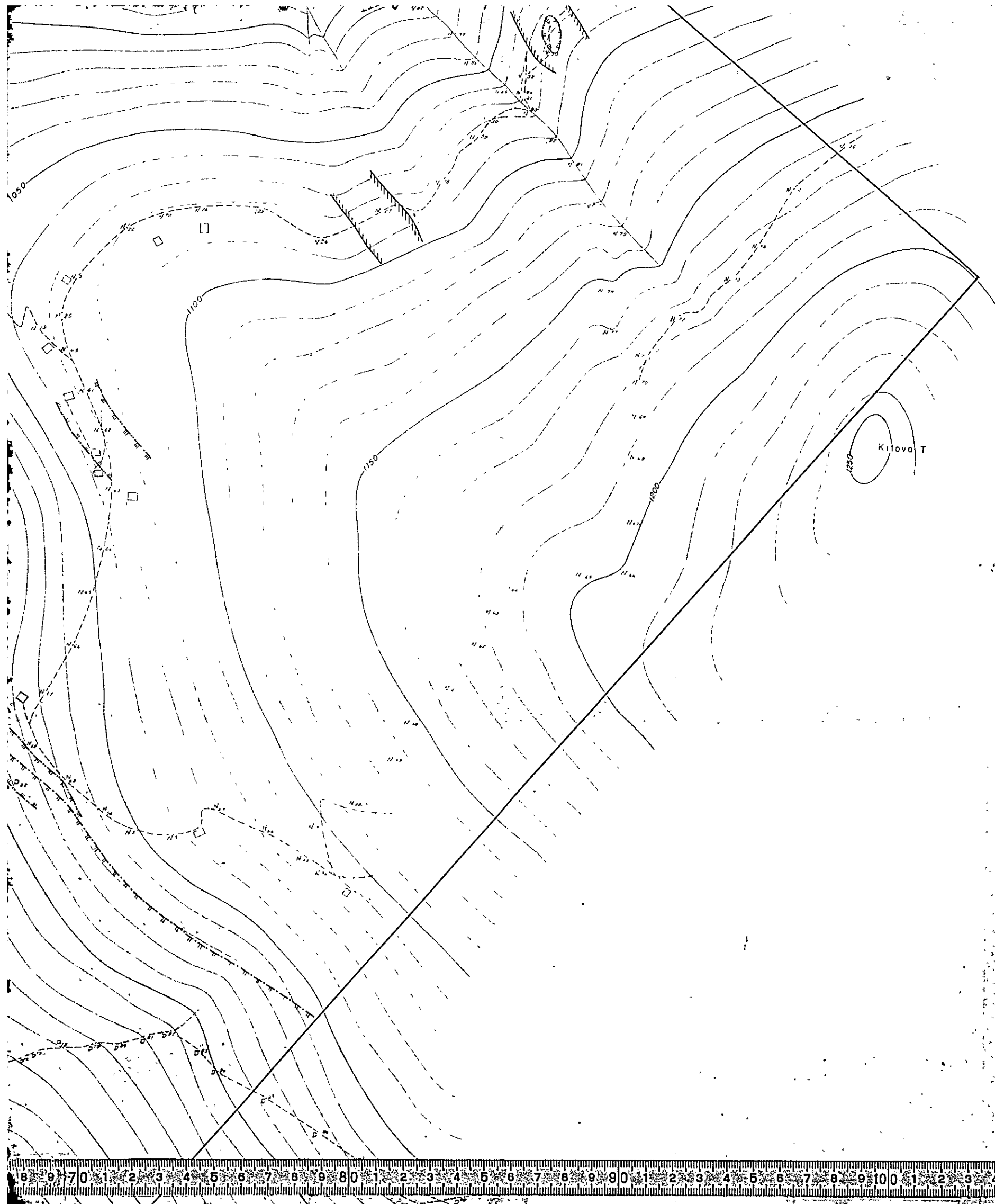
LEGEND
 LEJAND

- old mine, working mine, waste & slag
 eski maden, çalışan maden
- mineralization zone
 mineralizasyon zonu
- vein, veinlet network, stratiform
 damar, damarcıklar network, tabakalı
- dissemination
 disseminasyon















Sample No.	Index No.	Kind of ore mineral	Mode of occurrence	Width or thickness (cm)	Strike & dip	Sampling width (cm)	Sampling method	Cu (%)	Pb (%)	Zn (%)
A	-	Ht	massive	130		130	L	0.19	0.01	0.01





LEGEND
LİJİND

-  old mine, working mine, waste & slag
eski maden, çalışan maden
-  mineralization zone
minerallizasyon zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
-  dissemination
diseminasyon
-  pyrite dissemination and/or limonitization zone
pirit diseminasyonu ve/veya limonitlenme zonu
-  silicification zone
silislenme zonu
-  kaolinization zone
kaolinlenme zonu
-  carbonatization zone
karbonatlaşma zonu
-  sericitization zone
serisitlenme zonu
-  montmorillonitization zone
montmorillonitlenme zonu
-  epidotization zone
epidotlenme zonu
-  skarnitization zone
skarnleşme zonu

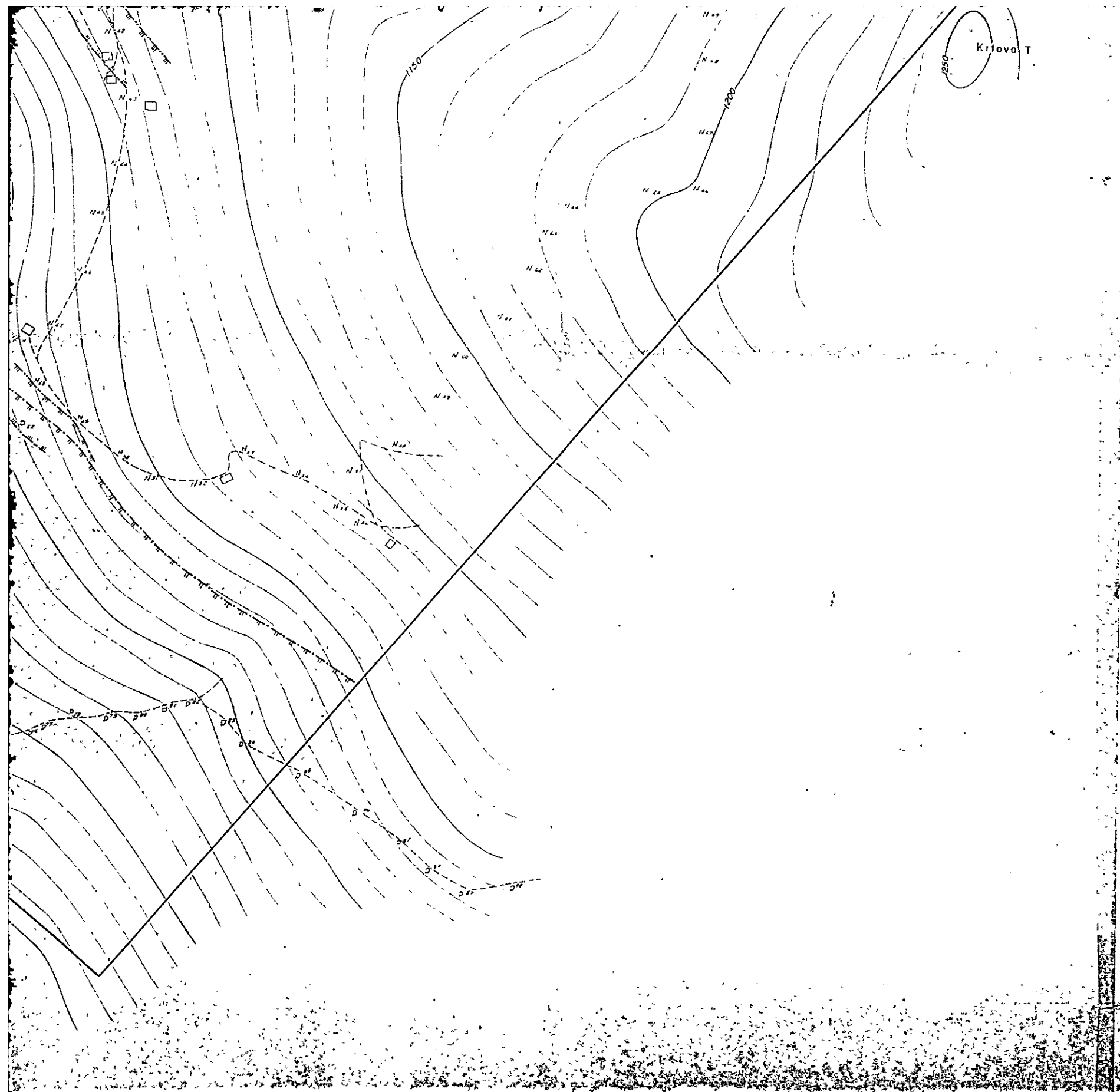
Abbreviation
Kısaltmalar




Ba : barite	Lim : limonite
Cal : calcite	Limn : limonit
Chi : chlorite	Mt : magnetite
Cpy : chalcopyrite	Py : pyrite
Epr : epidote	Pyt : pirit
Epid : epidot	Qtz : quartz
Ga : galena	Qtz : kvars
Kaol : kaolinite	Spc : specularite
	Spc : spekularit
	Sph : sphalerite
	Sph : sfalerit

Sample No.	Index No.	Kind of ore mineral	Mode of occurrence	Width or thickness (cm)	Strike & dip	Sampling width (cm)	Sampling method	Cu (%)	Pb (%)	Zn (%)
A		Ht	massive	130		130	L	0.19	0.01	0.01
B		Ht	massive	180		180	L	0.10	0.01	0.02
C-0m	1	Ht	massive	140		140	L	0.33	0.01	0.01
C-3m	1	Ht	massive	160		160	L	0.20	tr	0.02
C-6m	1	Ht	massive	130		130	L	0.01	tr	tr
D		Ht	massive	170		170	L	1.13	0.01	0.01
N-184	1	Ht-(Cpy)-Py	massive	150	N25E 40E	150	L	0.44	0.01	0.01
N-185	1	Ht-(Cpy)-Py	massive	200	N25E 40E	200	L	0.81	0.01	0.01
N-186	1	Ht-(Cpy)-Py	massive	180	N25E 40E	180	L	0.81	0.01	tr
N-187	1	Ht-(Cpy)-Py	massive	170	N25E 40E	170	L	0.48	0.01	0.01
N-188	1	Ht-(Cpy)-Py	massive	180	N25E 40E	180	L	0.73	0.01	0.01
N-189	1	Ht-Cpy	massive				G	0.23	0.01	0.01
N-190	1	Ht	massive				G	0.21	0.01	0.05
N-191	1	Ht-Cpy	massive				G	3.00	0.01	0.03
N-206		Py						0.01	0.01	0.02
N-208	5	Py-Sph-Ga	diss					0.13	1.45	1.60

R : random sampling L : line cutting sampling G : gravel sampling of high grade ore



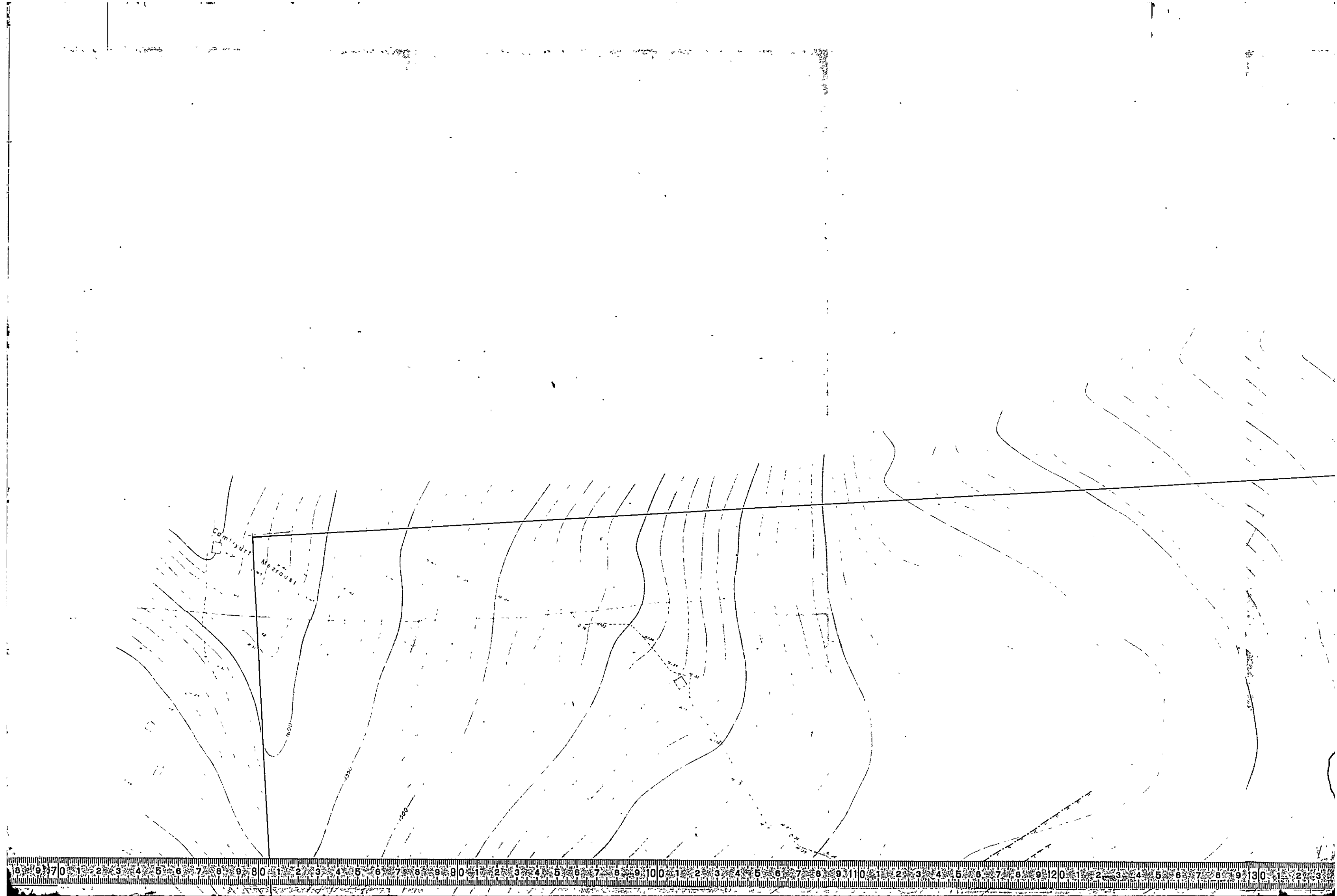


-  montmorillonitization zone
montmorillonitləşmə zonası
-  epidotization zone
epidotlaşma zonası
-  skarnitization zone
skarnitləşmə zonası

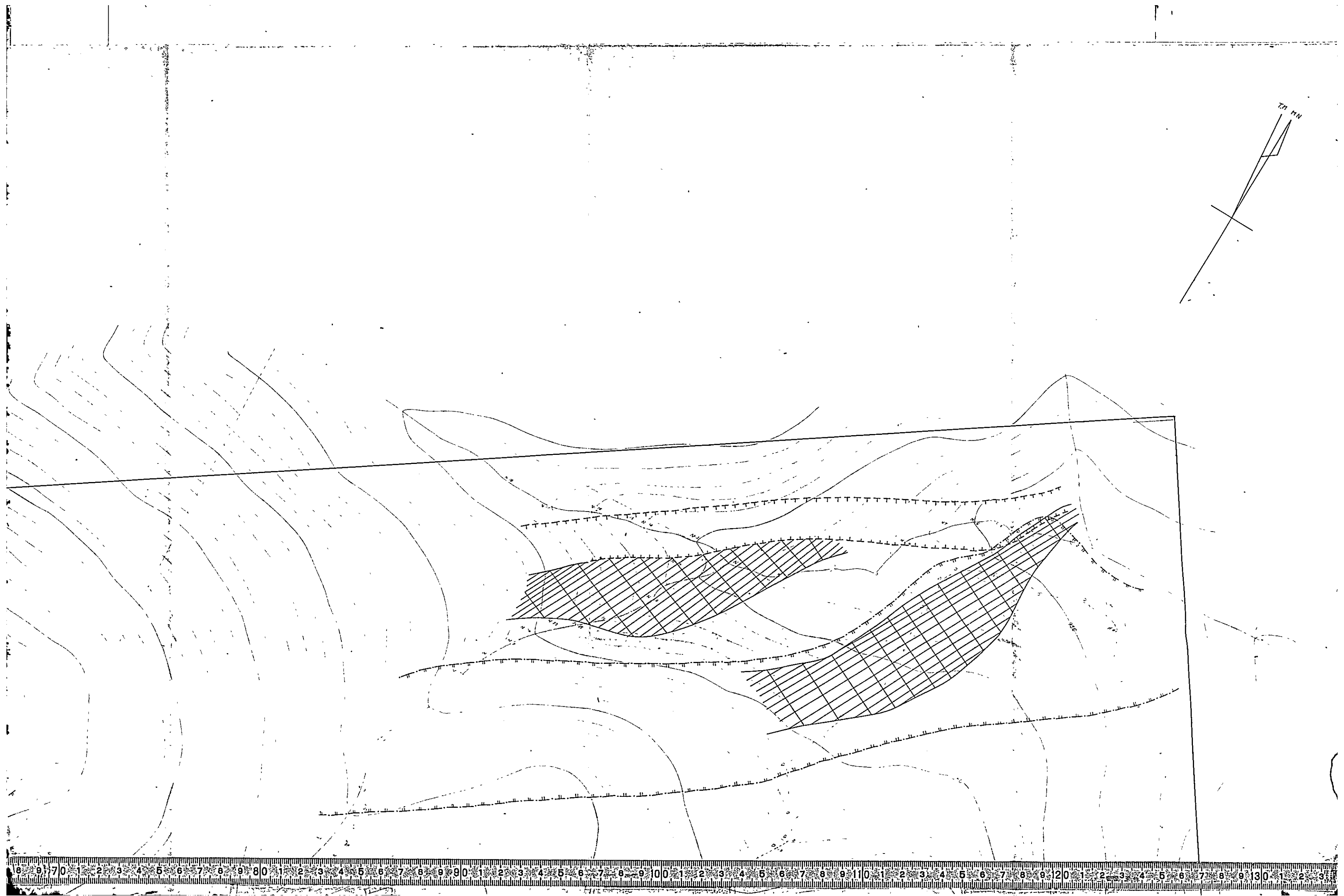
Abbreviation
Kısaltmalar

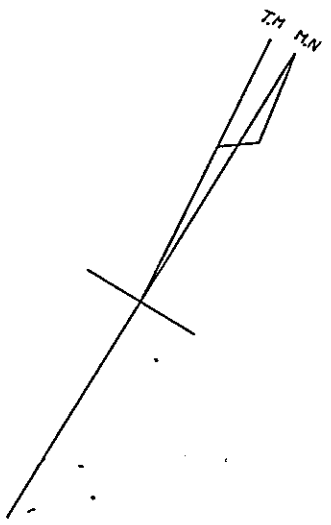
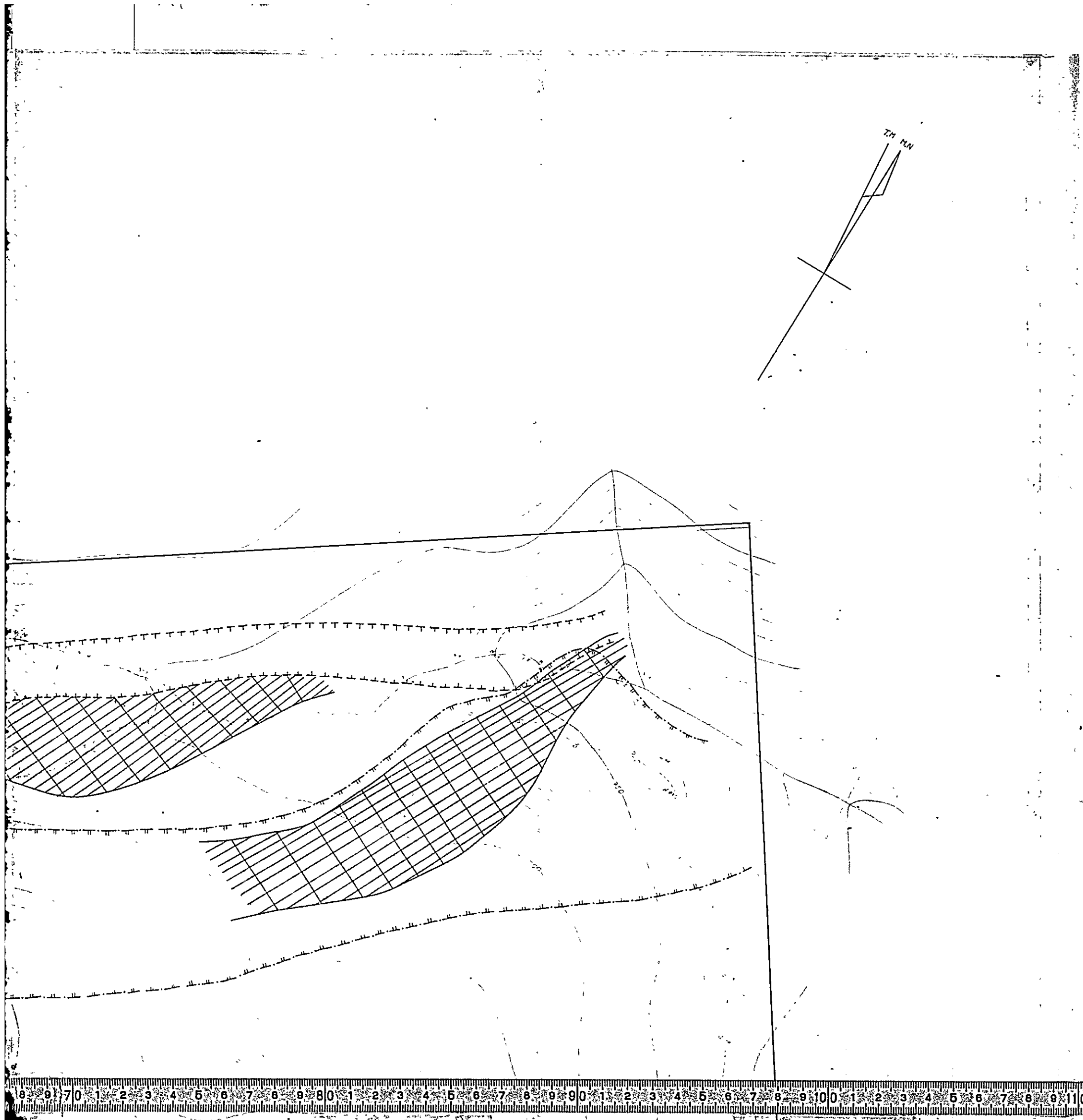
Ba : barite	Lim : limonite
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Ga : galena	Sph : sphalerite
Kaol : kaolinite	





0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133

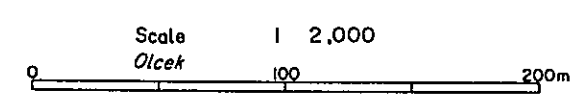
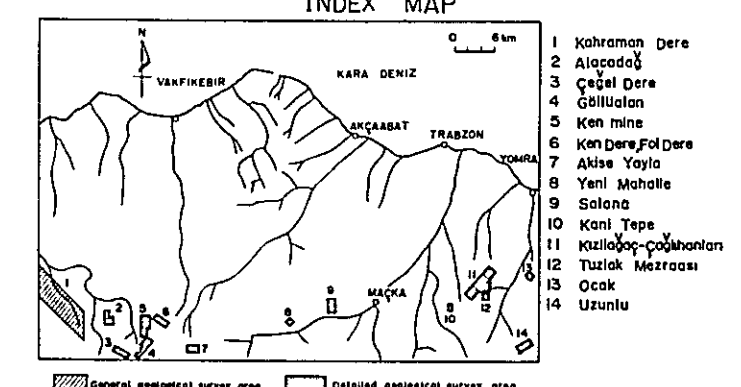




PL. 3-14

MINERAL RESEARCH AND EXPLORATION INSTITUTE
 GEOLOGICAL SURVEY
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 PHASE III
 ALTERATION AND MINERALIZATION MAP
 UZUNLU AREA
 UZUNLU SAHASININ ALTERASYON
 VE MINERALİZASYON HARİTASI

INDEX MAP

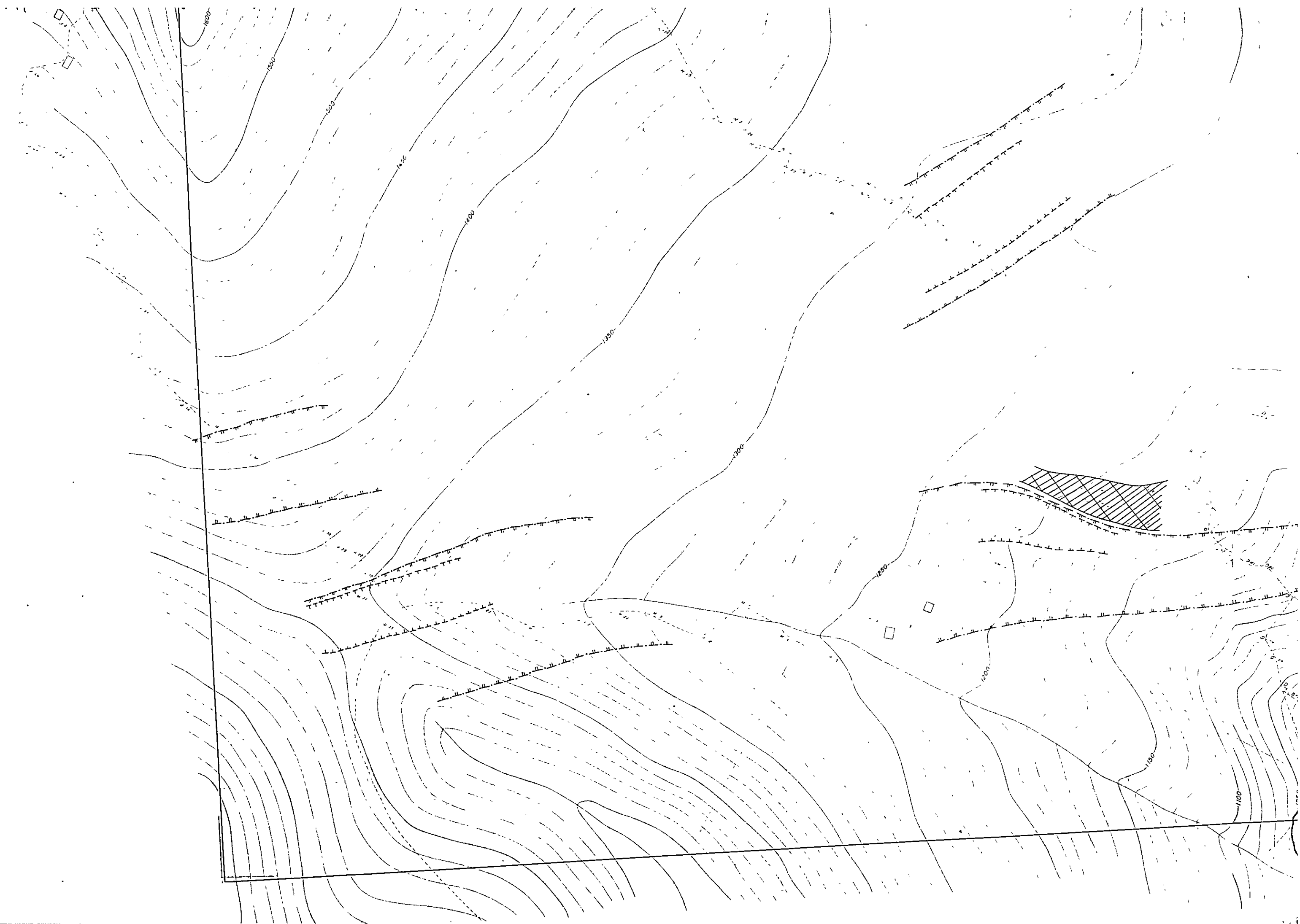


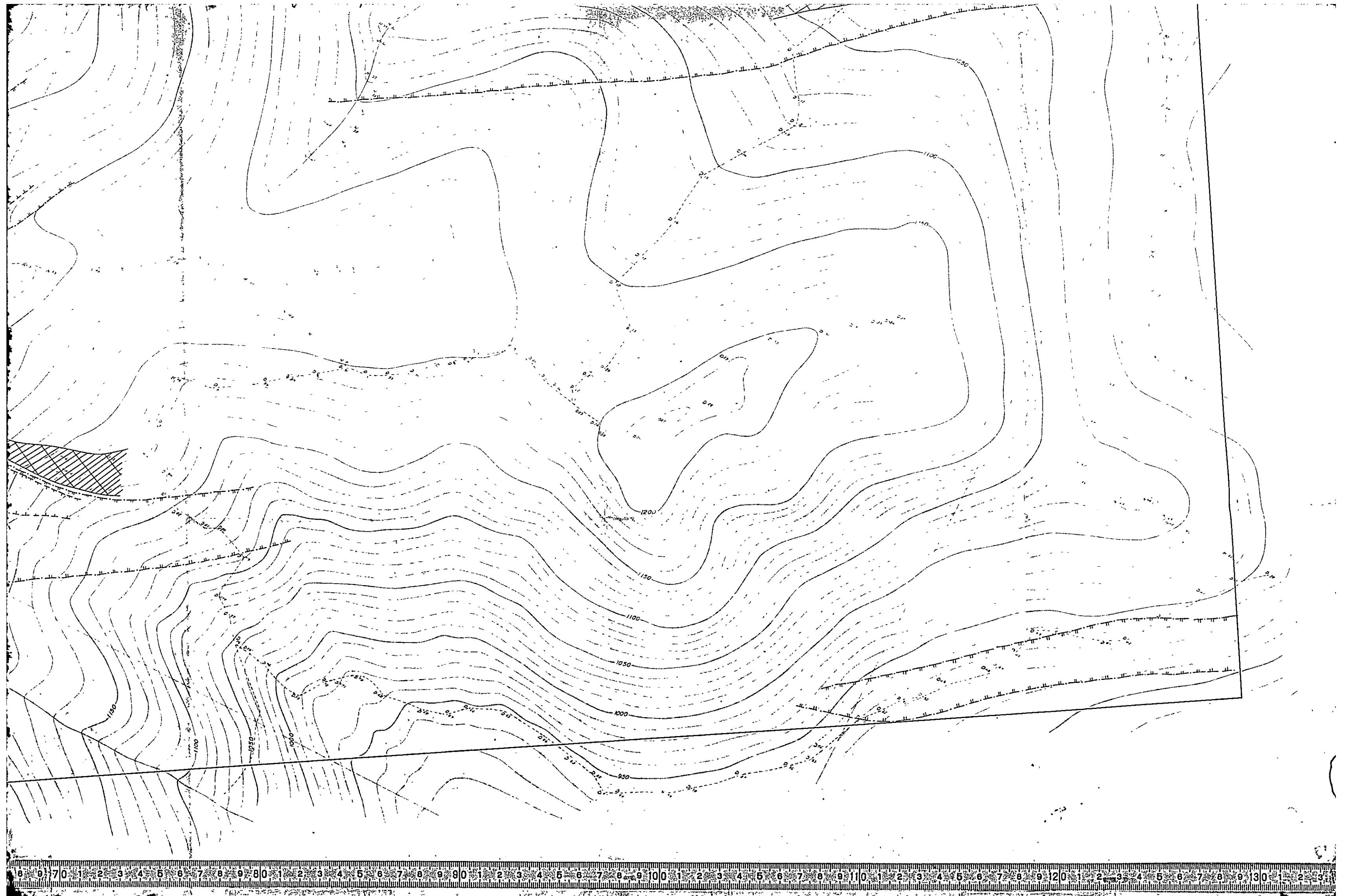
METAL MINING AGENCY OF JAPAN
 JAPAN INTERNATIONAL COOPERATION AGENCY
 FEBRUARY 1977
 Prepared by Nikko Exploration & Development Co., Ltd.

LEGEND

- old mine, working mine, waste & slag
eskî maden, faaliyet maden
- mineralization zone
minerallizasyon zonu
- vein, veinlet network, stratiform
damar, damarcıklar network, tabakalı
- dissemination
diseminasyon





















LEJAND

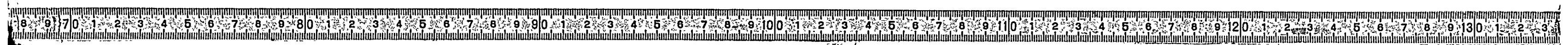
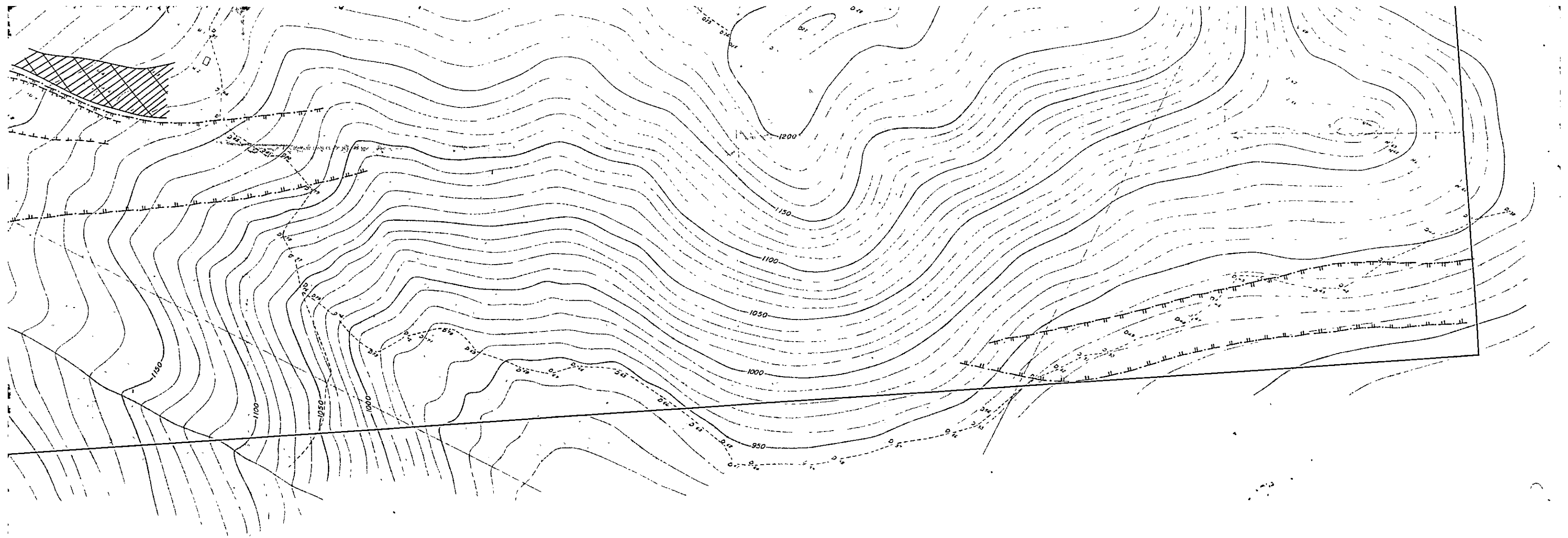
-  old mine, working mine, waste & slag
eski maden, çalisan maden
-  mineralization zone
mineralizasyon zonu
-  vein, veinlet network, stratiform
damar, damarcıklar network, tabakalt
-  dissemination
dissemine
-  pyrite dissemination and/or limonitization zone
pirit dissemine ve/veya limonitleşme zonu
-  silicification zone
silileşme zonu
-  kaolinitization zone
kaolitleşme zonu
-  carbonatization zone
karbonatlaşma zonu
-  sericitization zone
serizitleşme zonu
-  montmorillonitization zone
montmorillonitleşme zonu
-  epidotization zone
epidotlaşma zonu
-  skarnitization zone
skarnleşme zonu

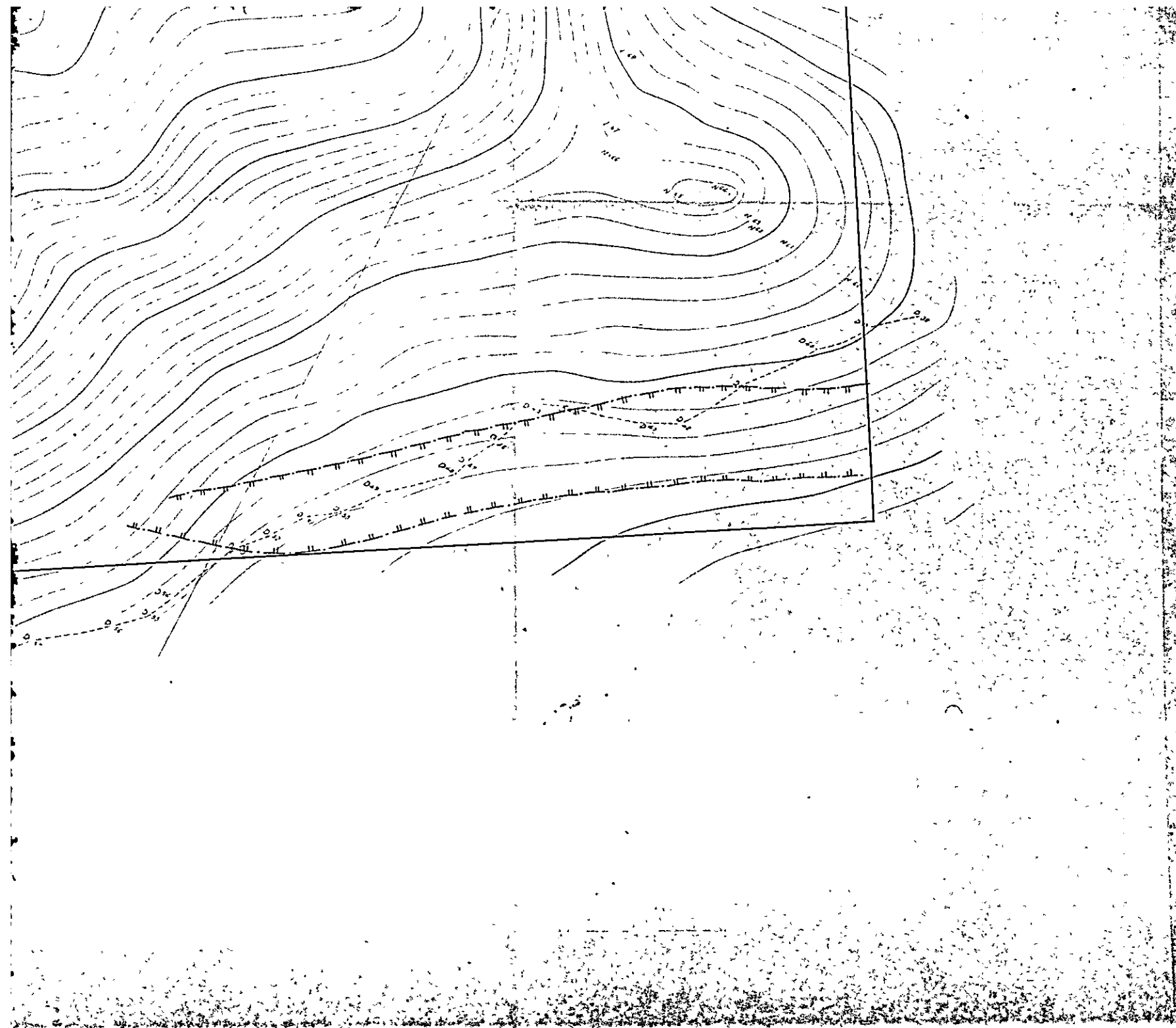
Abbreviation
Kısaltmalar

Ba : barite	Lim : limonite
Cal : calcite	Mt : magnetite
Chl : chlorite	Py : pyritez
Cpy : chlopyrite	Qz : quartz
Epi : epidote	Spc : specularite
Ga : galena	Sph : sphalerite
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 kalkopirit
 Epi : epidote
 epidot
 Ga : galena
 galen
 kaolinite
 Kaol : kaolin

Lim : limonite
 limonit
 Mt : magnetite
 magnetit
 Py : pyrite
 pirit
 Qtz : quartz
 kvarts
 Spc : specularite
 spekularit
 Sph : sphalerite
 sfejarit



Kat - 1

DEPTH	DEPTH OF BOUNDARY	SECTION	MEMBER	ROCK NAME	DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION			
						sil	carb	ph	ser
170				scill					
	53			dacite	palegray frag white partly with Lim vlets				
				lapilli tuff					
				dacite	gray-pale gray				
10	11.50			tuff breccia	7 50-8 40 very weak diss. of Sph-Ga-Py gray-pale gray brc palegreen Py diss pale gray				
				dacite	16 00-16 10 clay zone 16 40-16 55 clay zone 18 00 vlets. of Ga-Sph				
20				dacite	gray brc angular Py diss domi				
				tuff breccia	25 40 vlets of Qtz-Cpy-Sph (wd 20 cm dip 30°) ~25 65 gray hard Py diss domi 25 90 ~26 00 gray & pale gray f-Py diss 32 00-32 20 clay zone (dip 60°)				
30	33.00			dacite	gray Qtz vlets network 35 20-35 60 fractured gray massive with f-Cal-pheno. f-Py diss domi 40 40 Py diss (pool)				
40	41.10			dacite	gray-pale gray brc palegray f-Py diss domi 45 10-45 50 clay zone Py network 47 70-48 20 fractured gray-dark gray Qtz-Lim vlets. network				
50				tuff breccia	51 60-52 15 vlets of Qtz-Sph (wd 20 cm dip 60°) 52 65 Qtz-Sph vlet drusy (wd 2-3cm dip 70°) gray-palegray brc Py diss domi 57 00 vlets of Qtz-Sph (wd 3cm dip 60°) Py (poor) boundary dip 20°				
60	59.85		D143		63 20 flow structure (20-30°) very weak diss of Py pale gray Carb-Ser-pheno. along crack f-Py vlets net work gray with pale gray pheno 70 00 Py-vlet (irregular) pale gray massive with gray pheno weak diss of f-Py pale gray with pale gray pheno pale gray massive flow structure (50°)				
70					86 20 f-Py net work 87 10 Py diss (#1-2 m/m, cubic) 89 35-89 65 weak diss of Py-Sph gray-pale gray aphanitic compact massive Py vlets few 94 50 Py vlets domi 96 10-96 60 Py network domi.				
80				dacite	gray partly dark gray 99 00-99 15 Py network domi 101 60-102 85 fractured 103 90 Py pool & spot pale gray, compact 108 95 Py vlets network 109 60-113 50 Py network domi (like brecciation) 113 36-113 50 Py-Chi network 113 50-117 00 outbrc pale gray 114 80-115 60 f-Py network partly with pool				
90					pale gray compact massive pheno. domi 120 25-120 65 Py pool (1x2 cm) pale gray partly pinky pale gray pheno. 124 20-124 75 outbrc 124 90-125 00 Chi-Ser network 125 50-125 60 Chi-network gray-pale gray compact, hard gray pheno				
100					gray-pale gray 135 10-135 40 cubic Py vlet (dip 80°)				
110				dacite	139 30 very weak diss of Cpy pale gray				

Ken-4

DEPTH	DEPTH OF BOUNDARY	SECTION	MEMBER	ROCK NAME	DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION			
						sil	carb	ph	ser
					pale gray-white gray partly pale green glass elongated Py diss weak (brc #4cm) 4 40 cubic Py concentrated (# max 3 m/m)				
10					white gray (partly pink) brc (#0.5-5cm max 7cm) white clayey 12 85 dip 30° pink-pale green glass layered 13 80-14 25 cubic Py concentrated & pale green layer random brc pink (#1cm) white gray-pale white gray (frag light green & pink-almost lapilli) dip 15-20°				
20					22 55-22 65 very weak diss of Ga 23 15-23 50 very weak diss of Ga 24 65-25 00 weak diss of Ga-Sph 25 30-25 70 weak diss of Ga-Sph 26 45-27 35 diss of Ga-Sph (27 00-27 20 rich) 28 75 very weak diss of Ga				
30			D143	dacite tuff breccia	white gray & white pale green dip 10° pale green colour of frag heterogeneous 35 00 green glass layered dip 20-30° 37 40 cubic Py concentrated				
40					white gray-pinky pale gray brc large (# 10-15 cm) perlitic Ca partly large cubic Py diss 43 80-43 85 cubic Py concentrated white palegray somewhat soft brc domi generally Py diss few				
50					white pale gray-white gray somewhat compact cubic 5 m/m Py diss generally few 51 00-52 00 brc large (# 10-20 cm) somewhat outbrc 55 50-55 60 cubic B octahedral large Py diss concentrated reddish Ca brc observable				
60					pale gray 69 10 dip 20° somewhat outbrc 61 40 dip 0° pale green glass domi white gray pinky gray 63 15-63 50 pink carb network domi white gray brc angular Py diss very weak				
70	70.95				white gray-pale gray shape of brc, heterogeneous mix gray olive gray pale green & olive green glass layered (Chi-Mont) cubic large Py diss (max 7m/m) rarely				
80			D143	andesite tuff	pink gray, pale purple gray 80 90-82 05 diss of Sph-Cpy-Ga with vlets of Sph-Cpy 82 45-83 40 diss of Sph-Ga (Sph rich) 84 20 green glass domi like augen				
90				dacite tuff breccia	complex coloured (white gray-pale green-pale green gray) brc angular (# 5-20cm) perlitic white pale green & pink cubic Py diss flow structure 40° Qtz rich perlitic hard, partly large Py diss				
100				dacite	Qtz rich somewhat perlitic massive cubic Py diss (# 10 m/m) white pinky gray boundary 30° white gray & pale green pink Carb & Qtz domi partly cubic Py diss (# 10 m/m) boundary gradually changing				
110	104.40		A112	dacite tuff breccia	pale green & pinky green somewhat perlitic with pink Carb-Qtz-green Biot-pheno green glass rich partly cubic Py diss (10-15 m/m) Qtz pink, Carb-green, Biot-pheno domi rarely cubic Py diss (# 12-15 m/m)				
120				dacite	compact 122 75-122 95 flow structure dip 30° 124 00-124 30 outbrc pale green-green gray pink Carb rich Py diss generally weak outbrc pink Carb rich				
130					pale green pink Carb-Qtz-green Biot-pheno (Carb) Qtz (# 2 m/m) massive				



Ken-5

Ken-6

DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION
white gray partly pale green glass elongated Py diss weak (brca #4cm) 4 40 cubic Py concentrated (# max 3 m/m)	sil carb chl ser
gray (partly pink) brc (#0.5 ~ 5cm max 7cm) white clayey pink ~ pale green glass layered cubic Py concentrated B pale green layer random (# 1cm)	
Py ~ pale white gray (frag light green B pink ~ almost lapilli) dip 15-20°	
very weak diss of Ga very weak diss of Ga weak diss of Ga-Sph weak diss of Ga-Sph diss of Ga-Sph (27.00-27.20 rich) weak diss of Ga	strong
Py B white pale green dip 10°	
green colour of frag heterogeneous 35 00 green glass layered dip 20-30° 37 40 cubic Py concentrated	
Py ~ pinky pale gray brc large (# 10-15 cm) perlitic Da partly large cubic Py diss cubic Py concentrated pale gray somewhat soft brc domi generally Py diss few	
gray ~ white gray somewhat compact cubic 5 m/m Py diss, generally few brc large (# 10-20 cm) somewhat outbrc cubic B octahedral large Py diss concentrated Da brc observable	
69 10 dip 20° somewhat outbrc 61 40 dip 0° pale green glass domi Py pinky gray 63 15 ~ 63 50 pink carb network domi, Py brc angular Py diss very weak	
Py ~ pale gray shape of brc, heterogeneous mix gray Py pale green B olive green glass layered (Chl-Mont) Py Py diss (max 7 m/m) rarely	
Py pale purple gray diss of Sph-Cpy-Ga with vlets of Sph-Cpy diss of Sph-Ga (Sph rich) diss domi like augen coloured (white gray, pale green ~ pale green gray) brc angular (# 5-20cm) white pale green B pink cubic Py diss - flow structure 40° perlitic hard, partly large Py diss.	
Py somewhat perlitic massive cubic Py diss (# 10 m/m) pale gray boundary 30° Py B pale green pink Carb B Qtz domi cubic Py diss (# 10 m/m) boundary gradually changing	
Py B pinky green somewhat perlitic with pink Carb-Qtz-green Biot-pheno diss rich partly cubic Py diss (10-15 m/m)	
Py, Carb-green, Biot-pheno domi rarely cubic Py diss (# 12-15 m/m)	
Py flow structure dip 30° Py brc Py green gray pink Carb rich Py diss, generally weak Py pink Carb rich	
Py pink Carb - Qtz-green Biot-pheno (Carb) Qtz (# 2 m/m)	

DEPTH	DEPTH OF BOUNDARY	SECTION	MEMBER	ROCK NAME	DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION
m					white ~ white gray partly pale white green B white pink brc clayey 2 80 ~ 3 00 cubic Py diss. 3 50 ~ 3 90 green glass layered (# 1-2 m/m)	sil carb chl ser
10					9 00 ~ 9 15 pale green Chl-Ser layered cubic Py diss # 1-3 m/m 12 50 perlitic rock frag (# 6cm)	
20					17 00 white gray B white pinky gray brc white clayey white pale green glass (Chl-Ser) domi. white gray B pale white green (partly pinky)	
30				dacite tuff breccia	21 00 ~ 21 30, 21 75 ~ 22 15 cubic Py diss. domi 25 60 ~ 26 25 cubic Py diss. domi 26 30 ~ 26 55 : very weak diss of Ga-Sph 28 65 ~ 29 05 : weak diss of Ga-Sph (Ga rich) B cubic large Py cubic Py diss partly domi (# 0.5 ~ 4 m/m)	
40					34 90 ~ 35 50 very weak diss of Ga 36 20 ~ 40 00, weak diss of Sph-Ga 40 00 ~ 40 90 diss. of Sph-Ga-(Cpy)	
50					40 90 47 45 weak ~ very weak diss of Sph-Ga 44 75 ~ 45 30 pale green layered dip 0-5°	
54 00			DI 43	dacite lapilli tuff	white gray B pale white gray Py diss very weak boundary gradually changing dip 5-10° pale green glass layered white gray ~ white pale gray Py diss weak	
66 65					boundary gradually changing white gray B pale green B light white pink partly green glass network 61 40 ~ 72 60 very weak diss of Ga brc gray aphric carb Da partly (# 5-8 m/m) mix light green glass (Chl)	
70				dacite tuff breccia	pale green green glass (Mont) layered B network brc gray aphric Da (# max 10cm) Py diss not observable	
80					white gray ~ white pale green somewhat clayey brc (# 5-10 cm) white gray seldom pinky perlitic frag bearing brc (# 2-4 cm) mix (green glass) Py diss not observable brc (# 2-6 cm)	
92 60				dacite lapilli tuff	boundary gradually changing	
97 65				andesite tuff	98 05 weak diss of Ga-Sph white gray pinky brown 101 95 ~ 102 10 weak diss of Sph-Ga boundary gradually changing 102 10 ~ 102 70 very weak diss of Sph-Ga 102 70 ~ 103 70 weak diss of Sph-Ga 103 65 ~ 105 65 weak diss of Sph-Ga 106 00 ~ 106 07 weak diss of Sph-Ga	
110				dacite tuff breccia	white pink ~ reddish pink complex coloured perlitic ~ nevaditic generally f-Py diss. partly pale green glass network mix silicified	
120					white pinky gray ~ complex coloured 120 65 cubic Py diss domi (# max 10 m/m) hard pink part domi 125 50 ~ 126 00 like outbrc	
130				dacite lapilli tuff	boundary gradually changing pale gray green 130 30 ~ fissile green glass network 132 70 vlet of Qtz-Sph-Ga (wd 2cm dip 60°) 132 65 ~ 133 50 silicified green glass layered Qtz grain bearing 136 40 vlet of Qtz-Ga (wd 1-1.5cm) green glass dip 5-15° boundary gradually changing.	
140					pale green ~ gray soap green glass network domi pale gray ~ white gray flow structure 20-30° partly cubic Py diss	

DEPTH	DEPTH OF BOUNDARY	SECTION	MEMBER	ROCK NAME
m				
10				dacite tuff breccia
20	17 60			
30				dacite lapilli tuff
40				
50	54 10		DI 43	dacite tuff
60				
70	65 05			dacite lapilli tuff
80	79 65			dacite tuff breccia
90	92 60			
97 65			DI 43	andesite

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY

PHASE III

WELL-LOGS
SONDAJ LOGLARI
(Kat-1, Ken-4, -5, -6)

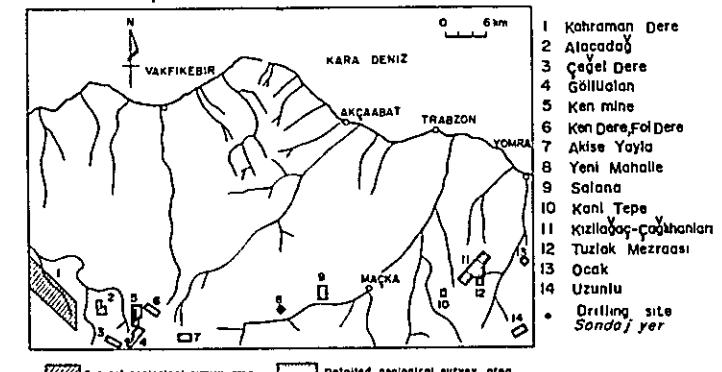
Ken-6

DEPTH m	DEPTH OF BOUNDARY SECTION	MEMBER	ROCK NAME	DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION			
					chl	carb	chl	ser
0	3		dacite	pale green somewhat soft brc few gray aphric Da green glass layered				
10			tuff breccia	pale green~pale gray somewhat soapy Py diss weak dip 15° green glass (Chl) pale green~white green soft 1195~1205 clay zone broken frag white~white gray argl				
17.60				boundary not clear gradually changing				
20				pale green~white green pale green glass(Chl)layered domi Py diss very weak soft				
29.70			dacite	green glass domi dip 15° pale green~white green & white cubic Py diss weak lapilli → white alternation of Lptf & layered Tt mix gray carb dip 5~10° frag. white (carb-ser) dip 15 20° pale green glass layered				
30			lapilli tuff					
40				pale green~white green almost layered Py diss weak frag dacitic rock frag white~white gray Pydiss weak				
50				pale green~white green frag white argl partly green layered Tbr frag decreasing				
54.10				near boundary green glass layer domi dip 20° clear				
60			dacite tuff	pale gray~white gray~gray layered dip 20~25° pale gray massive				
65.00				6500~6400 pink Carb violet domi. general dip 60° boundary 20~25°				
70			dacite	pale white green~white green partly green glass (Chl) layered f-Py diss weak				
70			lapilli tuff	6695 white pink Carb violet (wd 2.5cm dip 45°) 6900 white pink Carb violet (wd 2.0cm dip 60°) both barren 7385~7415 white pink Carb violet. (wd 8.0cm dip 70°)				
80				7720 white pink Carb vein (wd 3.0cm dip 60°) boundary 20°				
80			dacite	8250~82.65 weak diss.of Sph-Ga-Cpy (closely related to vlets of Carb) pale white green~gray green partly dark green Chl domi				
80			tuff breccia					
90				8600~8630 mix. Chl-Qtz 8735~8760 clay zone, fractured 8985~8995 Qtz-py-Ga violet concentrated (wd 4cm dip 50°) Ga poor. boundary gradually changing 9080 very weak diss of Ga				
90			andesite	green~gray compact Chl-Cal-pheno Pydiss green olive green white Cal violet network Cal spot				

Result of chemical analysis

Depth	m	Wd	cm	Core length	Cu %	Pb %	Zn %	Remarks
82.50~82.80		3.0	30	0.03	3.50	1.13		weak diss of Sph-Ga-Cpy

INDEX MAP



Scale 1:500
Olçek 1:500

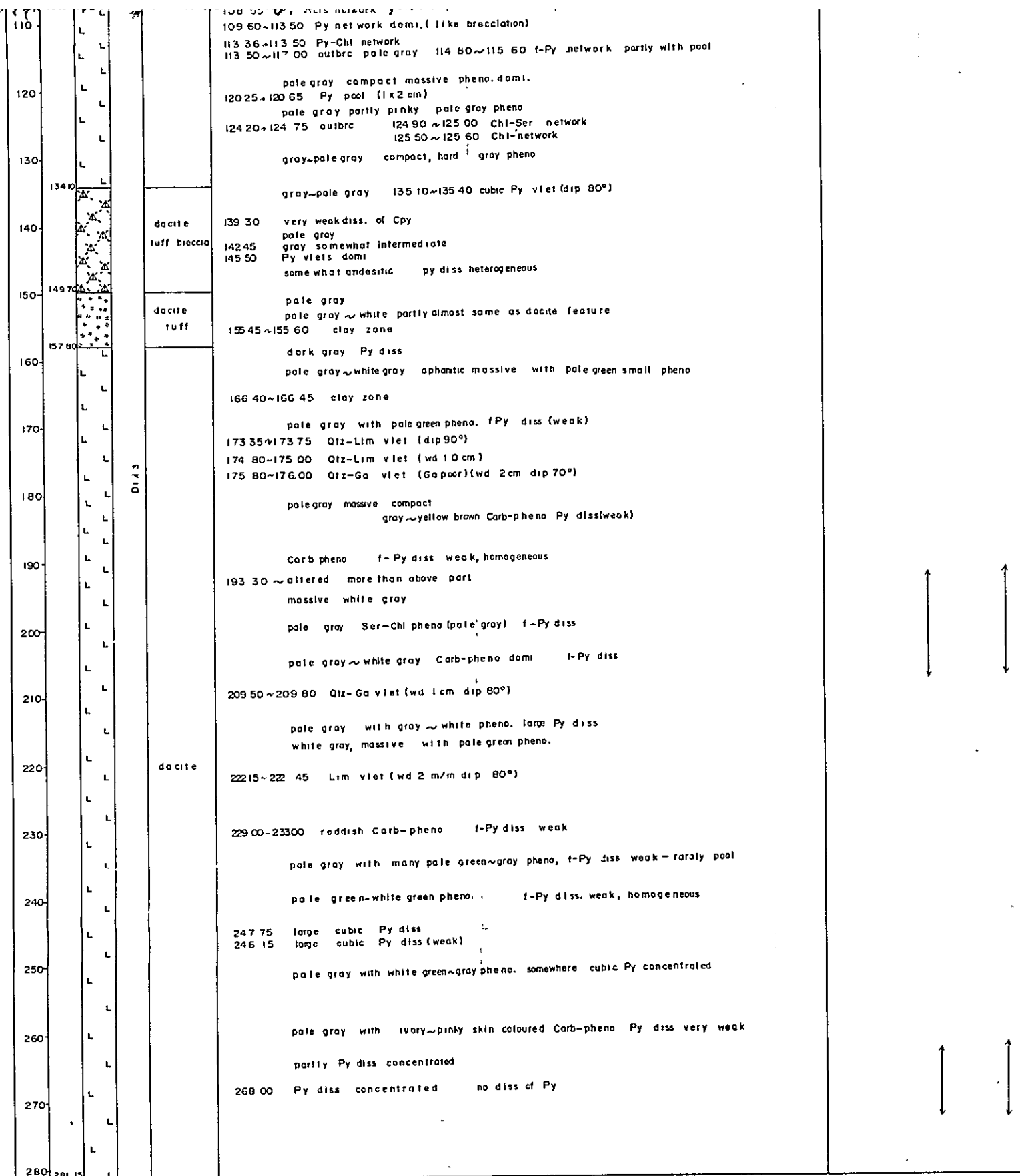
METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd

Geological symbol & abbreviation of geological term
Jeolojik sembol & jeolojik terim kısaltmaları

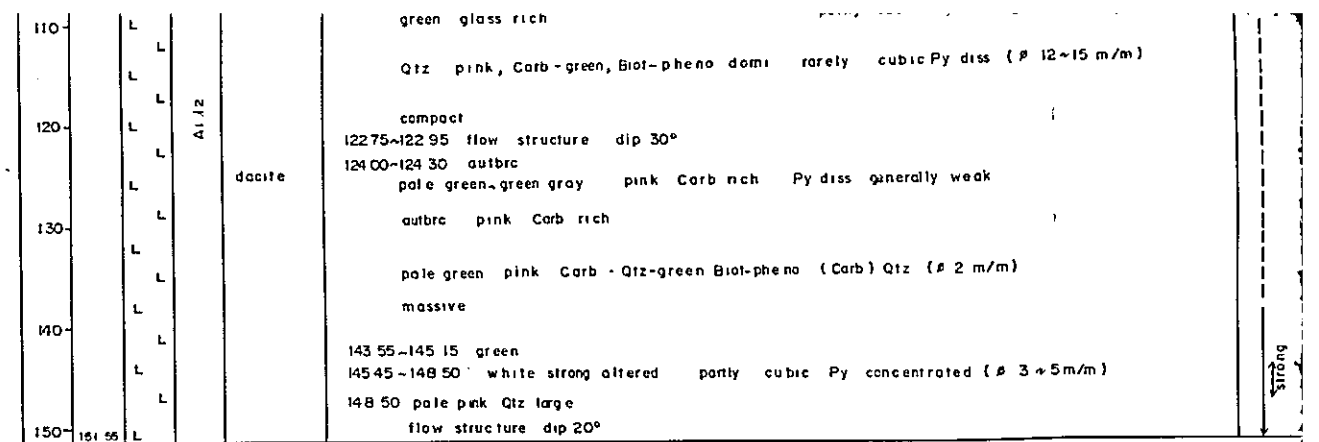
- Md : mudstone / çamurlu taşı
- Ad : andesite / andezit
- Da : dacite / dasit
- Ss : sandstone / kumtaşı
- Tf/Lptf/Tbr : andesite tuff/lapilli tuff/tuff breccia / tuff/lapilli tuff/tuff breccia
- Tt/Lptf/Tbr : dacite tuff/lapilli tuff/tuff breccia / tuff/lapilli tuff/tuff breccia





Results of chemical analyses

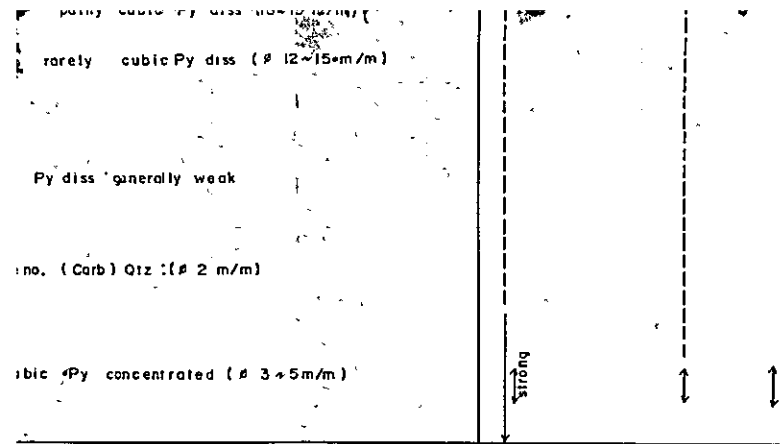
Depth	m	Wd cm	Core length	Cu %	Pb %	Zn %	Remarks
25 90 ~ 26 00	10	10	10 cm	0.06	0.06	0.03	Qtz-Cpy-Sph vlet
51 50 ~ 51 70	20	20	20	0.09	1.55	0.63	Qtz-Sph vlet



Results of chemical analyses

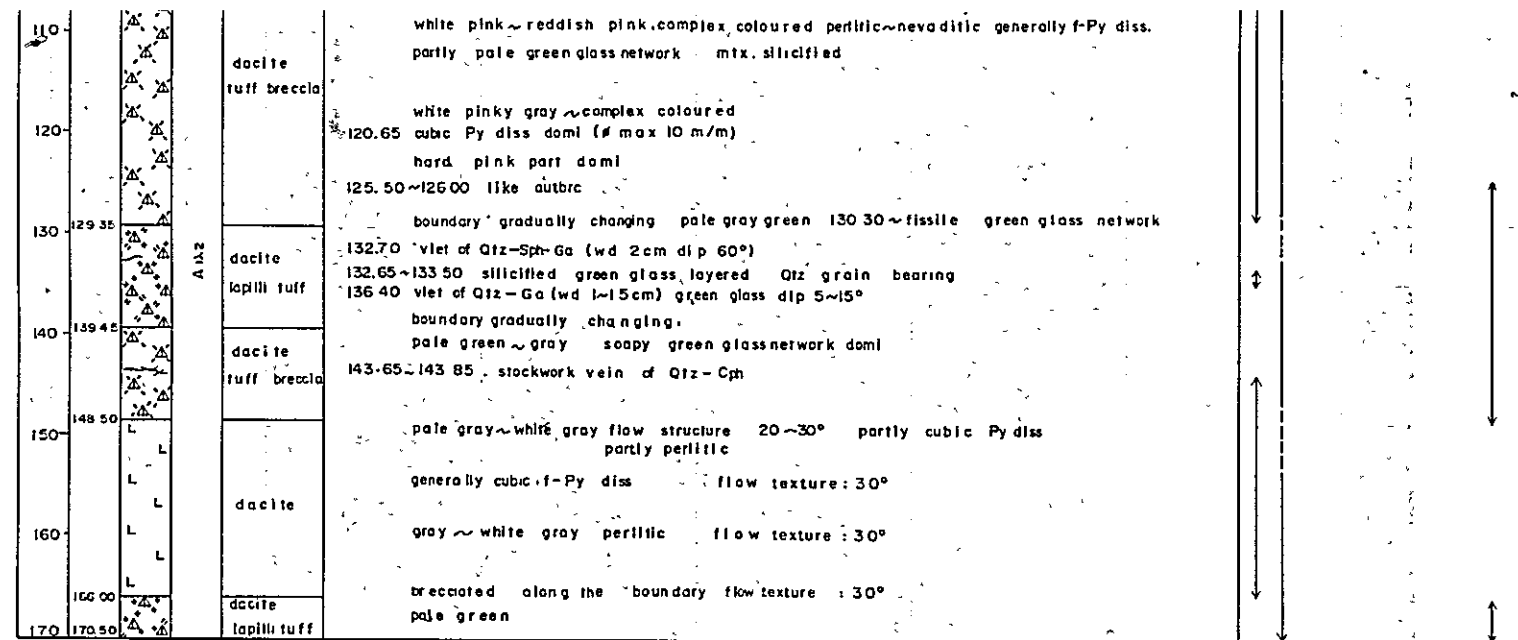
Depth	m	Wd cm	Core length	Cu %	Pb %	Zn %	Remarks
24 85 ~ 25 00	15	15	15 cm	—	0.65	1.25	diss of Ga-Sph (Weak)
25 40 ~ 25 80	40	40	40	—	0.30	0.63	
25 90 ~ 26 03	13	13	13	—	0.01	0.09	
26 43 ~ 27.35	92	92	92	0.08	1.46	1.95	diss of Ga-Sph (Ken mineralization)
80 95 ~ 81 15	20	20	20	0.11	1.25	2.45	diss of Sph-Cpy-Ga with vlets of Sph-Cpy
81 15 ~ 81 25	10	10	10	0.69	1.83	4.60	
81 30 ~ 82 05	75	75	75	0.09	1.38	2.50	
82 45 ~ 83 40	95	95	95	0.11	0.29	3.20	diss of Sph-Ga





ical analyses

Sample No.	Zn%	Remarks
5	1.25	diss of Ga-Sph (weak)
0	0.63	
1	0.09	
6	1.95	diss of Ga-Sph (Ken mineralization)
5	2.45	diss of Sph-Cpy-Ga with vlets of Sph-Cpy
3	4.60	
8	2.50	
9	3.20	diss of Sph-Ga



Depth	m	Wd	cm
82.50~82.80		3	0

Results of chemical analyses

Depth	m	Wd	cm	Core length	Cu %	Pb %	Zn %	Remarks
26.30~26.55		25	25	25cm	—	0.26	0.41	diss. of Ga-Sph (very weak)
28.65~29.05		40	40	—	0.34	0.11	—	weak diss of Ga-Sph Py
37.40~37.75		35	35	—	0.05	0.36	—	weak diss of Ga-Sph
40.00~40.85		85	85	0.04	0.96	1.20	—	diss. of Sph-Ga-(Cpy) Ken mineralization
62.00~62.30		30	30	—	0.19	0.23	—	very weak diss of Ga-Sph
102.75~103.45		70	70	—	1.89	2.20	—	weak diss. of Sph-Ga
105.40~105.65		25	25	—	4.68	6.50	—	
143.65~143.85		20	20	3.00	0.09	0.04	—	stockwork vein of Qtz-Cpy



Result of chemical analysis

Depth	m	Wd	cm	Core length	Cu %	Pb %	Zn %	Remarks
82 50~82 80		3 0		30 cm	0 03	3 50	1 13	weak diss of Sph-Ga-Cpy

	Md	mudstone kumtaş		Tf/Lptf/Tbr	andesite tuff/lapilli tuff/tuff breccia tuff/lapilli tuff/tuff breç
	Ad	andesite andezit		Tf/Lptf/Tbr	dacite tuff/lapilli tuff/tuff breccia tuff/lapilli tuff/tuff breç
	Da	dacite dasit			
	Ss	sandstone kumtaş			
		dissemination dışenüsayın			
		veinlets damarlıklar			

(Lithology)
(Litoloji)

adtic : andesitic
andezitik
calc : calcareous
kalkerli
datic : dacitic
dasitik

(Minerals)
(Mineraller)

Ba : barite
barit
Biot : biotite
biyotit
Carb : carbonate minerals
karbonat mineraller
Cal : calcite
kalsit
Chi : chlorite
klorit
Cpy : chalcopyrite
kalkopirit
Ga : galena
galen
Hb : hornblende
hornblend
Kaol : kaoline
kaolin
Lim : limonite
limonit
Mont : montmorillonite
montmorillonit
Pl : plagioclase
plajoklaz
Py : pyrite
pirit
Pyr : pyroxene
piroksen
Qtz : quartz
kuvar
Ser : sericite
serisit
Spc : specularite
spekularit
Sph : sphalerite
sfalerit

(Texture)
(Tekstur)

autbrc : autobrecciated structure
otobreçlenmiş
brc : breccia structure
breçlik yapı
frag : fragment
tanecik
mtx : matrix
hamur
pheno : phenocryst
jenokrist
partic : porphyritic
porfiritik
vlet : veinlet
damarlık

(Alteration)
(Uterasyon)

argl : argillaceous
kil
carb : carbonitized
karbonatlaşmış
chl : chloritized
kloritlenmiş
lim : limonitized
limonitlenmiş
ser : sericitized
serisitlenmiş
sil : silicified
silisitlemiş
gyp : hydrous sulfatization

(Others)
(Diğerleri)

diss : dissemination
dışenüsayın
max : maximum
maksimum
f : fine
ince
domi : dominant
hâkim



My - 1

DEPTH	DEPTH OF BOUNDARY	SECTION	MEMBER	ROCK NAME	DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION		
						sil	chl	cal
5	3000			sol, gravel	greenish pale-gray f-grained Py diss strong (sometimes Py stringers with Cpy) 320~335 Py Cpy spotted 1160~1170 Py diss very strong greenish darkgray Qtz - pheno very poor	very strong	very strong	
10					2150~2500 Py diss strong			
20								
30				dacite tuff breccia	Py diss gradually weak darkgreen color (35m) Py diss. weaker than upper part			
40								
50								
53.55					pale gray-whitish gray small Qtz pheno domi Da-brc. rich around boundary sometimes irregular flow texture bearing		strong	
60					6300~6320 Py vels (or spotted) 6400~6430 flow band domi (crossed angle 40°)			
70								
80				dacite	7670~7730 Py diss very strong			
90					8300~8320 Py diss (-stringers) very strong			
100					10100~10300 brc. bearing (outbrc) 10200~10280 Py-Ga-Sph stringer & Py strongly diss.			
103.00				dacite tuff breccia	Da-brc. domi (outbrc Da lava)			
110				dacite				
115.00				dacite tuff breccia				
120				dacite	pale gray lava idiomorphic small Qtz pheno. domi glassy			
123.00					dark greenish gray chl Pyr-pheno bearing			

My - 2

DEPTH	DEPTH OF BOUNDARY	SECTION	MEMBER	ROCK NAME	DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION		
						sil	chl	cal
5								
10				sol, gravel				
20	18.60				dark greenish gray very f-grained Py diss			
30				andesite	2480~2520 outbrc texture domi			
30					2170~2480 Pi-pheno domi (poritic texture)			
30					2700~3000 Py diss. strong			
30	32.30			andesite	3130~3150 Py diss very strong			
40	39.80			andesite tuff breccia	dark gray f-grained Py diss (sometimes Ga)			
50				andesite	greenish gray few chl mafic (Pyr, Hb) bearing			
50	48.20			andesite	4750~4850 Py very strong diss and stringers net			
50				andesite tuff breccia				
50	55.15			andesite	greenish gray Py diss			
60	60.00			andesite tuff breccia	6080~6170 Qtz stringers (wd 2cm) network sil zone 6085~6089 Cpy-Ga-Sph-Qtz veinlet			
60	64.50			andesite	greenish dark gray f-grained Py diss			
70				andesite				
70	73.70			andesite tuff breccia	7705~7730 Cpy-Py-(Ga)-(Sph)-Qtz veinlets network zone			
80	78.00			andesite				
90				andesite	Py diss weak (less than upper andesite) 8750~8840 outbrc texture domi around 85~90 Py diss strongly (sometimes Py stringers be)			
100	101.00							
110				andesite tuff breccia	darkgreen Py diss (or stringers)			
120	120.30			andesite				
120	122.40			andesite tuff breccia				



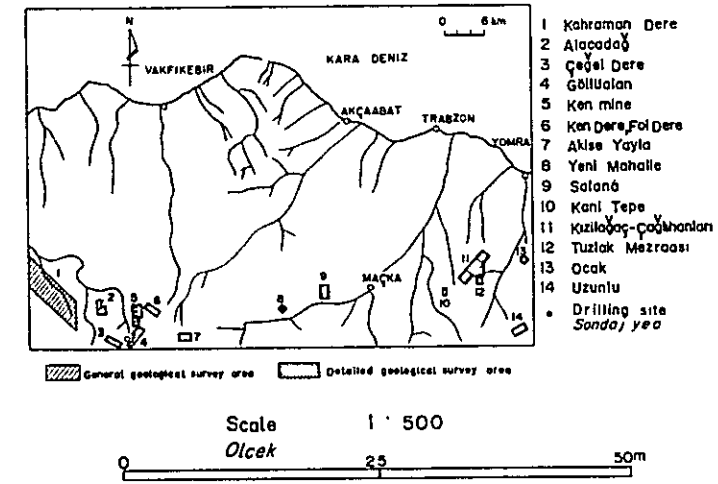
My-3

DEPTH m	DEPTH OF BOUNDARY m	SECTION	MEMBER	ROCK NAME	DESCRIPTION OF LITHOLOGY & MINERALOGY	ALTERATION		
						sil	chl	epsl
0	290			soil				
10		L			pale gray small idiomorphic Qtz-pheno domi. sometimes irregular flow structure bearing			
20		L						
30		L		dacite	around 2700~3000 purlish gray Chl stringers bearing			↑
40		L						
50		L						
53.00					reddish brown calc sometimes Calc stringers bearing (along bedding)			
60				mudstone	6100~6200 whtl brownish dark gray c-Tf, St thin layers			
62.40								
70					pale green~greenish gray brc dacite few Md-frag (# 3 5cm)			
80					6240~6280 reddish brown Md-frag domi 6700~6770			
90				dacite tuff breccia	brc is smaller than upper part (# 2~3cm) small Qtz grain domi in mix			↑
100								
110								
120				dacite	pale gray sometimes very small Md frag bearing			
130				coarse tuff				

PL. 4-2

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY
PHASE III
WELL-LOGS
SONDAJ LOGLARI
(My-1,-2,-3)

INDEX MAP



Scale 1 : 500
0 Ölçek 25 50m

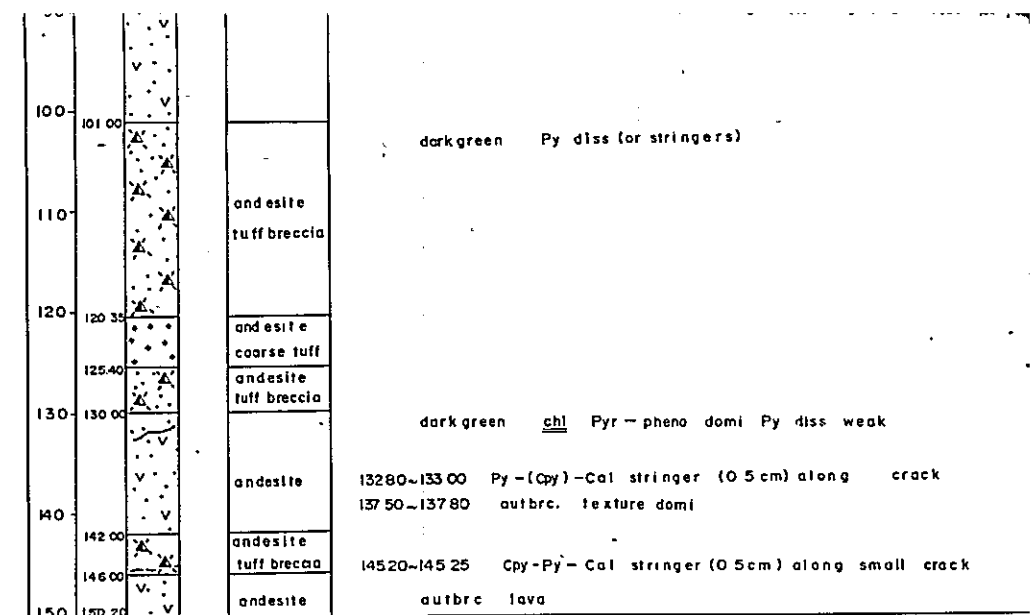
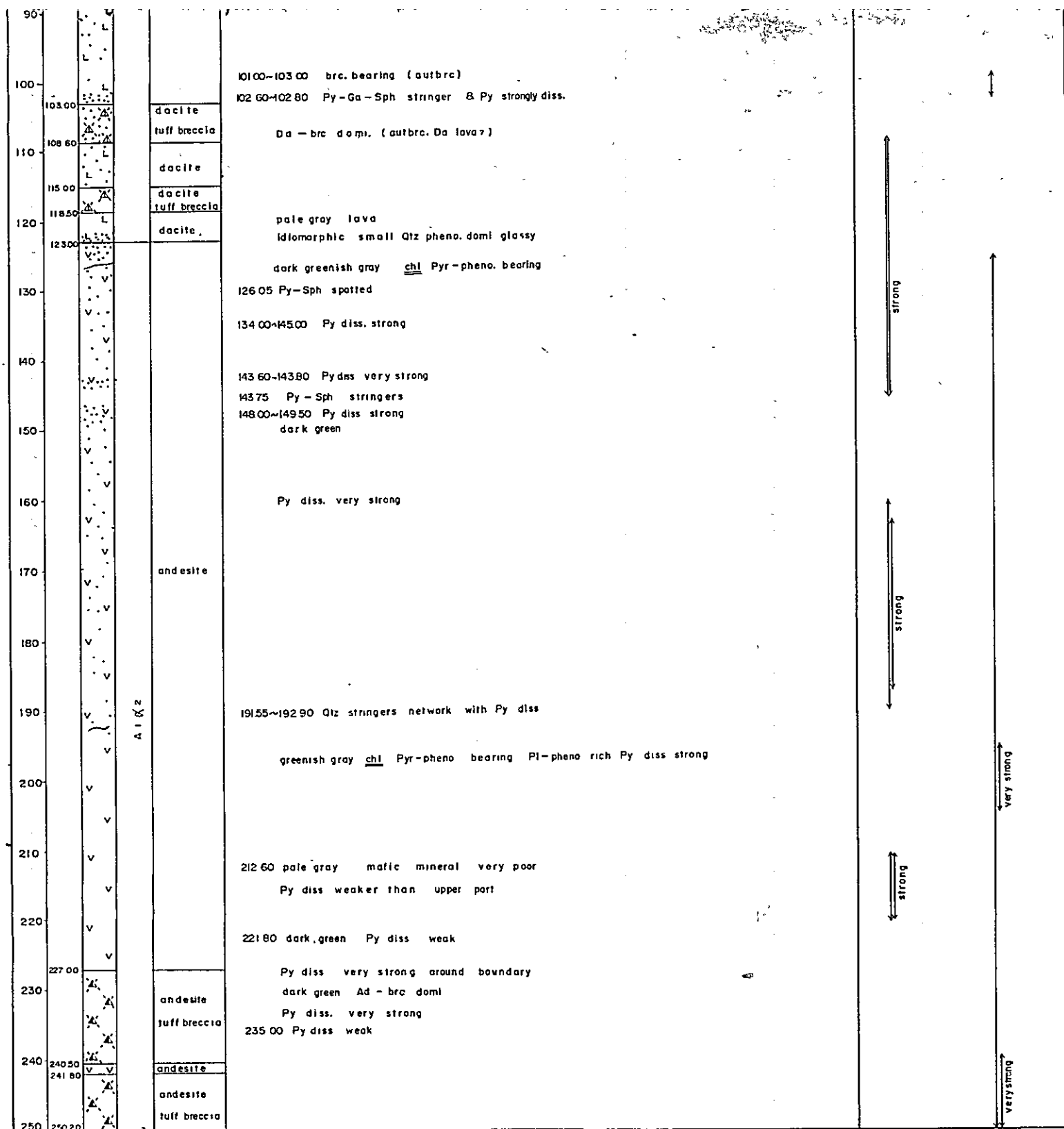
METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd.

Geological symbol & abbreviation of geological term
Jeolojik sembol & jeolojik terim kısaltmaları

	Md : mudstone çamurlaş		Tf/Lptf/Tbr andesite tuff/lapilli tuff/tuff breccia tuff/lapilli tuff/tuff brec
	Ad : andesite andezit		Tf/Lptf/Tbr dacite tuff/lapilli tuff/tuff breccia tuff/lapilli tuff/tuff brec
	Da : dacite dazit		





Results of chemical analyses

Depth	Wd cm	Core length cm	Cu %	Pb %	Zn %	S %	
31.35 ~ 31.50	15	15	—	—	—	3.83	F
36.40 ~ 36.60	20	20	0.02	0.01	0.01	—	Py
60.80 ~ 61.00	20	20	0.56	2.39	5.00	—	Cpy
77.05 ~ 77.30	25	25	2.75	0.03	0.04	7.46	Cpy
130.20 ~ 130.30	10	10	—	—	—	0.98	Py

Results of chemical analyses

Depth	Wd cm	Core length cm	Cu %	Pb %	Zn %	S %	Remarks
3.20 ~ 3.35	15	15	1.69	0.01	0.06	—	Py diss with Cpy-Sph-Ga-Py vlets
11.60 ~ 11.70	10	10	0.04	0.01	0.04	—	Py diss
24.70 ~ 24.80	10	10	tr	—	—	3.02	
44.80 ~ 44.95	15	15	—	—	—	1.48	
63.00 ~ 63.20	20	20	tr	—	—	4.11	
83.00 ~ 83.20	20	20	tr	—	—	4.43	
102.60 ~ 102.80	20	20	0.16	1.31	1.10	1.91	Py diss with Ga spotted
122.50 ~ 122.60	10	10	—	—	—	1.28	Py diss
126.00 ~ 126.10	10	10	0.01	0.04	1.25	—	Pydiss with Cpy(Ga-Sph) spotted
140.20 ~ 140.30	10	10	—	—	—	4.10	Py diss
143.65 ~ 143.90	25	25	0.14	0.01	1.30	—	Cpy-Ga-Sph-Py vlets
161.60 ~ 161.75	15	15	—	—	—	4.53	Py diss
180.05 ~ 180.15	10	10	—	—	—	5.05	
192.00 ~ 192.20	20	20	tr	0.01	0.01	—	Py diss with Py(Cpy)Qtz vlets
202.10 ~ 202.15	5	5	—	—	—	4.08	Py diss
219.35 ~ 219.45	10	10	—	—	—	2.19	
238.10 ~ 238.30	20	20	—	—	—	1.66	



dark green Py diss (or stringers)

dark green chl Pyr - pheno. doml. Py diss weak

1280-13300 Py-(Cpy)-Cal stringer (0.5cm) along crack

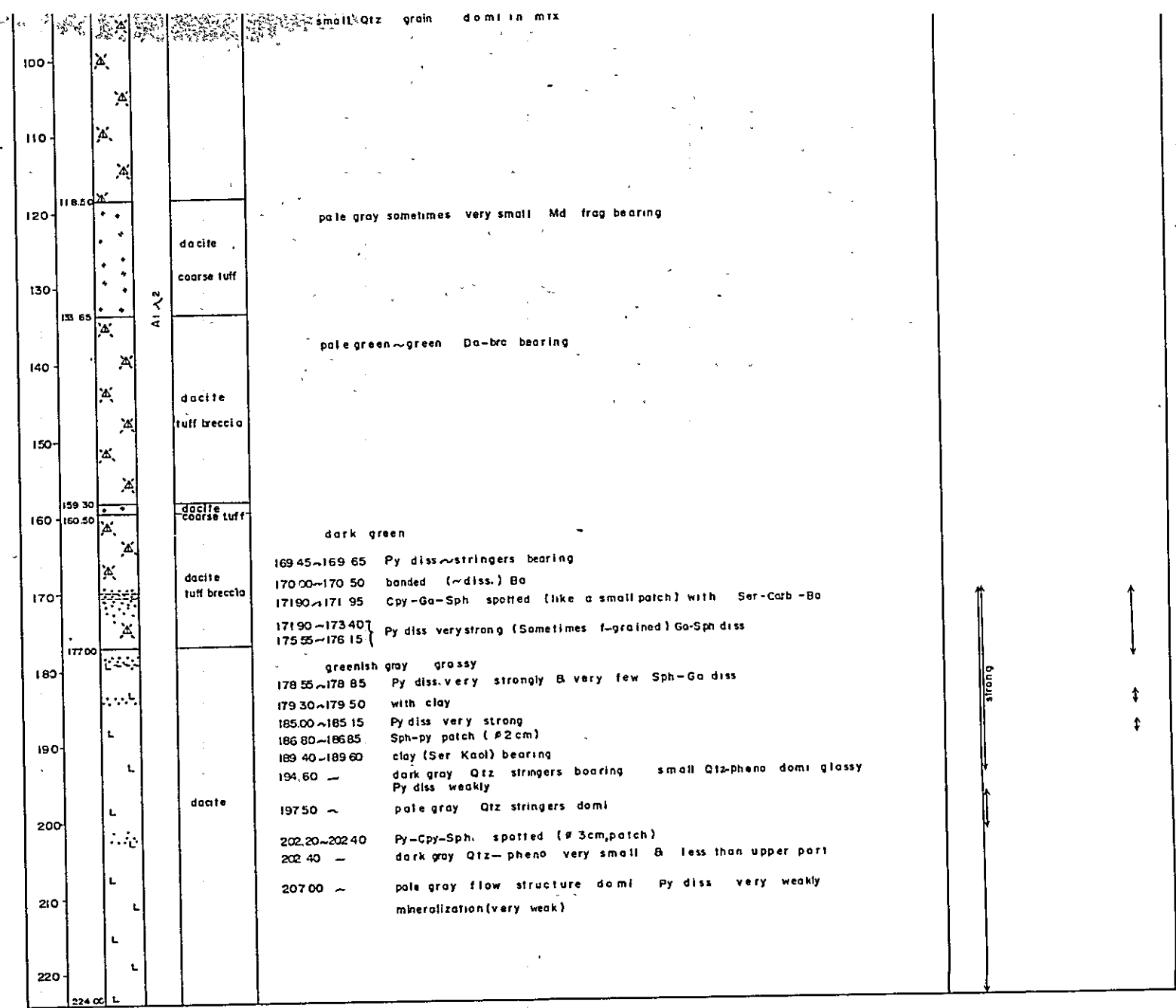
1350-13780 outbrc. texture doml.

14520-14525 Cpy-Py-Cal stringer (0.5cm) along small crack

outbrc lava

Results of chemical analyses

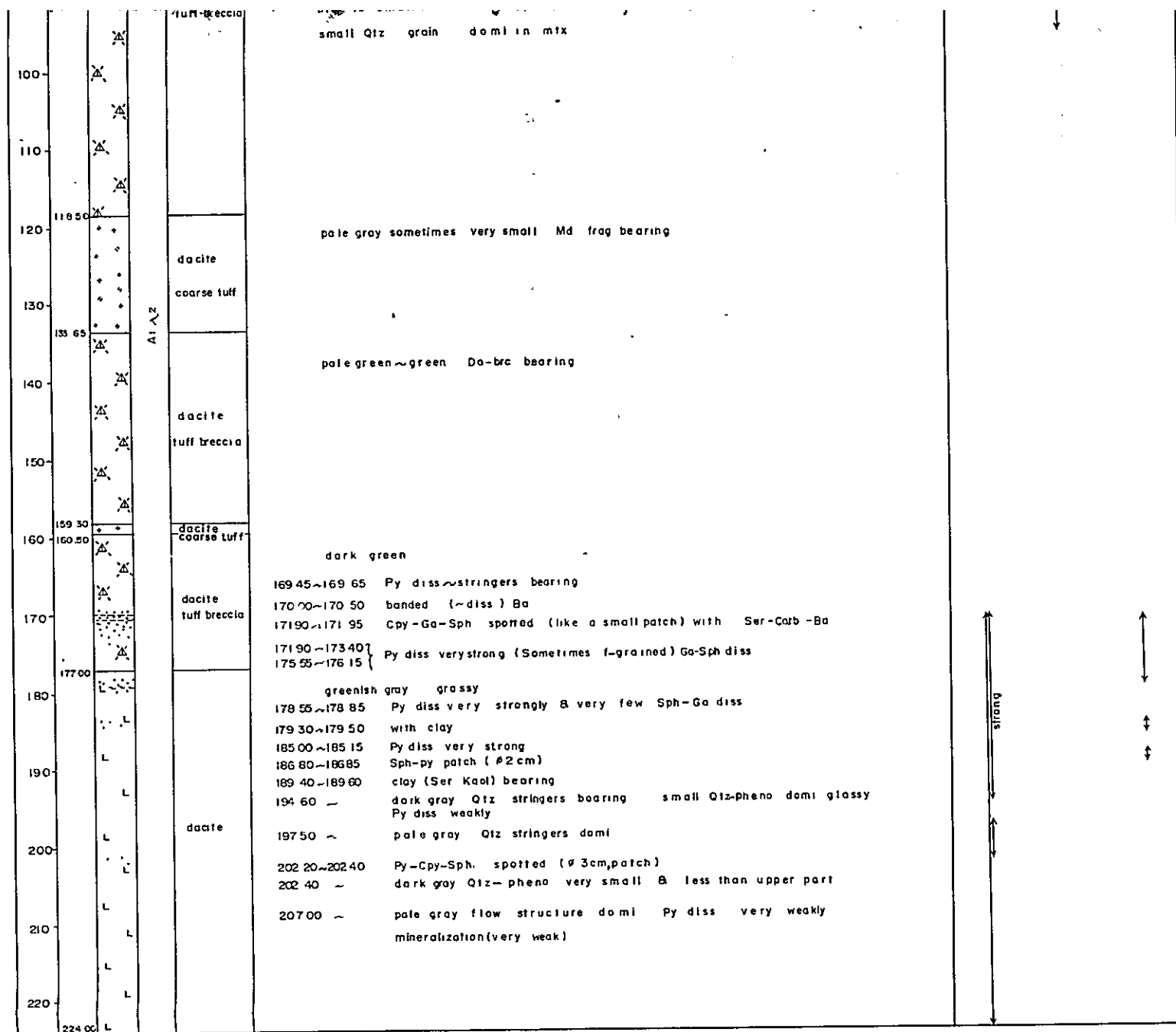
Depth	Wd cm	Core length cm	Cu %	Pb%	Zn%	S %	Remarks
51.35-31.50	15	15	-	-	-	3.83	Py diss
36.40-36.60	20	20	0.02	0.01	0.01	-	Py-Sph diss
30.80-61.00	20	20	0.56	2.39	5.00	-	Cpy-Sph-Ga-Py vlets
7.05-77.30	25	25	2.75	0.03	0.04	7.46	Cpy-Py vlets
10.20-130.30	10	10	-	-	-	0.98	Py diss



(Litho)

(Mineral)





Geological symbol & abbreviation of geological term
Jeolojik sembol & jeolojik terim kısaltmaları

	Md - mudstone çamurtaşı		Tf/Lptf/Tbr - andesite tuff/lapilli tuff/tuff breccia tuff/lapilli tuff/tuff breç
	Ad - andesite andezit		Tf/Lptf/Tbr - dacite tuff/lapilli tuff/tuff breccia tuff/lapilli tuff/tuff breç
	Da - dacite dazit		
	Ss - sandstone kumtaşı		
	dissemination disseminasyon		
	veinlets damarcıklar		

(Lithology)
(Litoloji)

adtic	andestic andezitik
calc	calcareous kalkerli
datic	dacitic dazitik
(Minerals) (Mineraler)	
Ba	barite barit
Biot	biotite biotit
Carb	carbonate minerals karbonat mineraler
Cal	calcite kalsit
Chl	chlorite klorit
Cpy	chalcopyrite kalkopirit
Ga	galena galen
Hb	hornblende hornblend
Kaol	kaoline kaolin
Lim	limonite limonit
Mont	montmorillonite montmorillonit
Pl	plagioclase plajoklaz
Py	pyrite pirit
Pyr	pyroxene piroksen
Qtz	quartz kuvar
Ser	sericite serisit
Spc	specularite spekularit
Sph	sphalerite sfalerit

(Texture)
(Tekstur)

autbrc	autobrecciated structure otobreçleşmiş
brc	breccia structure breçlik yapı
frag	fragment tanecik
mtx	matrix hamur
pheno	phenocryst fenokrist
portic	porphyritic porfiritik
vlet	veinlet damarcık

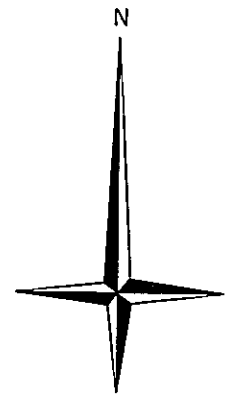
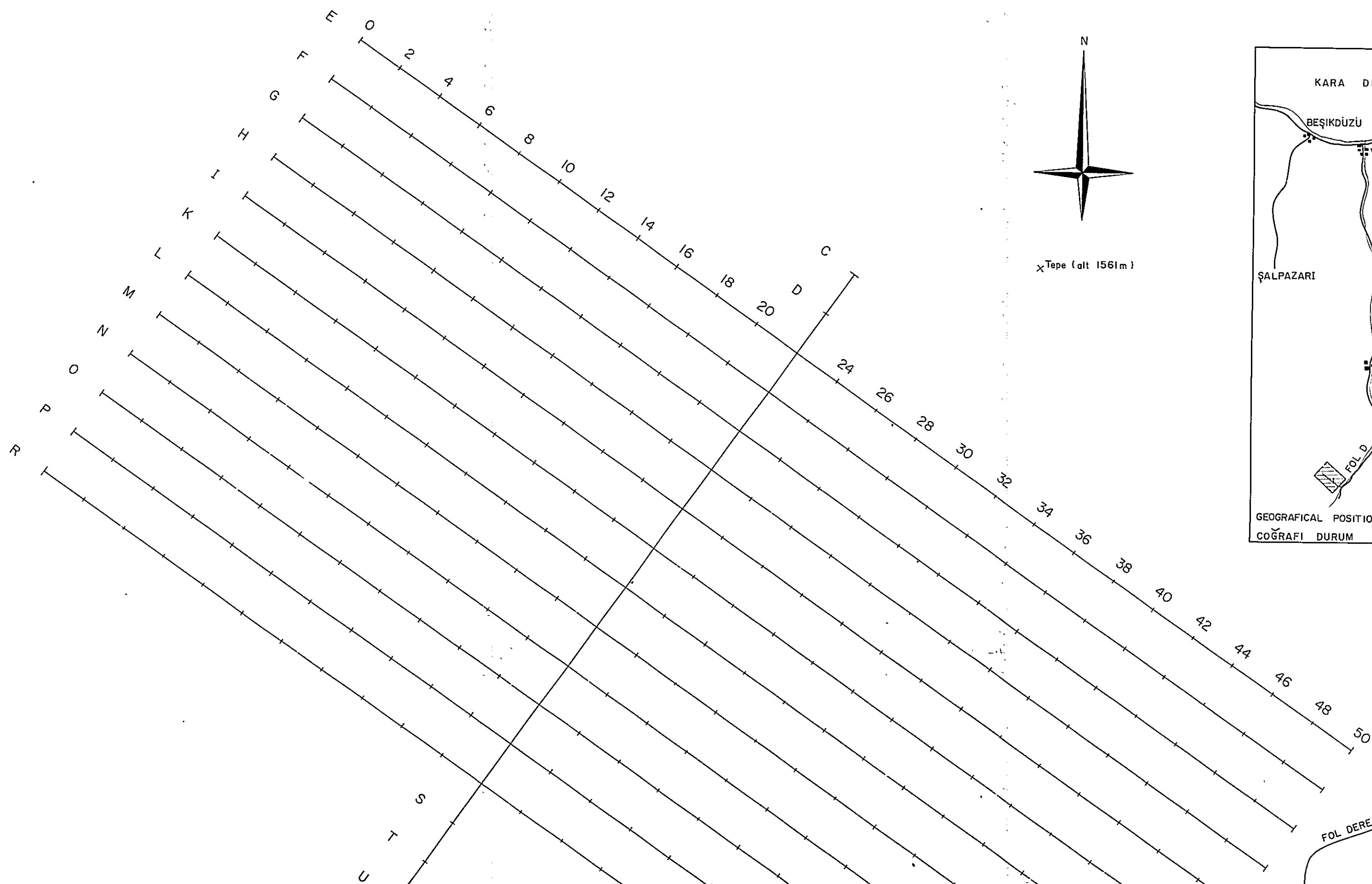
(Alteration)
(Ulaştırma)

argl	argillaceous kil
carb	carbonatized karbonatlaşmış
chl	chloritized kloritlenmiş
lim	limonitized limonitlenmiş
ser	sericitized serisitlenmiş
sil	silicified silislenmiş
gyp	hydrous sulfatization

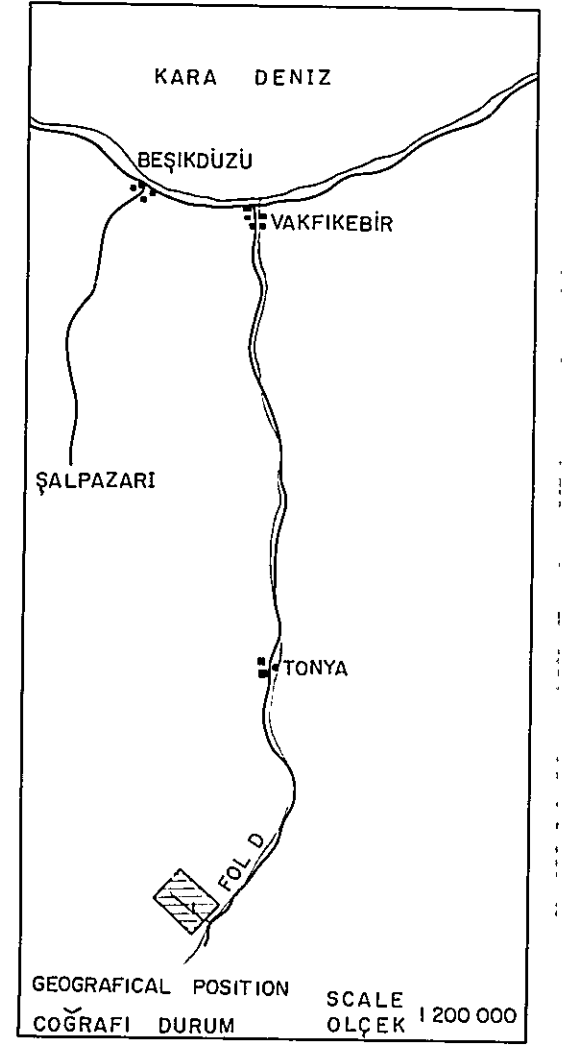
(Others)
(Diğerleri)

diss	dissemination disseminasyon
max	maximum maksimum
f.	fine ince
doml	dominant baskın





x Tepe (alt 1561 m)



GEOGRAFICAL POSITION
COĞRAFI DURUM

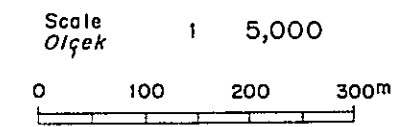
SCALE
OLÇEK 1 200 000



MINERAL RESEARCH AND EXPLORATION INSTITUTE
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PHASE III

LOCATION MAP OF IP SURVEY IN KEN DERE-FOL DERE

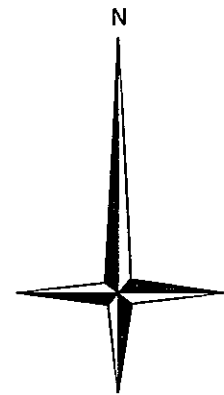
LOKASYON HARİTASI



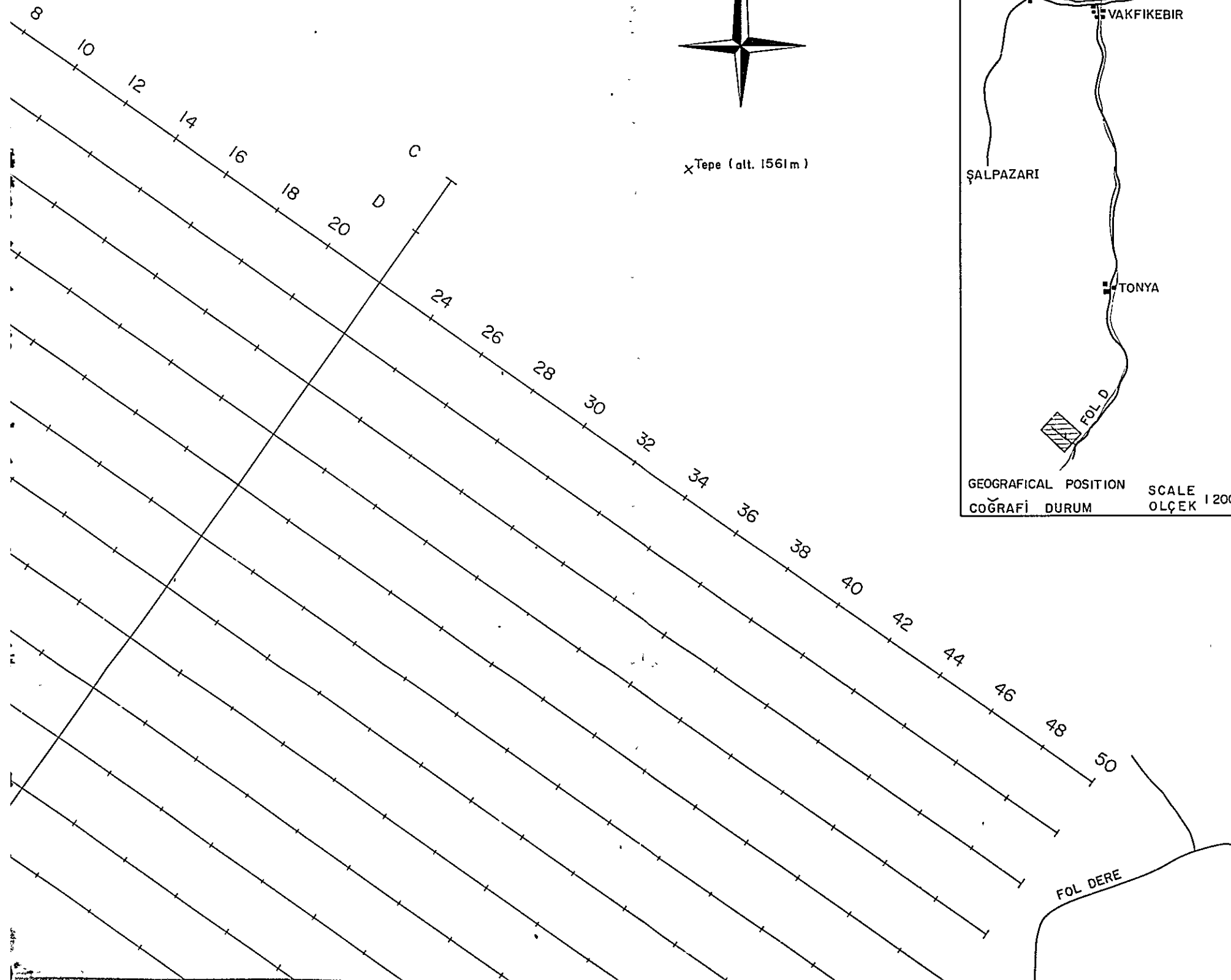
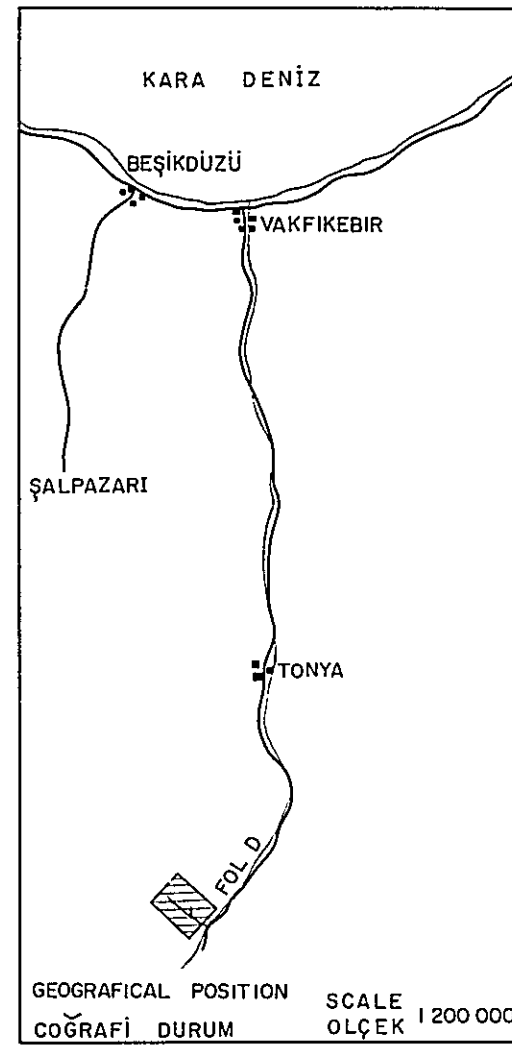
METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

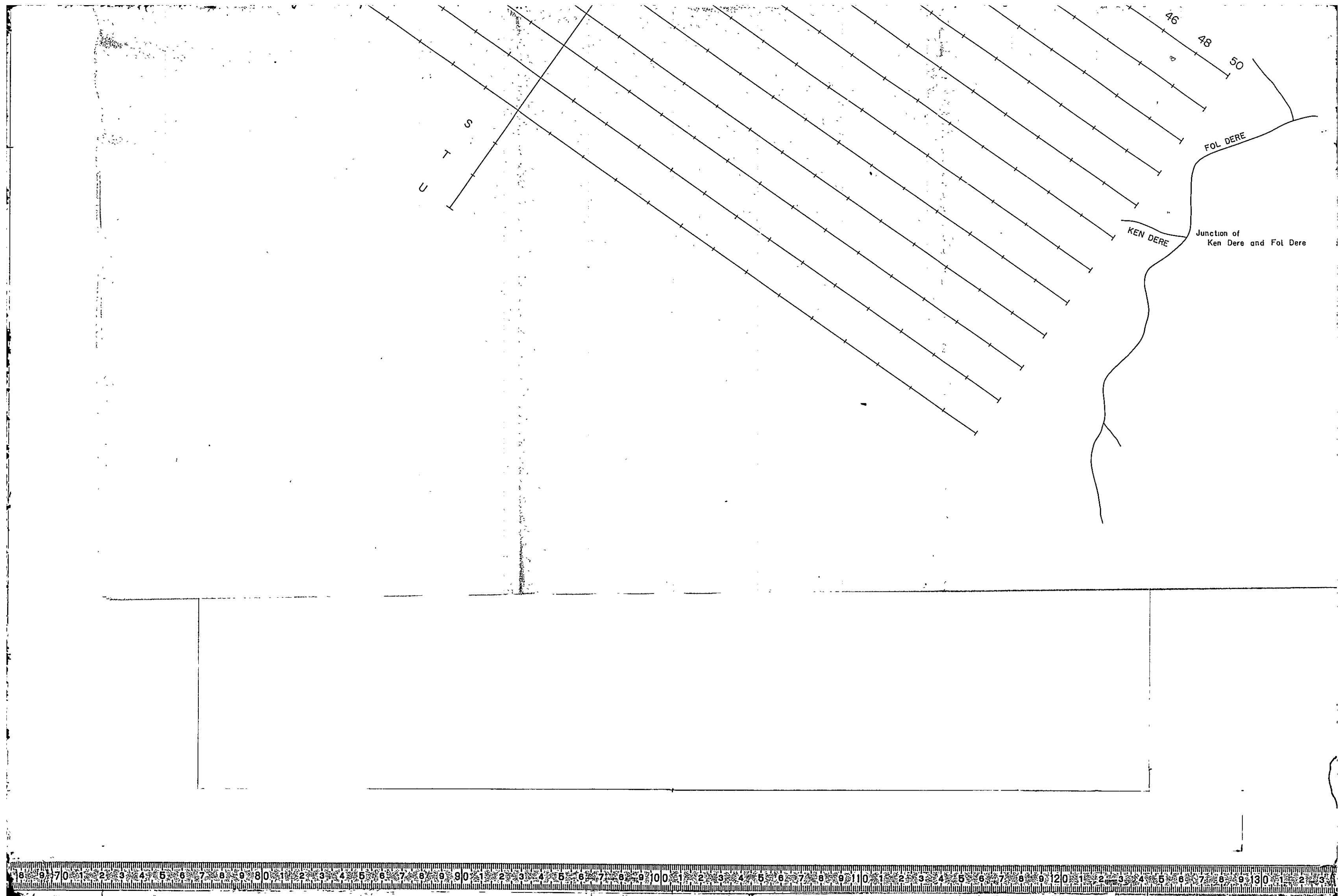
FEBRUARY 1977

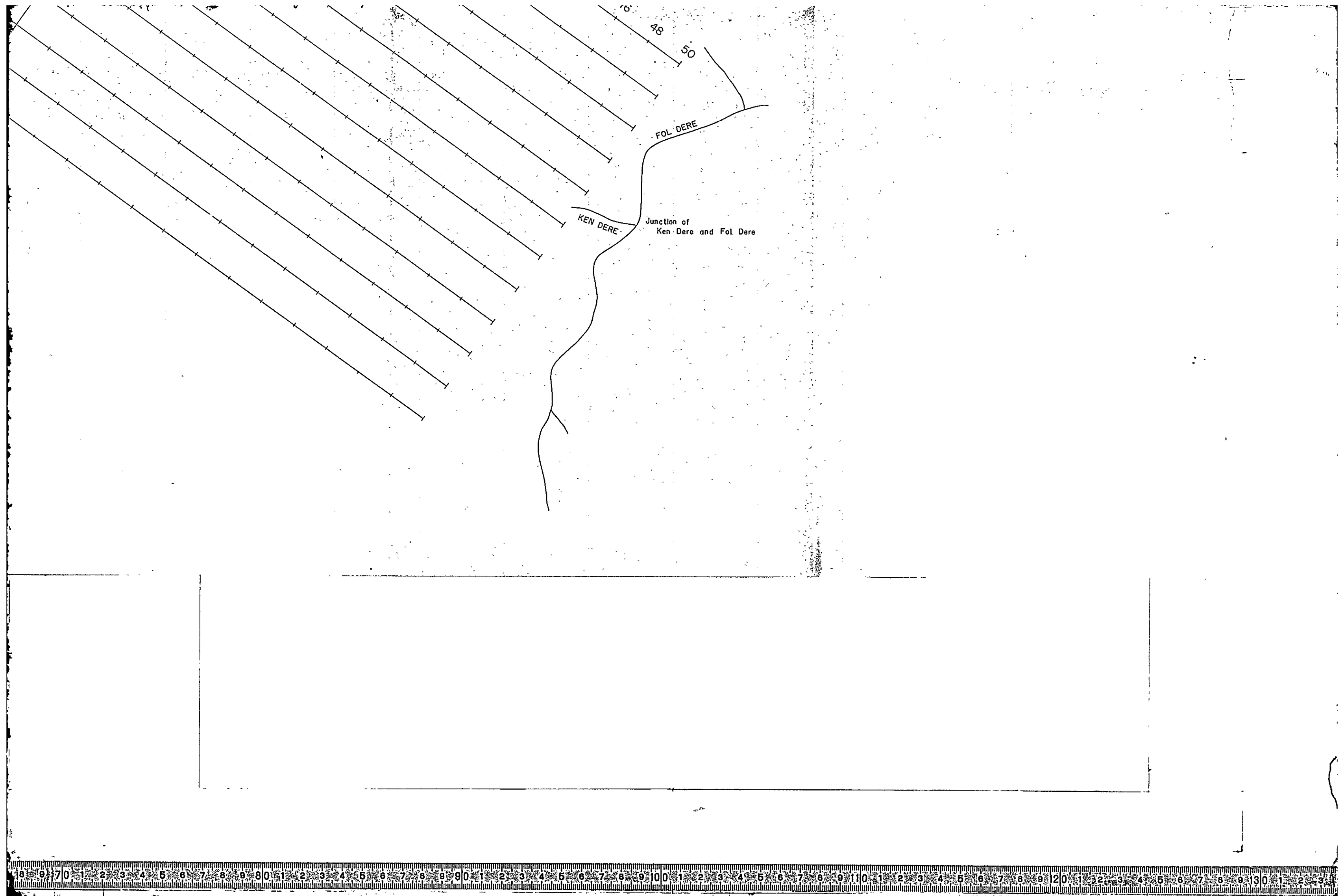
Prepared by Nikko Exploration & Development Co, Ltd



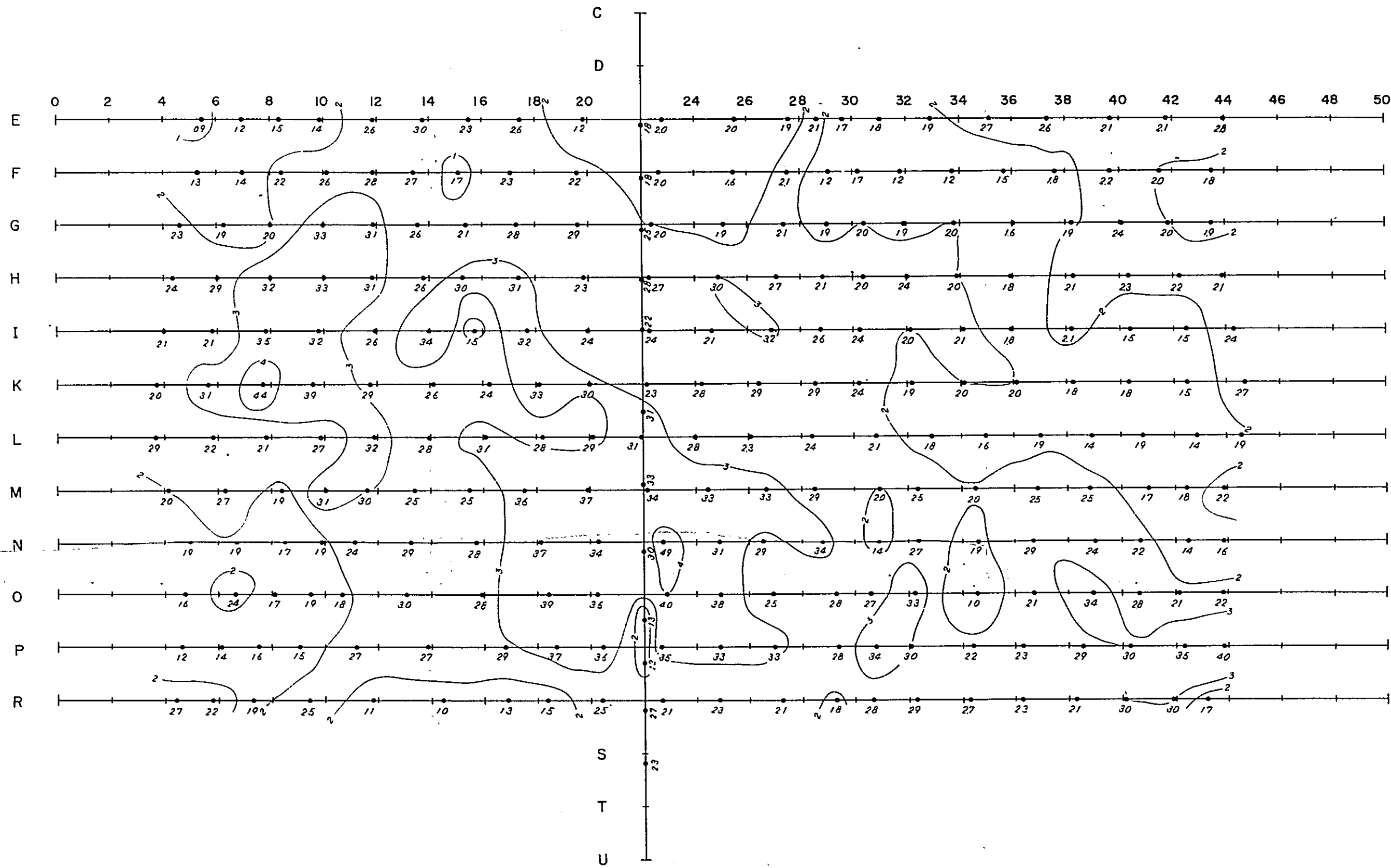
x Tepe (alt. 1561 m)





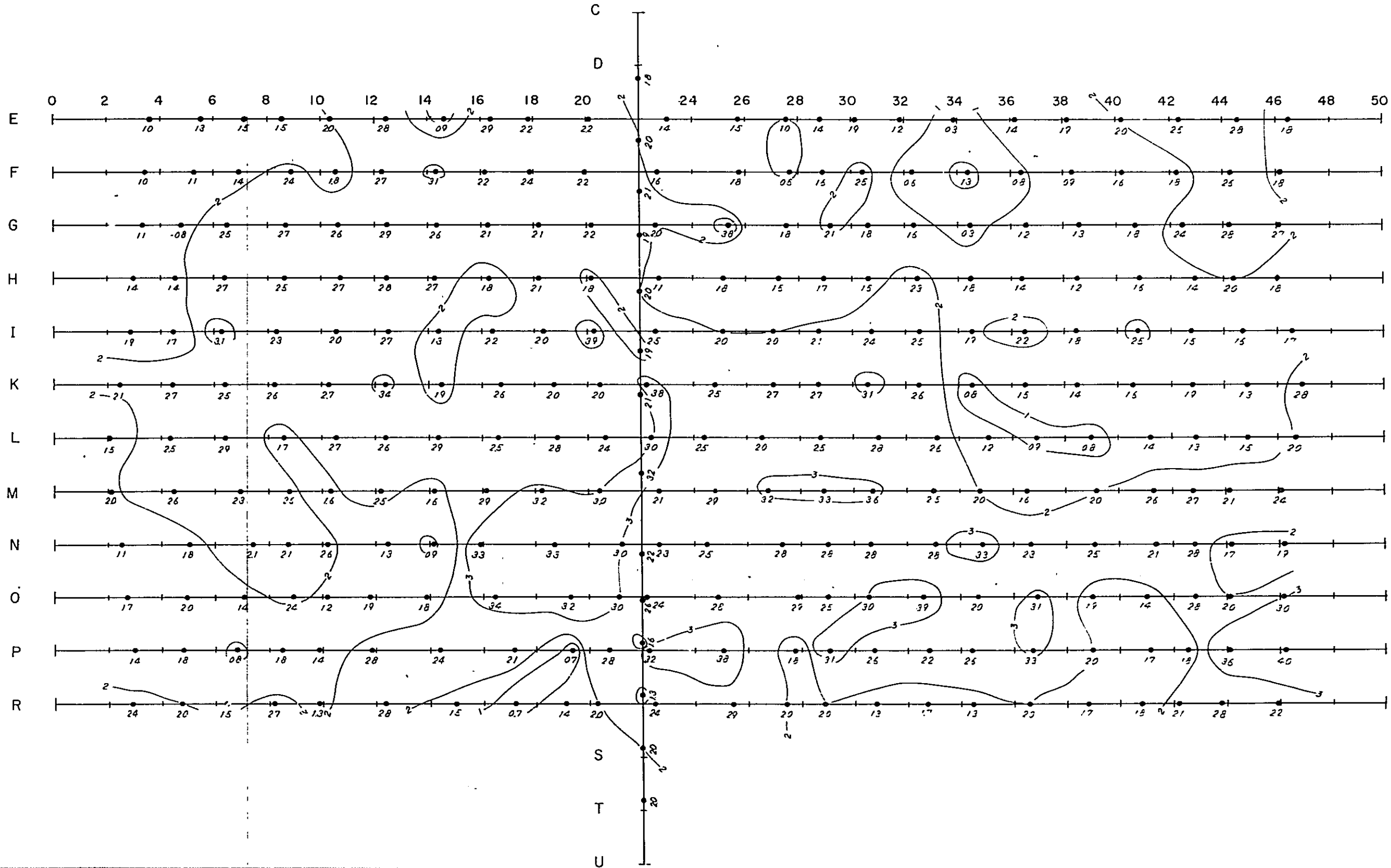


n = 3(F E)

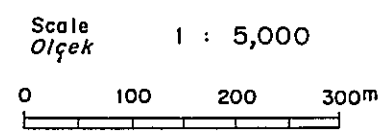


n=1(F E)

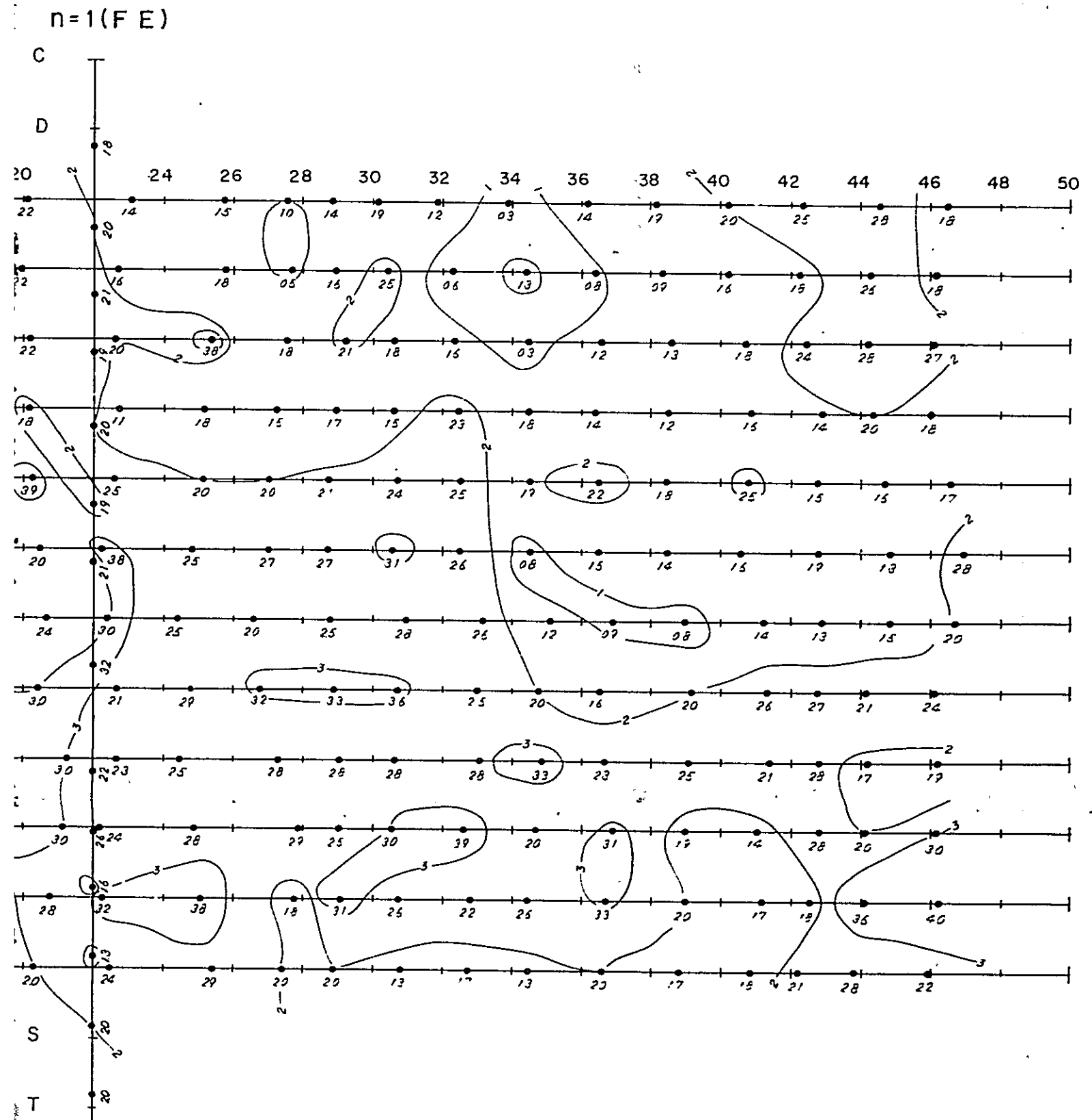
48 50

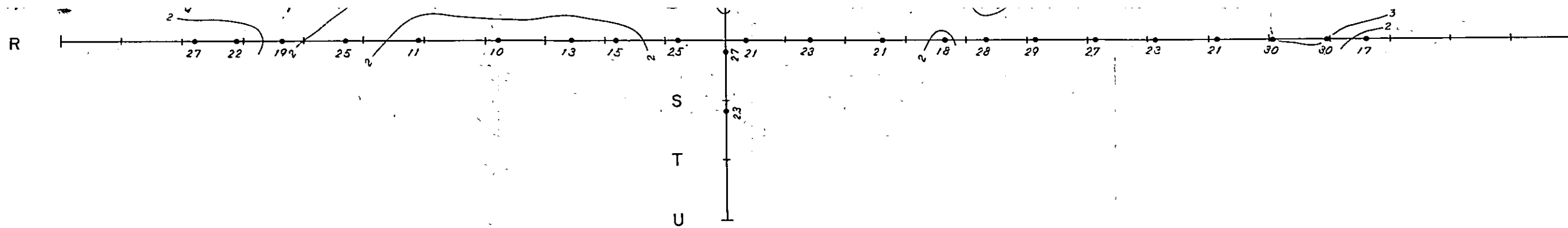


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CONTOURS OF FREQUENCY EFFECT
FOR n = 1~4
KEN DERE-FOL DERE
N-1~4 FREKANS EFFEKT HARİTASI

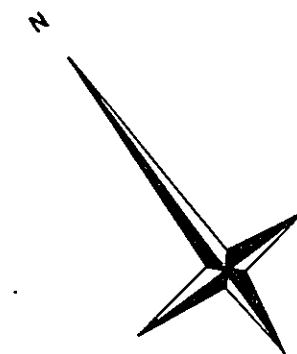
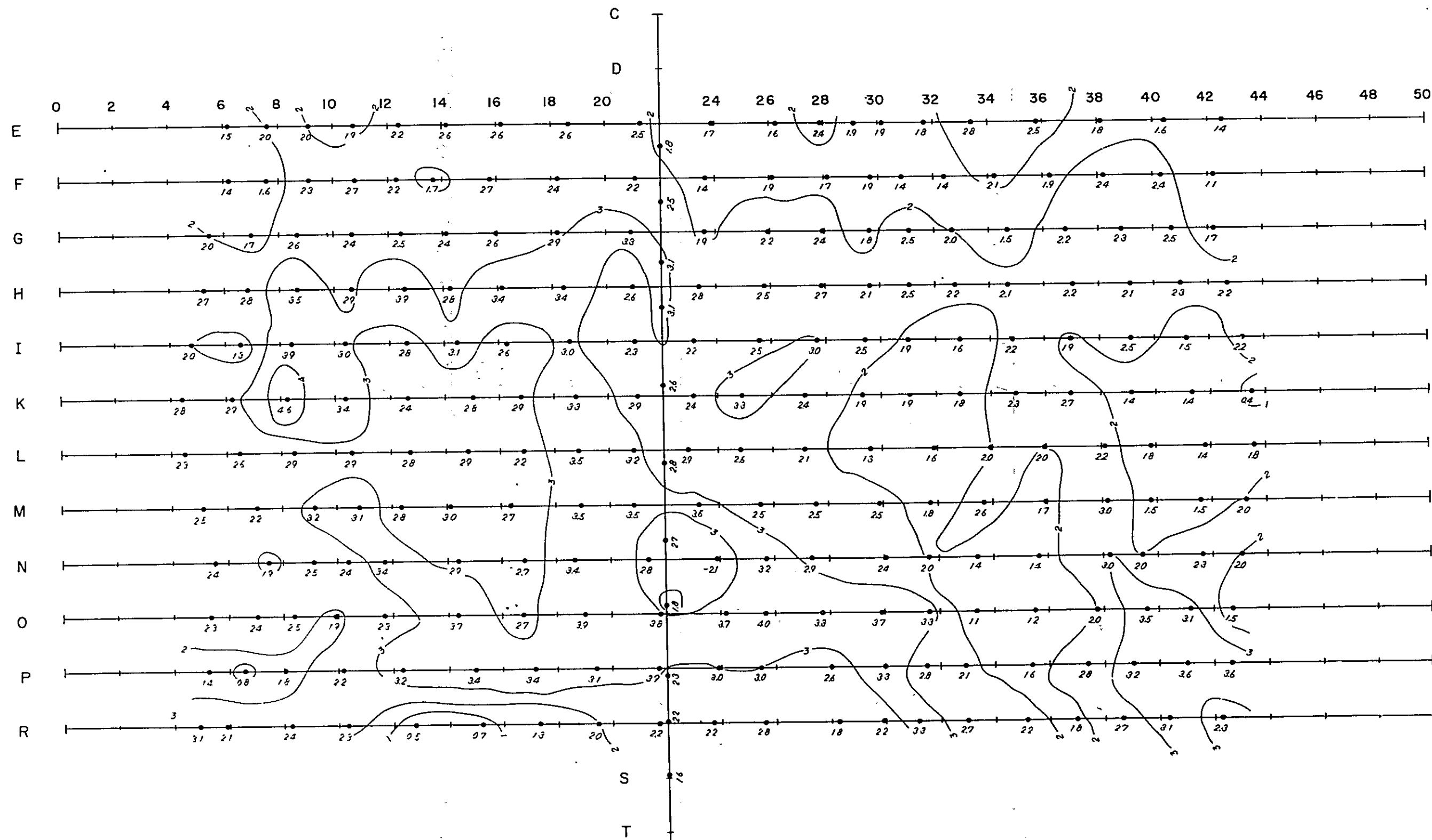


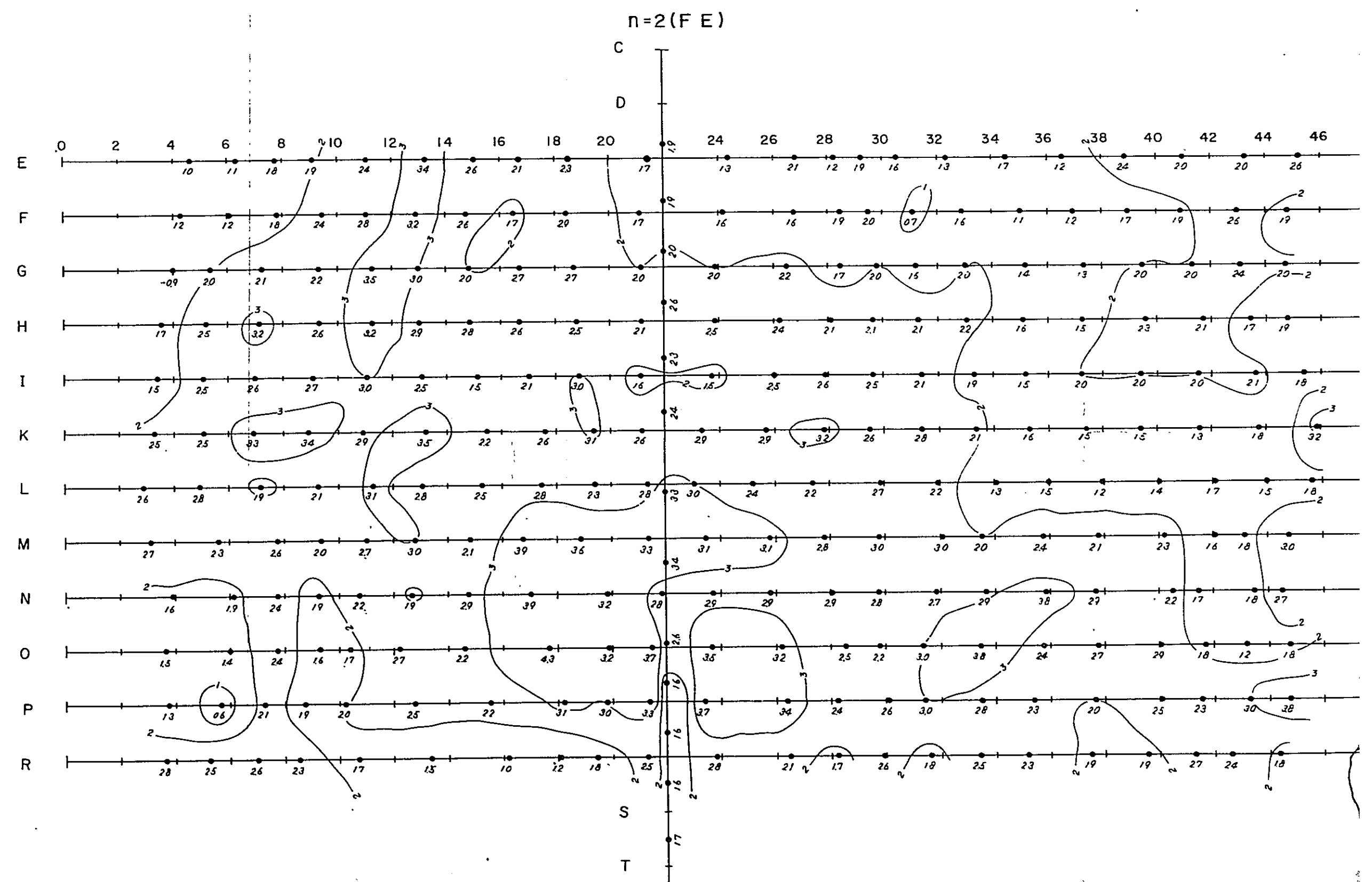
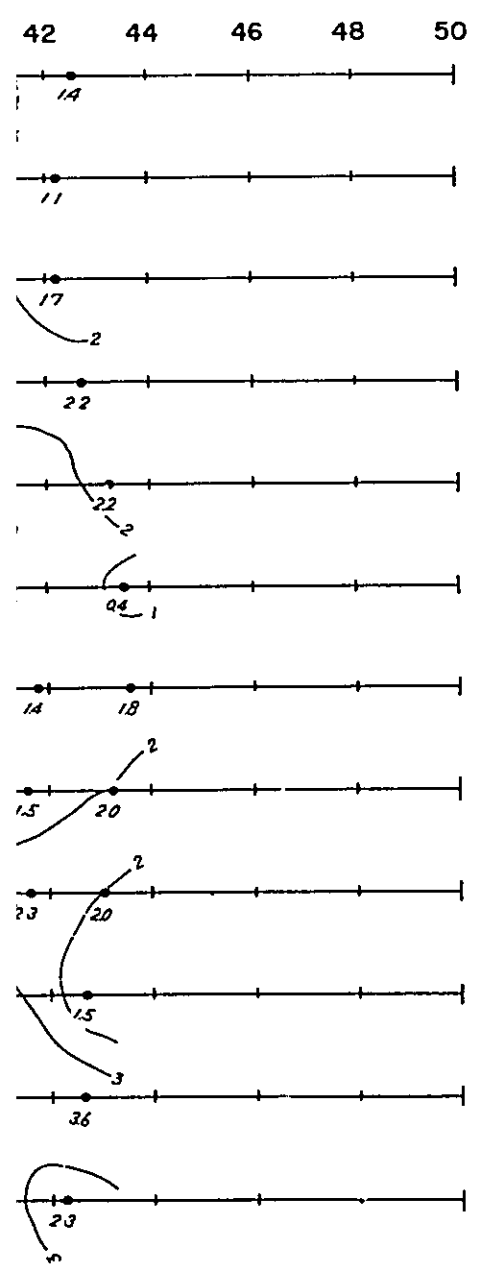
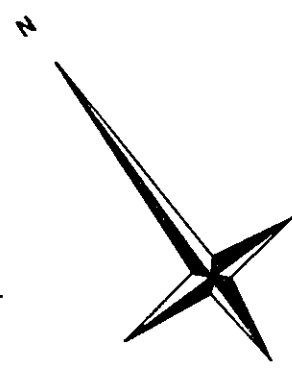
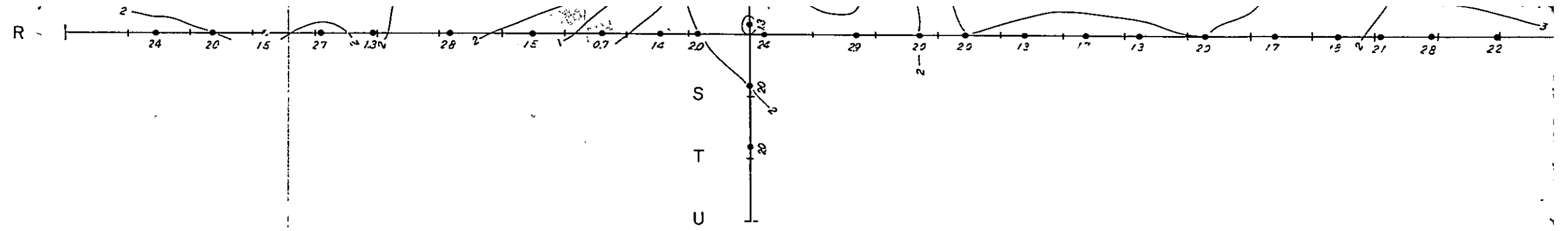
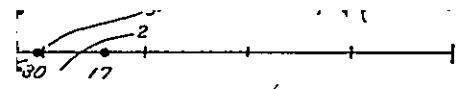
METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY
FEBRUARY 1977
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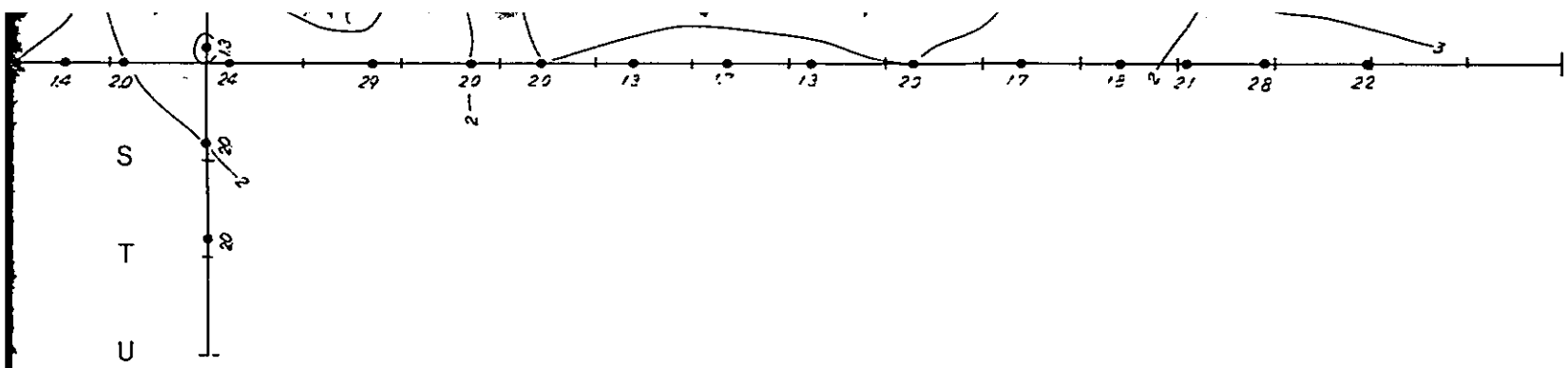




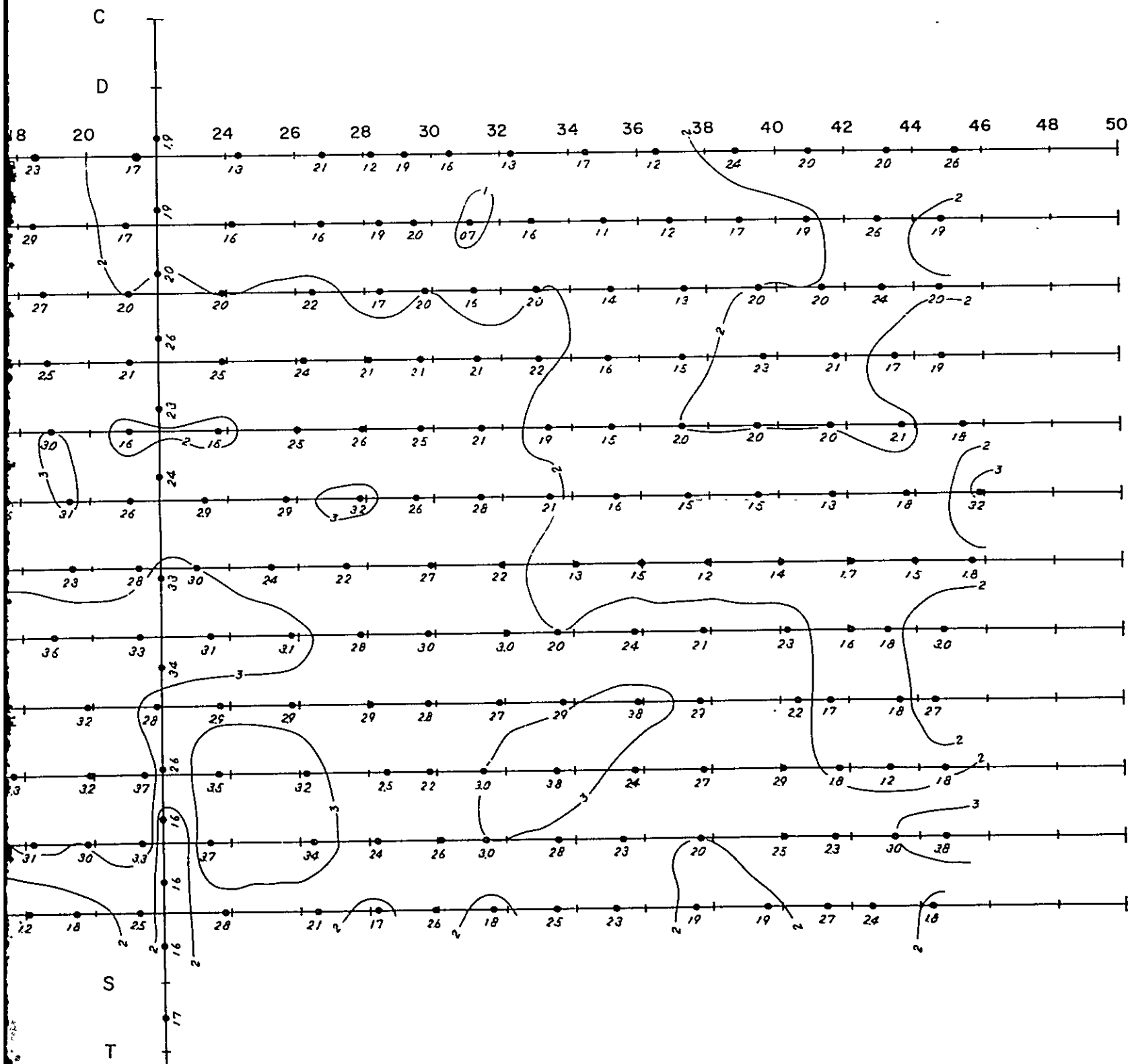
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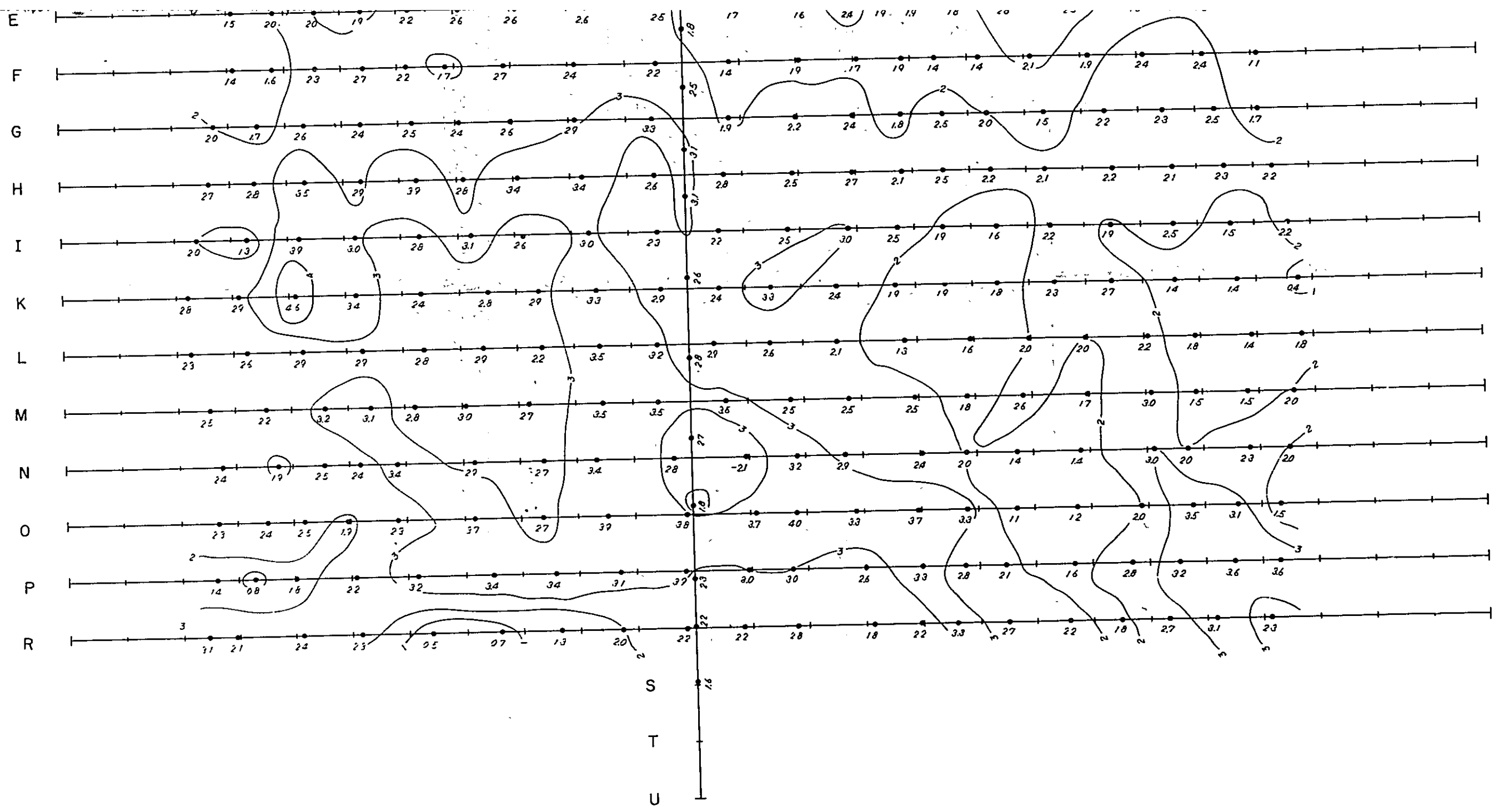


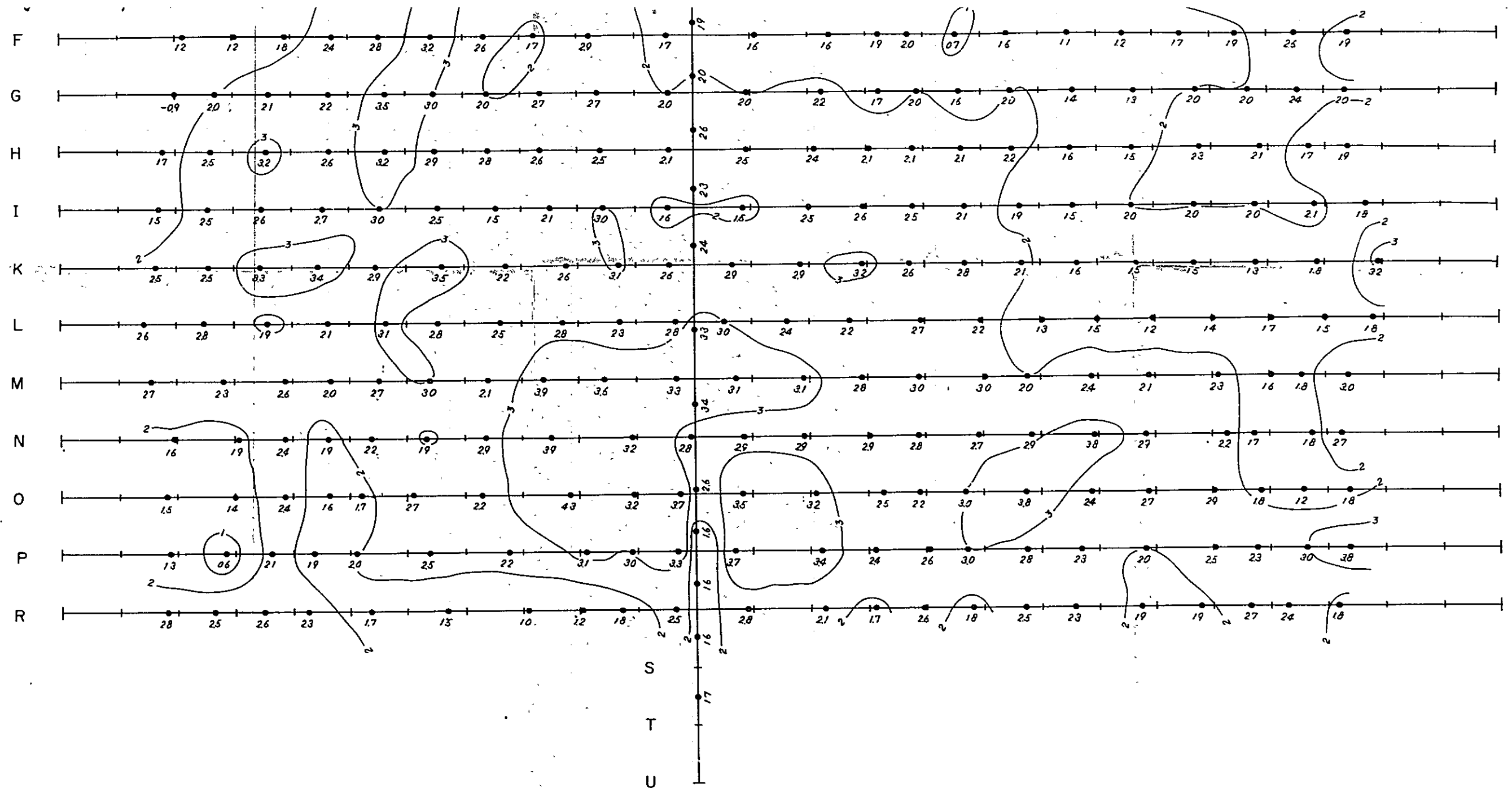


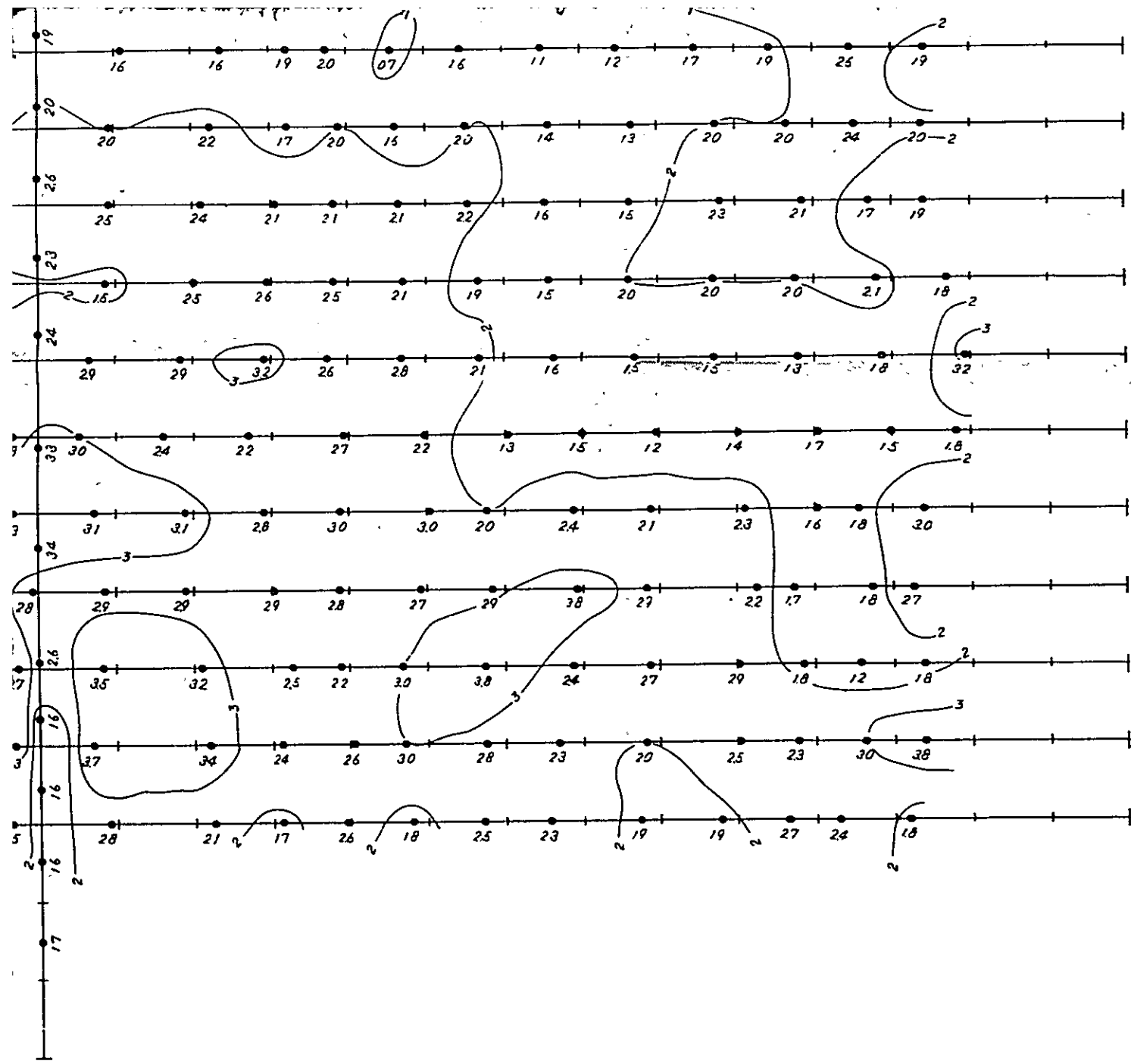


$n=2(F E)$

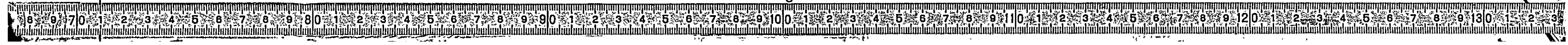
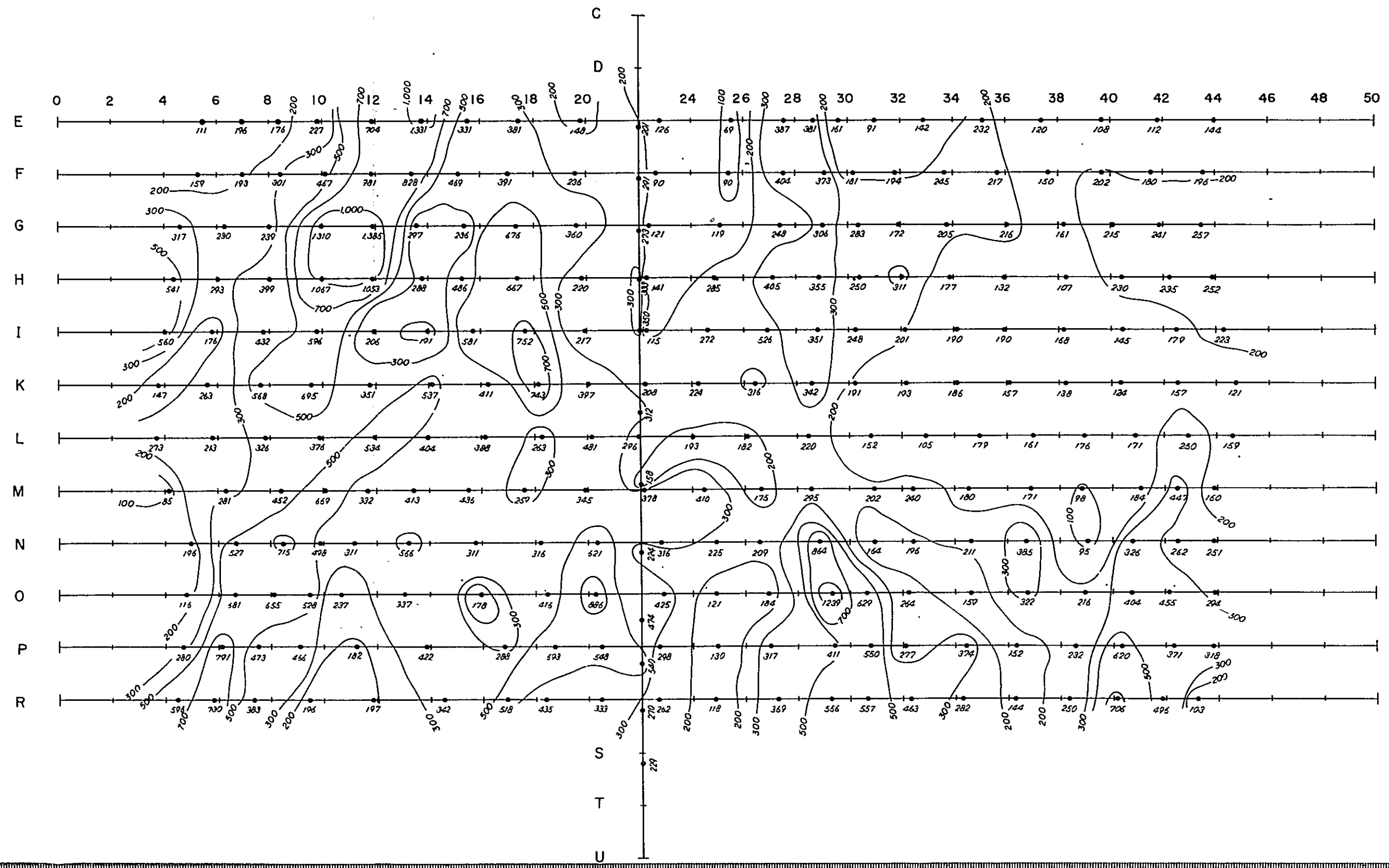




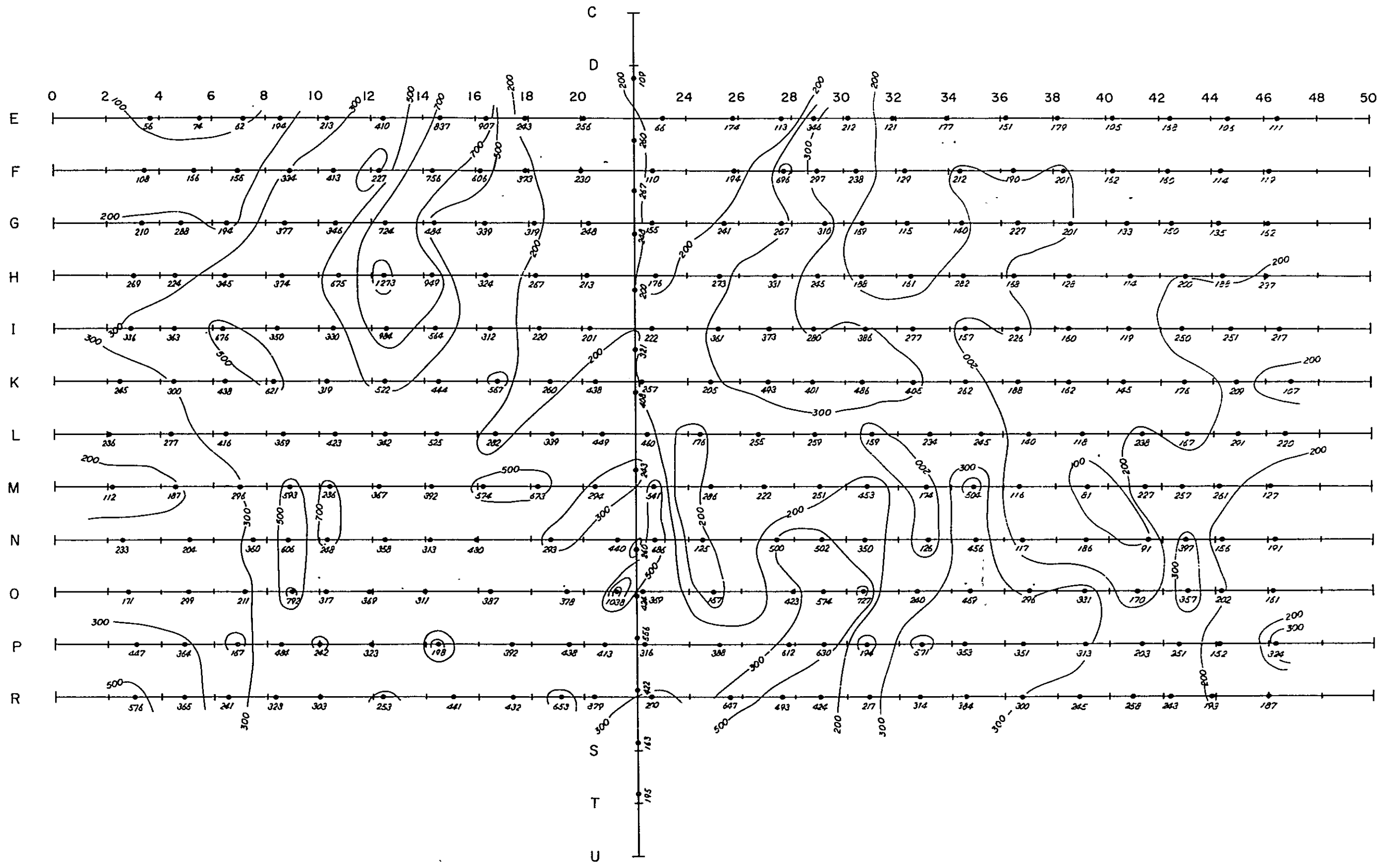




$n = 3(\rho)$



n=1(p)



50



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CONTOURS OF APPARENT RESISTIVITY

FOR $n = 1 \sim 4$

KEN DERE · FOL DERE

N-1~4 REZİSTİVİTE HARİTASI

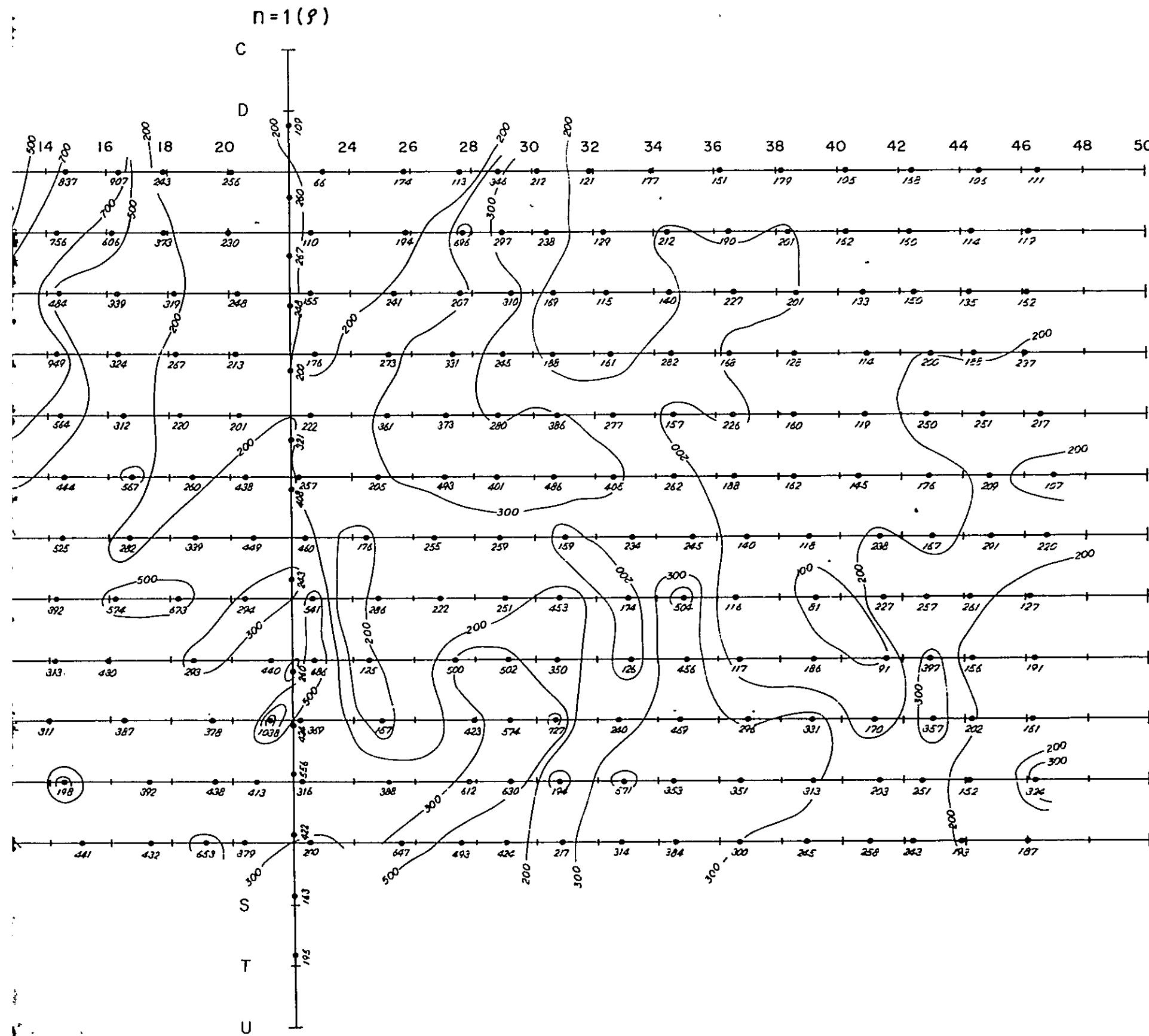
Scale
Olçek 1 : 5,000

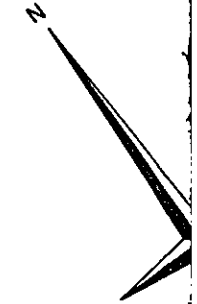
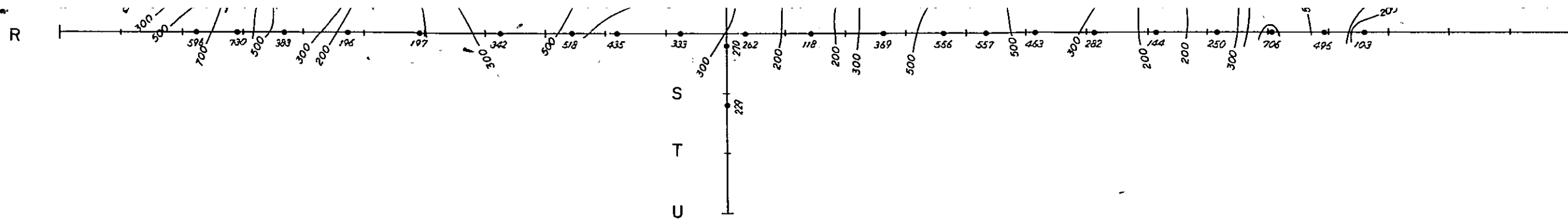


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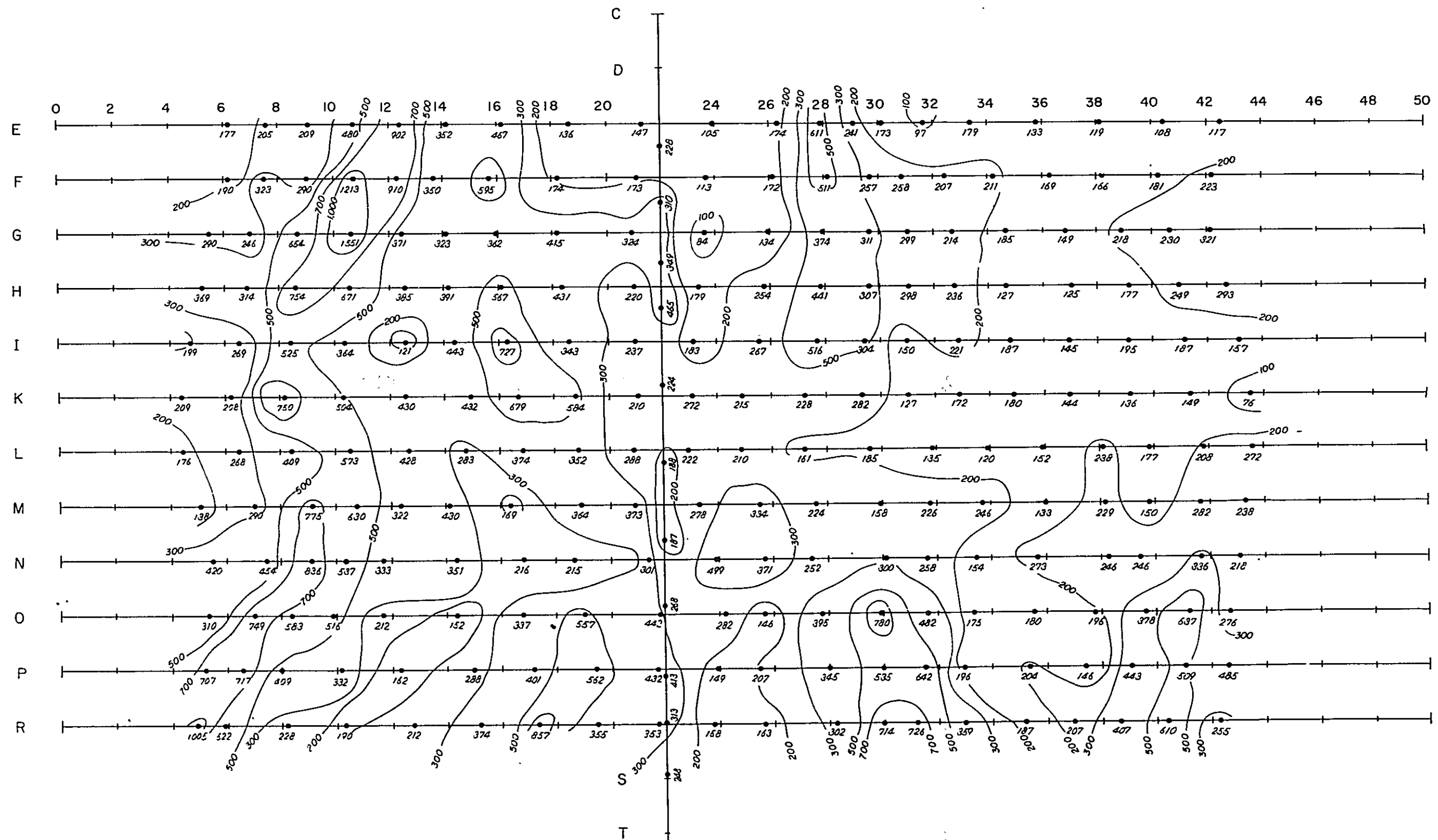
FEBRUARY 1977

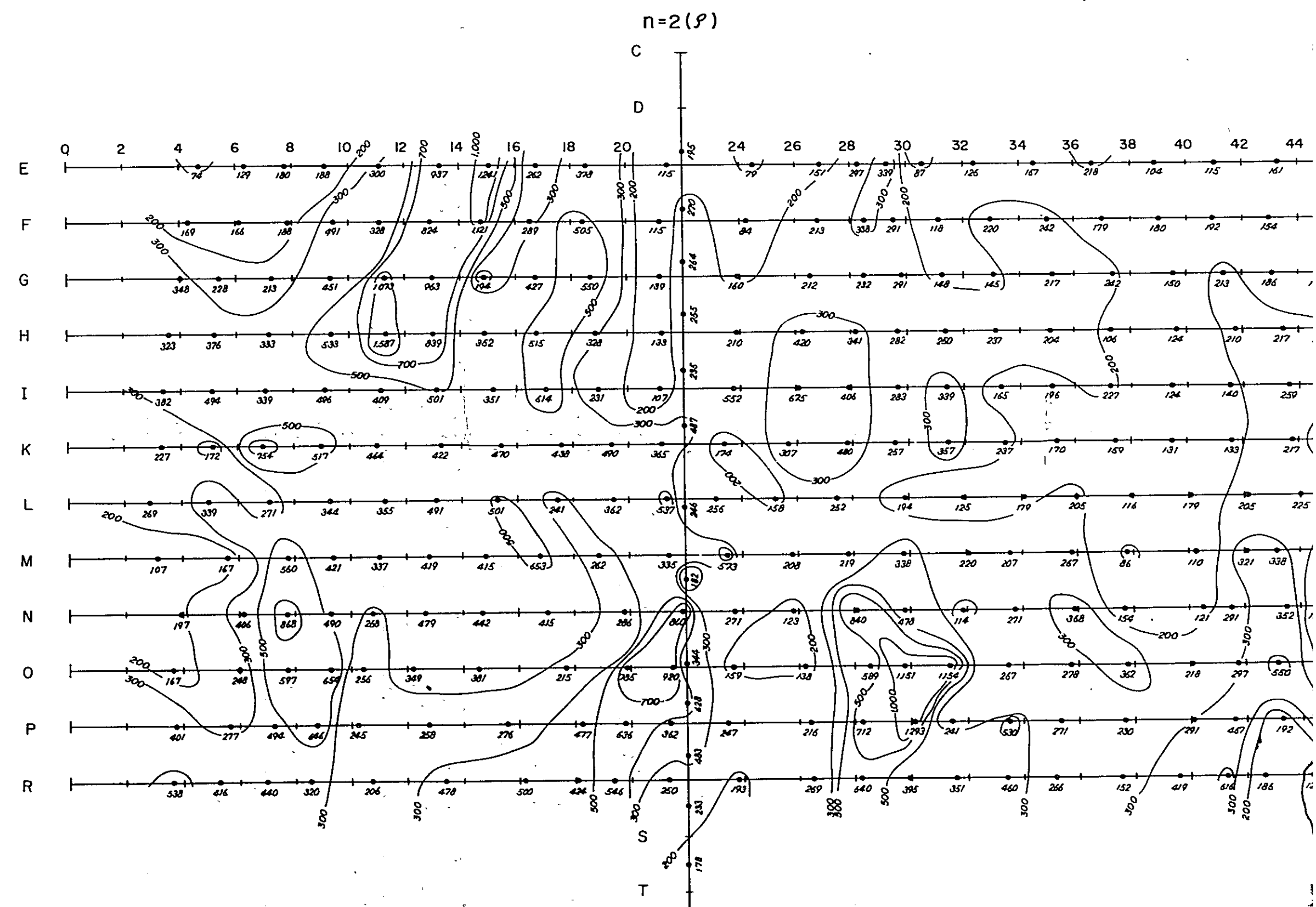
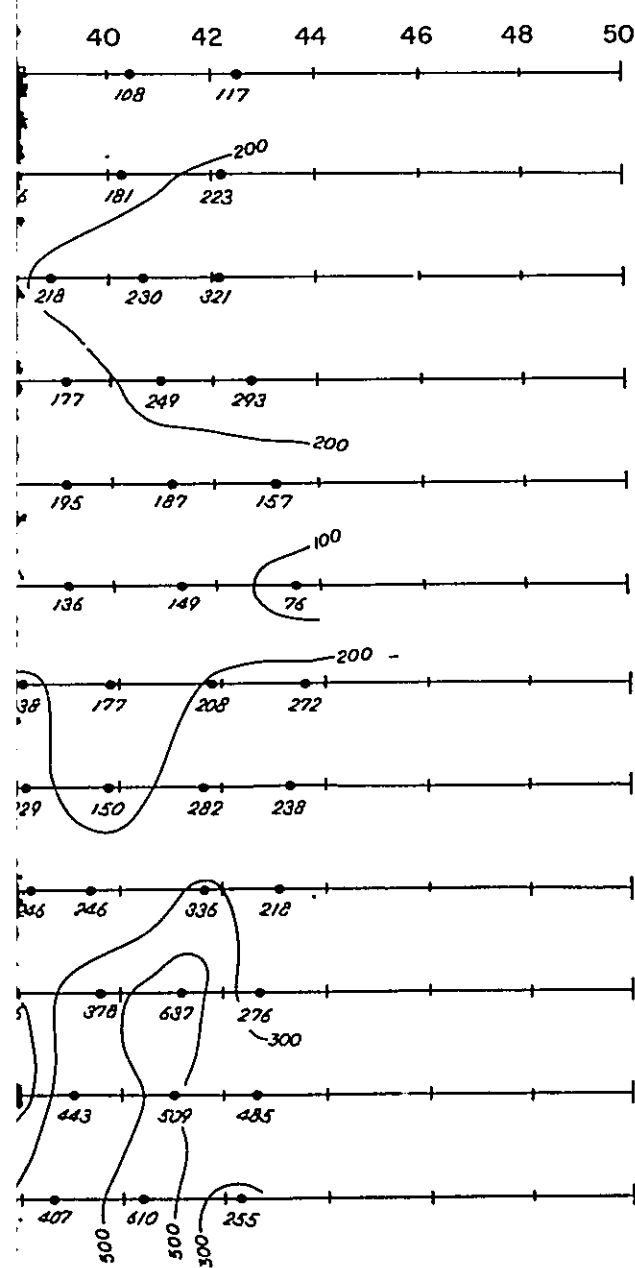
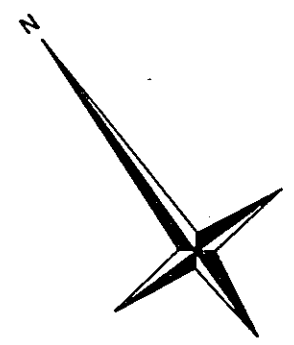
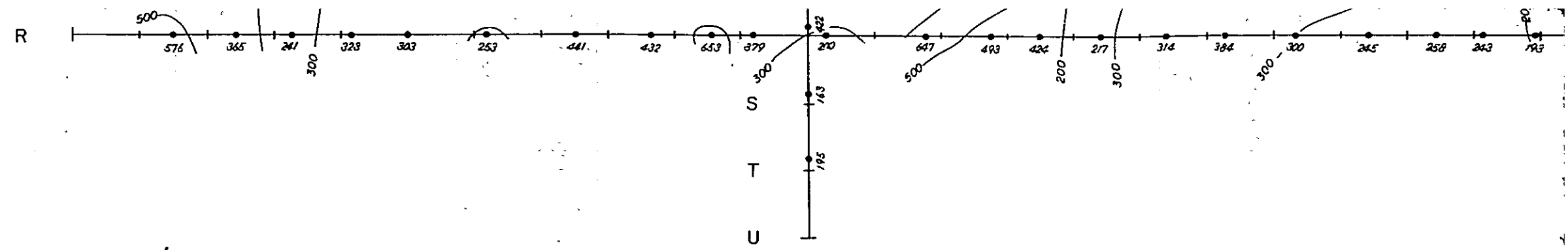
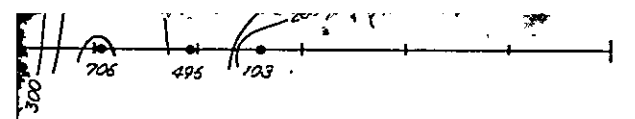
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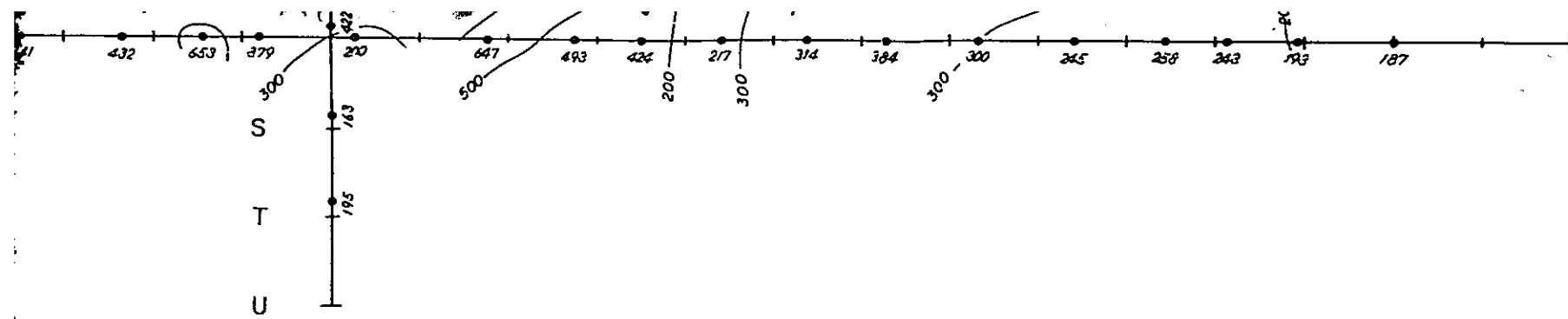




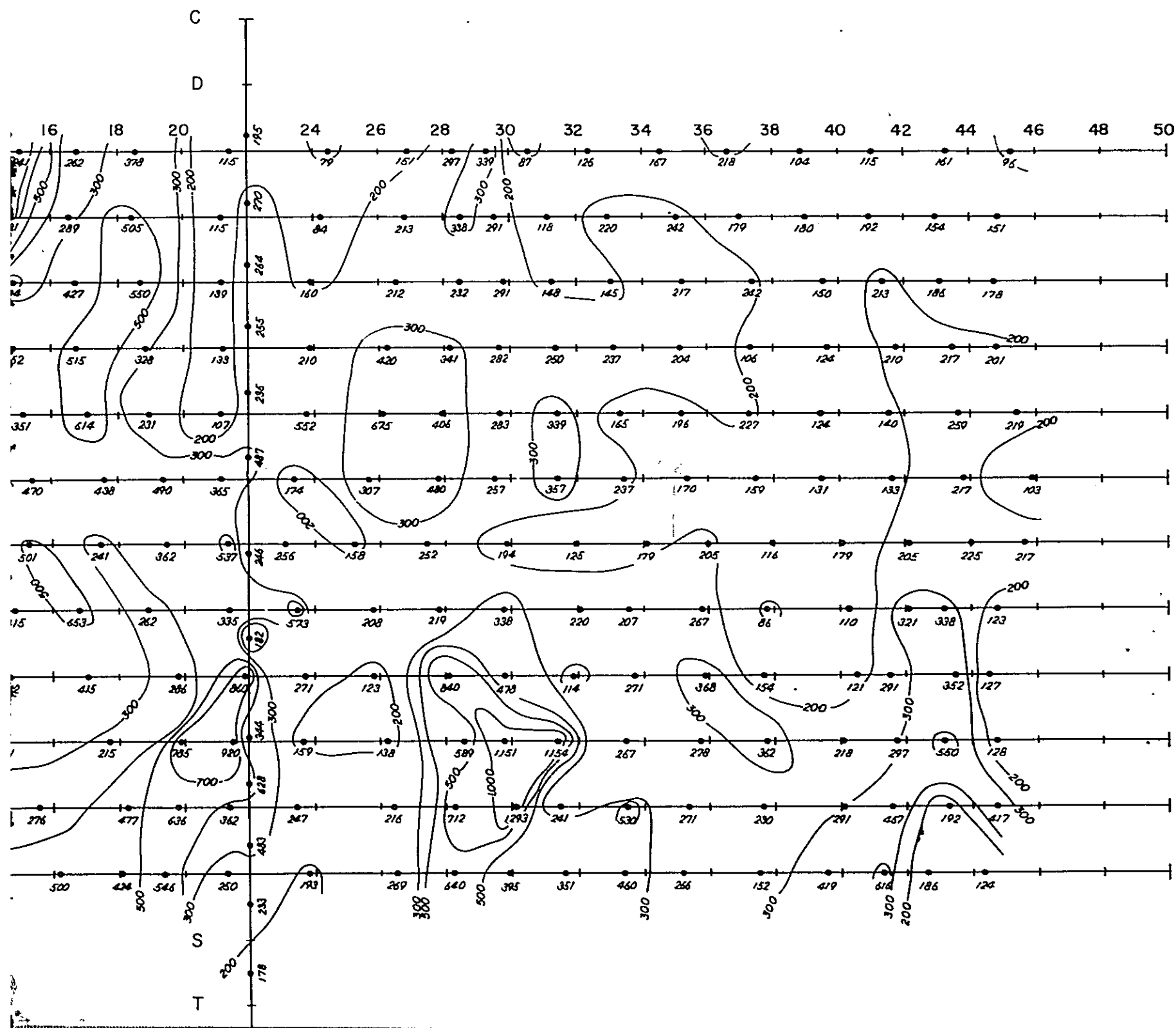
$n = 4(\rho)$

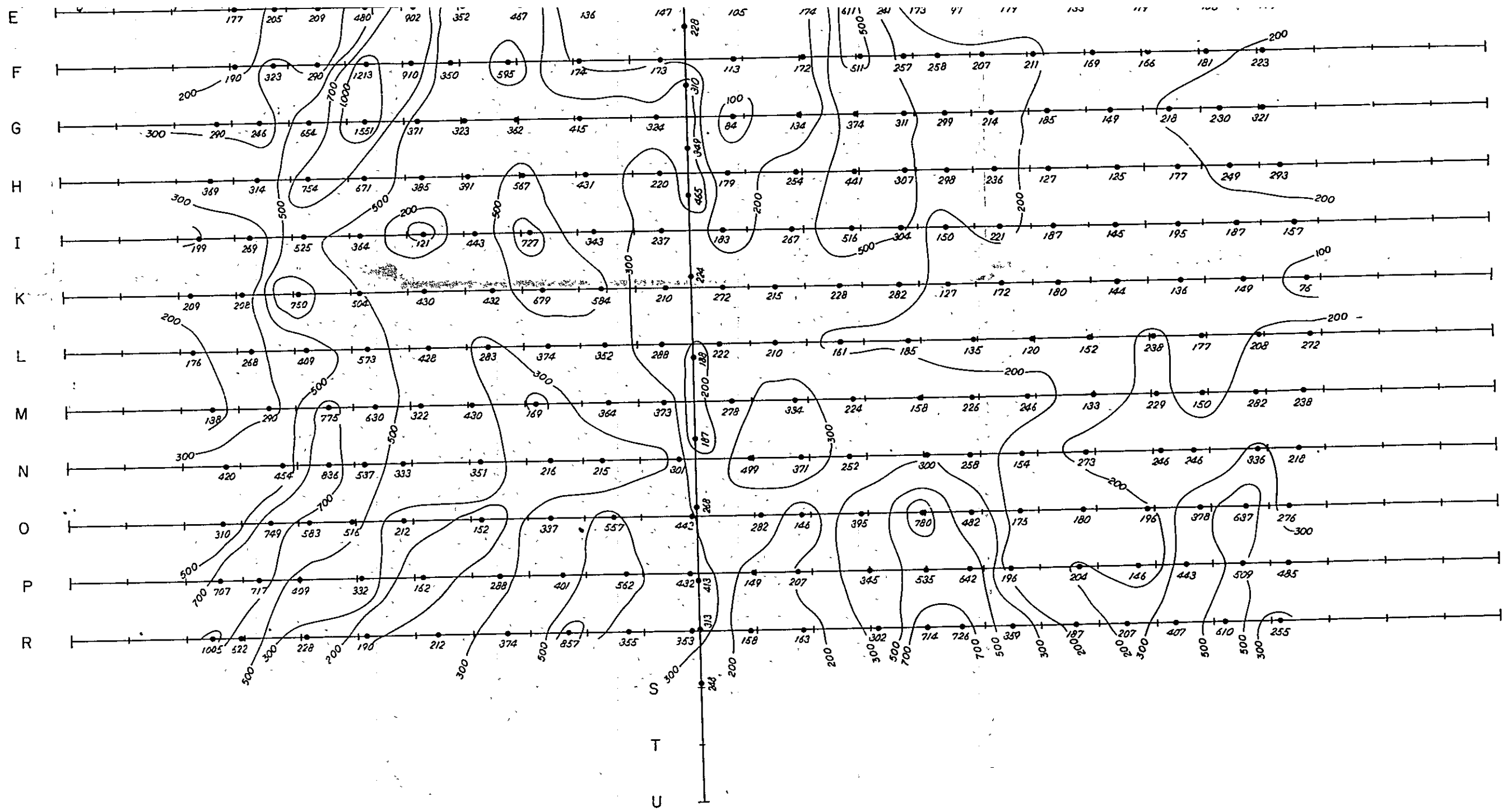


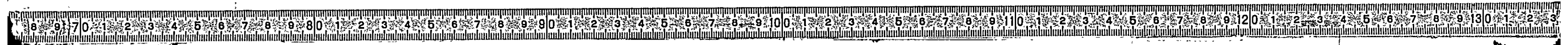
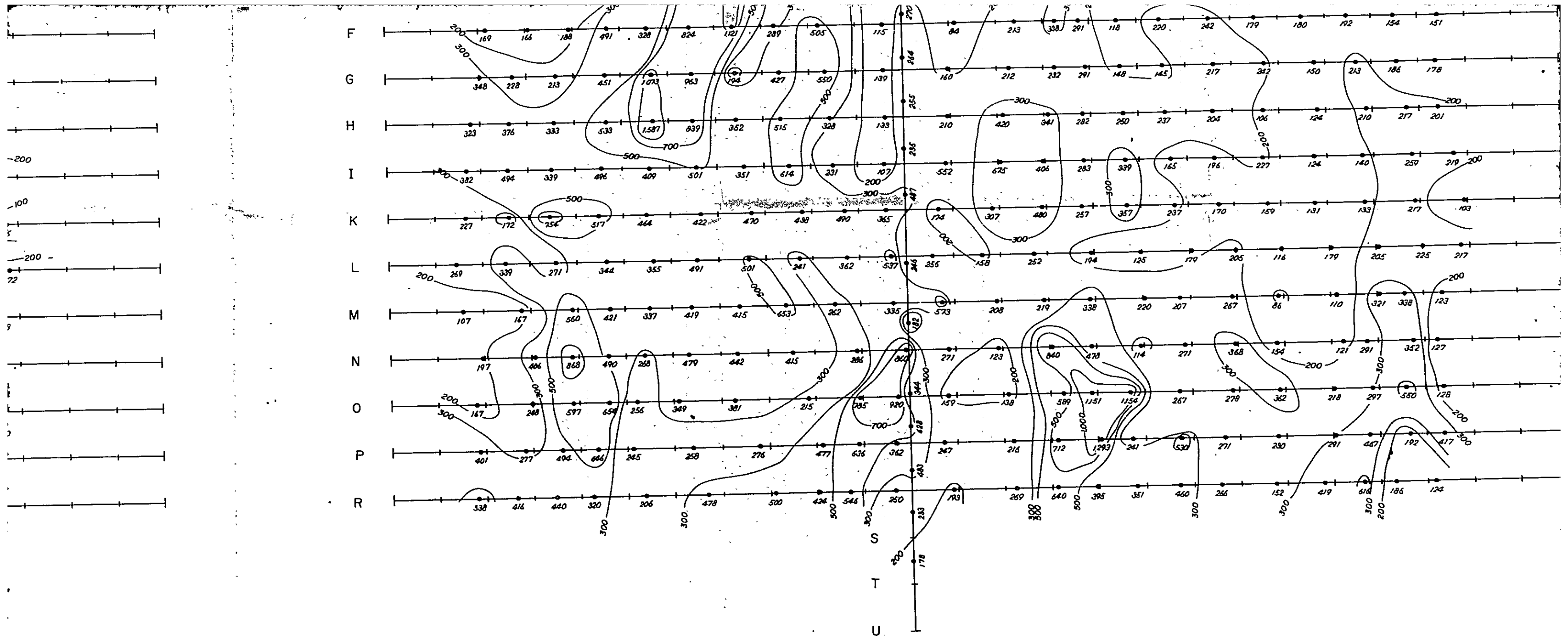




$n=2(\rho)$

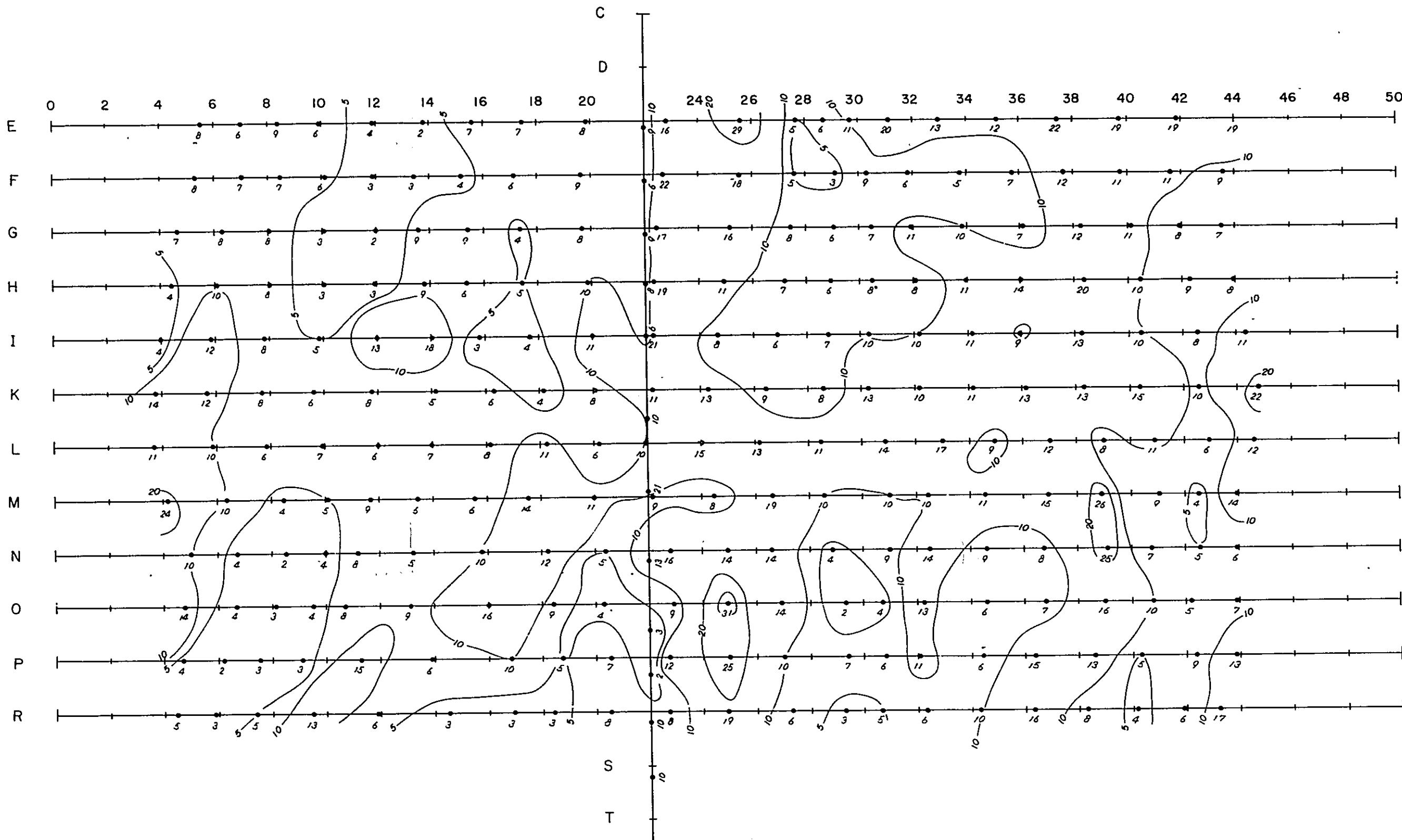






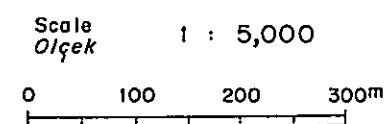


n=3(M C F)



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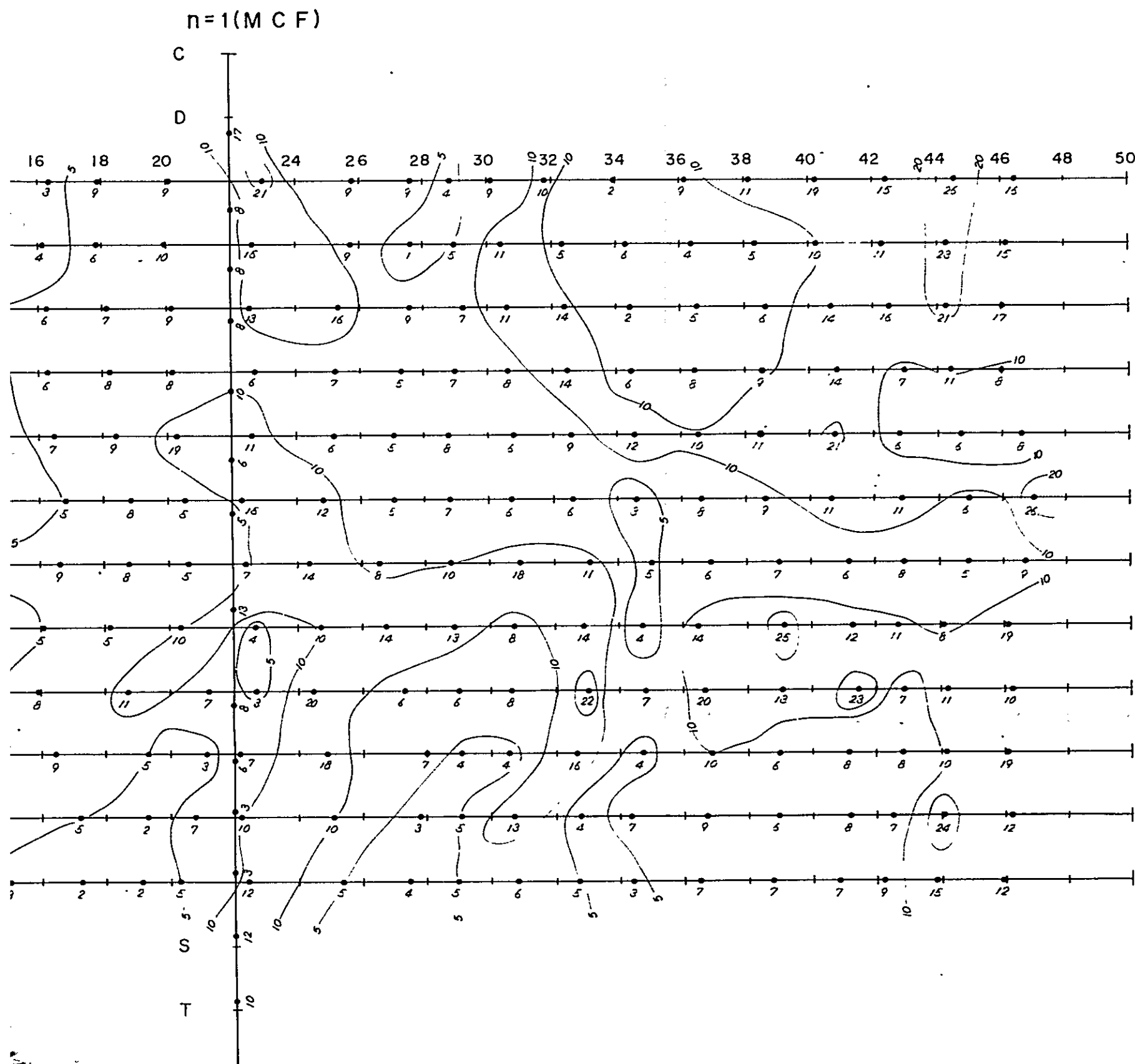
CONTOURS OF METAL CONDUCTION FACTOR
FOR $n = 1 \sim 4$
KEN DERE · FOL DERE
N-1~4 METAL FAKTÖR HRİTASI

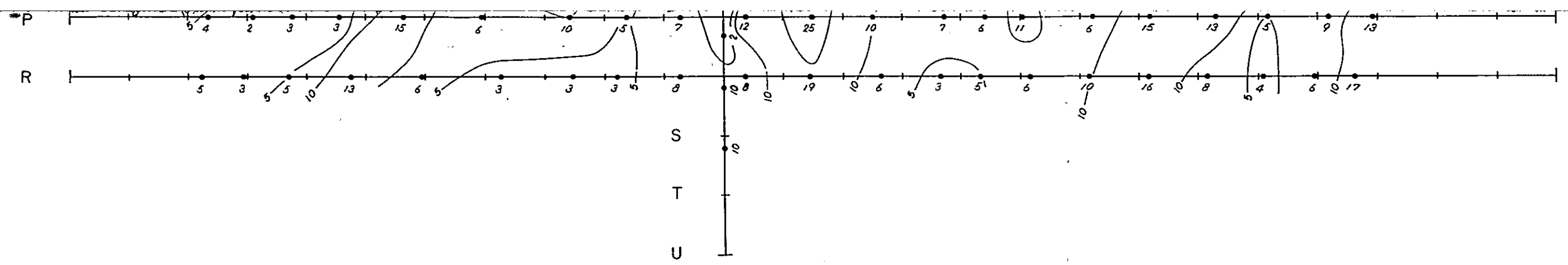


METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

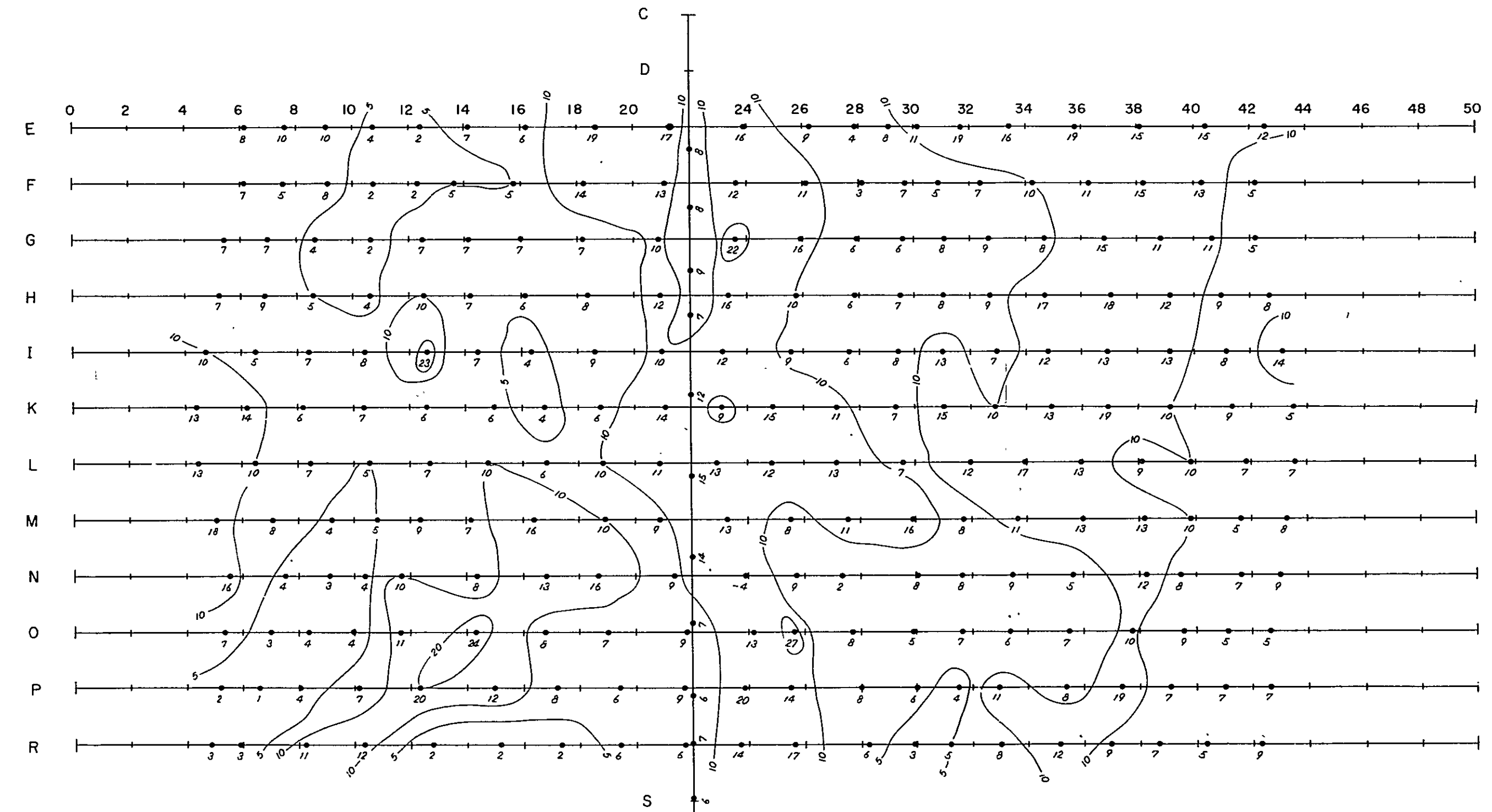
FEBRUARY 1977

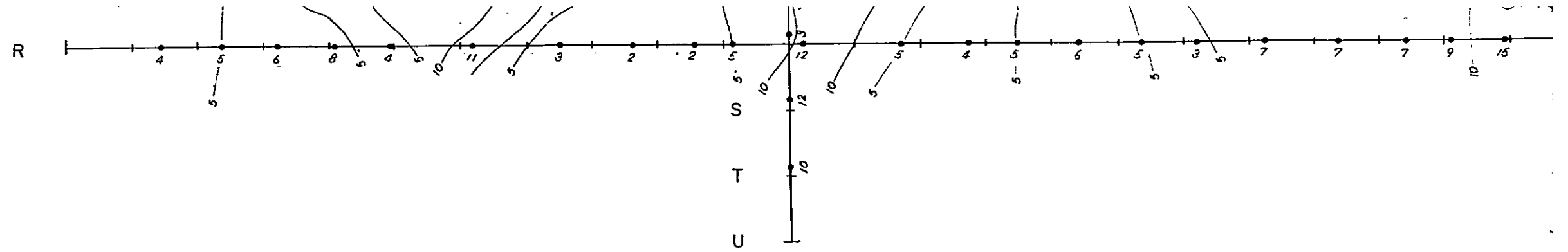
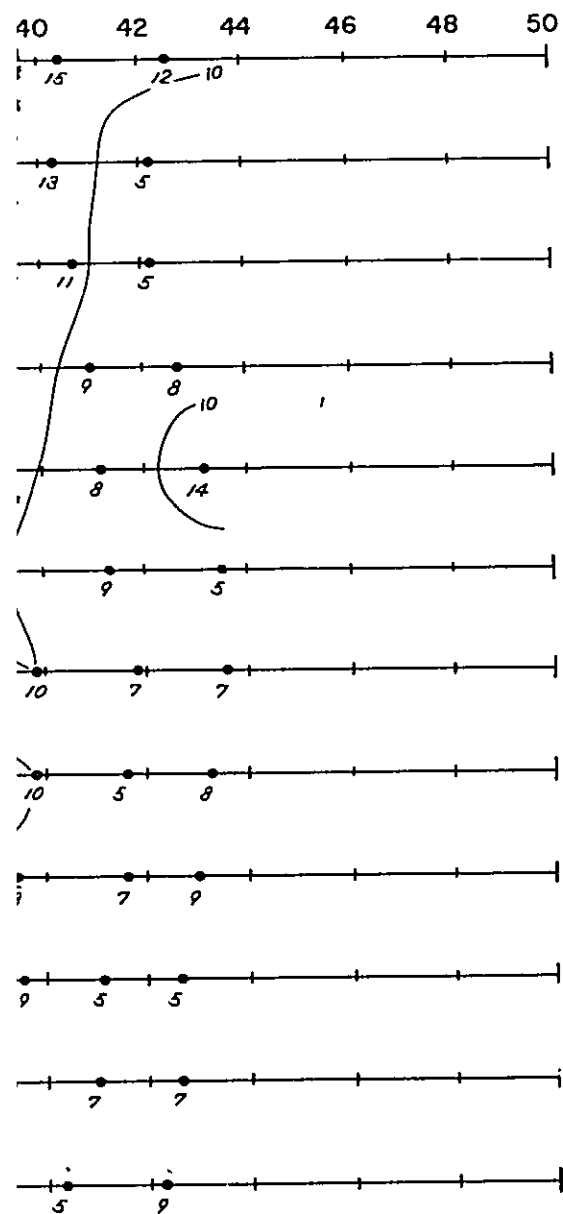
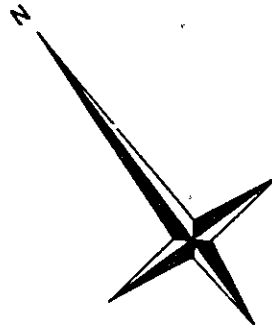
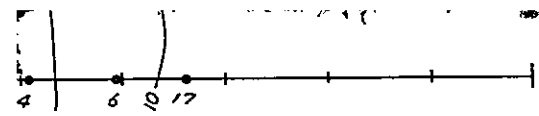
Prepared by Nikko Exploration & Development Co., Ltd.



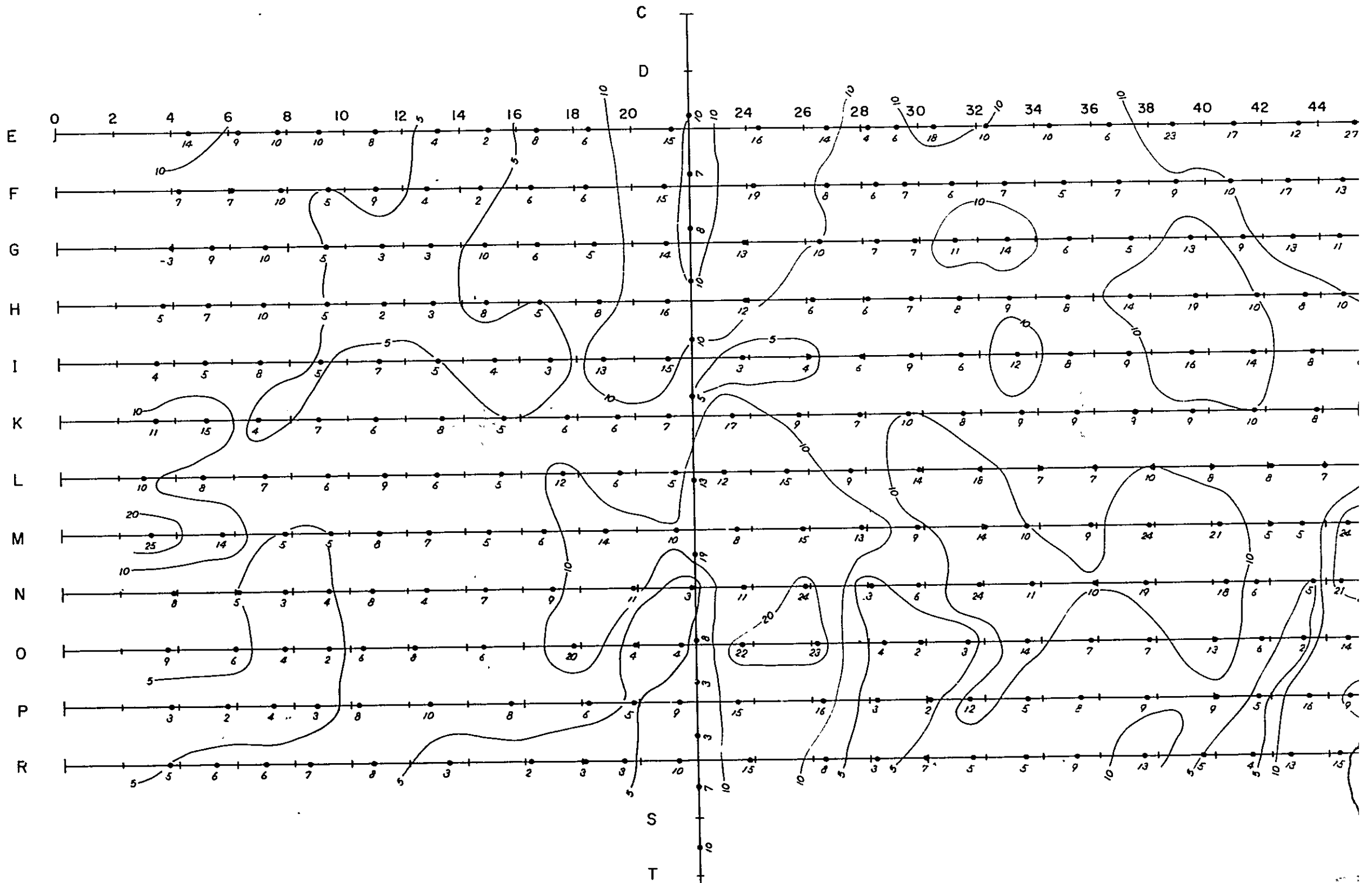


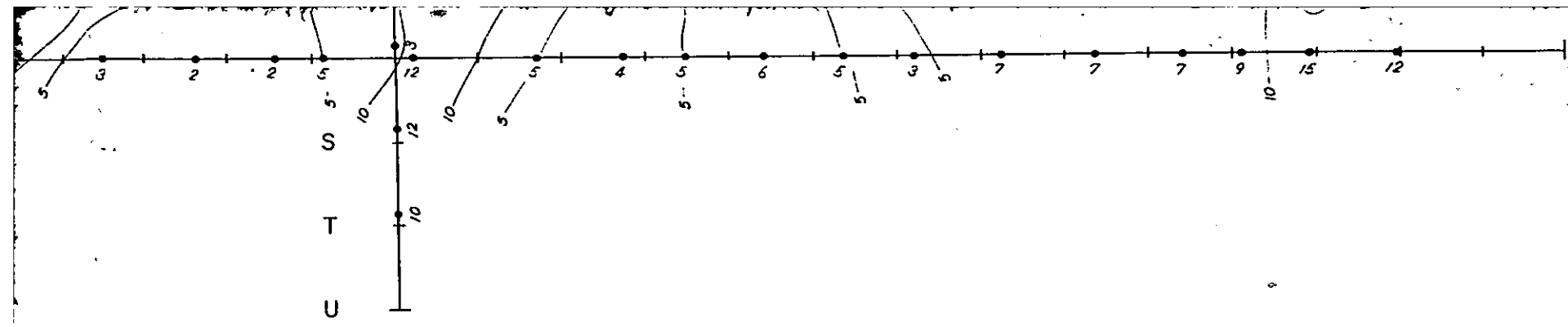
n=4(MCF)



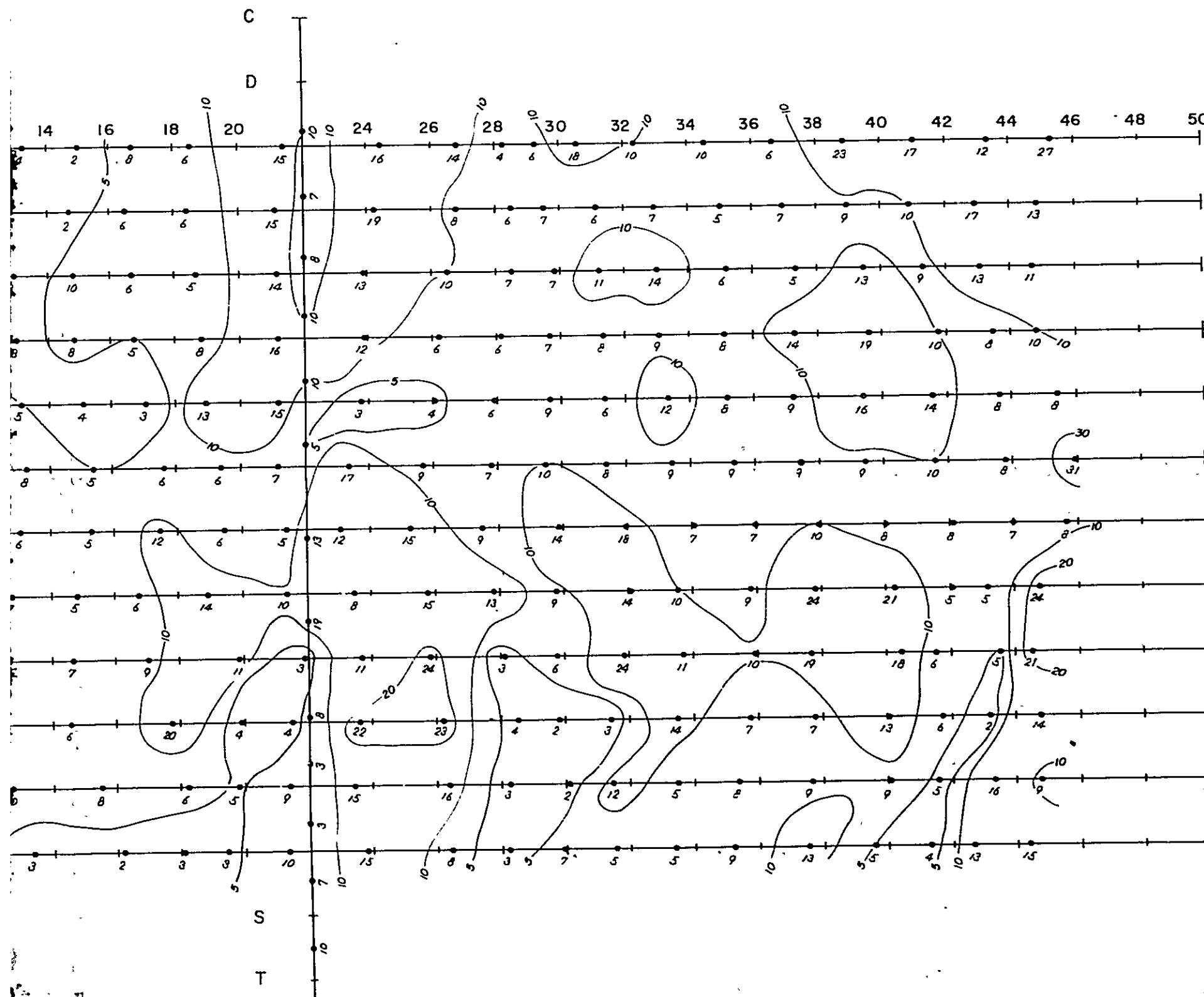


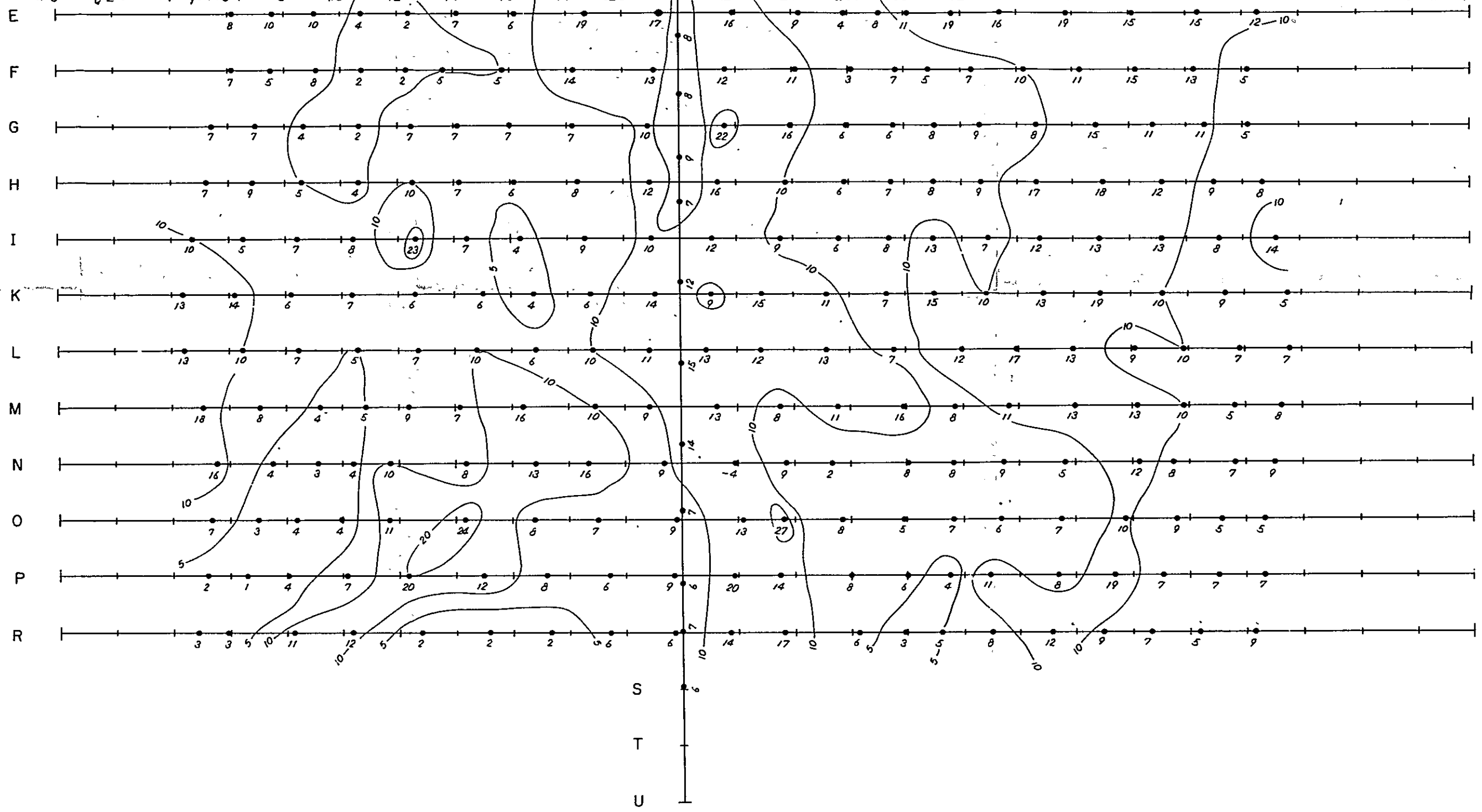
$n = 2(MCF)$

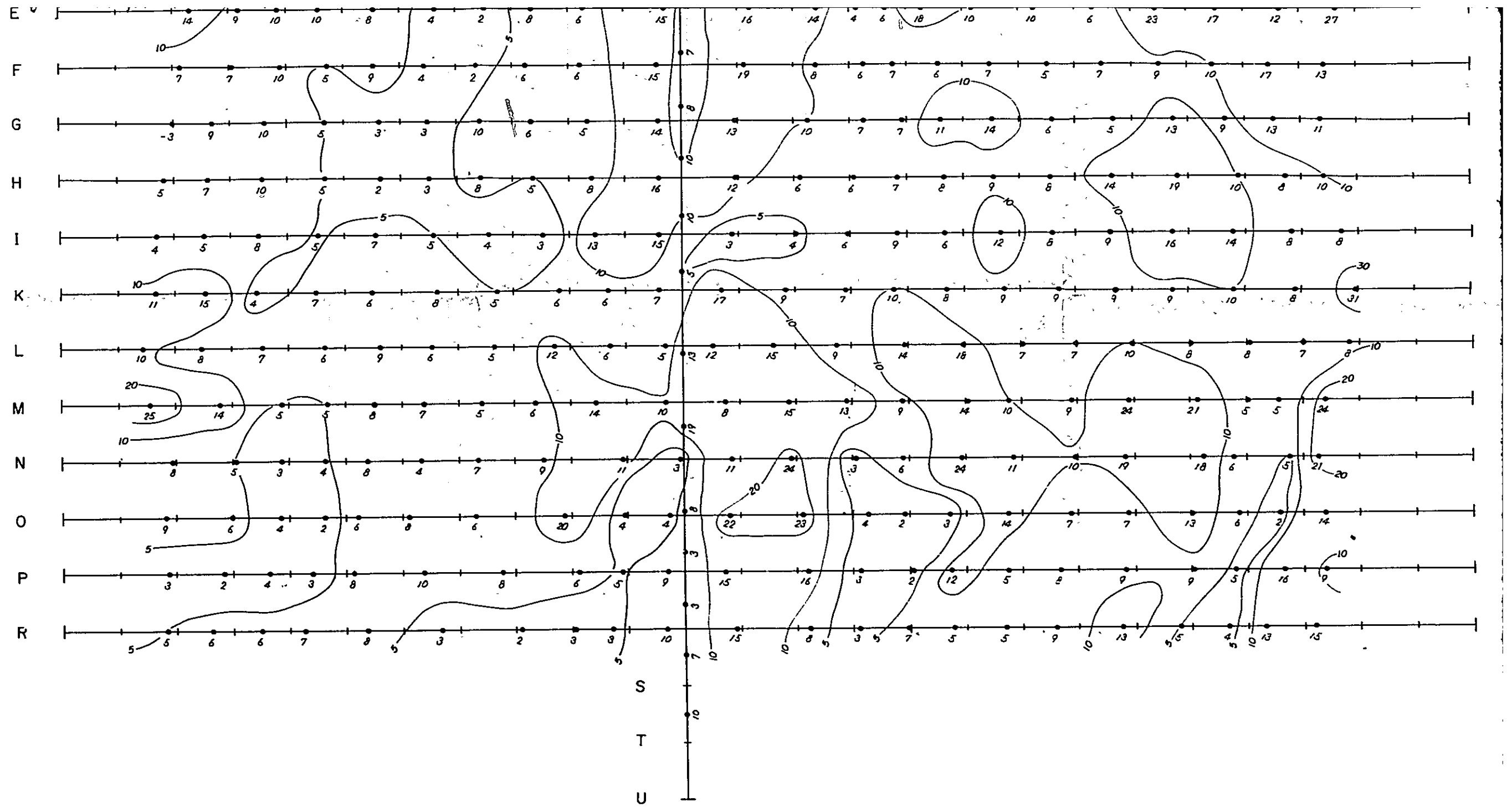


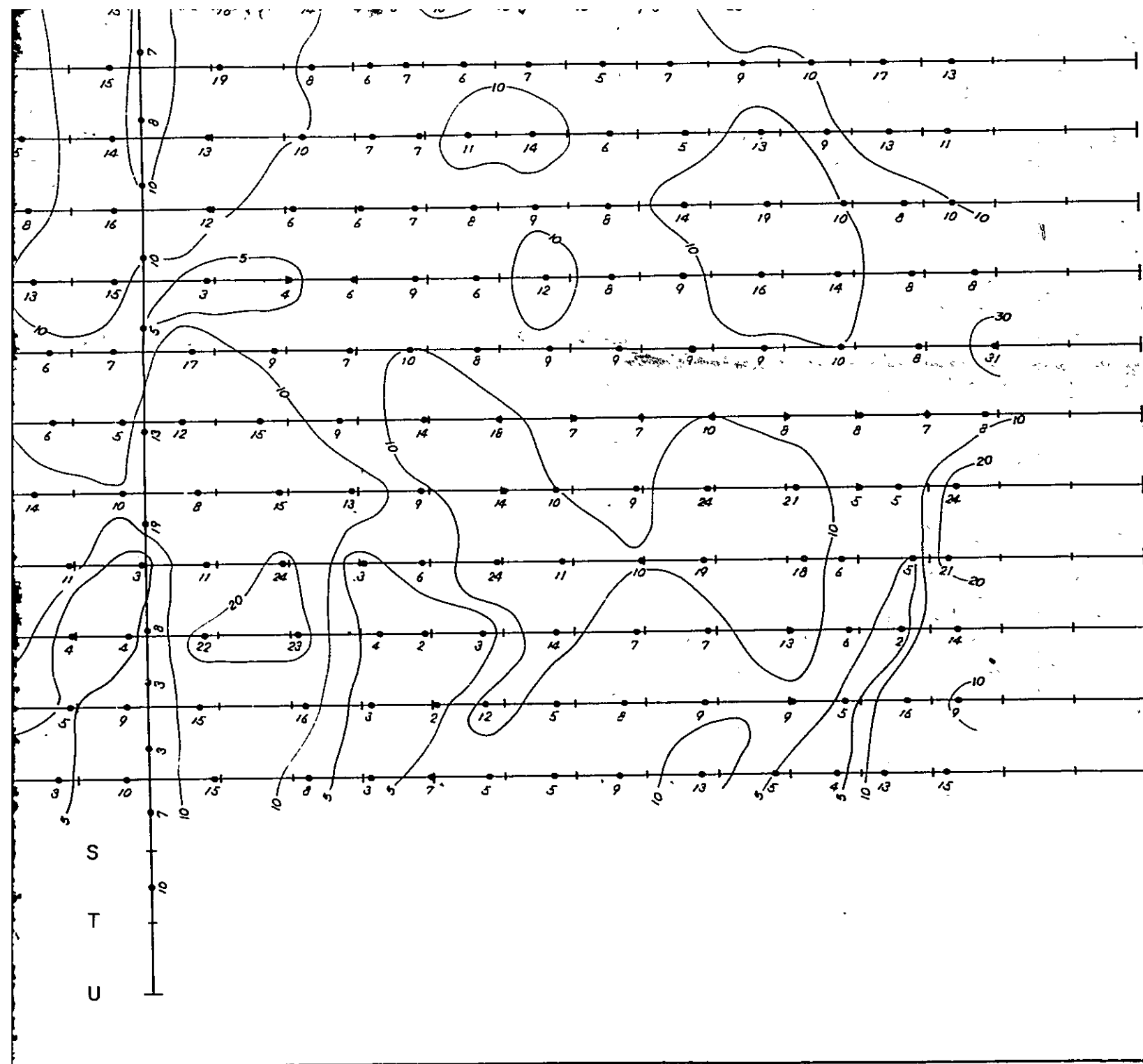


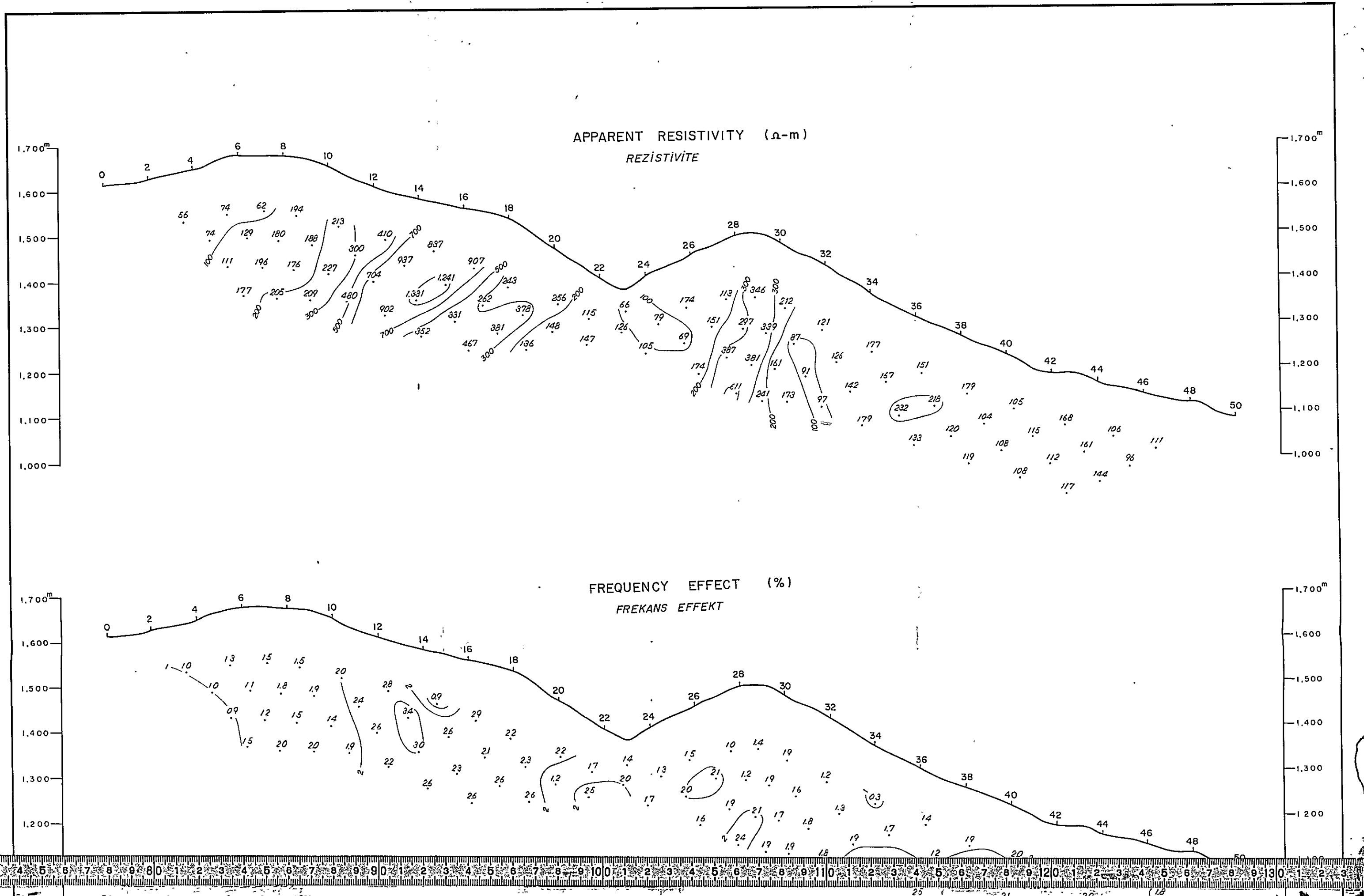
$n = 2(MCF)$









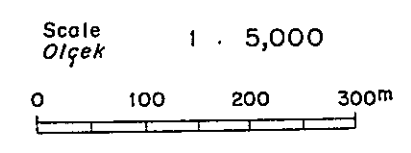


PL-9-1

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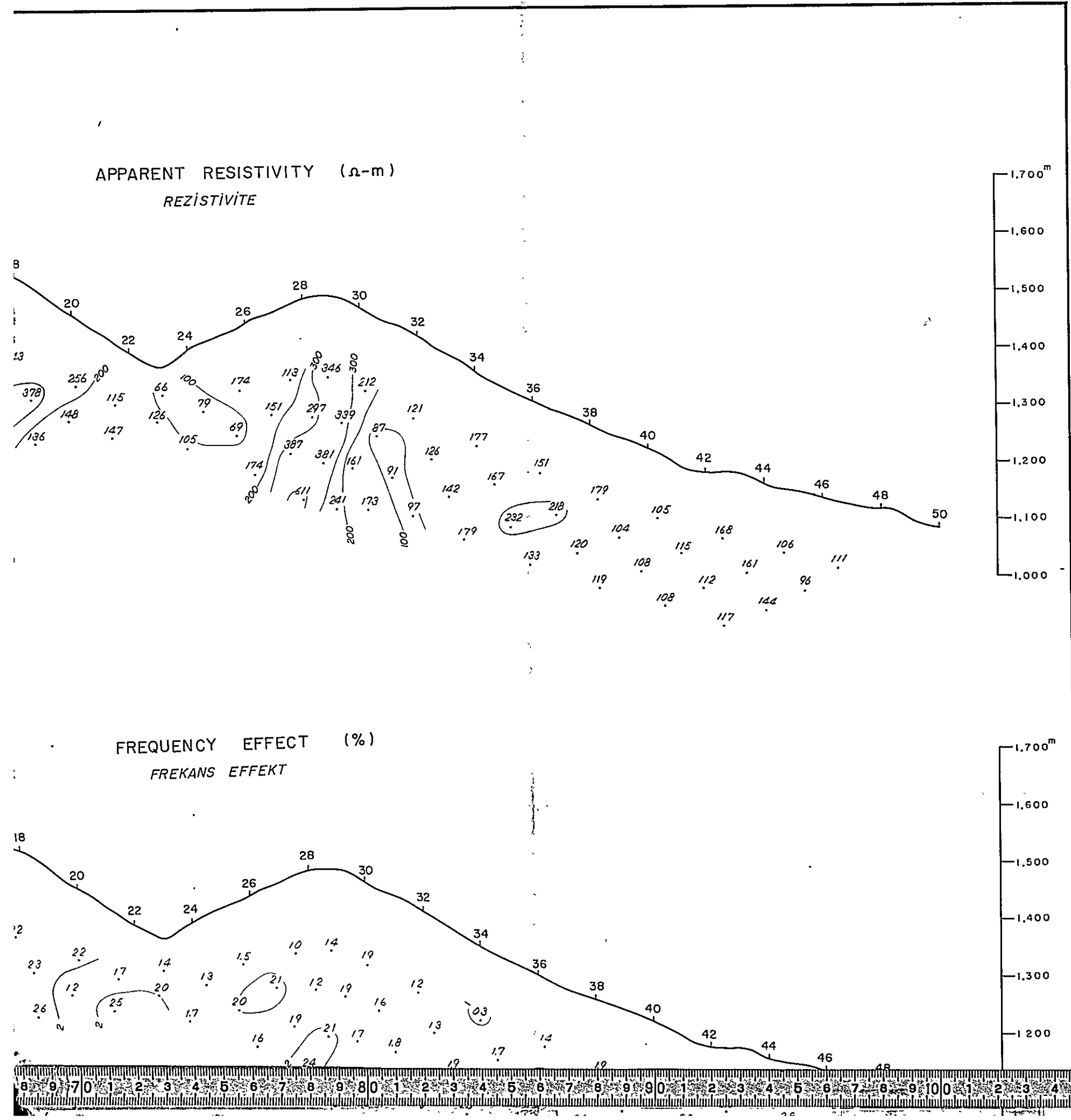
CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS E LINE
KEN DERE-FOL DERE
IP KESİTLERİ

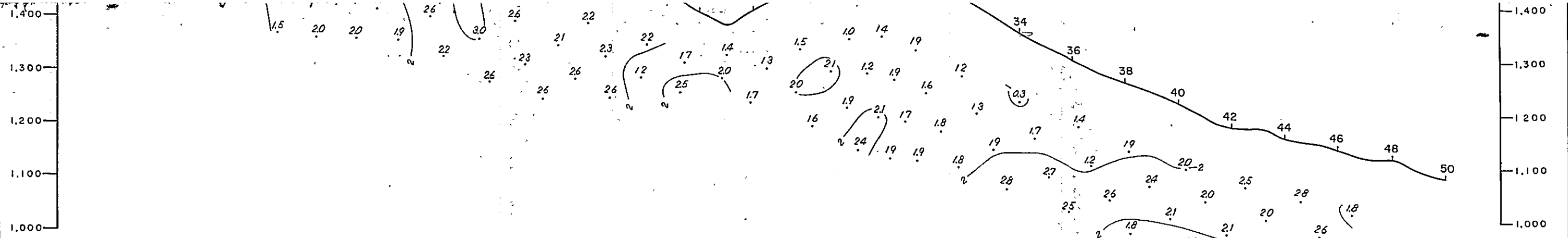


METAL MINING AGENCY OF JAPAN
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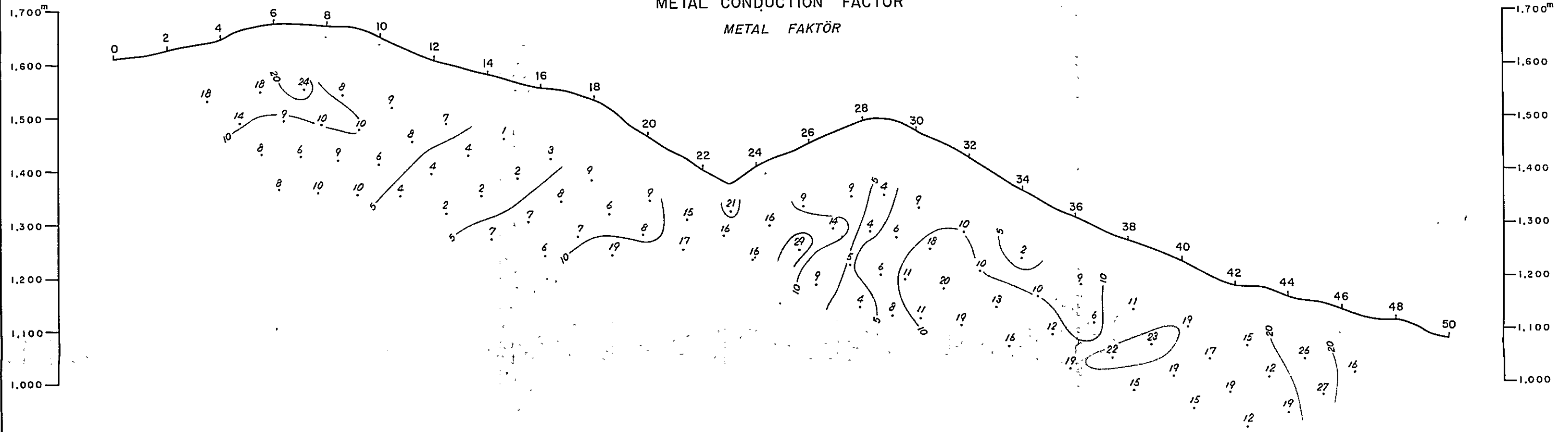
FEBRUARY 1977

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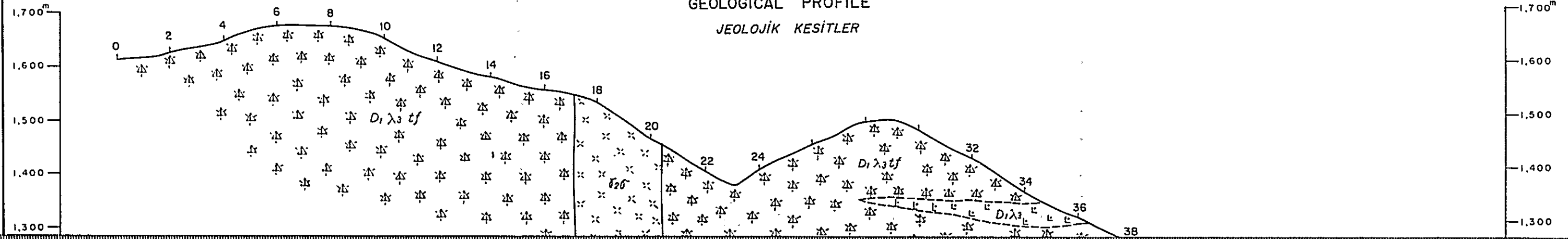


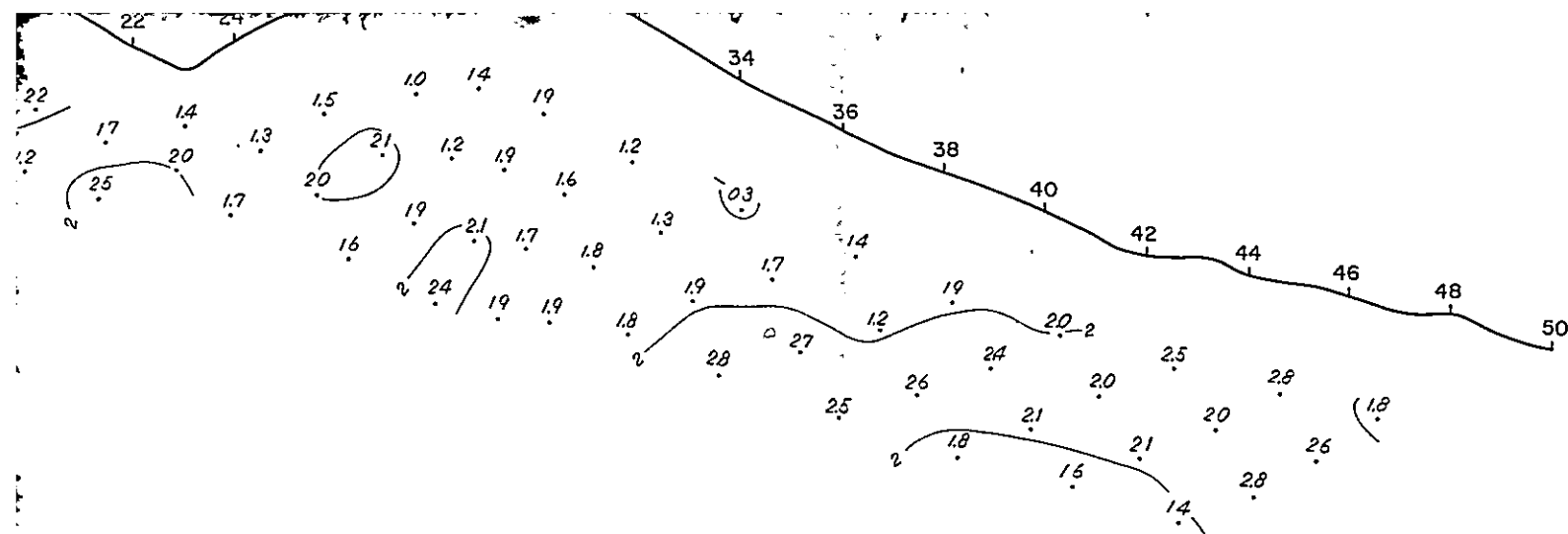


METAL CONDUCTION FACTOR
METAL FAKTÖR

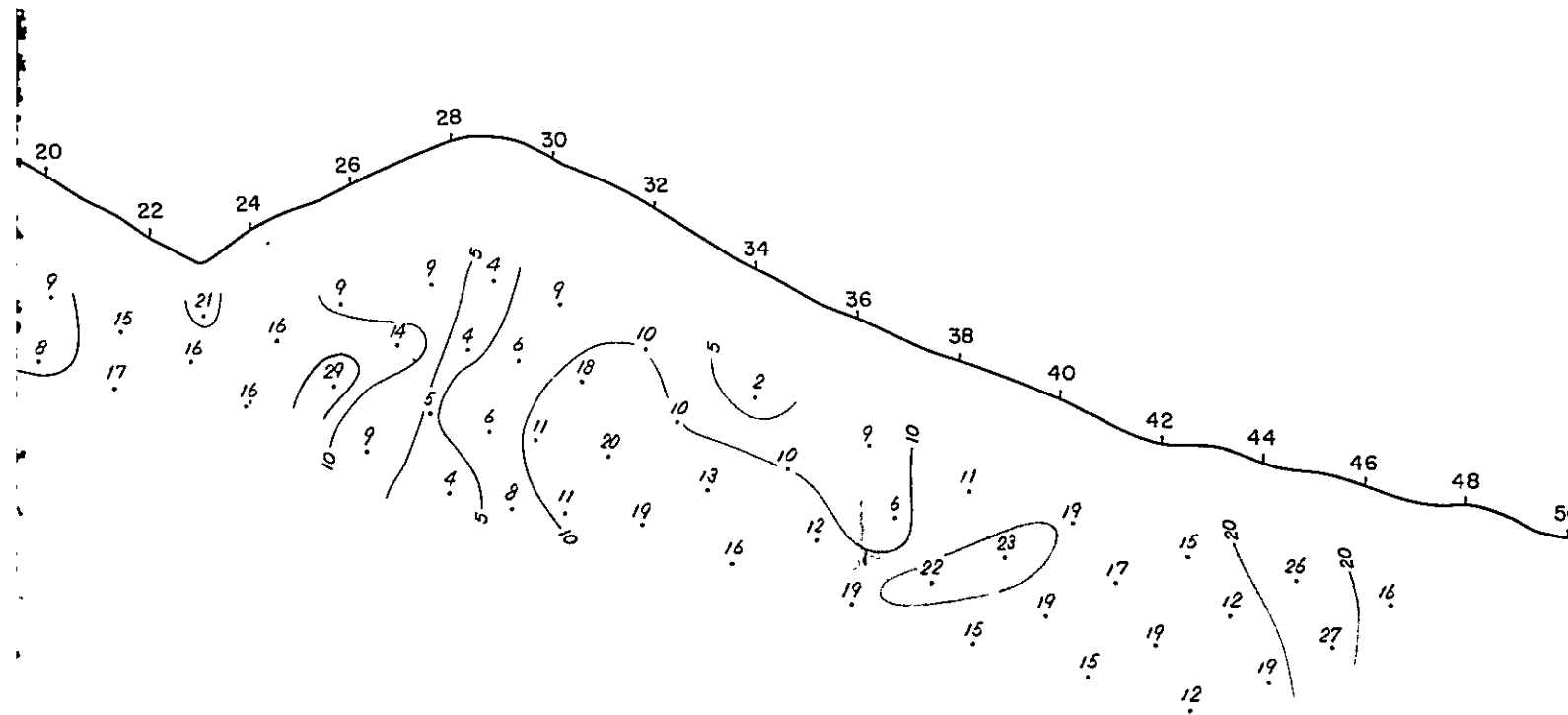


GEOLOGICAL PROFILE
JEOLJİK KESİTLER

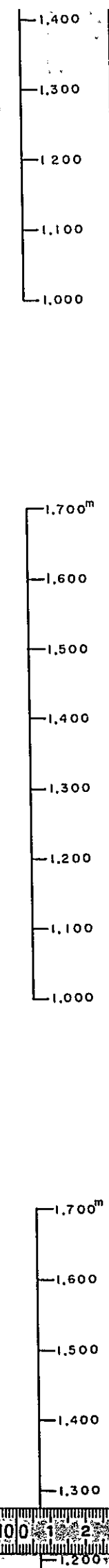
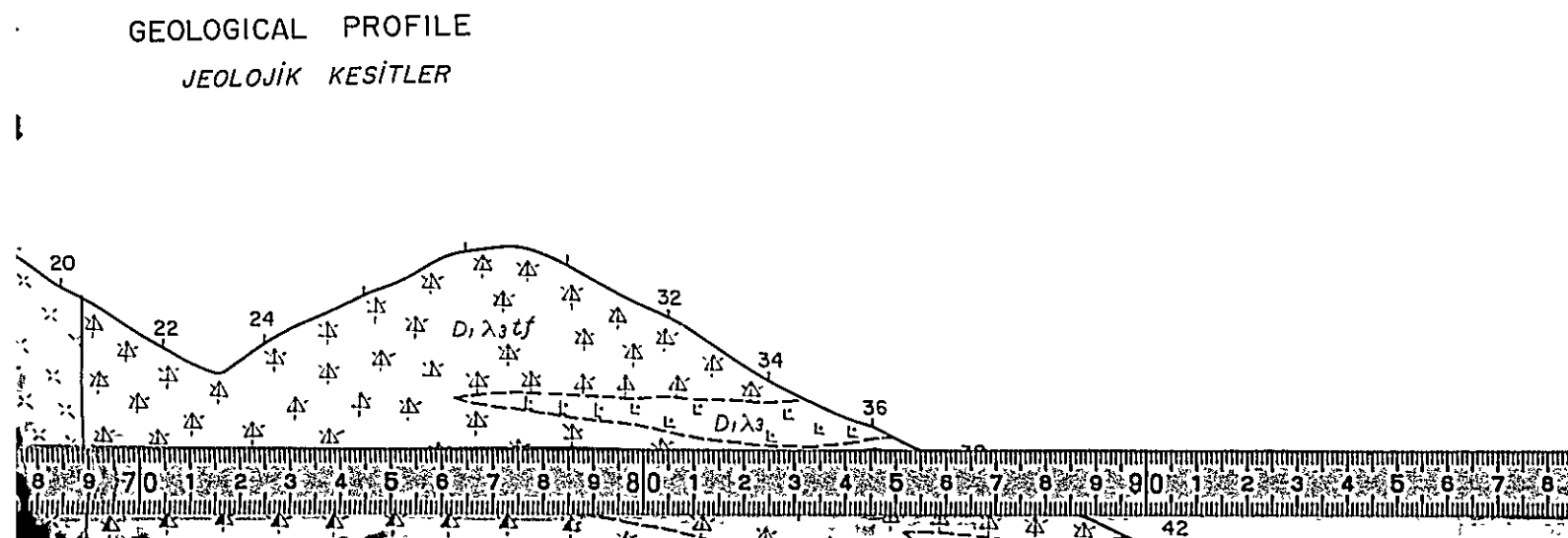




METAL CONDUCTION FACTOR
METAL FAKTÖR

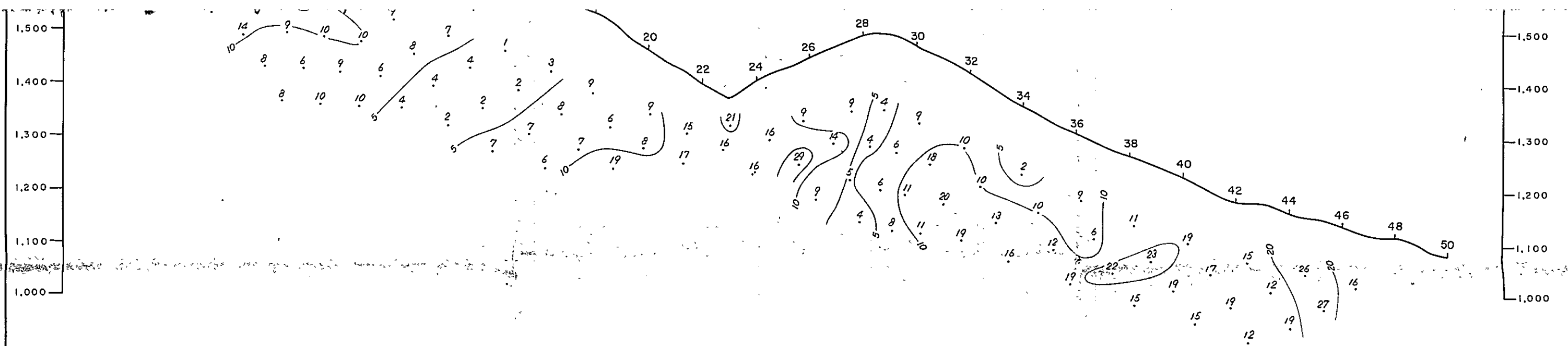


GEOLOGICAL PROFILE
JEOLJİK KESİTLER

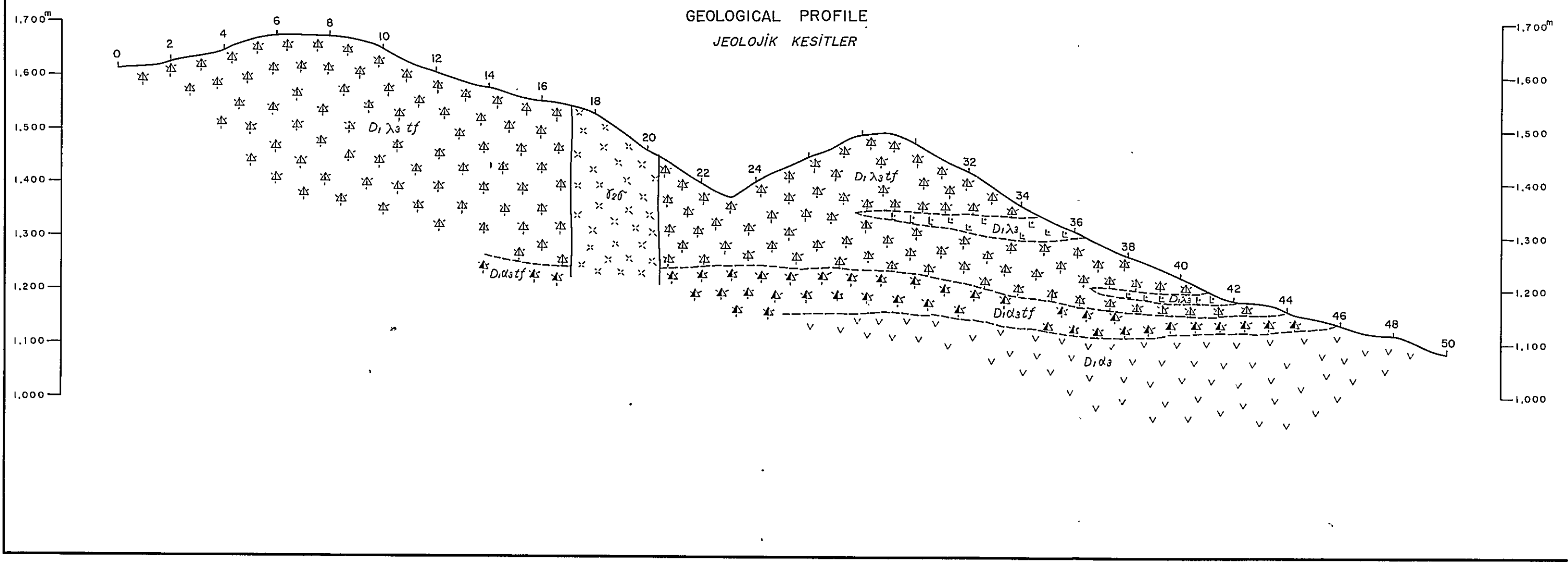


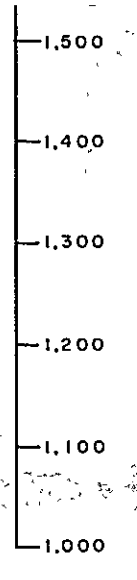
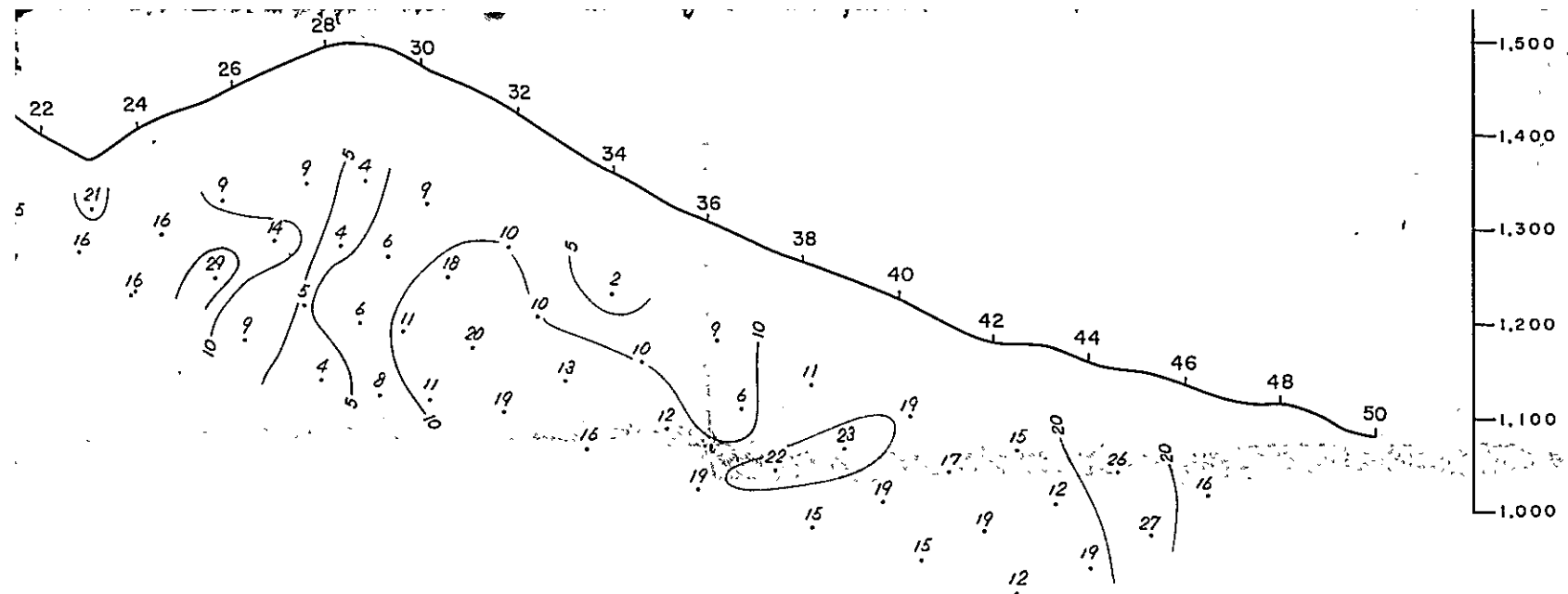
LEGEND
LEJAND

	dacite dasit	
	dacite tuff, lapilli tuff, tuff breccia dasit tuf. lapilli tuf. tuf breş	
	andesite andezit	
	andesite tuff, lapilli tuff, tuff breccia andezit tuf. lapilli tuf. tuf breş	
	basalt bazalt	Intrusive rocks Intruzifler
	andesite andezit	
	quartz diorite kuvars diorit	
	name of rock facies based on member	
	ore horizon cevher seviye	

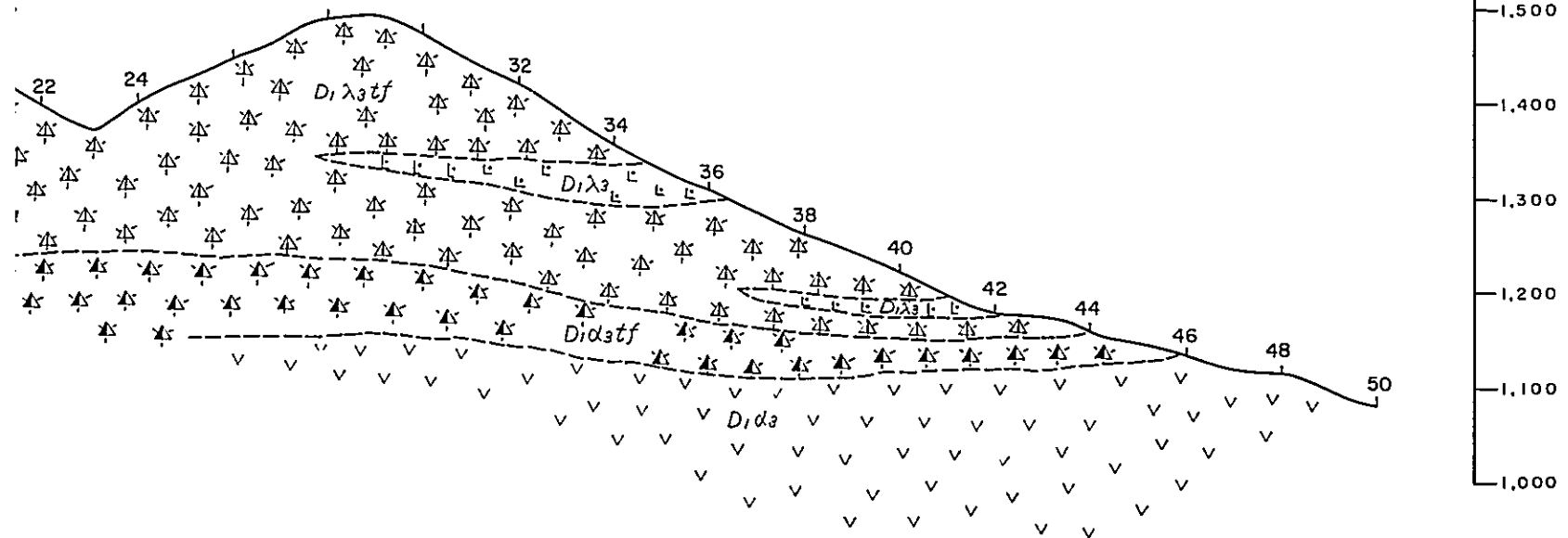


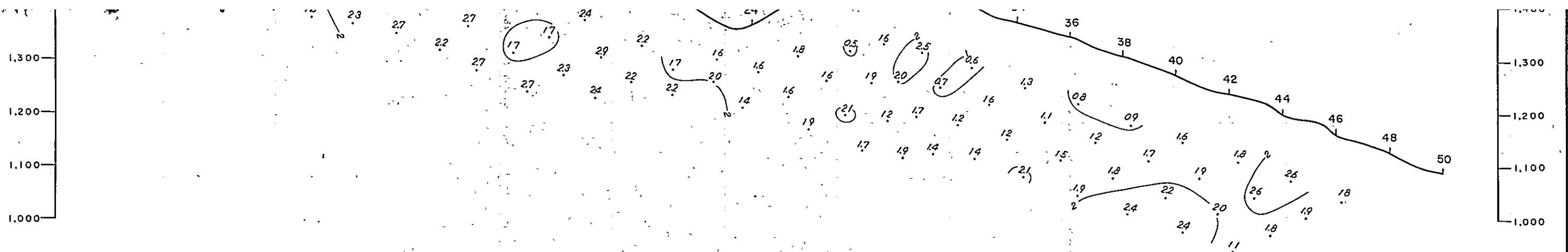
GEOLOGICAL PROFILE
 JEOLÖJİK KESİTLER



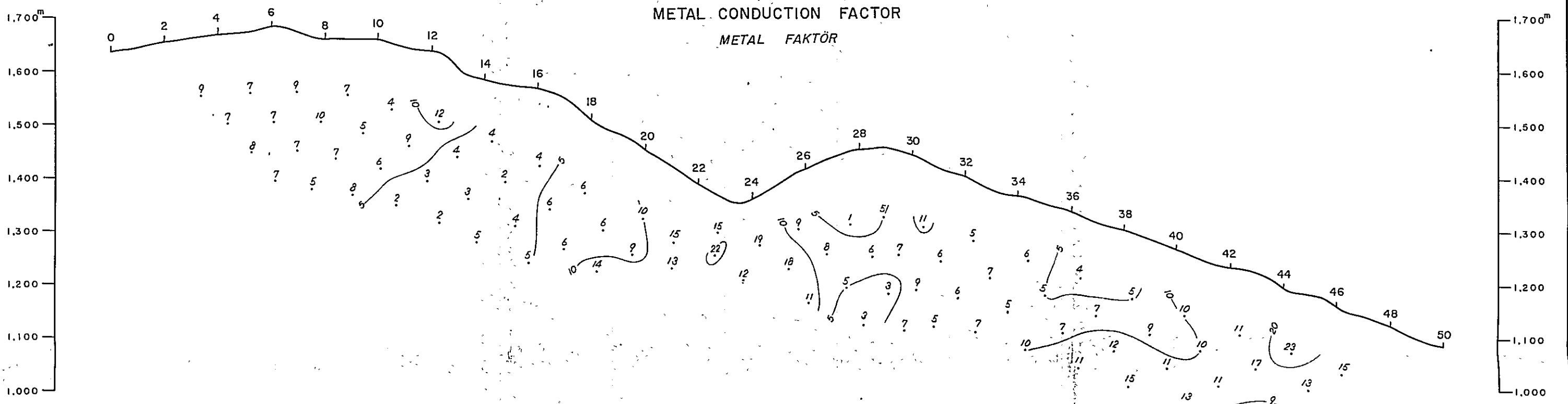


GEOLOGICAL PROFILE
 JEOLJİK KESİTLER

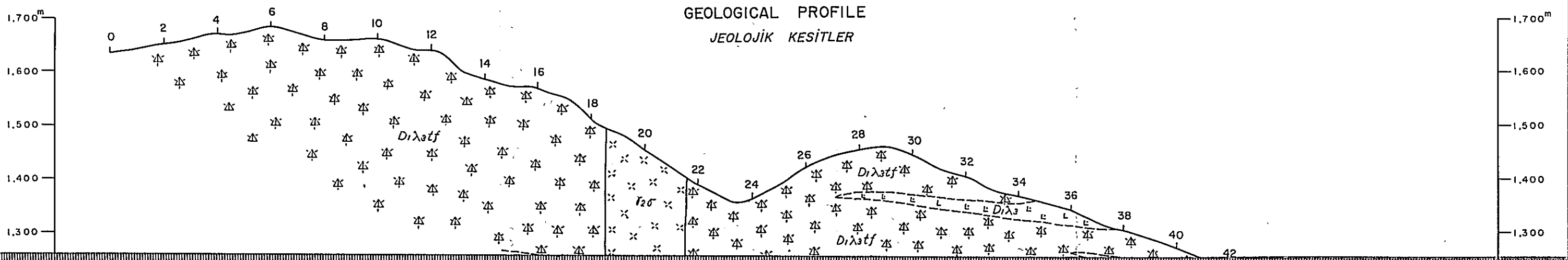


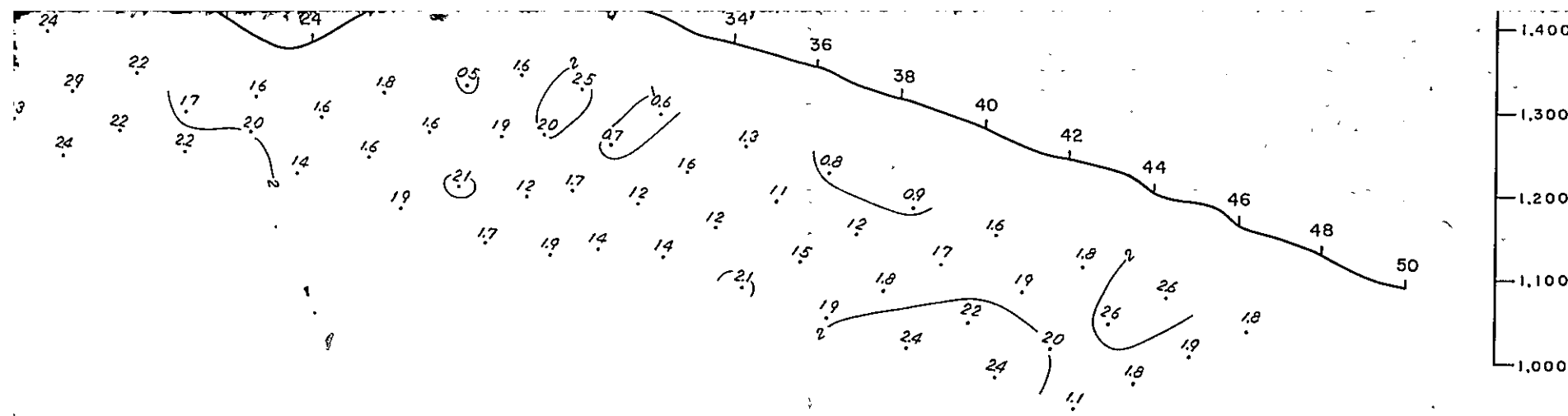


METAL CONDUCTION FACTOR
METAL FAKTÖR

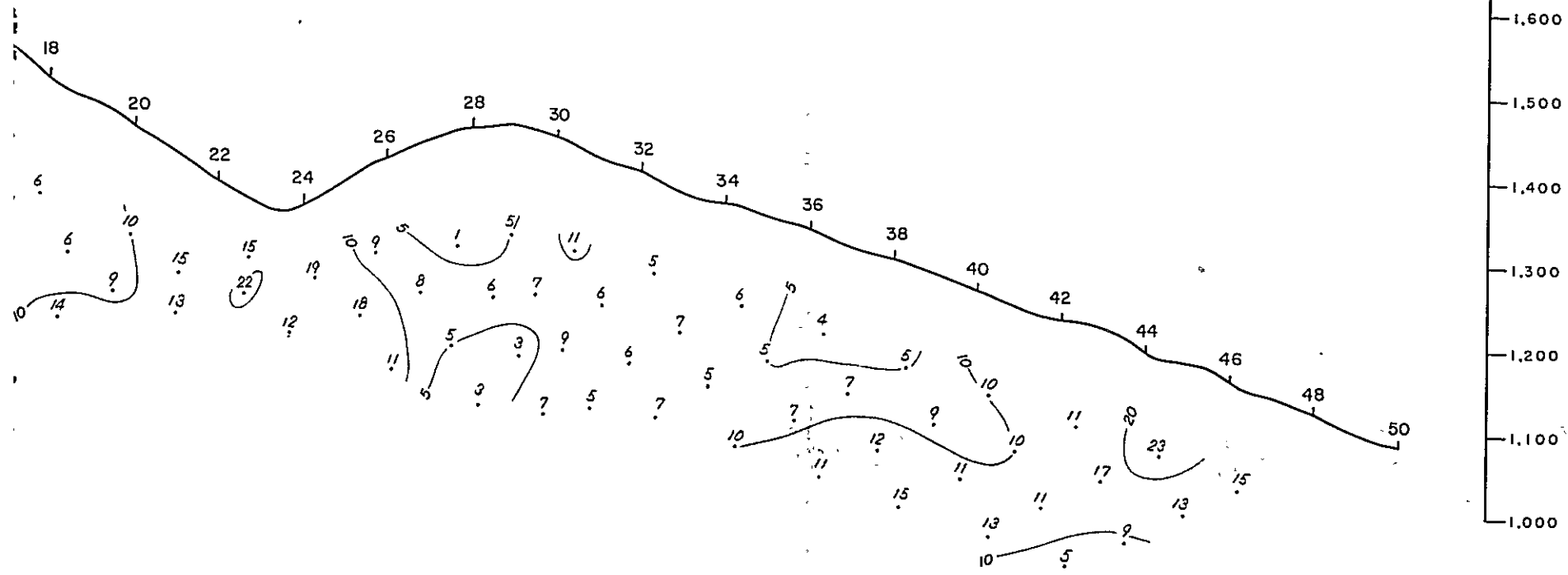


GEOLOGICAL PROFILE
JEOLJİK KESİTLER

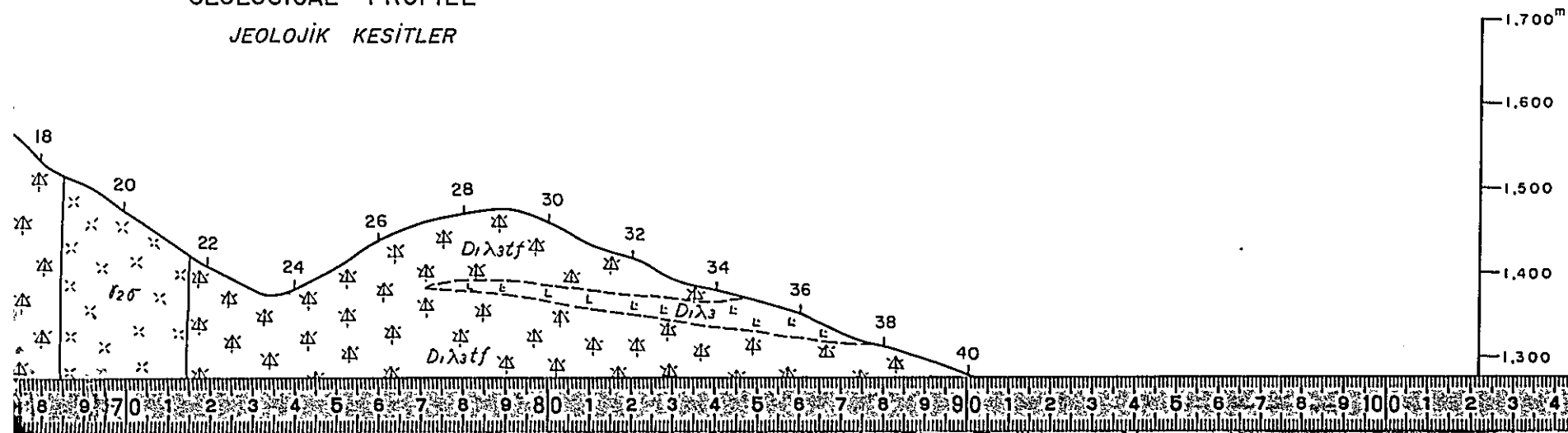


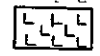
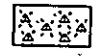

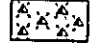
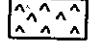
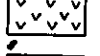
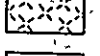
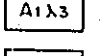
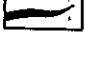


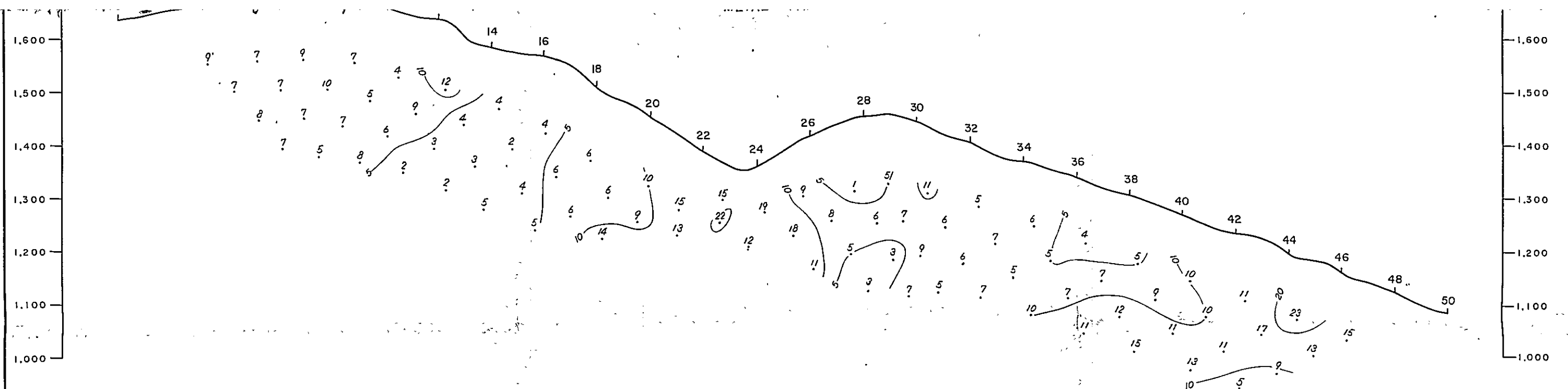
METAL CONDUCTION FACTOR
METAL FAKTÖR



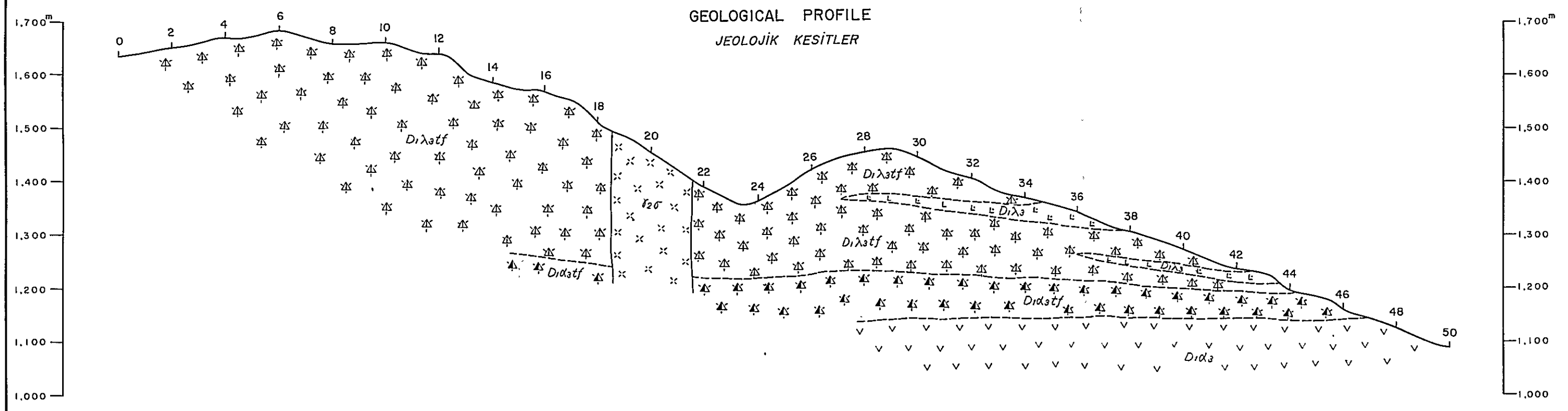
GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER



- LEGEND
LEJAND
-  dacite
dazit
 -  dacite tuff, lapilli tuff, tuff breccia
dazit tüf, lapilli tüf, tüf breş
 -  andesite
andezit
 -  andesite tuff, lapilli tuff, tuff breccia
andezit tüf, lapilli tüf, tüf breş
 -  basalt
bazalt
 -  andesite
andezit
 -  quartz diorite
kuvars diorit
 -  name of rock facies based on member
 -  ore horizon
cehler seviye
- Intrusive rocks
Intruzifler

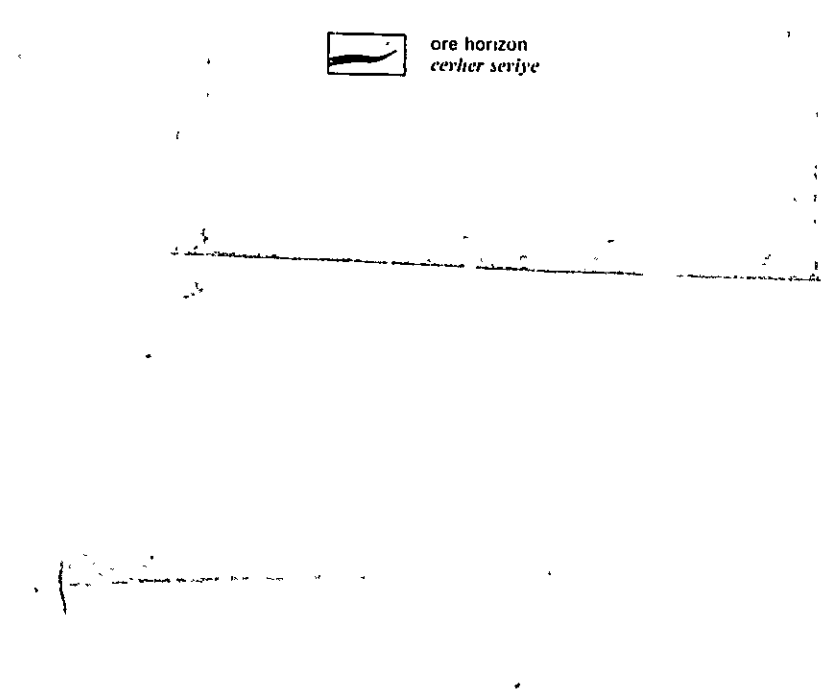
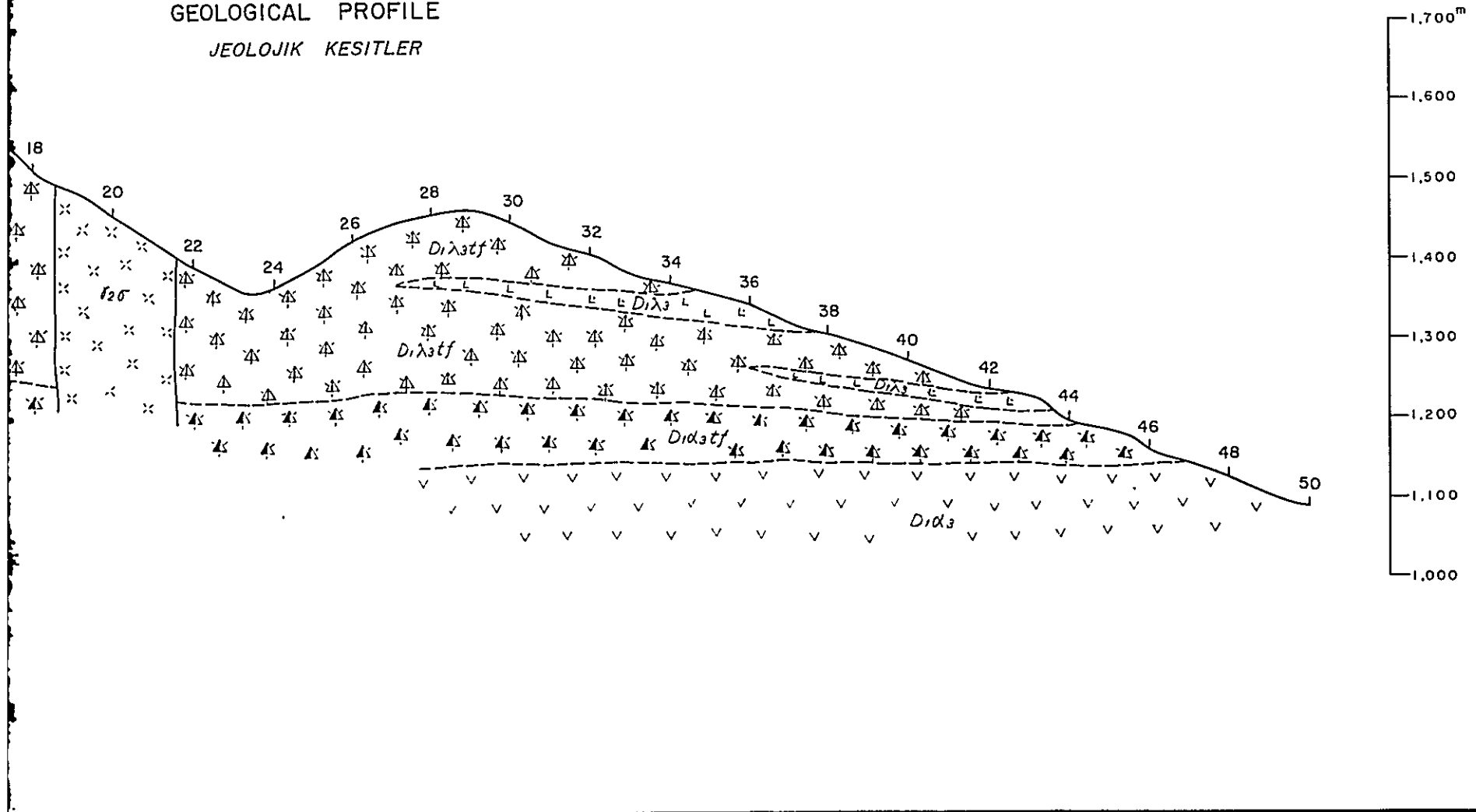


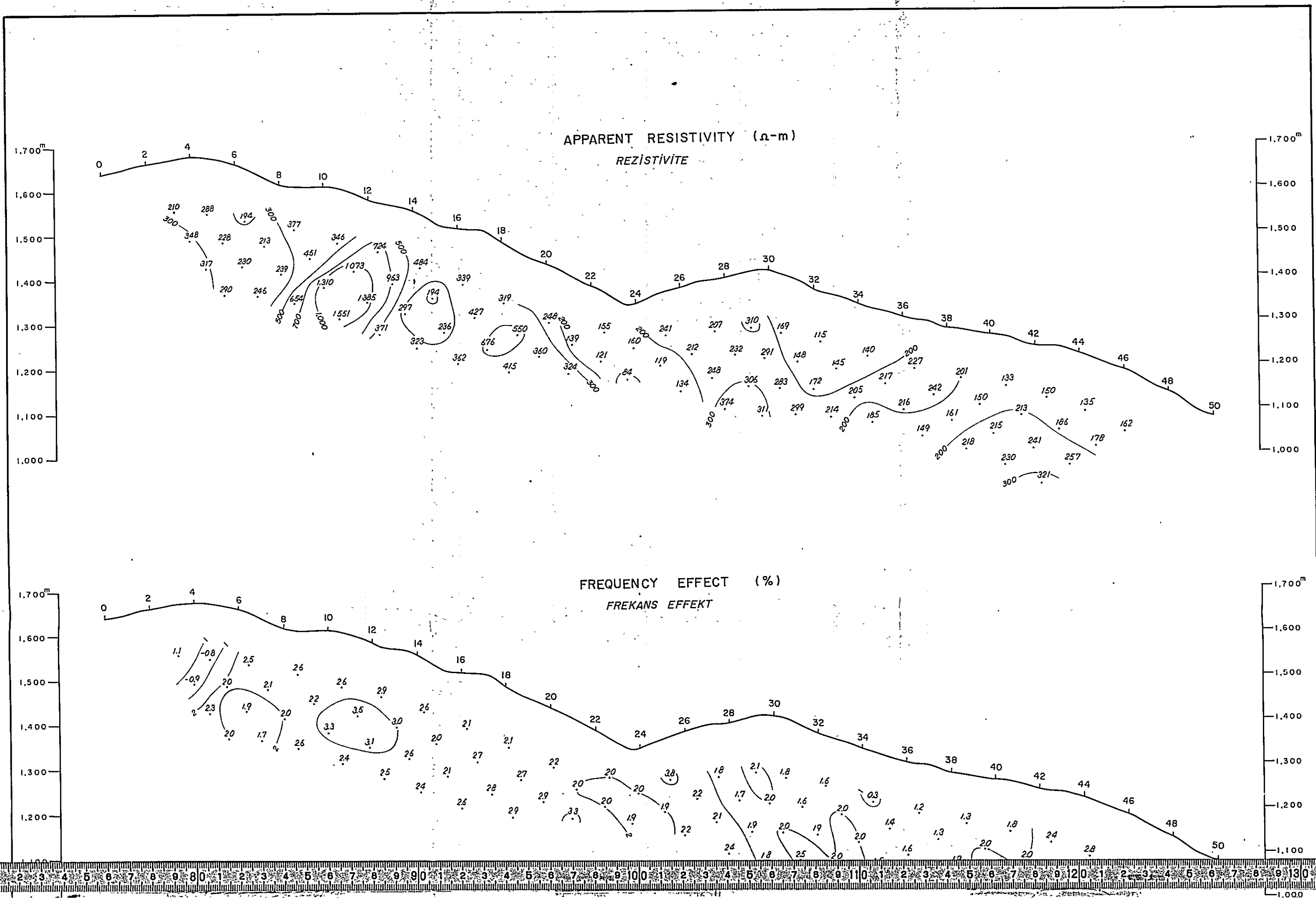
GEOLOGICAL PROFILE
 JEOLJİK KESİTLER





GEOLOGICAL PROFILE
JEOLOJİK KESİTLER





1.700^m
1.600
1.500
1.400
1.300
1.200
1.100
1.000

1.700^m
1.600
1.500
1.400
1.300
1.200
1.100
1.000

1.700^m
1.600
1.500
1.400
1.300
1.200

1.700^m
1.600
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1.400
1.300
1.200
1.100
1.000

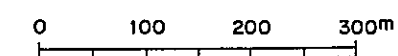
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PL-9-3

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY
PHASE III

CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS G LINE
KEN DERE-FOL DERE
IP KESİTLERİ

Scale
Ölçek 1 : 5,000

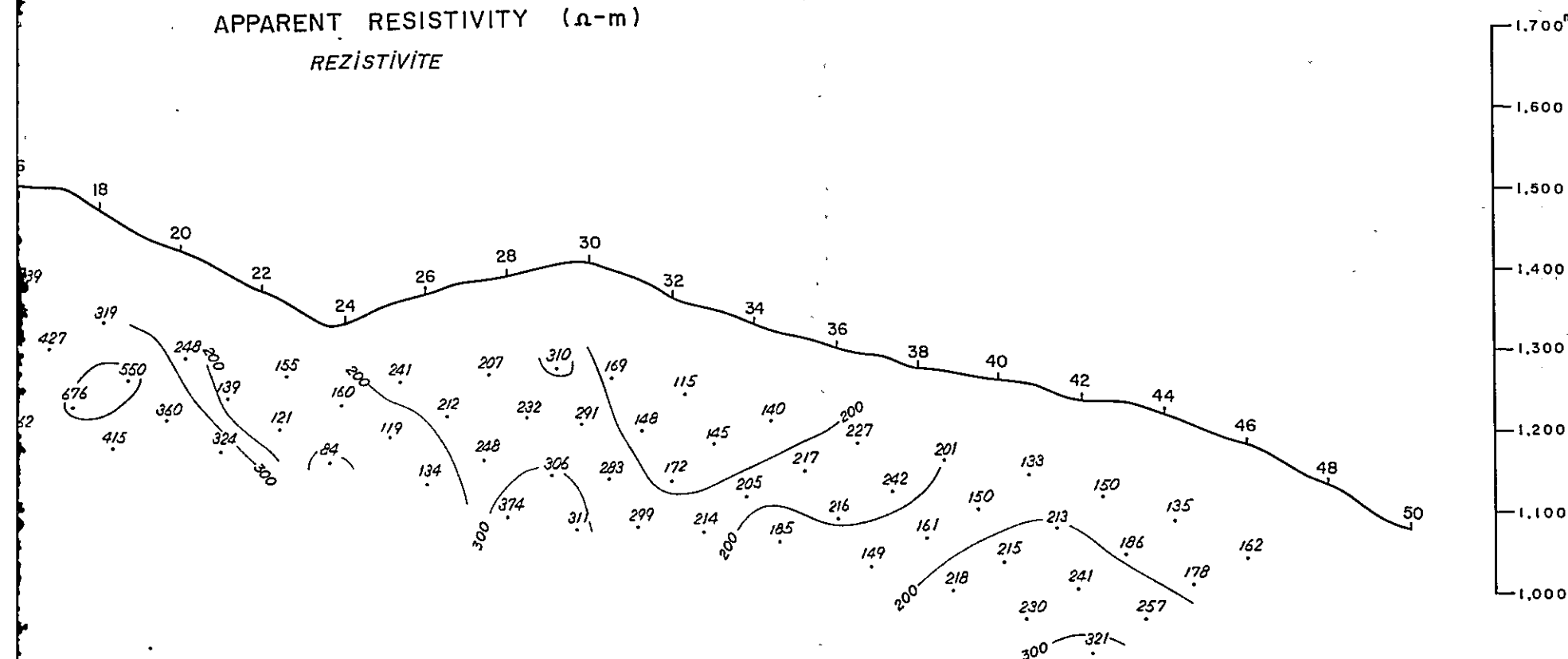


METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

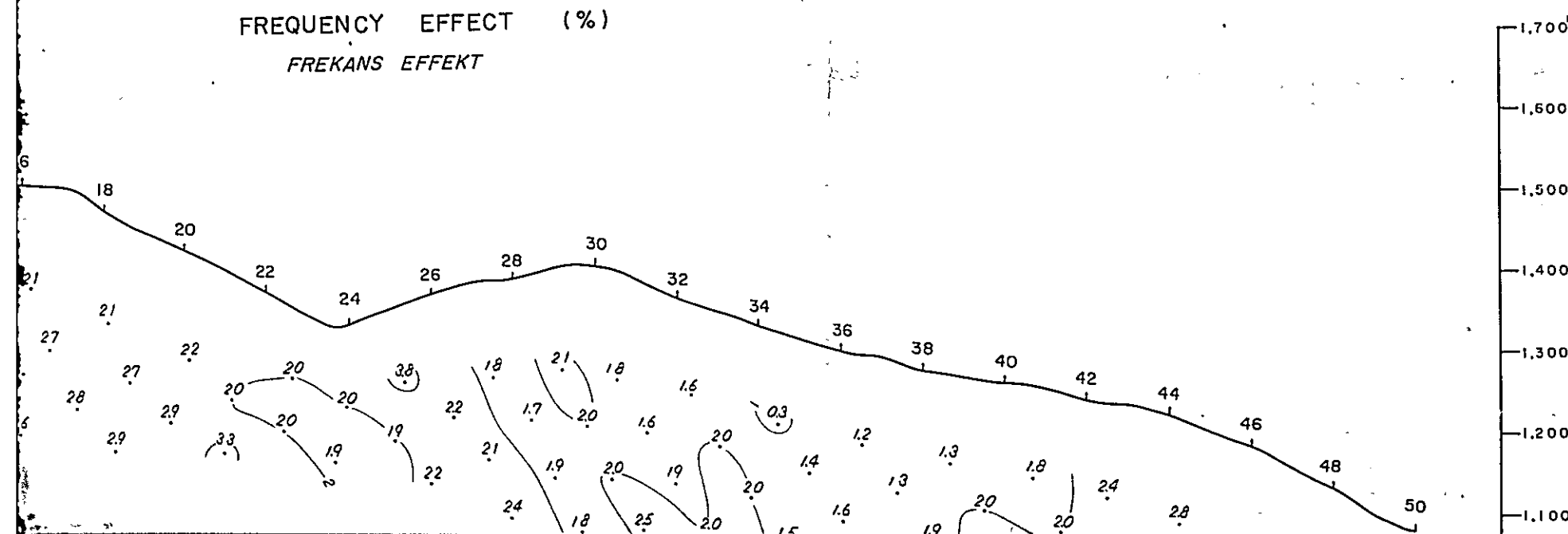
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co, Ltd.

APPARENT RESISTIVITY ($\Omega\text{-m}$)
REZİSTİVİTE



FREQUENCY EFFECT (%)
FREKANS EFEKTİ

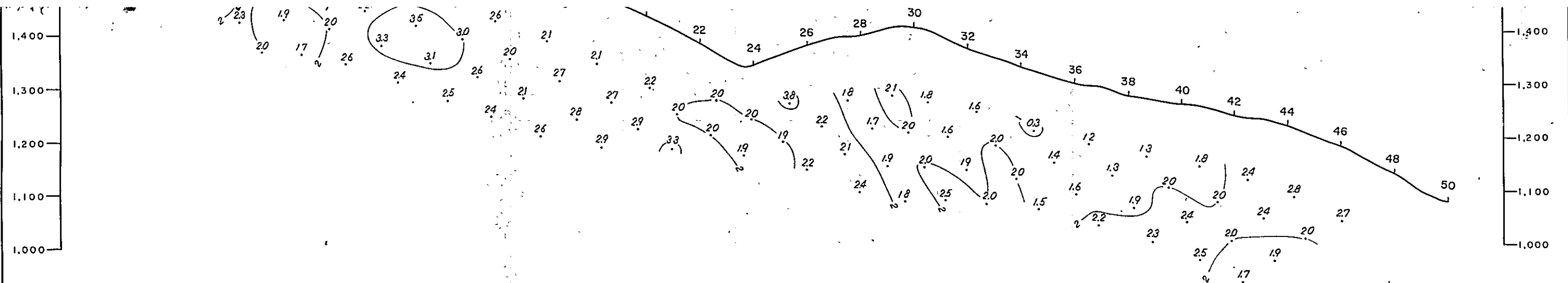


LEGEND
LEJAND

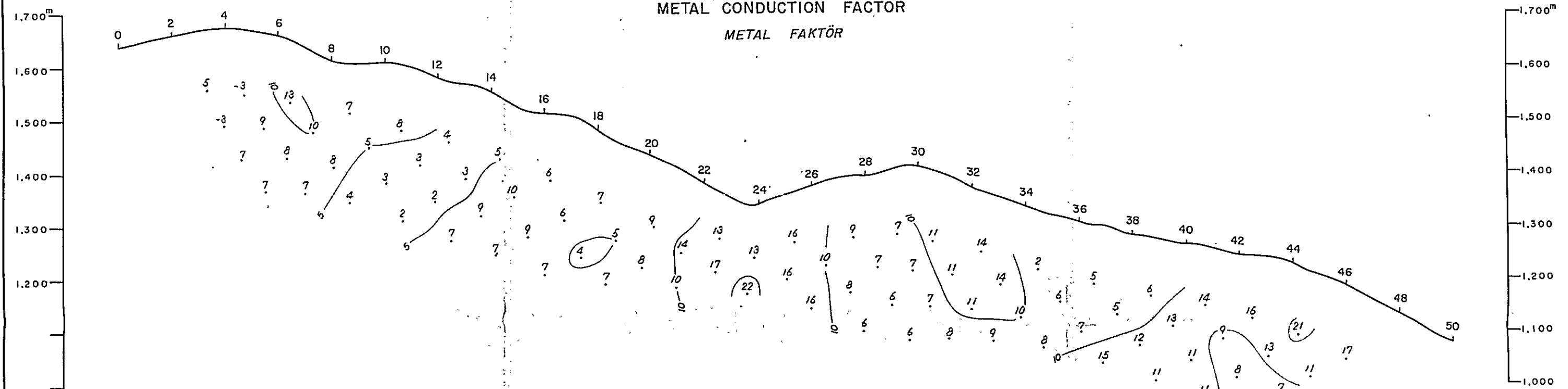


dacite
andezit

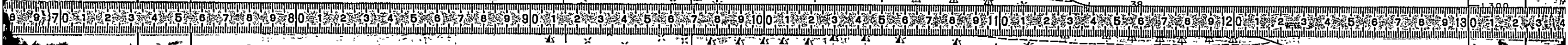
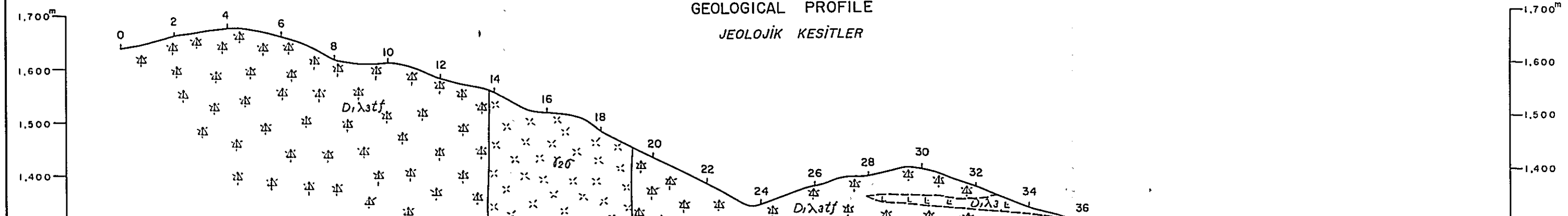
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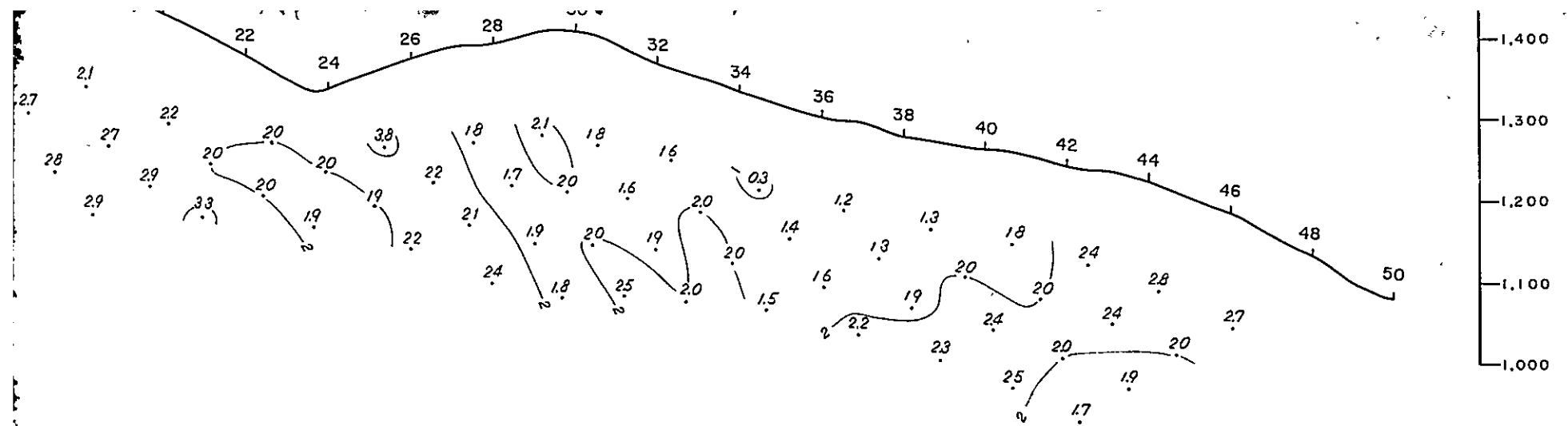


METAL CONDUCTION FACTOR
METAL FAKTÖR

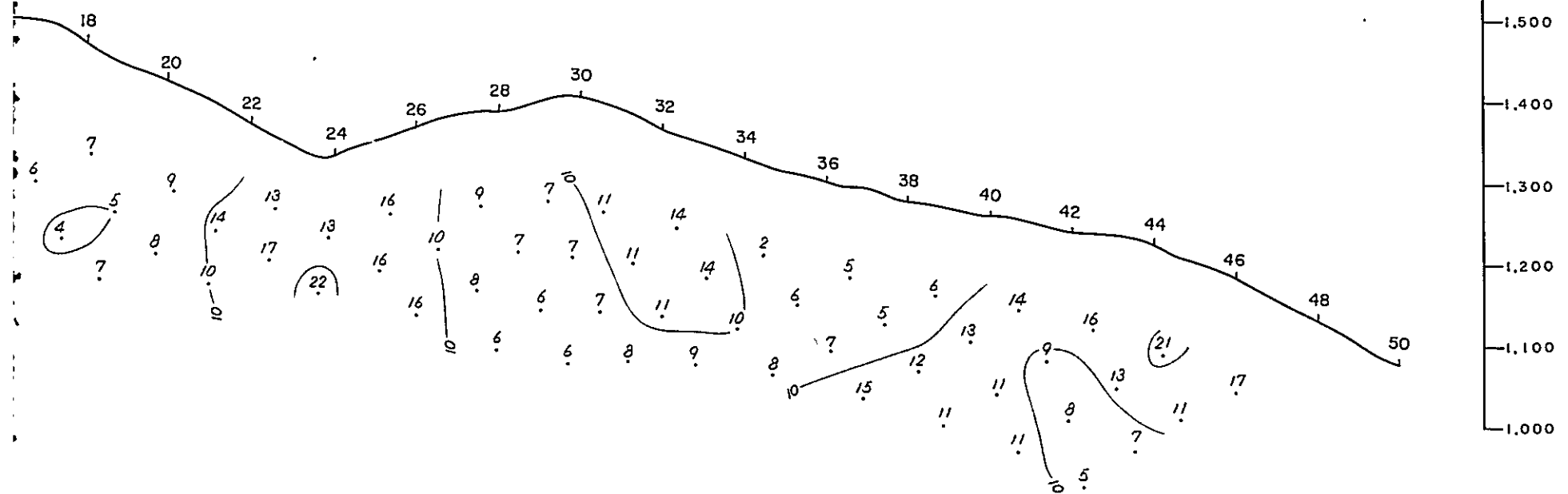


GEOLOGICAL PROFILE
JEOLOJİK KESİTLER

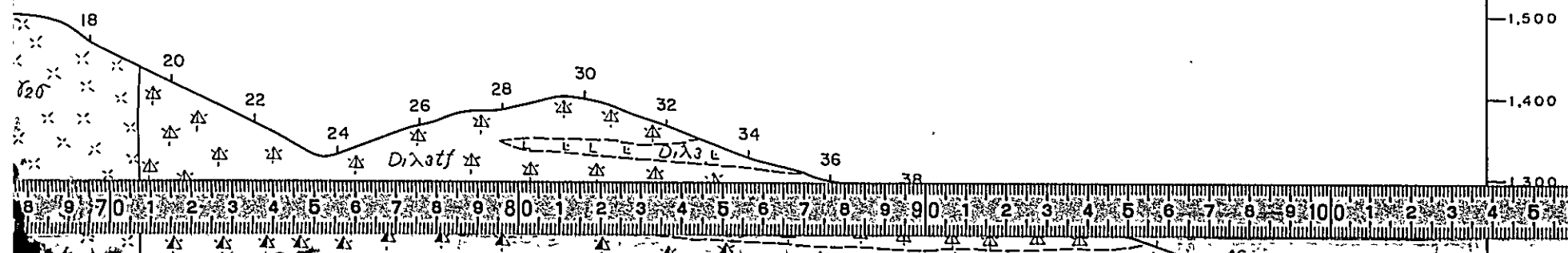




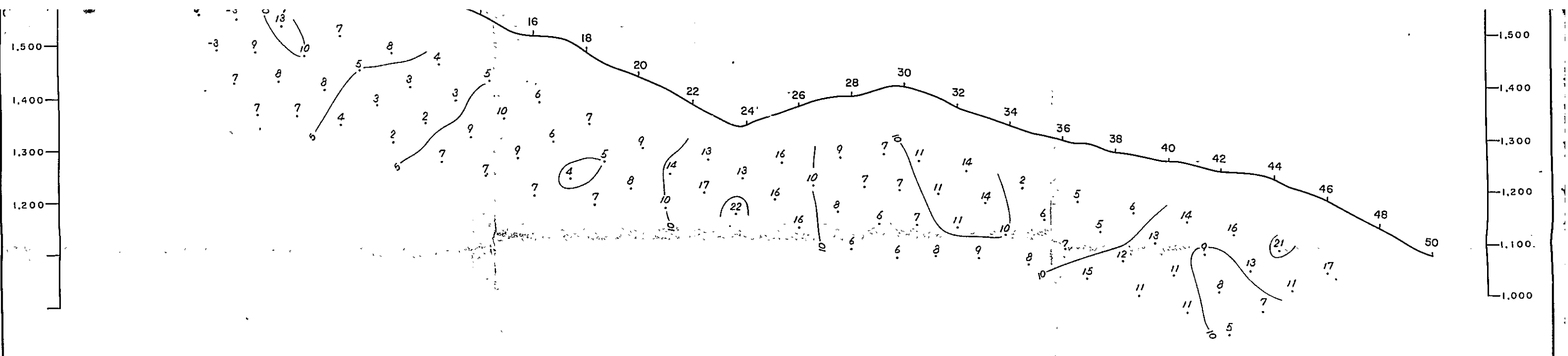
METAL CONDUCTION FACTOR
METAL FAKTÖR



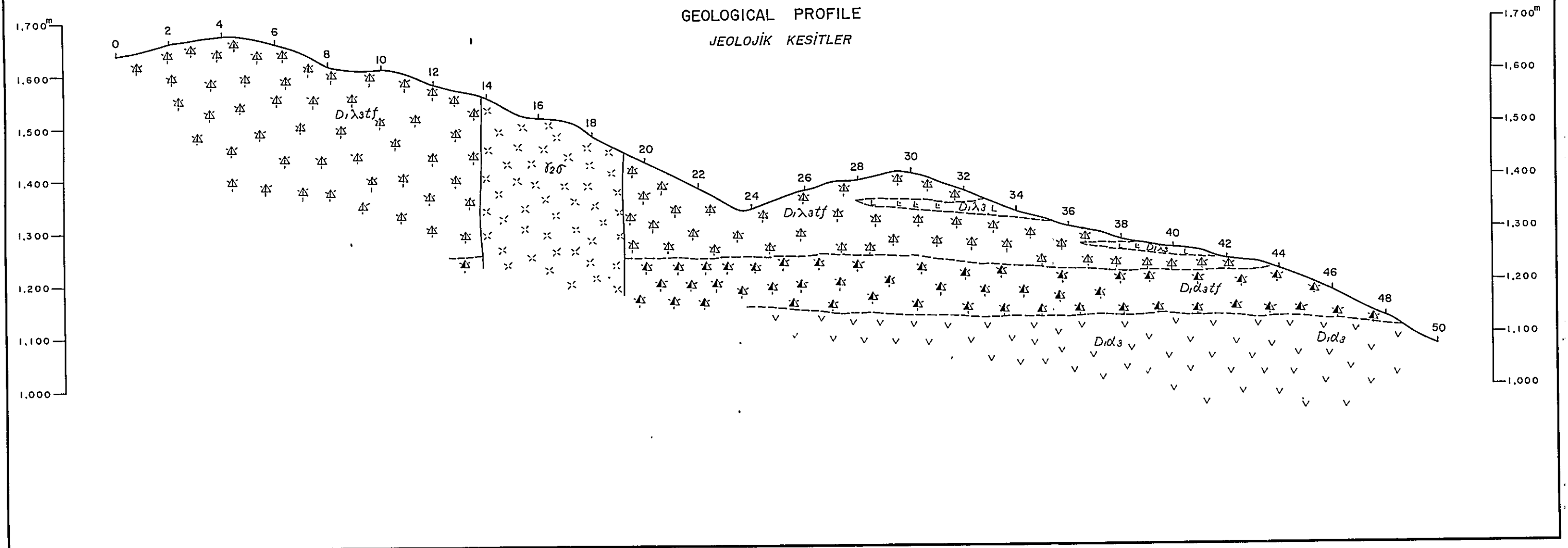
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JEOLJİK KESİTLER

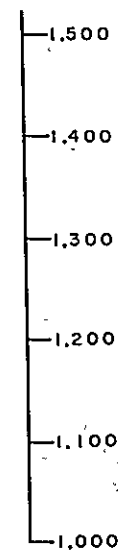
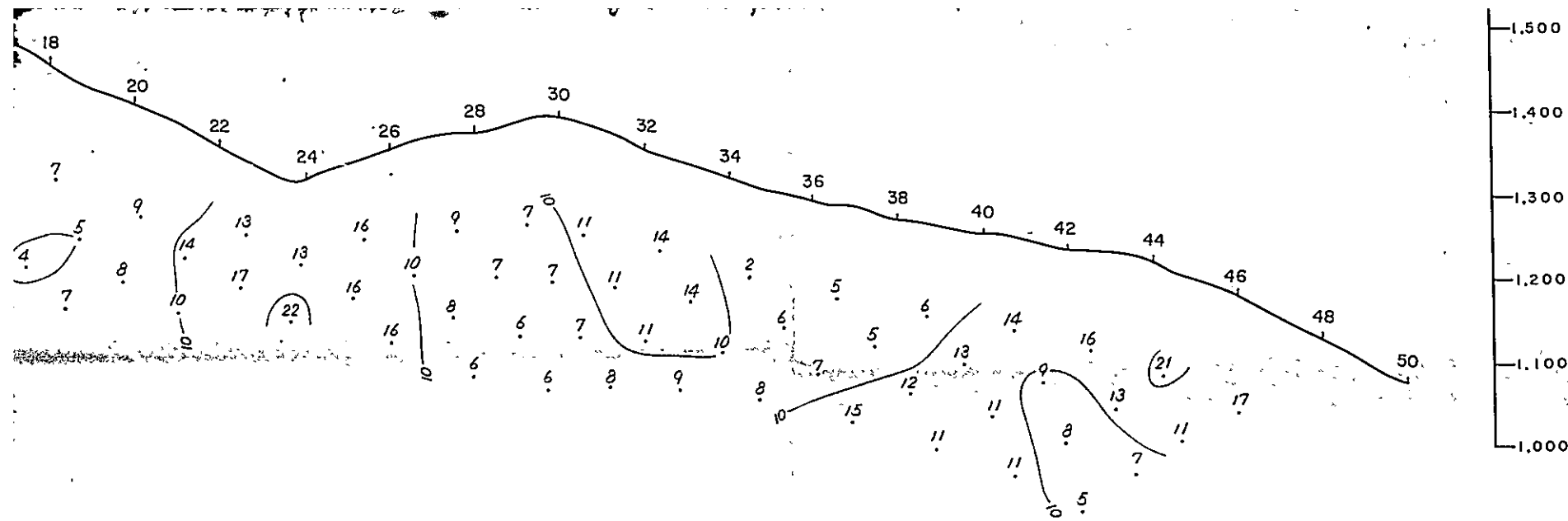


- LEGEND
LEJAND
- dacite
dazit
 - dacite tuff, lapilli tuff, tuff breccia
dazit tuf, lapilli tuf, tuf breş
 - andesite
andezit
 - andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breş
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kuvars diorit
 - name of rock facies based on member
 - ore horizon
eyher seviye
- Intrusive rocks
Intruzifler

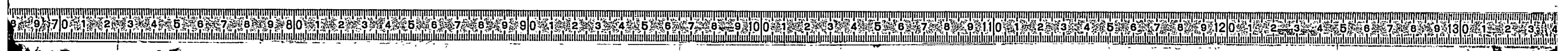
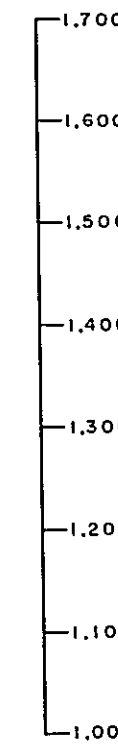
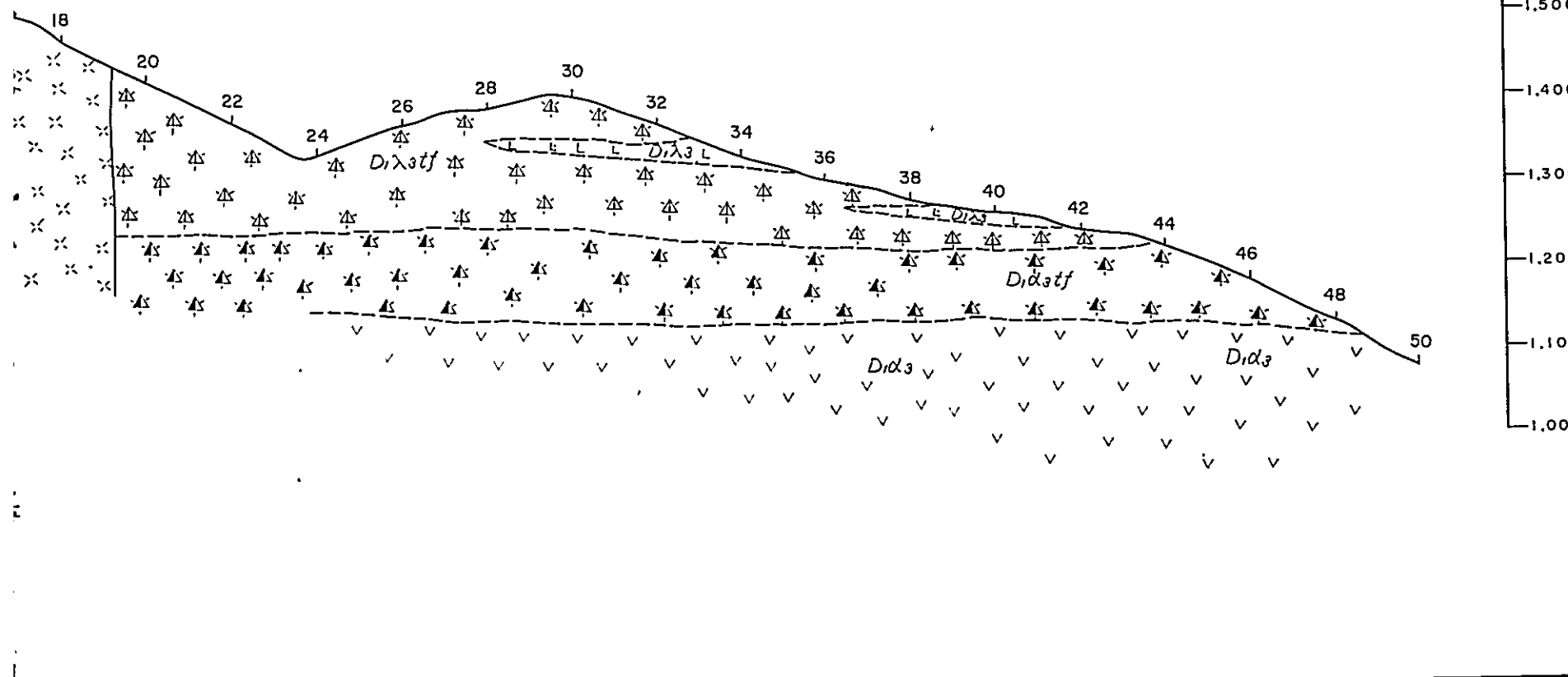


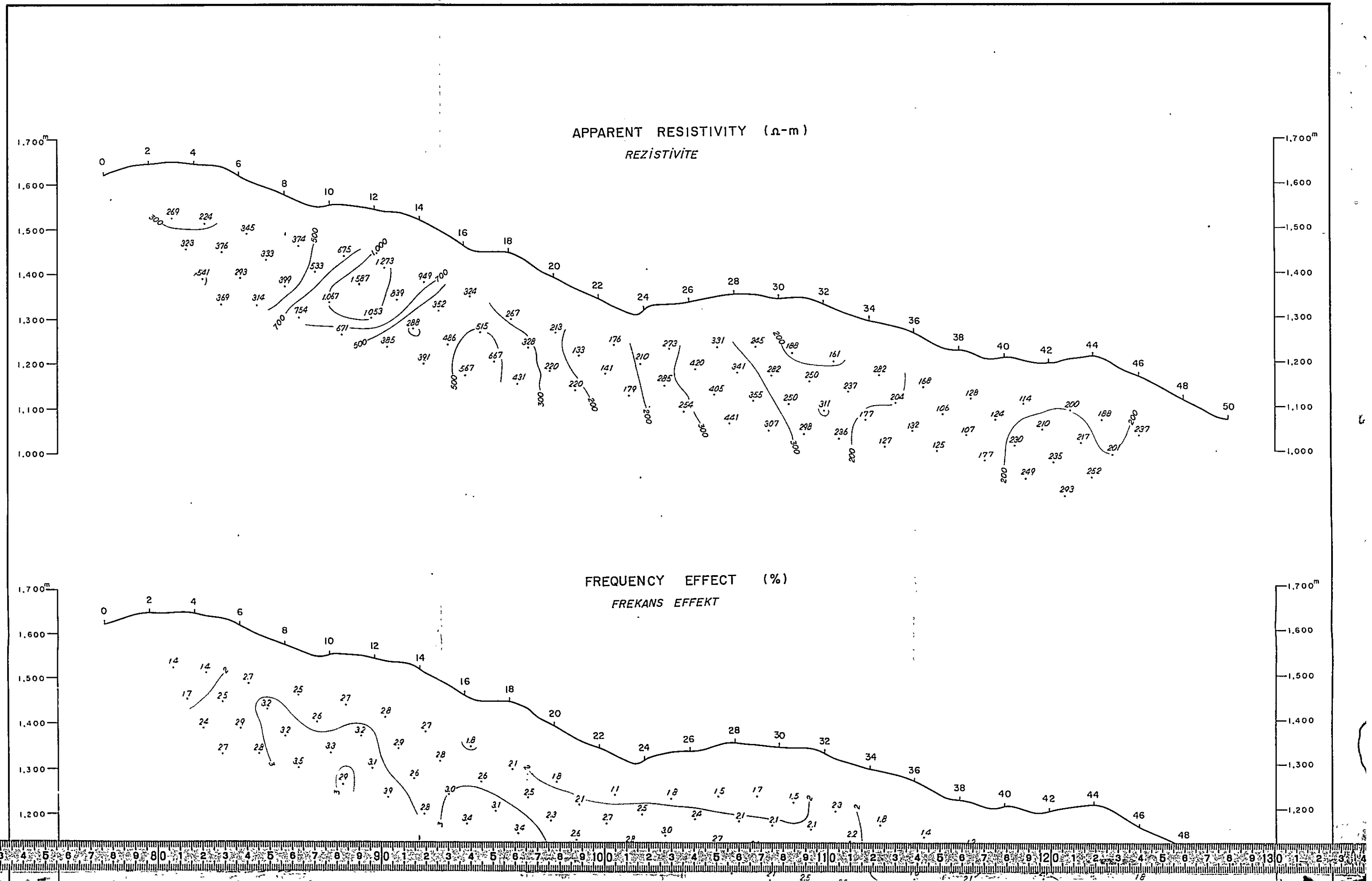
GEOLOGICAL PROFILE
 JEOLJİK KESİTLER

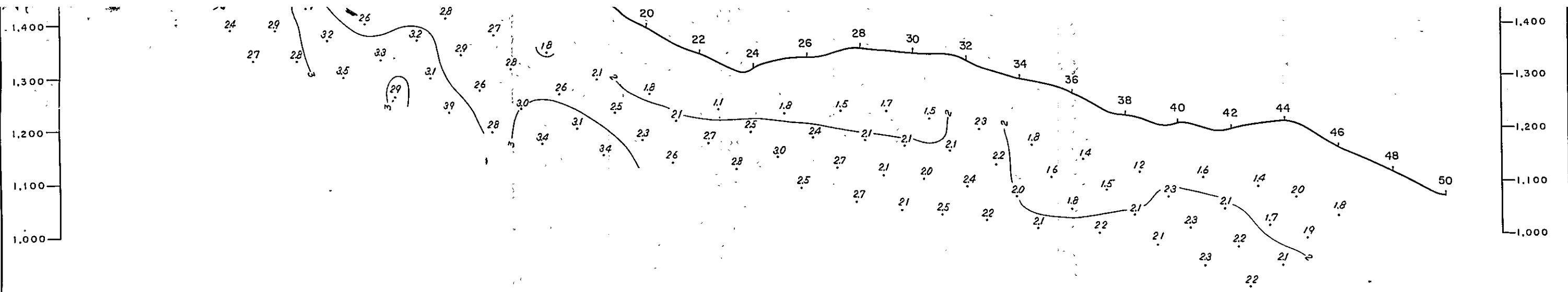




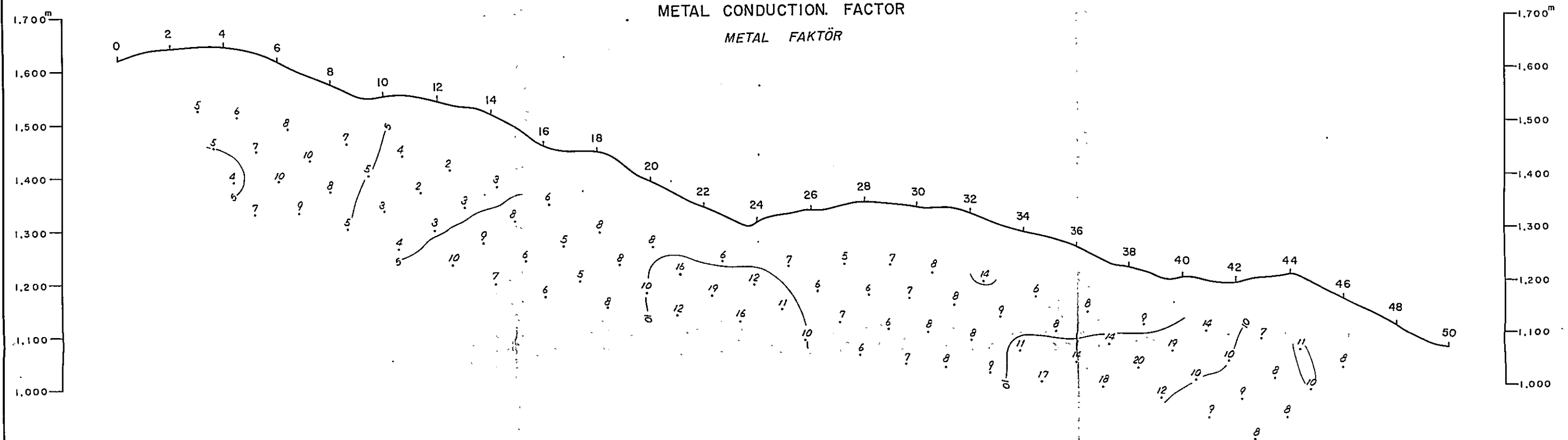
GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER



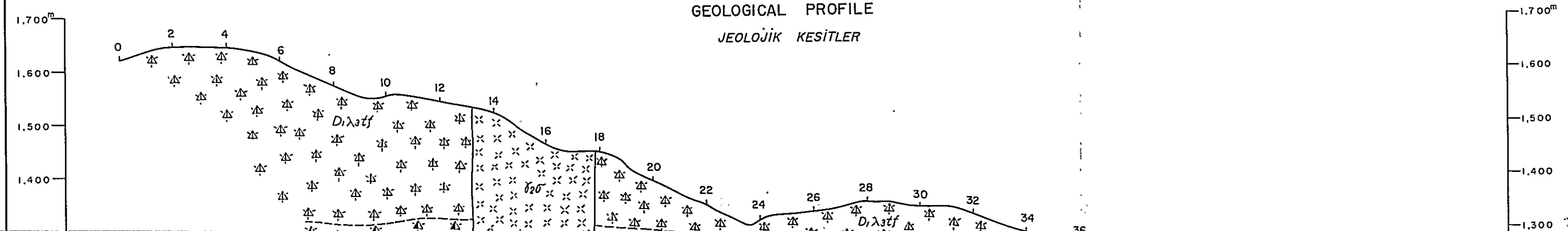


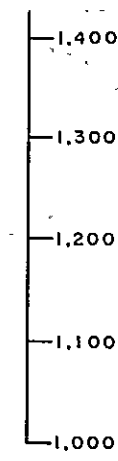
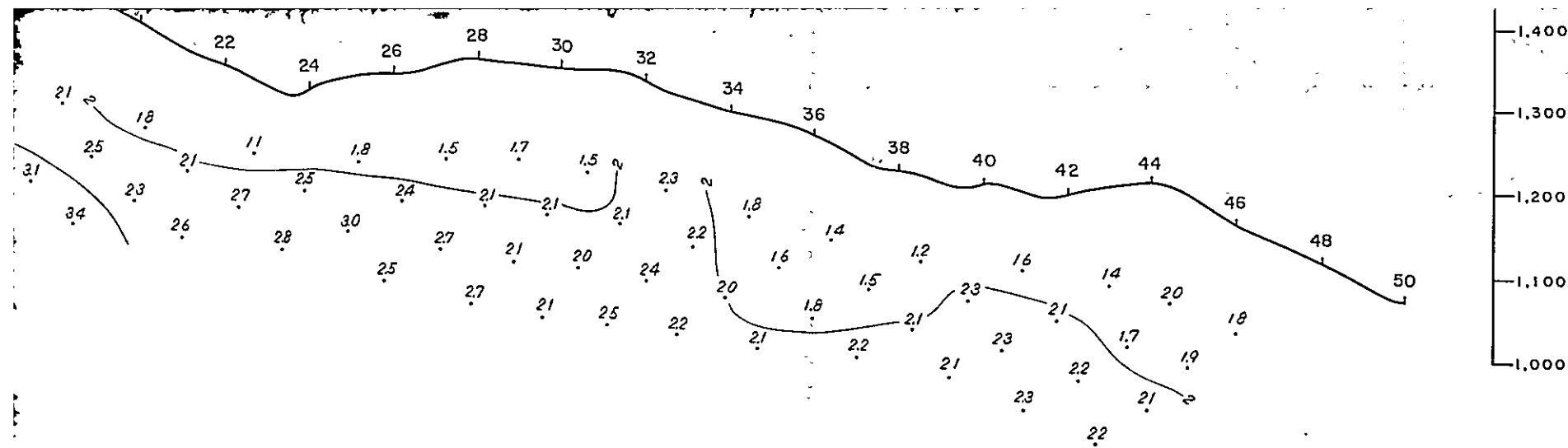


METAL CONDUCTION. FACTOR
METAL FAKTÖR

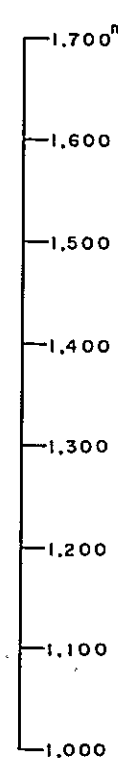
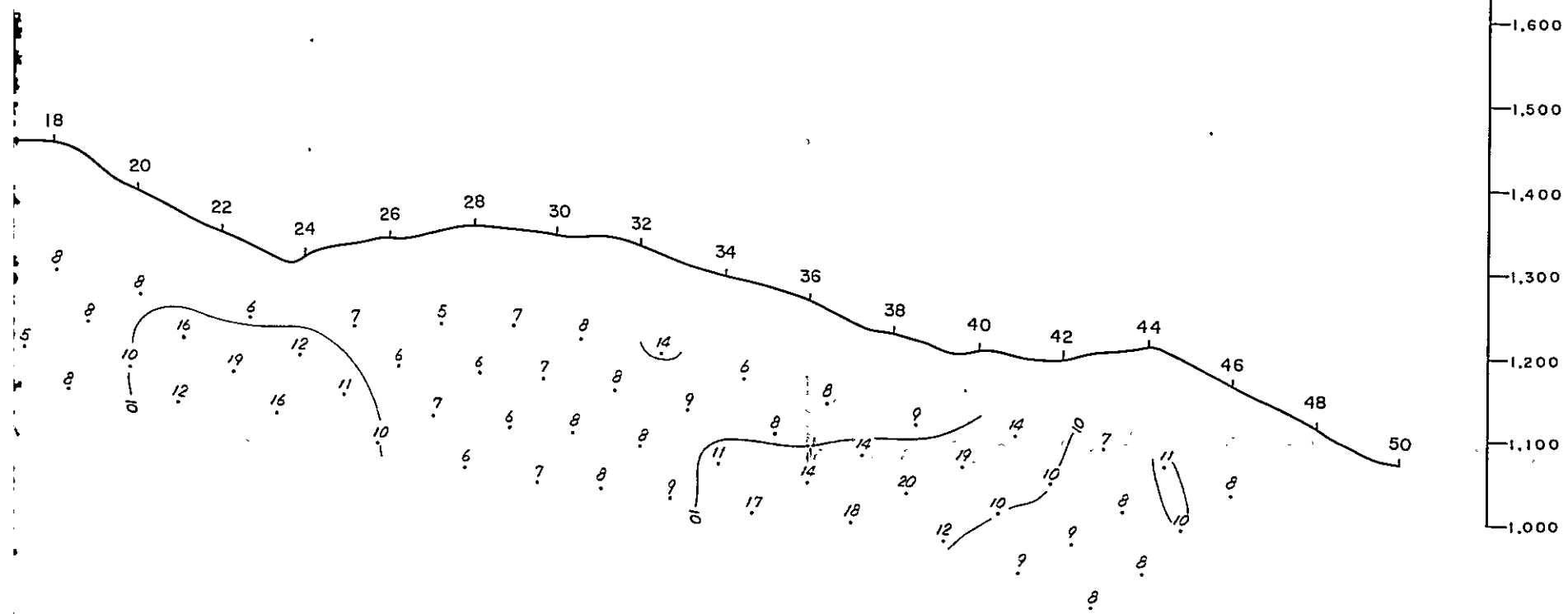


GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER

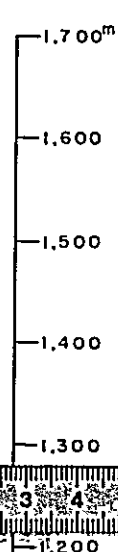
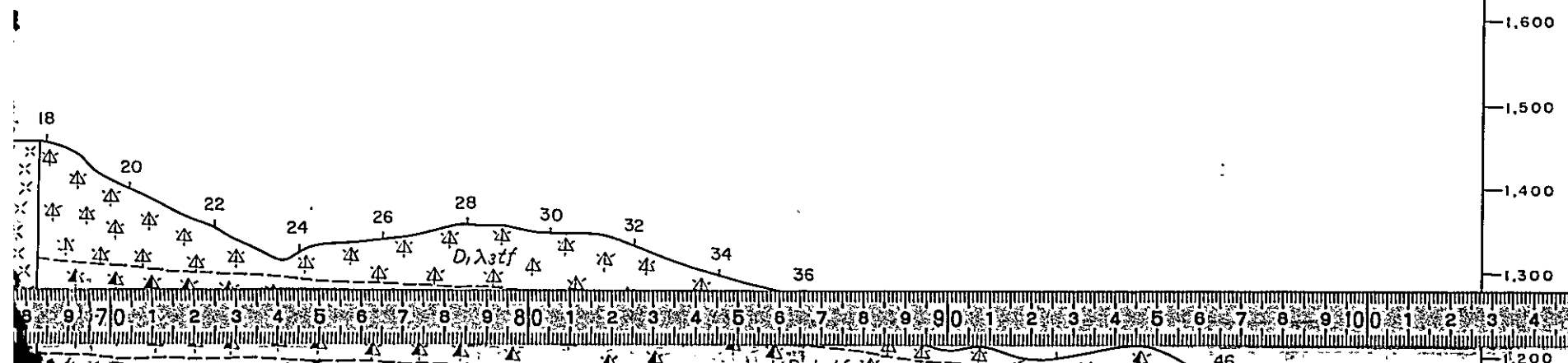




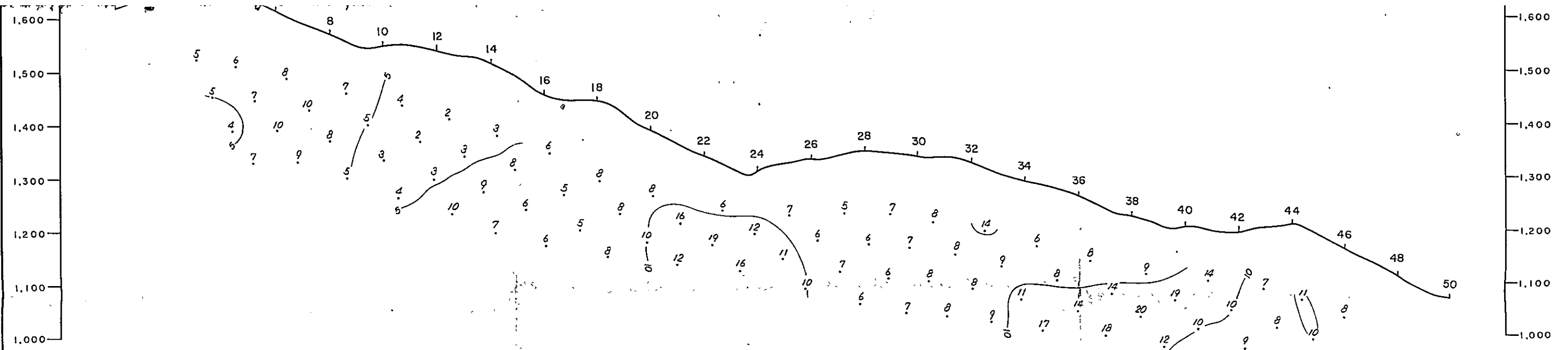
METAL CONDUCTION. FACTOR
METAL FAKTÖR



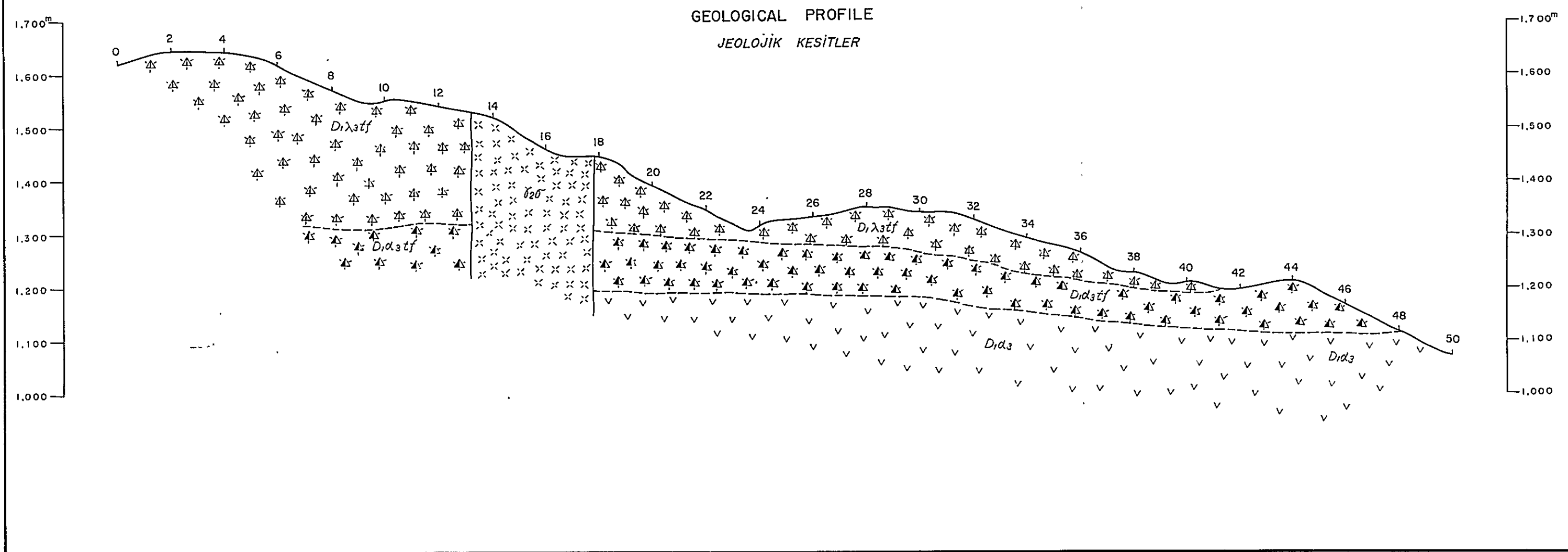
GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER

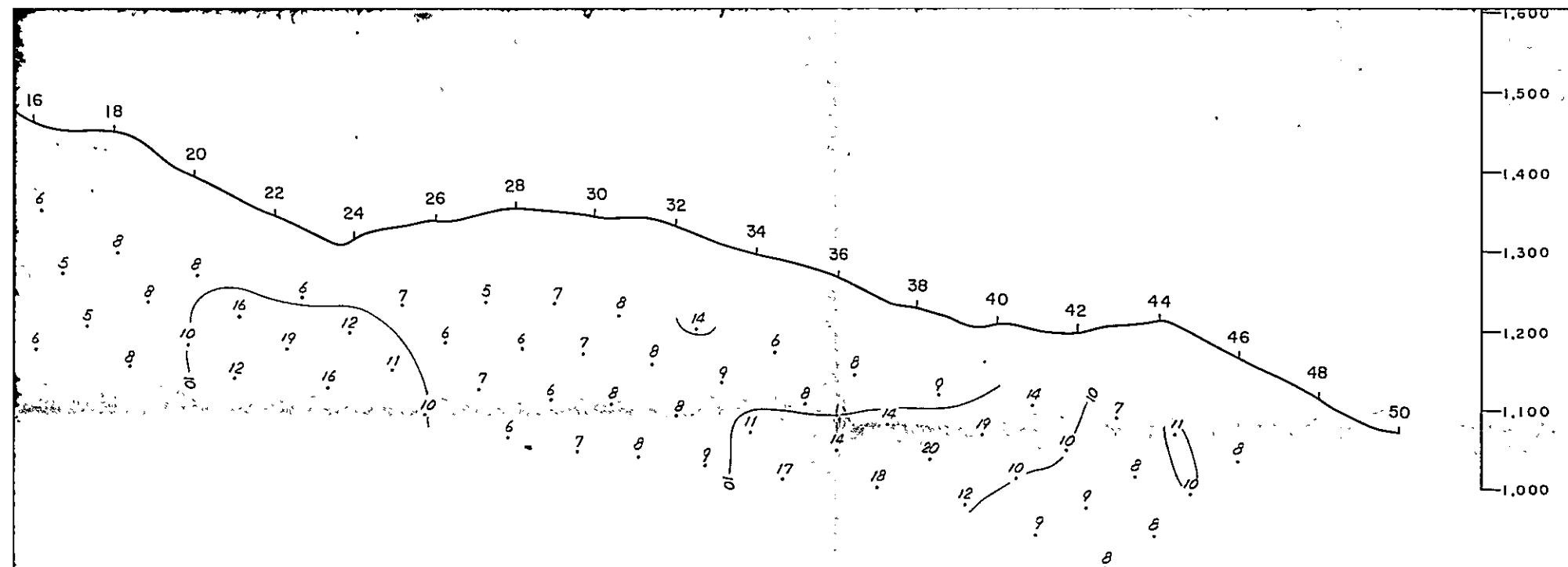


- LEGEND
LEJAND
- dacite
dasit
 - dacite tuff, lapilli tuff, tuff breccia
dasit tuf, lapilli tuf, tuf breş
 - andesite
andezit
 - andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breş
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kuvars diorit
 - name of rock facies based on member
 - ore horizon
cevher seviye
- Intrusive rocks
Intruzifler

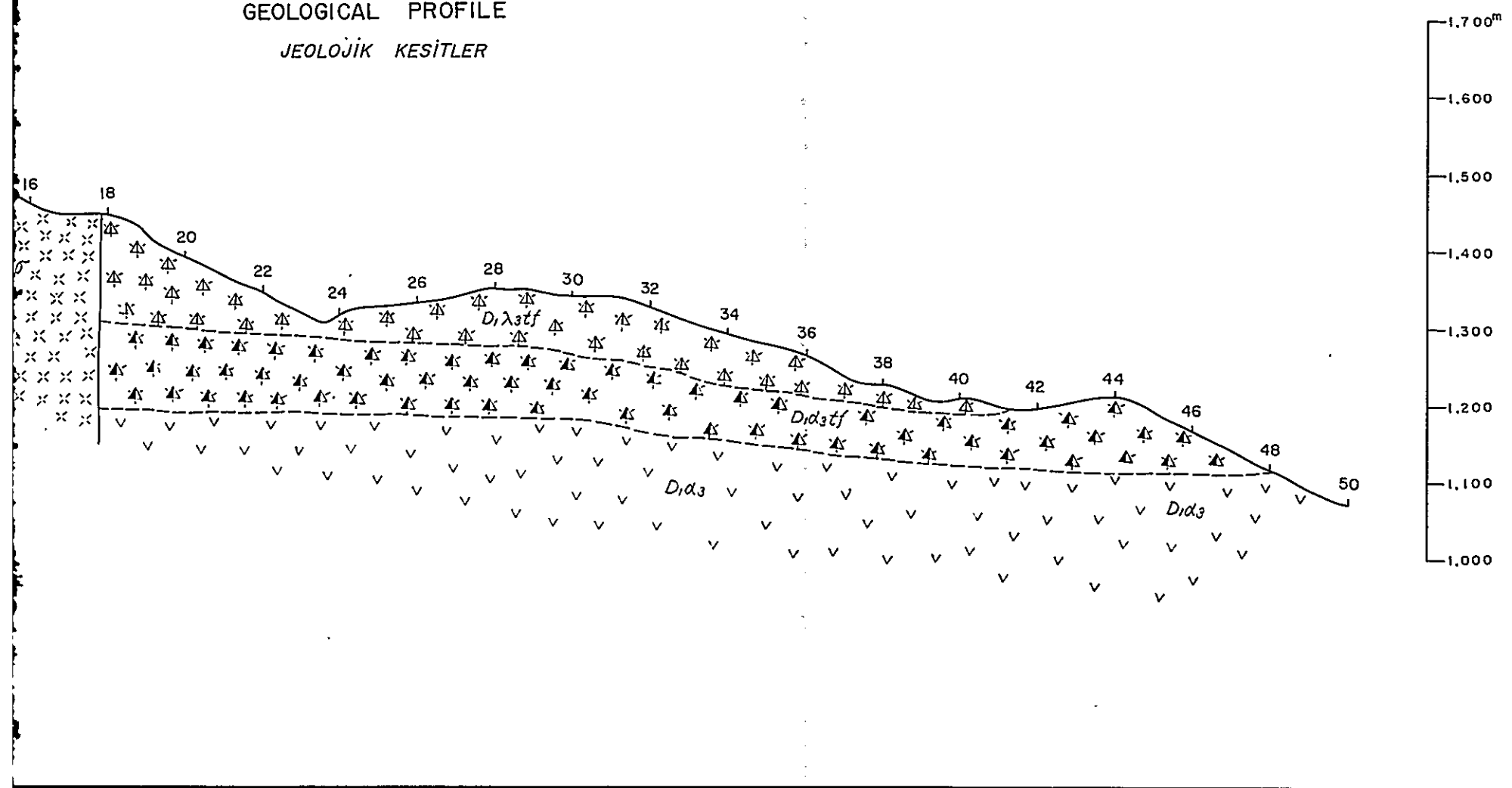


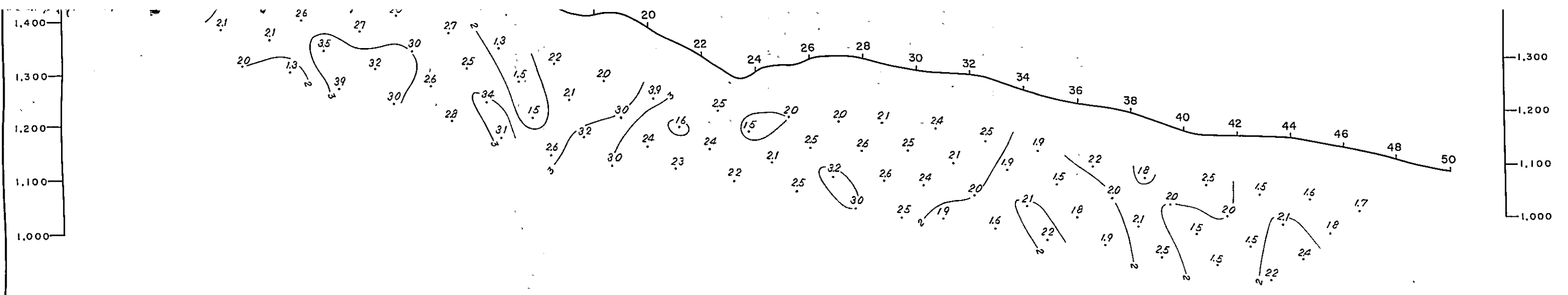
GEOLOGICAL PROFILE
 JEOLÖJİK KESİTLER



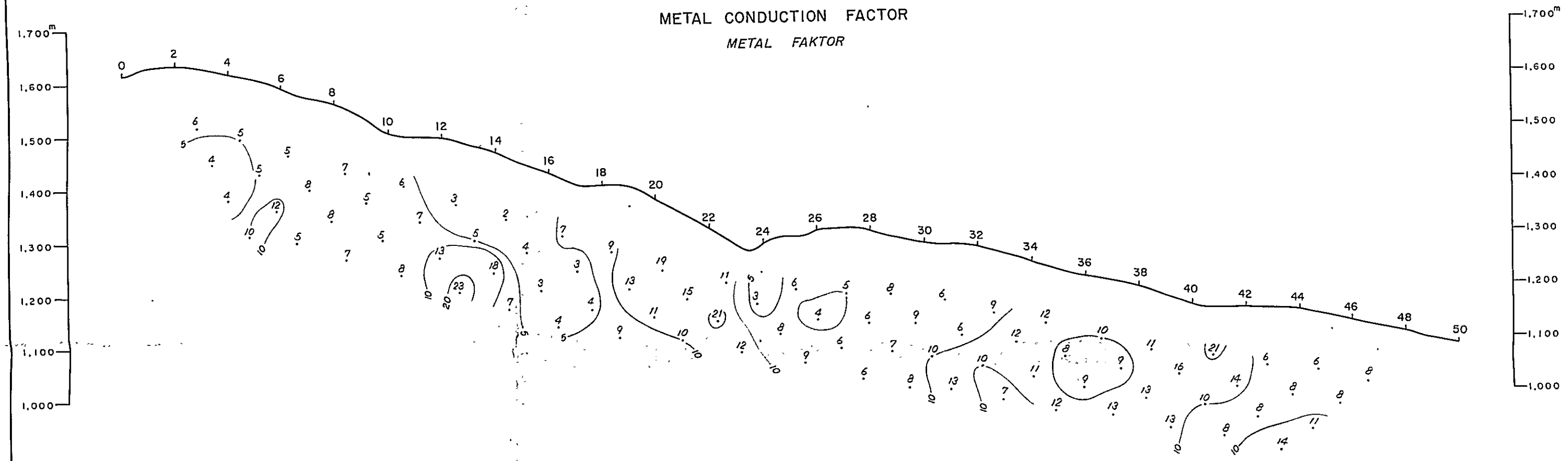


GEOLOGICAL PROFILE
 JEOLÖJİK KESİTLER

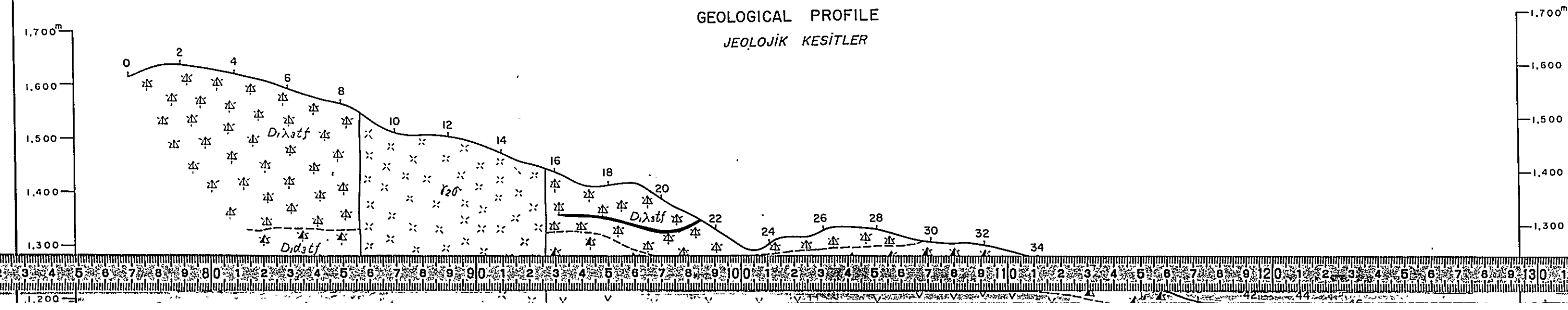


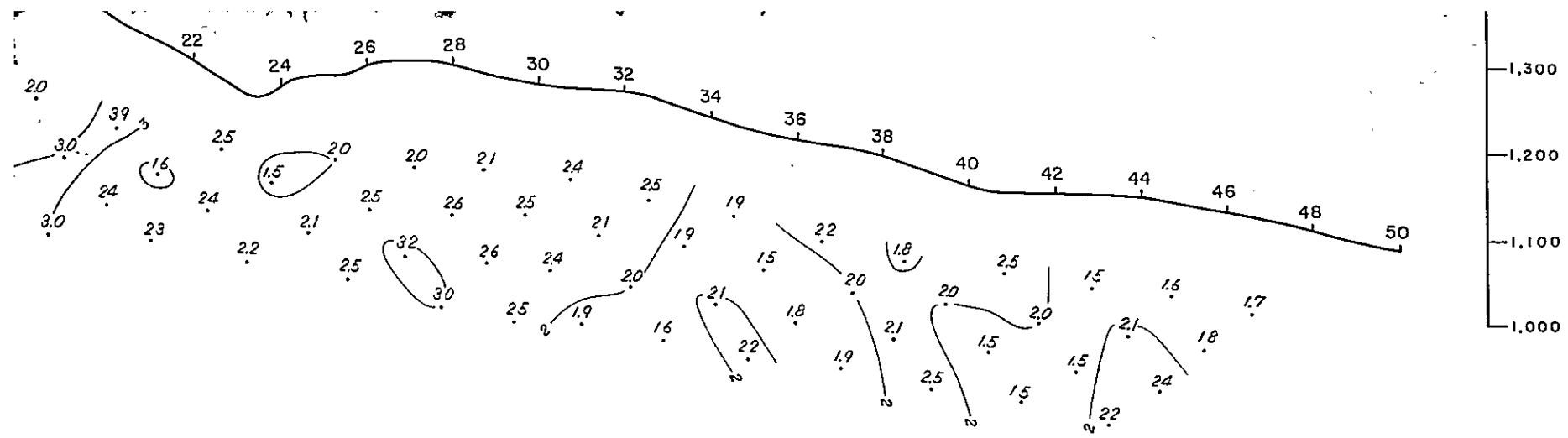


METAL CONDUCTION FACTOR
METAL FAKTOR

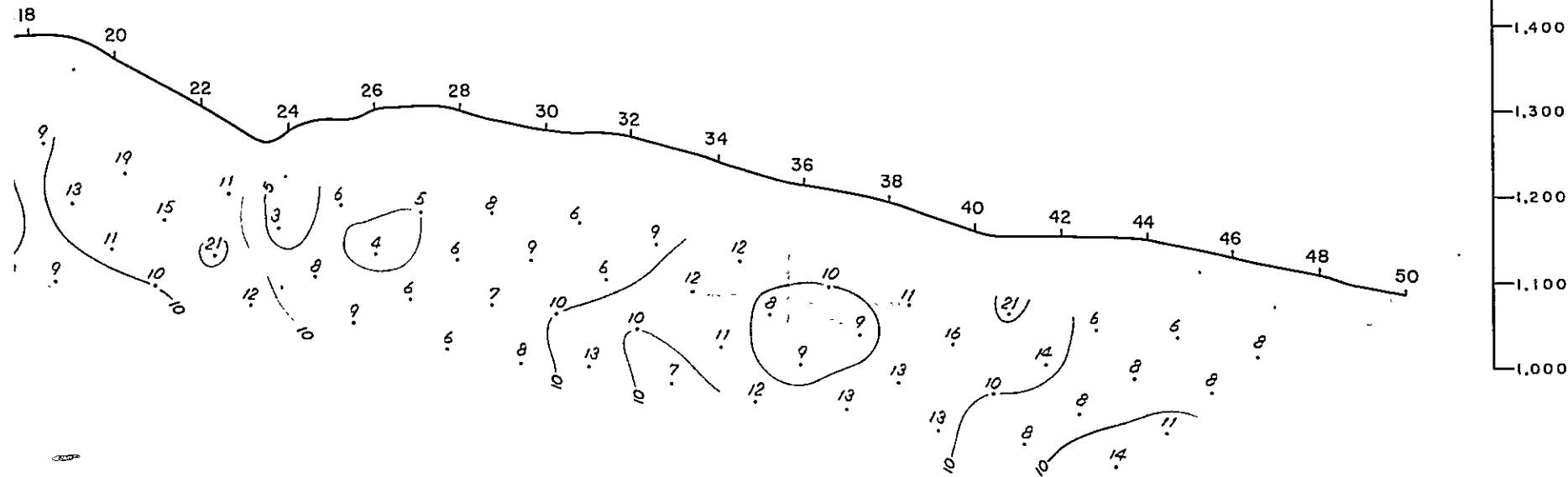


GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER

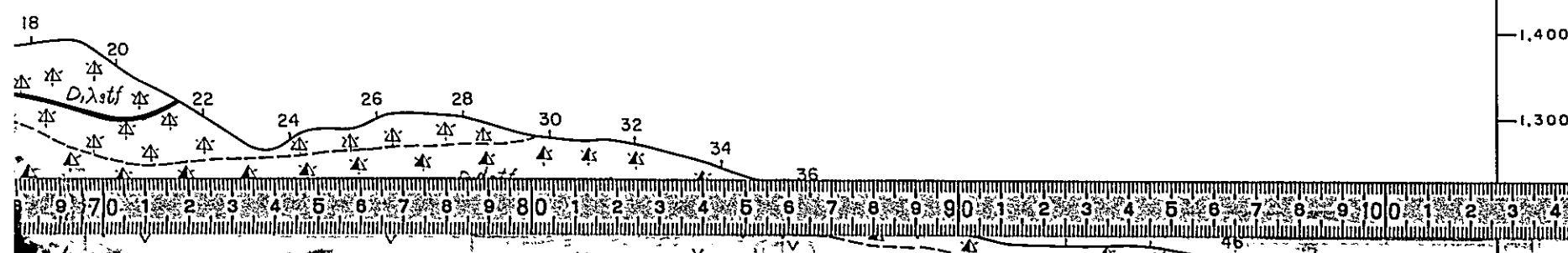



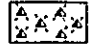

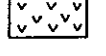
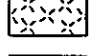
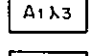



METAL CONDUCTION FACTOR
METAL FAKTÖR



GEOLOGICAL PROFILE
JEOLJİK KESİTLER



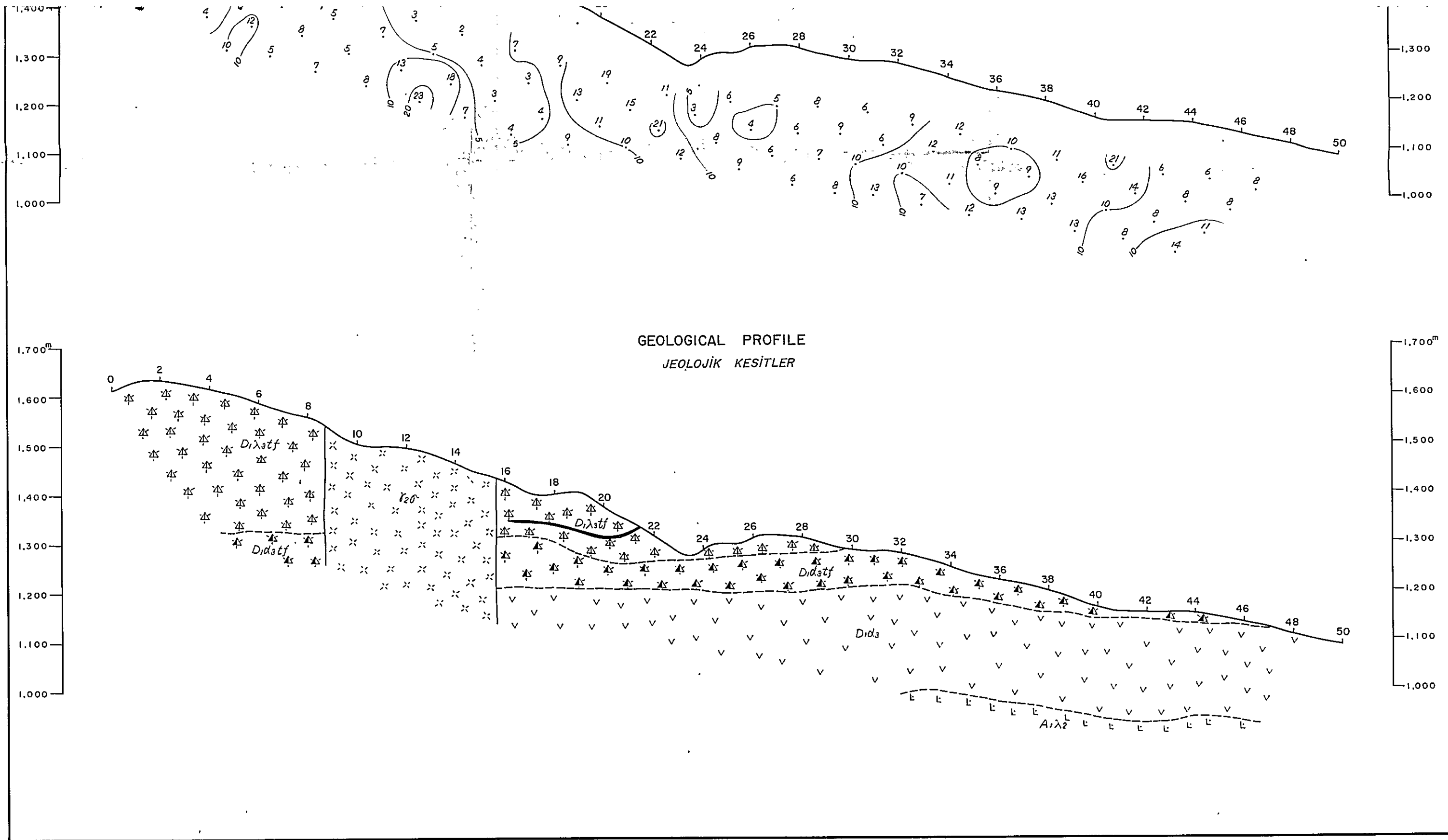
-  andesite
andezit
 -  andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf brey
 -  basalt
bazalt
 -  andesite
andezit
 -  quartz diorite
kuvars diorit
 -  A1 A3 name of rock facies based on member
 -  ore horizon
ceher seviye
- Intrusive rocks
Intruzifler

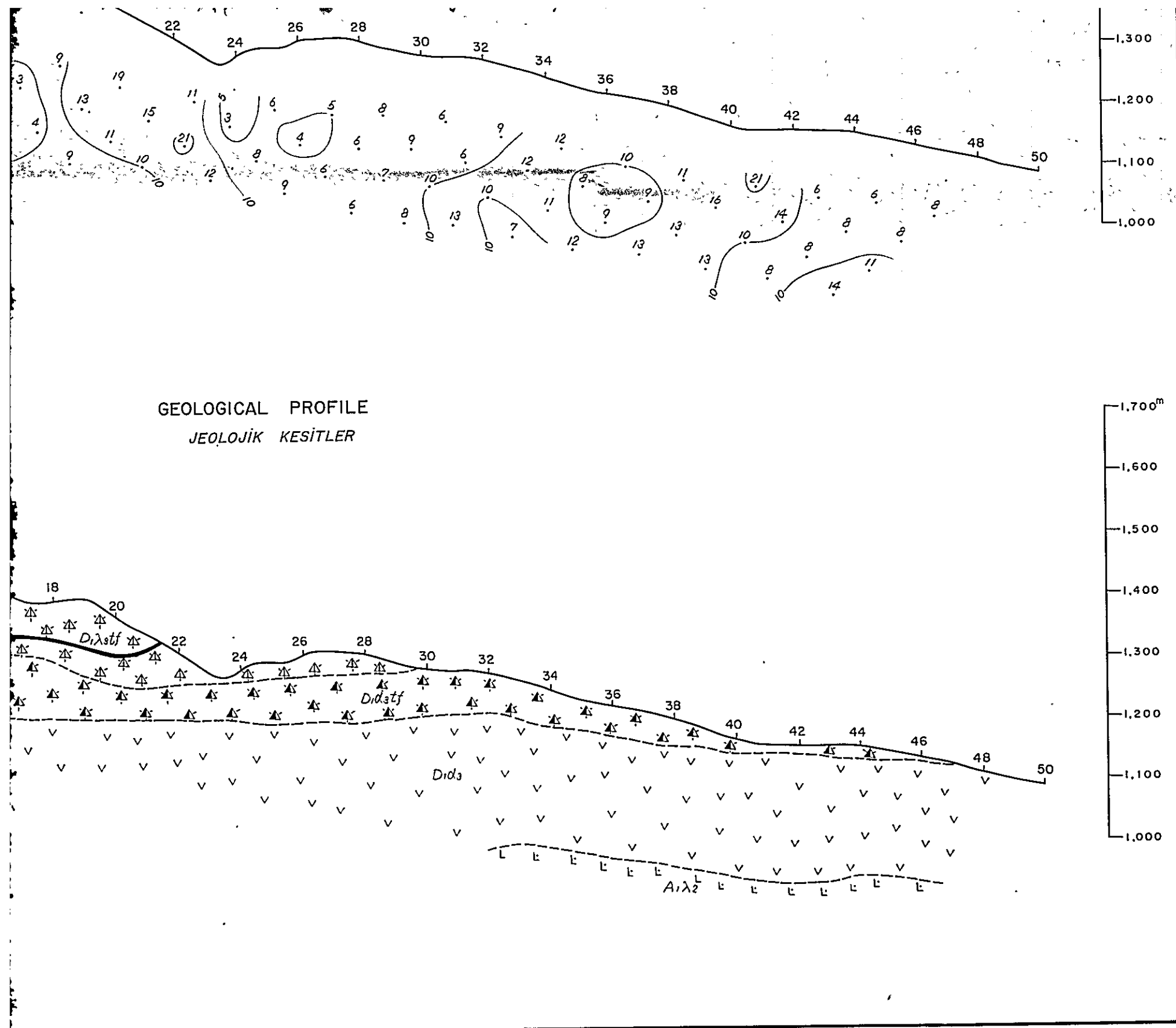
1,300
1,200
1,100
1,000

1,700m
1,600
1,500
1,400
1,300
1,200
1,100
1,000

1,700m
1,600
1,500
1,400
1,300







GEOLOGICAL PROFILE
 JEOLÖJİK KESİTLER



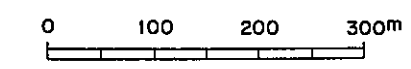
PL-9-6

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY

PHASE III

CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS K LINE
KEN DERE · FOL DERE
IP KESİTLERİ

Scale
Ölçek 1 : 5,000

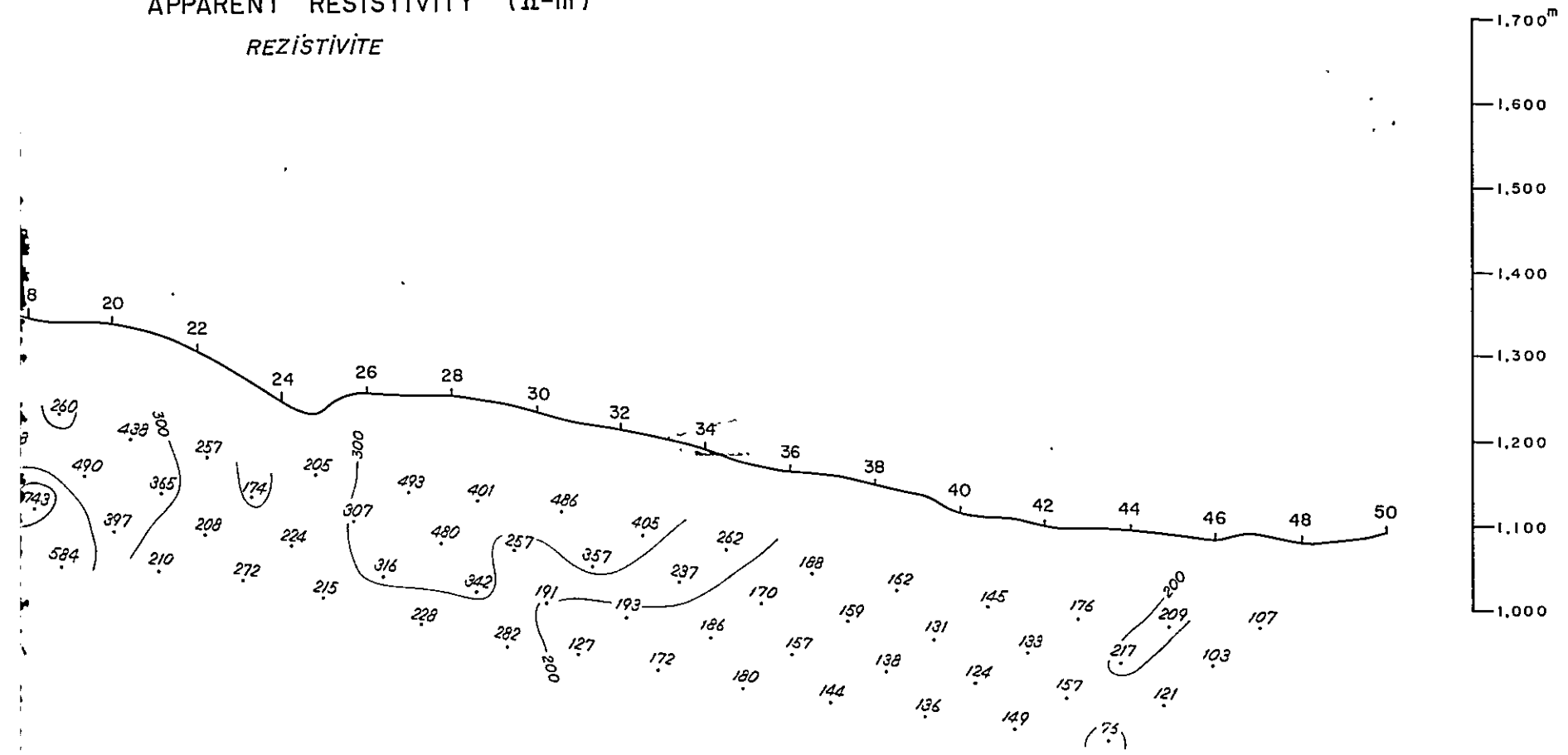


METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

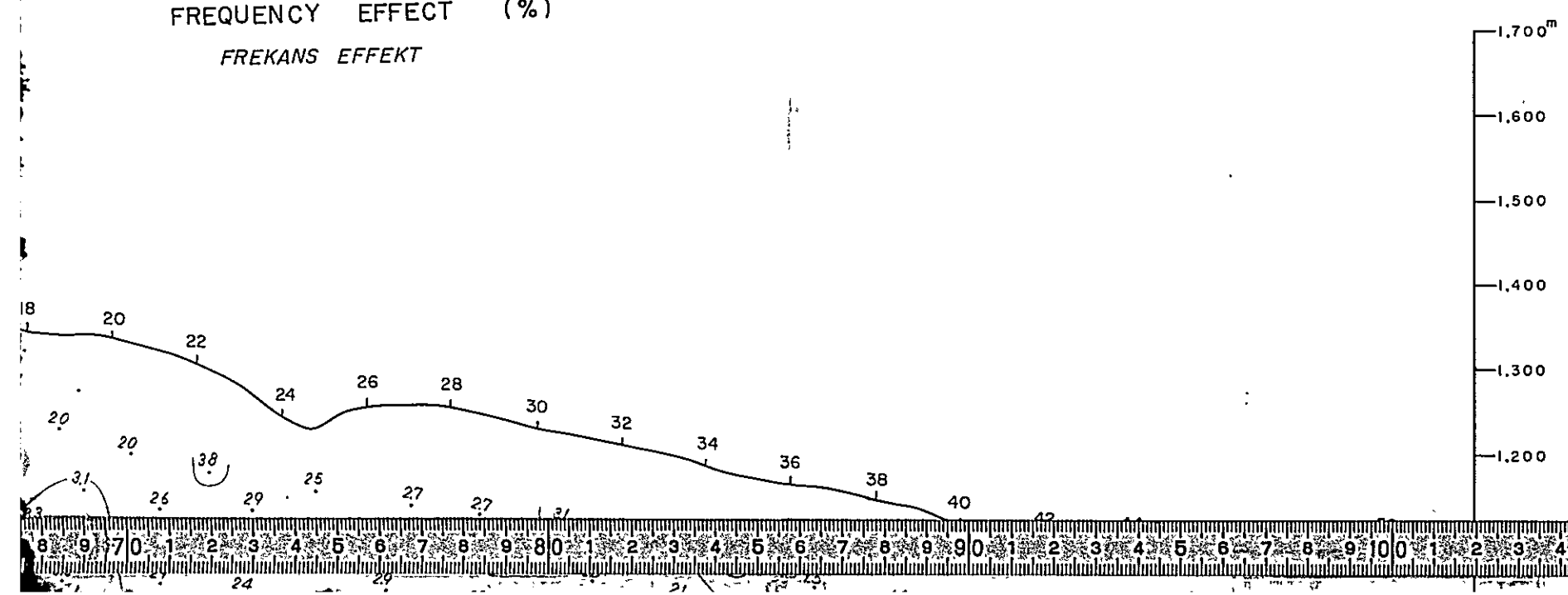
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd.

APPARENT RESISTIVITY (Ω -m)
REZİSTİVİTE

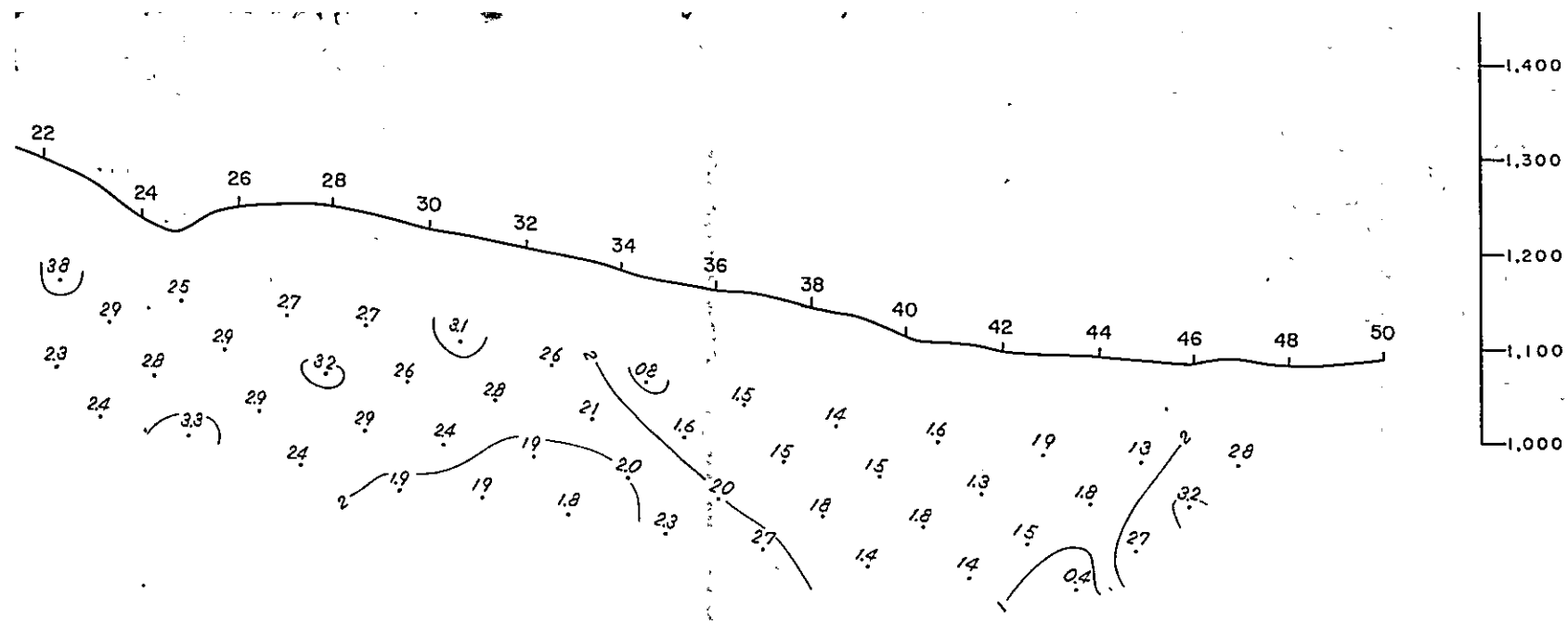


FREQUENCY EFFECT (%)
FREKANS EFFEKT

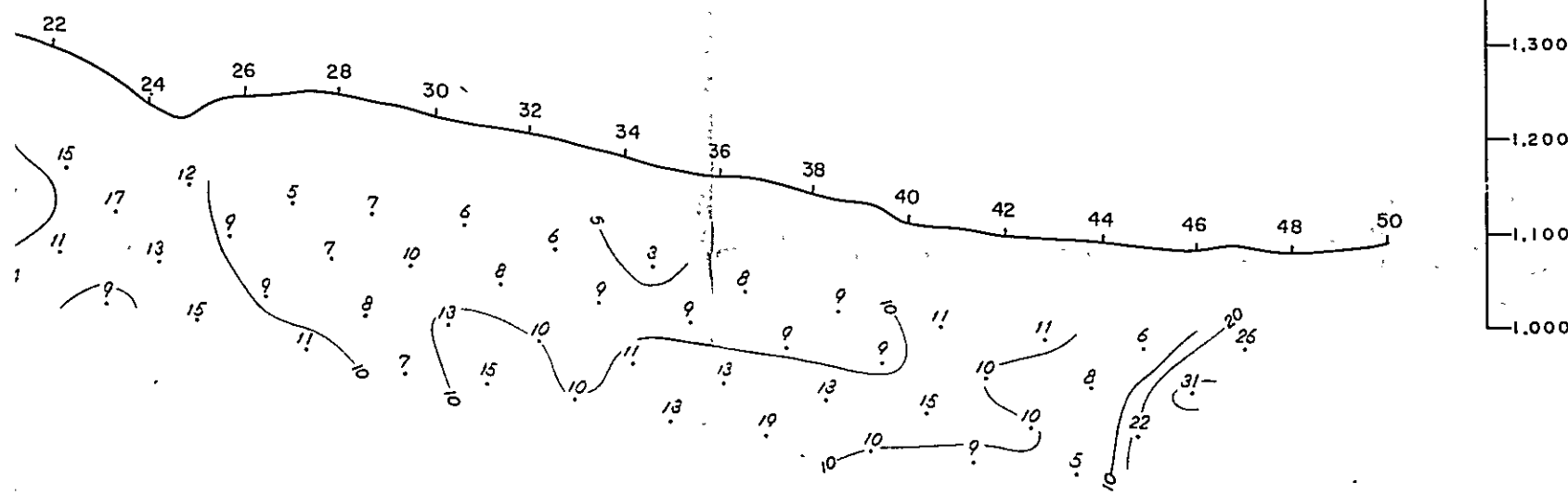


LEGEND
LEJAND

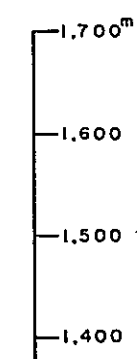
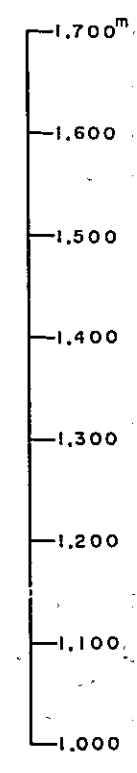
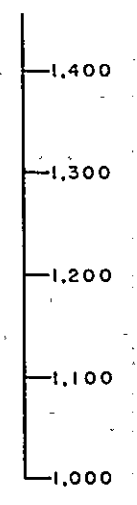
- dacite
dazit
- dacite tuff, lapilli tuff, tuff breccia
dazit tuf, lapilli tuf, tuf brec
- andesite
andezit
- andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf brec



GEOLOGICAL PROFILE
 METAL FAKTÖR



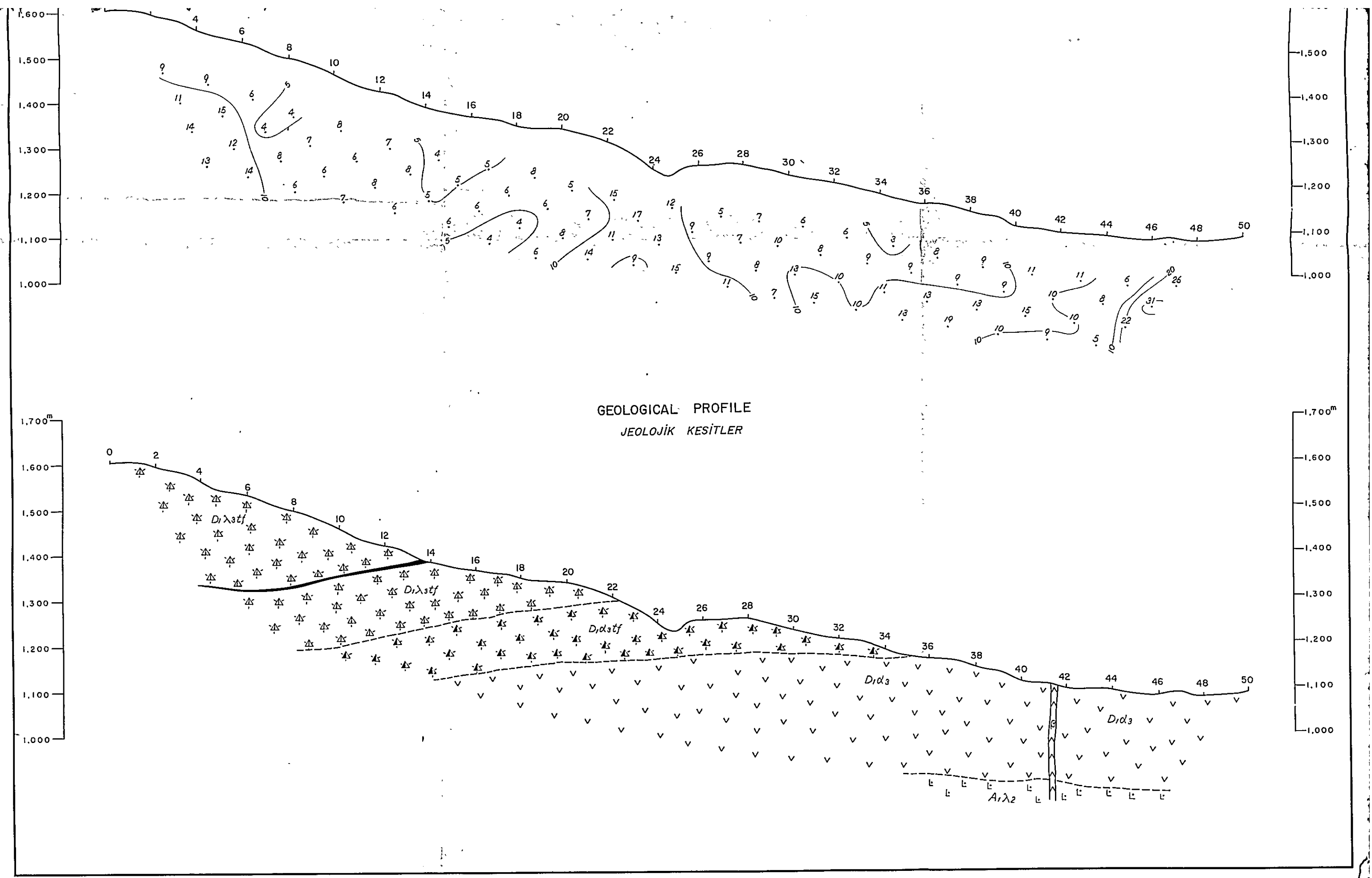
GEOLOGICAL PROFILE
 JEOLÖJİK KESİTLER

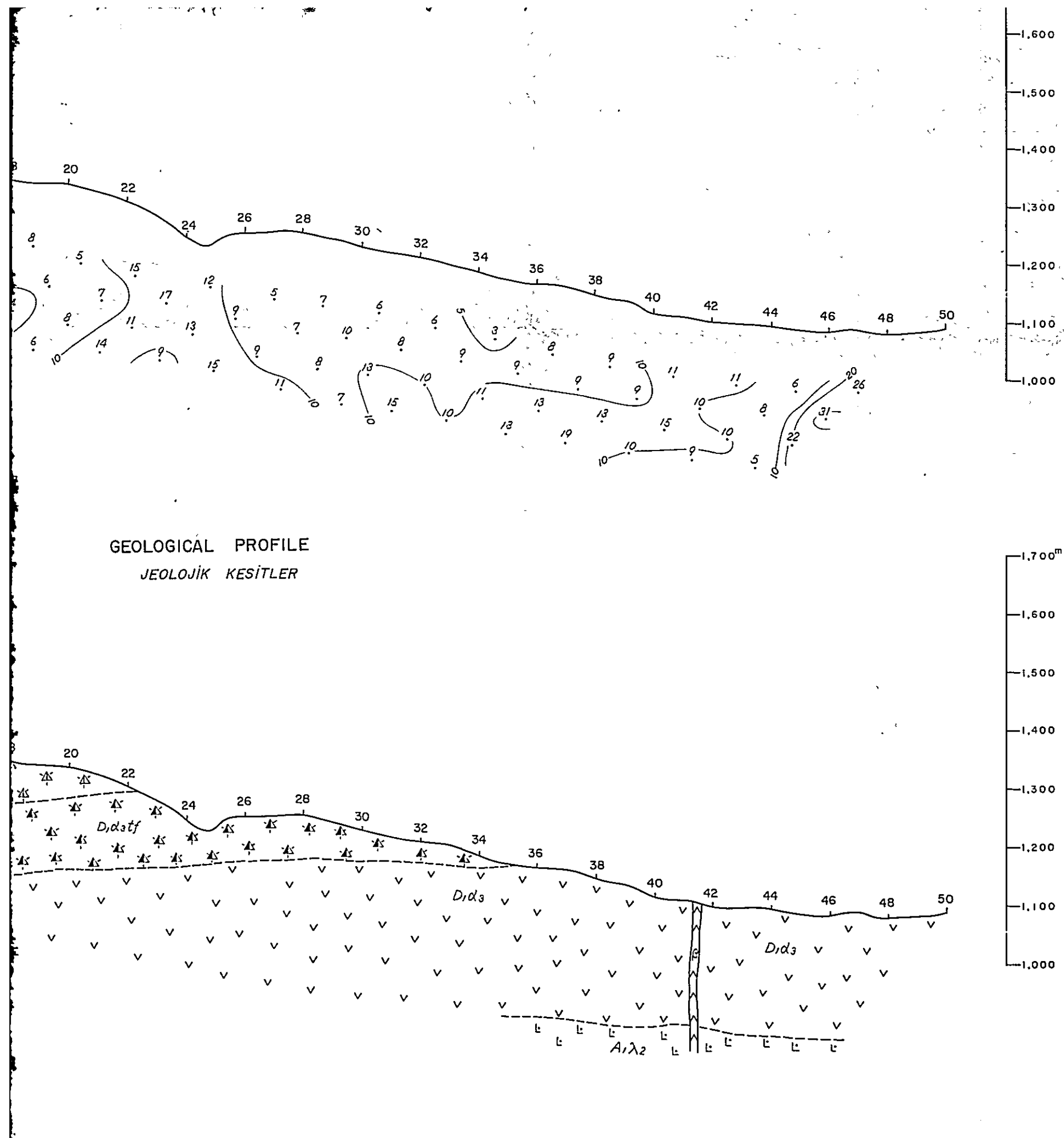


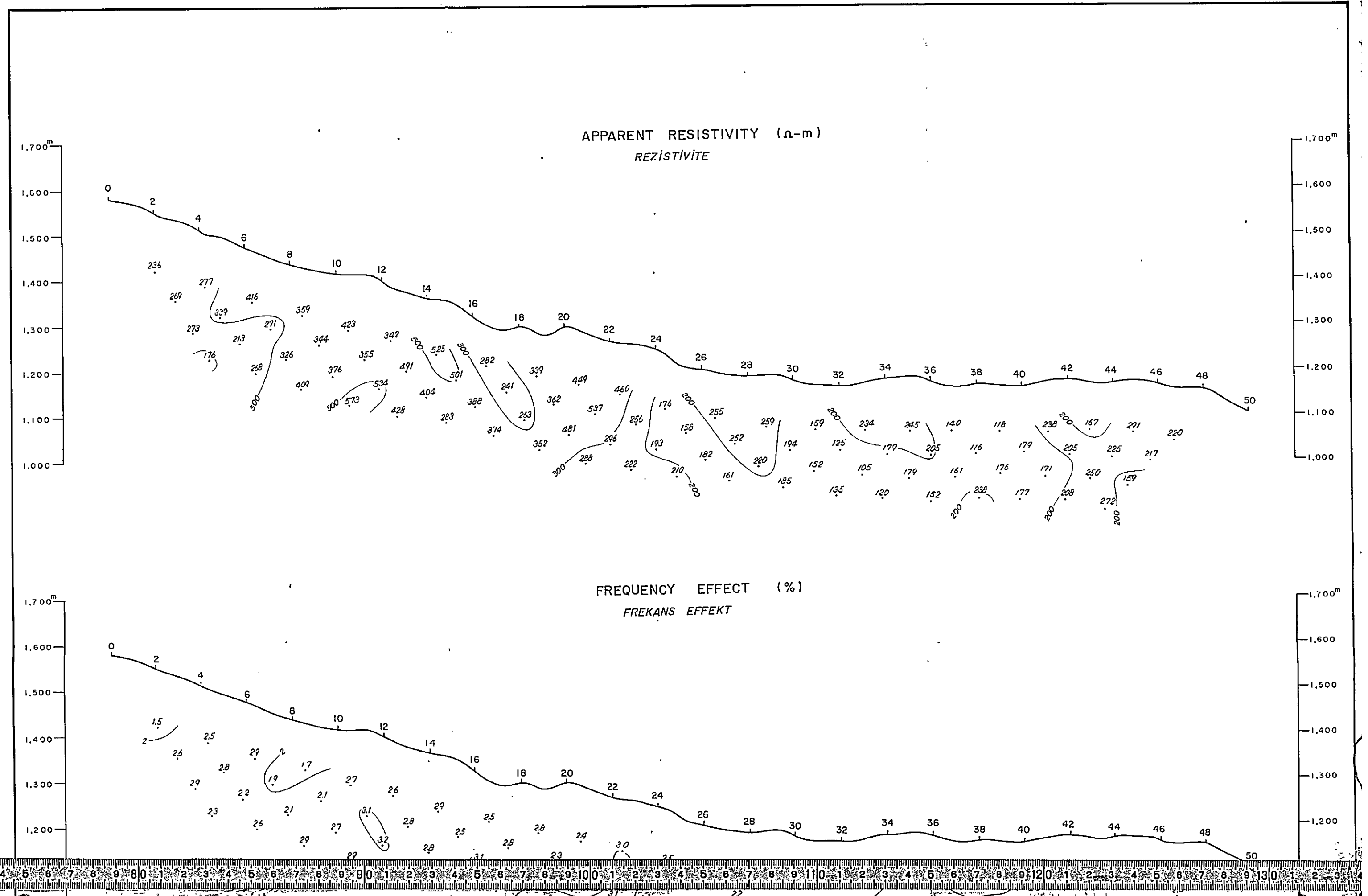
LEGEND
 LEJAND

- dacite
dazit
 - dacite tuff, lapilli tuff, tuff breccia
dazit tuf, lapilli tuf, tuf breş
 - andesite
andezit
 - andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breş
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kuvars diorit
 - name of rock facies based on member
 - ore horizon
cevher seviye
- Intrusive rocks
Intruzifler









PL-9-7

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY
PHASE III

CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS L LINE
KEN DERE FOL DERE
IP KESİTLERİ

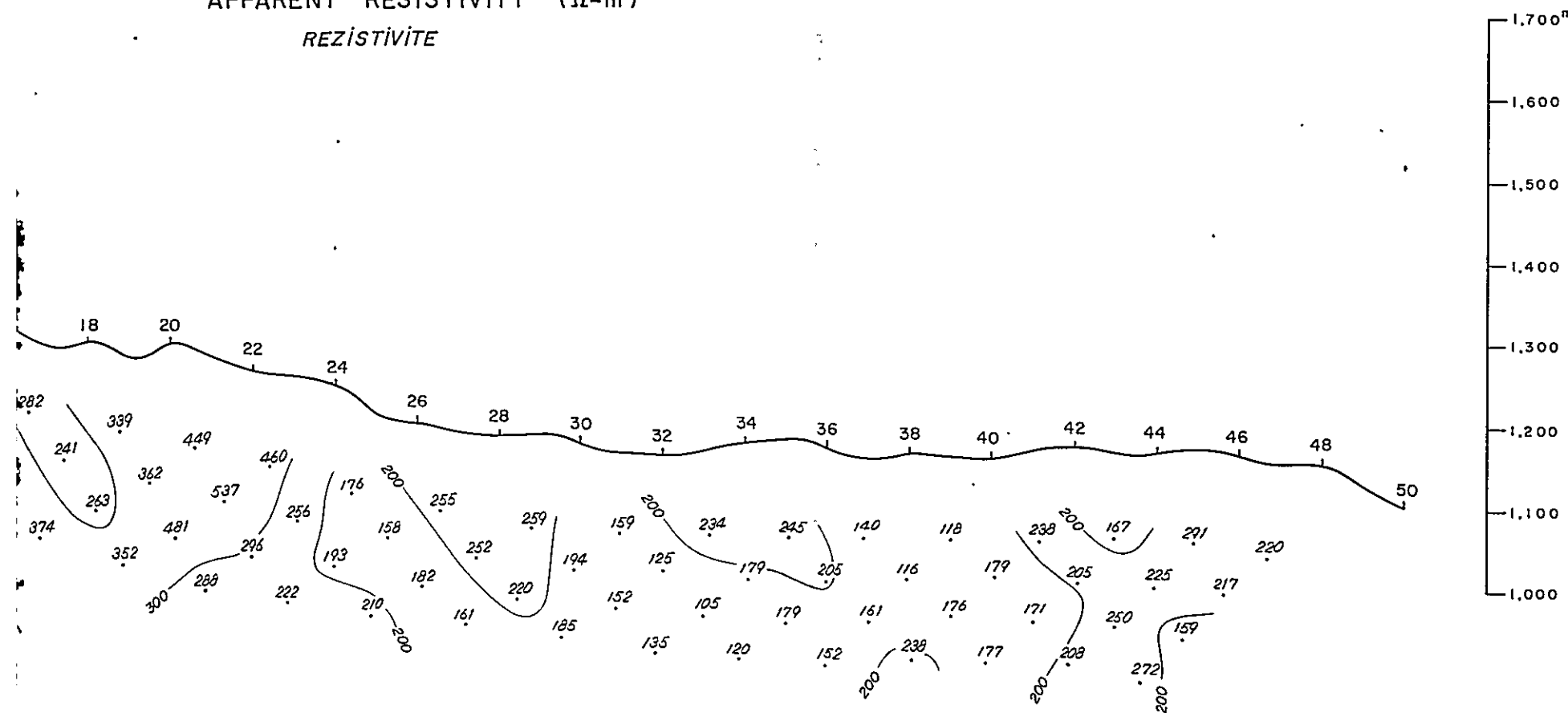
Scale
Ölçek 1 : 5,000
0 100 200 300m

METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

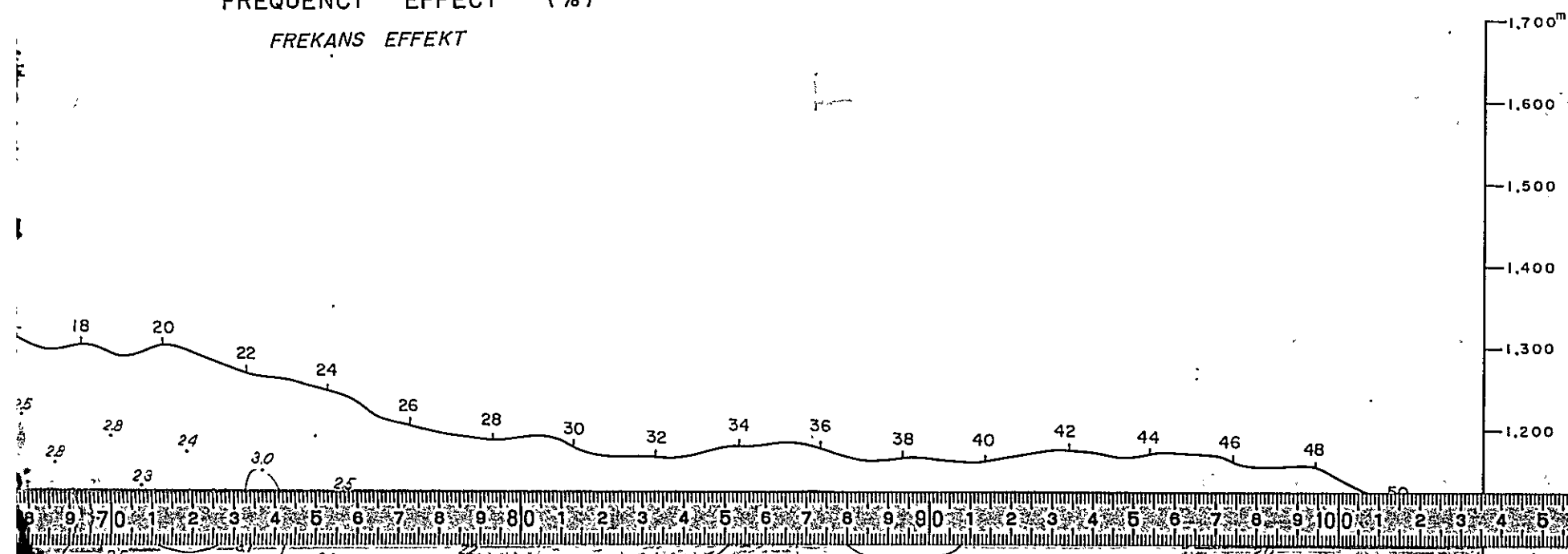
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd.

APPARENT RESISTIVITY (Ω -m)
REZİSTİVİTE

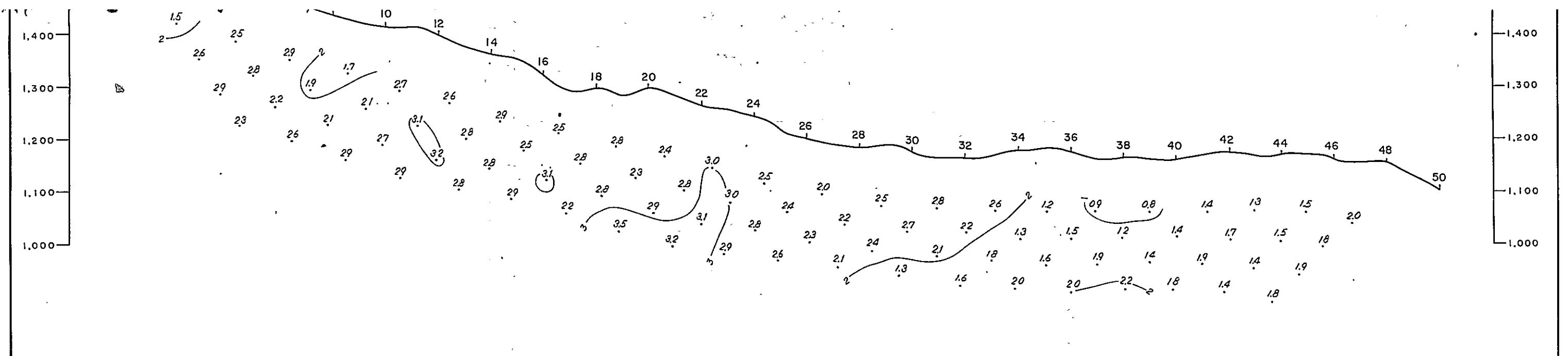


FREQUENCY EFFECT (%)
FREKANS EFFEKT

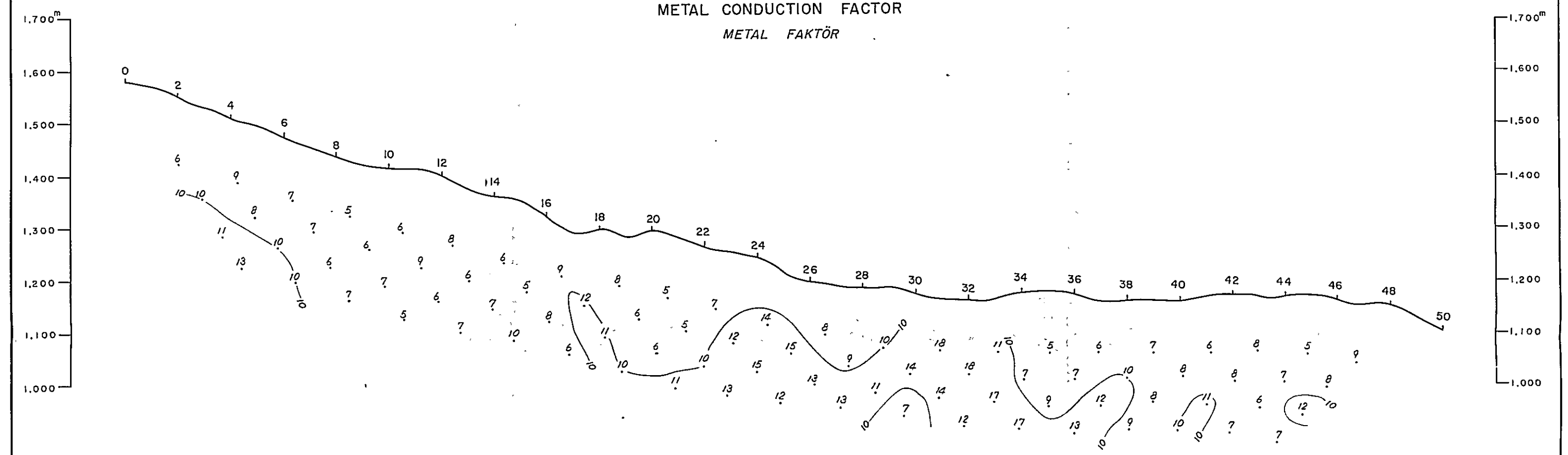


LEGEND
LEJAND

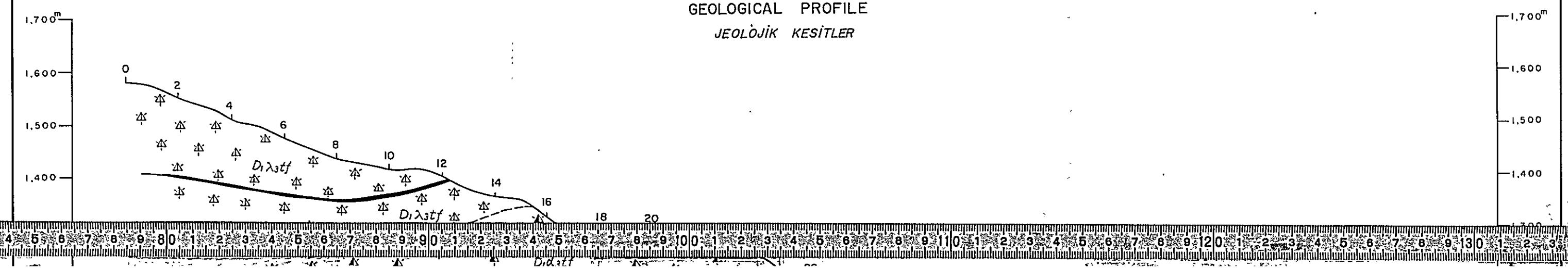
- dacite
dazit
- dacite tuff, lapilli tuff, tuff breccia
dazit tuf, lapilli tuf, tuf breç
- andesite
andezit
- andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breç
- basalt

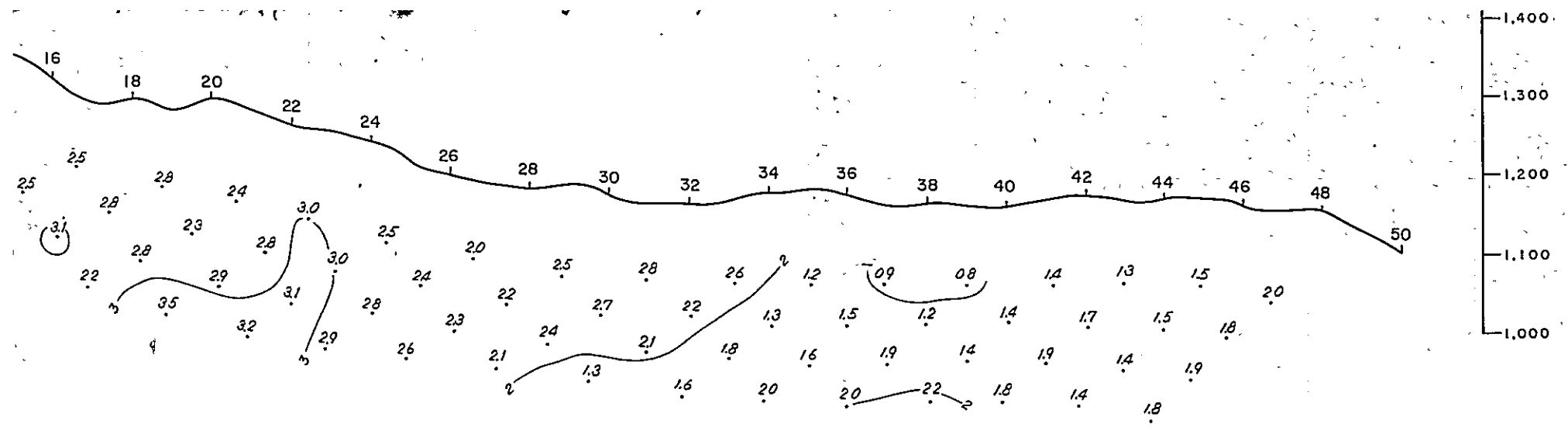


METAL CONDUCTION FACTOR
METAL FAKTÖR

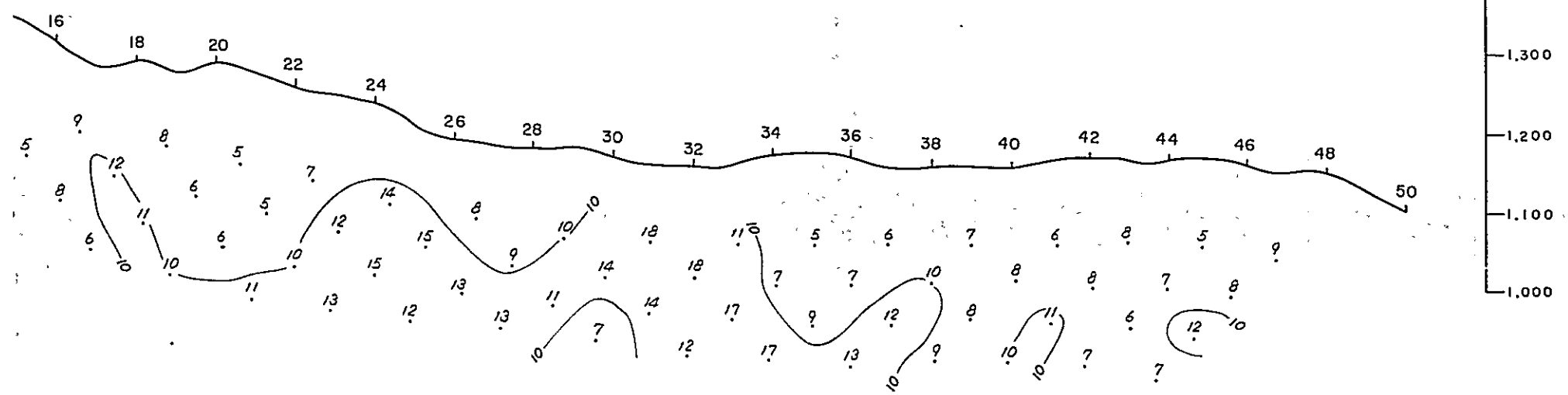


GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER





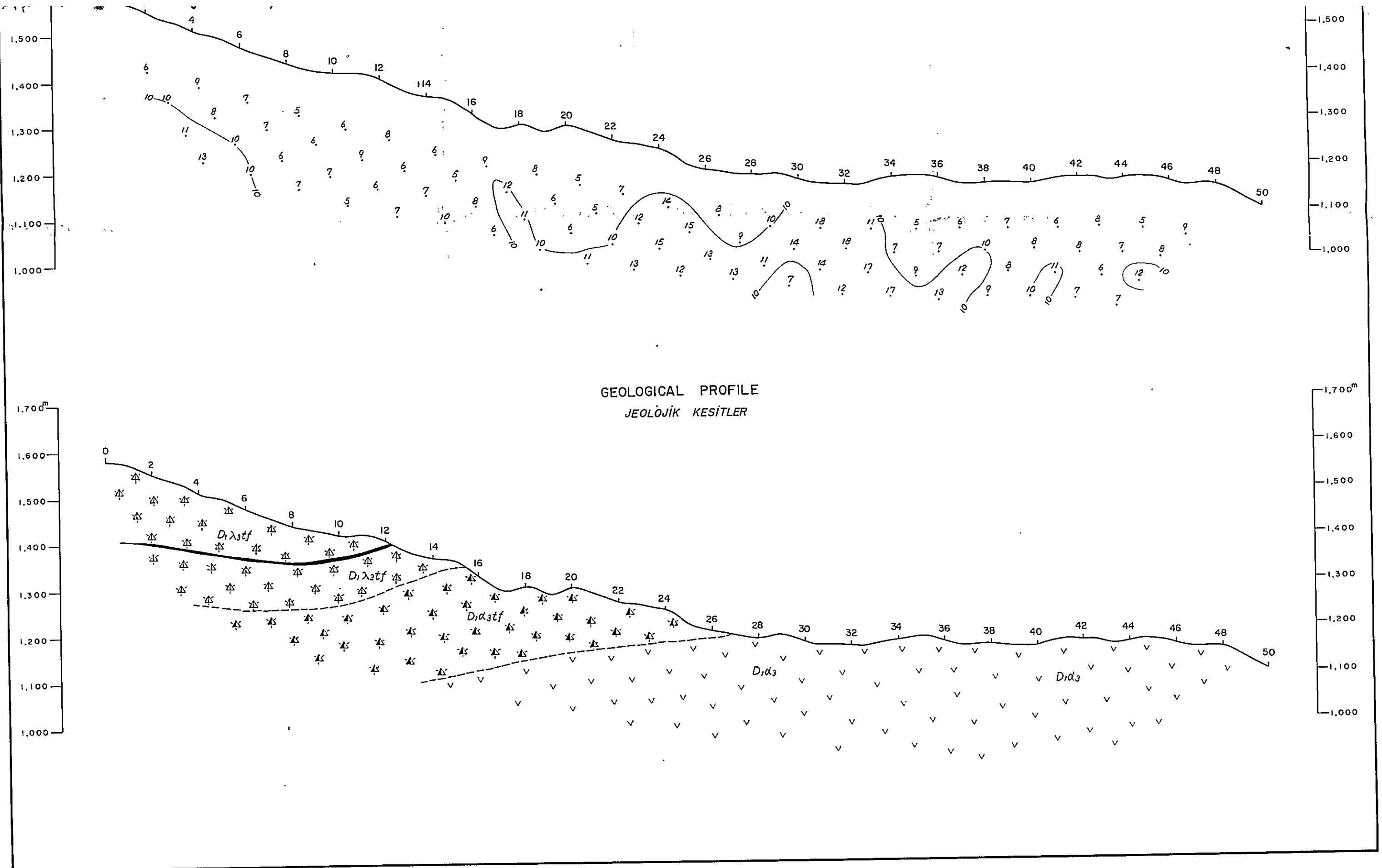
METAL CONDUCTION FACTOR
METAL FAKTÖR

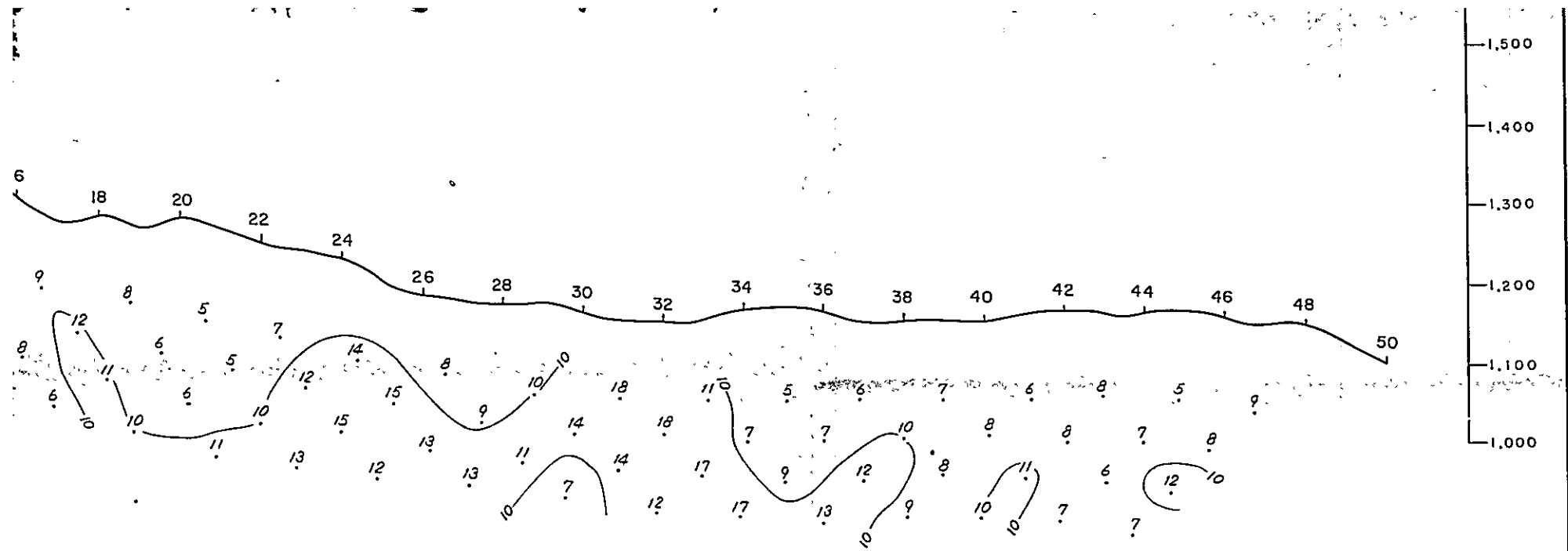


GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER

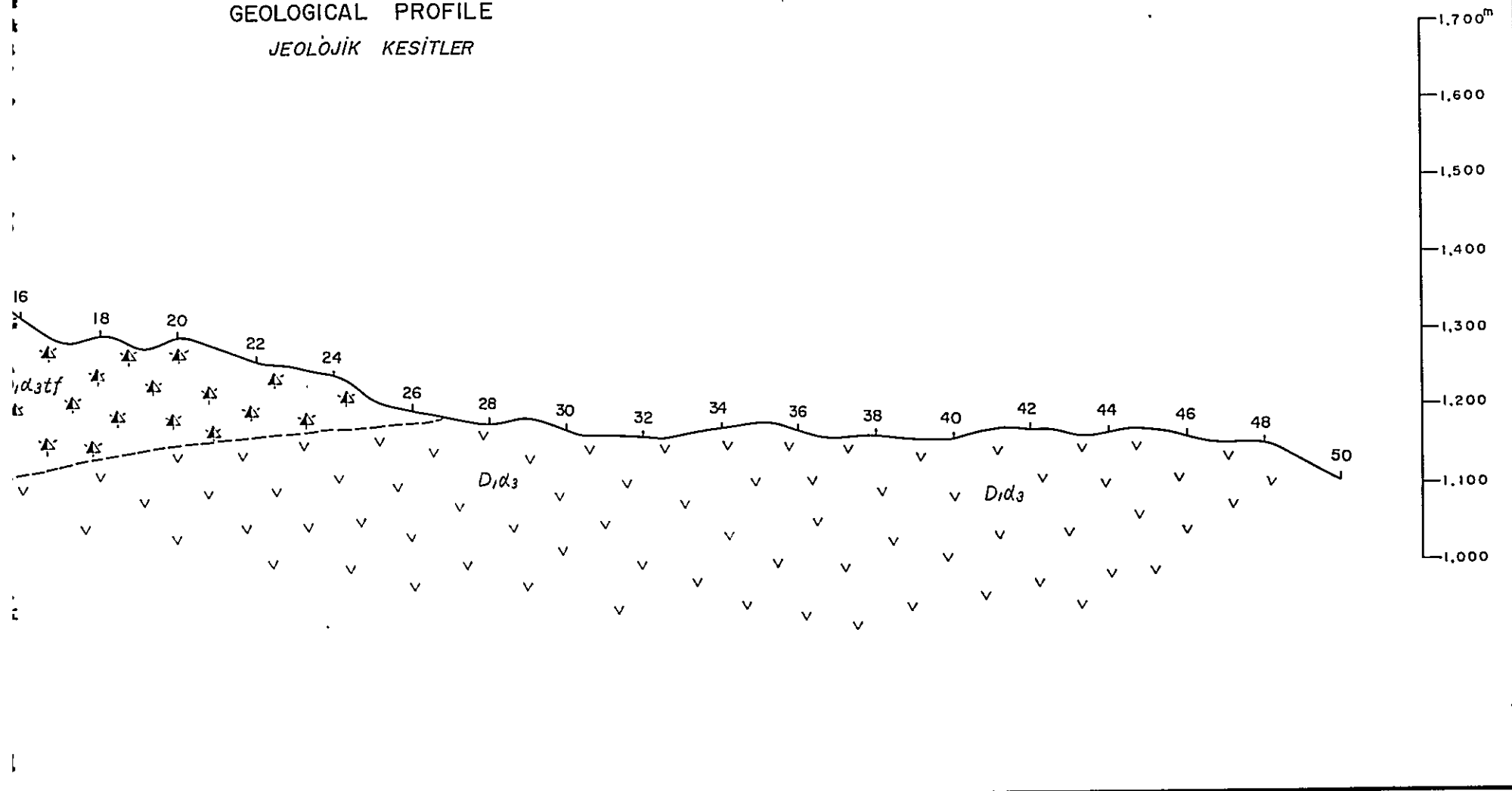
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dazit
 - dacite tuff, lapilli tuff, tuff breccia
dazit tuf, lapilli tuf, tuf breç
 - andesite
andezit
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andezit tuf, lapilli tuf, tuf breç
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kuvarlı diorit
 - name of rock facies based on member
 - ore horizon
cevher seviye
- Intrusive rocks
Intruzifler







GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER



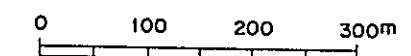
PL-9-8

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY

PHASE III

CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS M LINE
KEN DERE-FOL DERE
IP KESİTLERİ

Scale
Ölçek 1 : 5,000

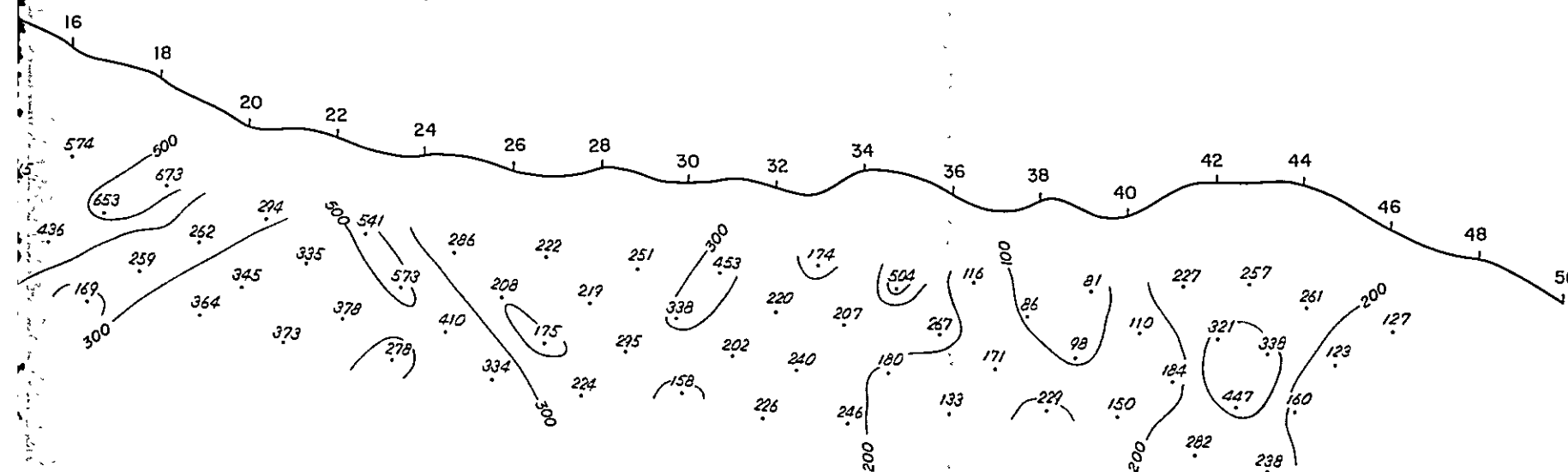


METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

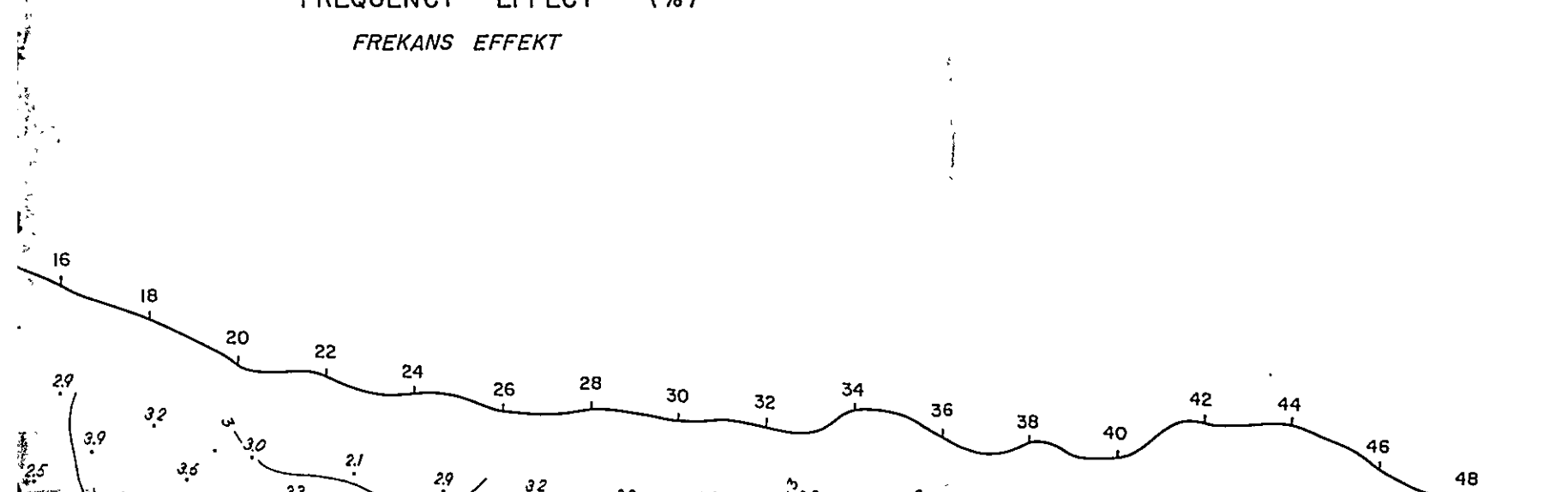
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd.

APPARENT RESISTIVITY (Ω -m)
REZİSTİVİTE

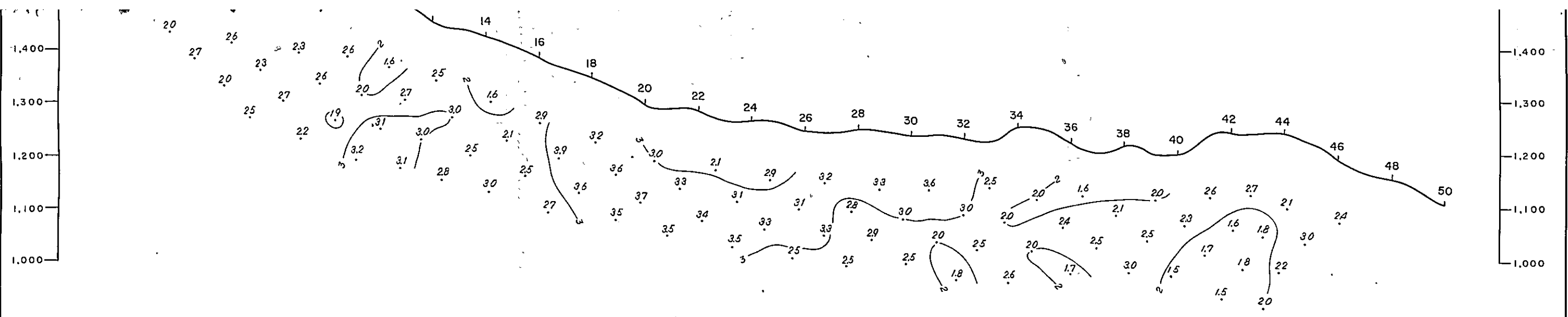


FREQUENCY EFFECT (%)
FREKANS EFFEKT

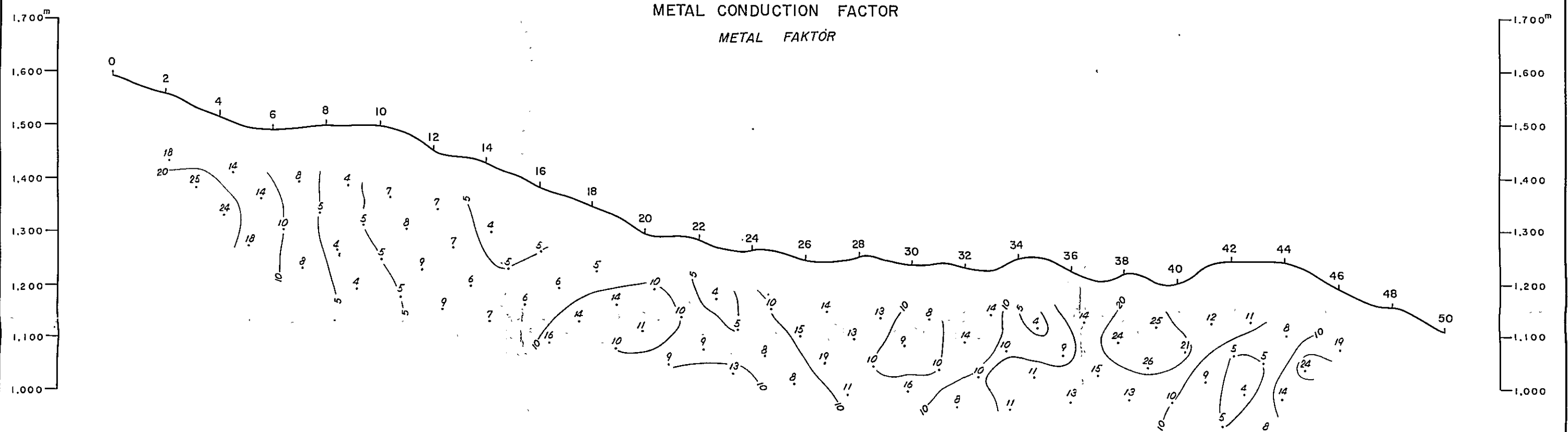


LEGEND
LEJAND

- dacite
dazit
- dacite tuff, lapilli tuff, tuff breccia
dazit tuf, lapilli tuf, tuf breş
- andesite
andezit
- andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breş
- basalt
bazalt

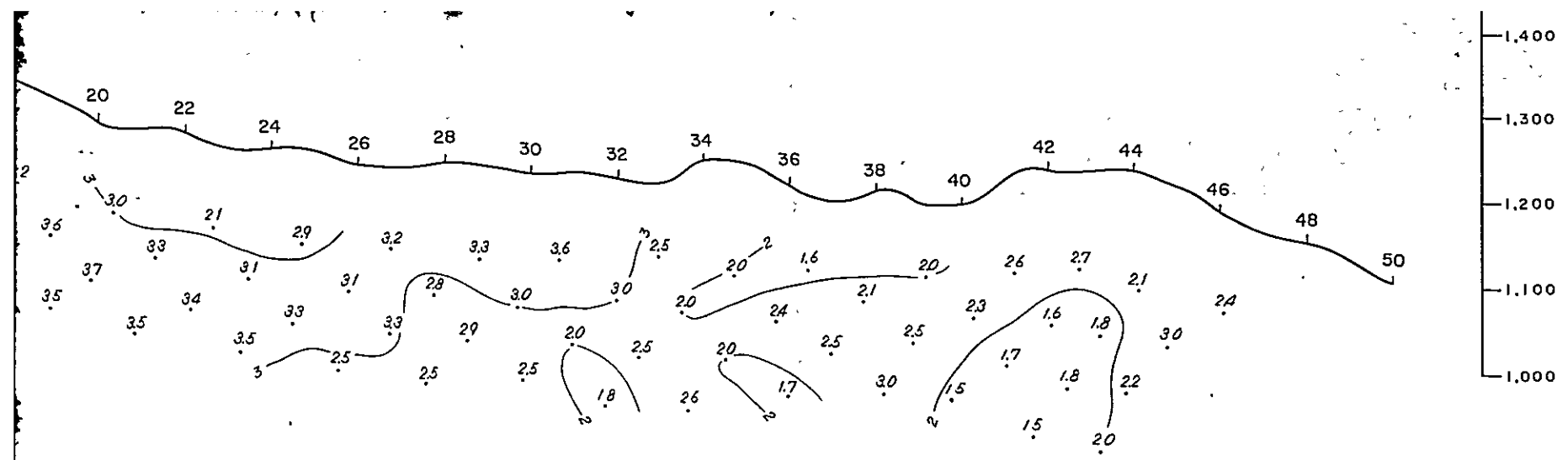


METAL CONDUCTION FACTOR
METAL FAKTÖR

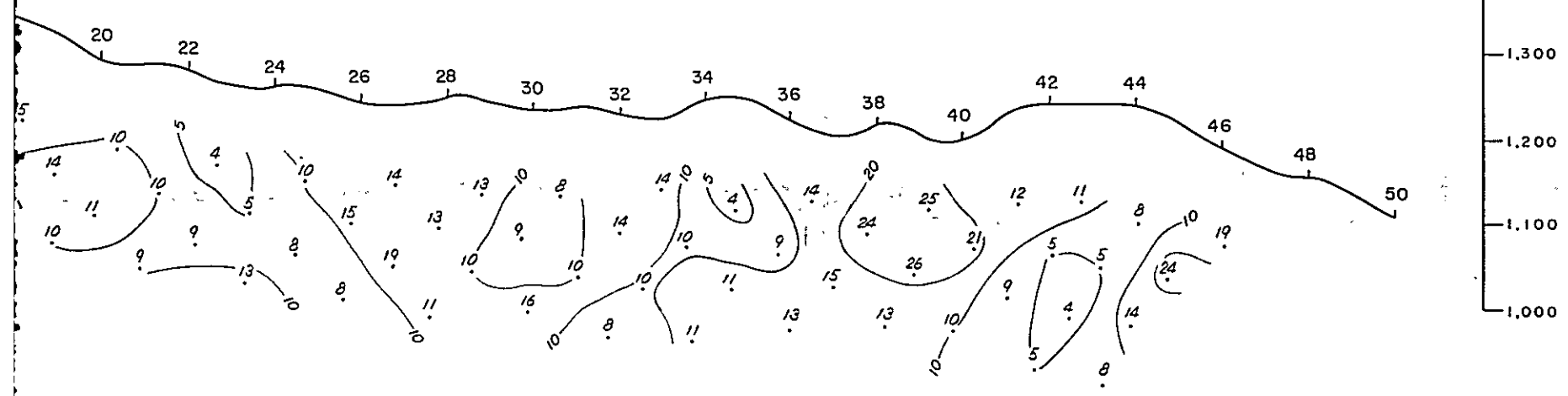


GEOLOGICAL PROFILE
JEOLUİK KESİTLER



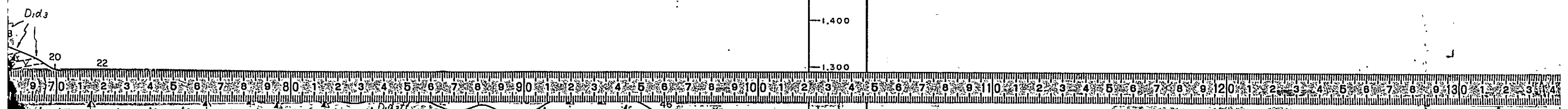
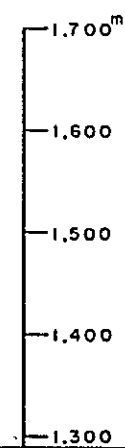
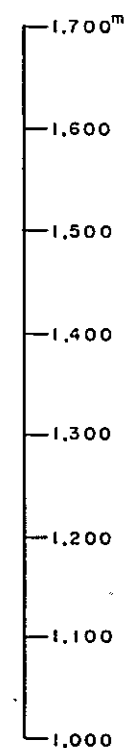


METAL CONDUCTION FACTOR
METAL FAKTOR

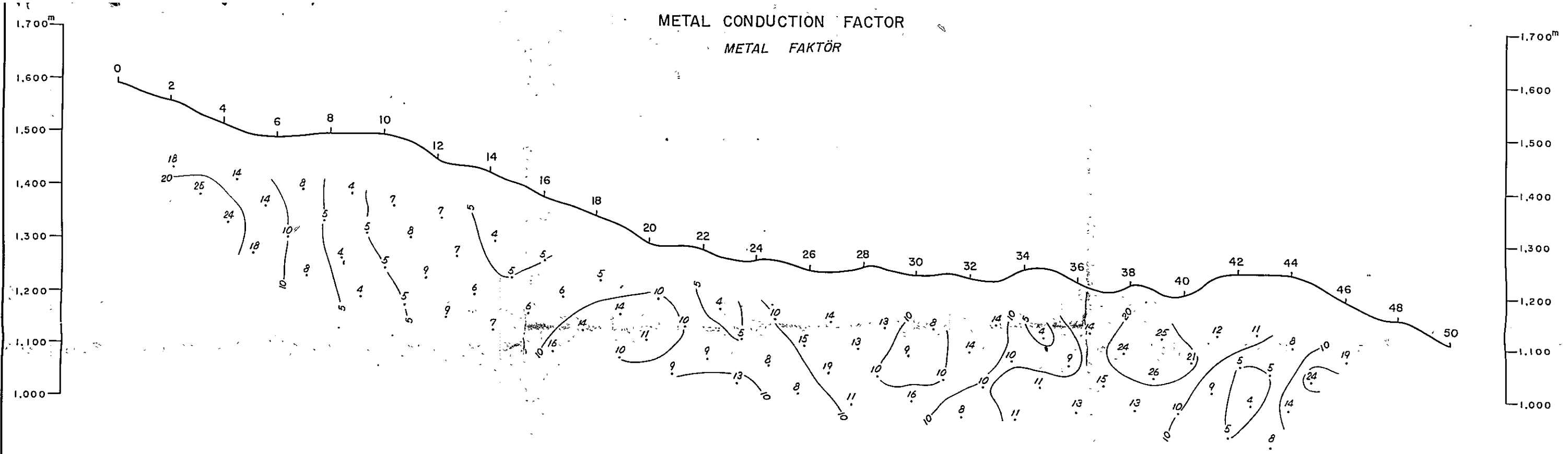


GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER

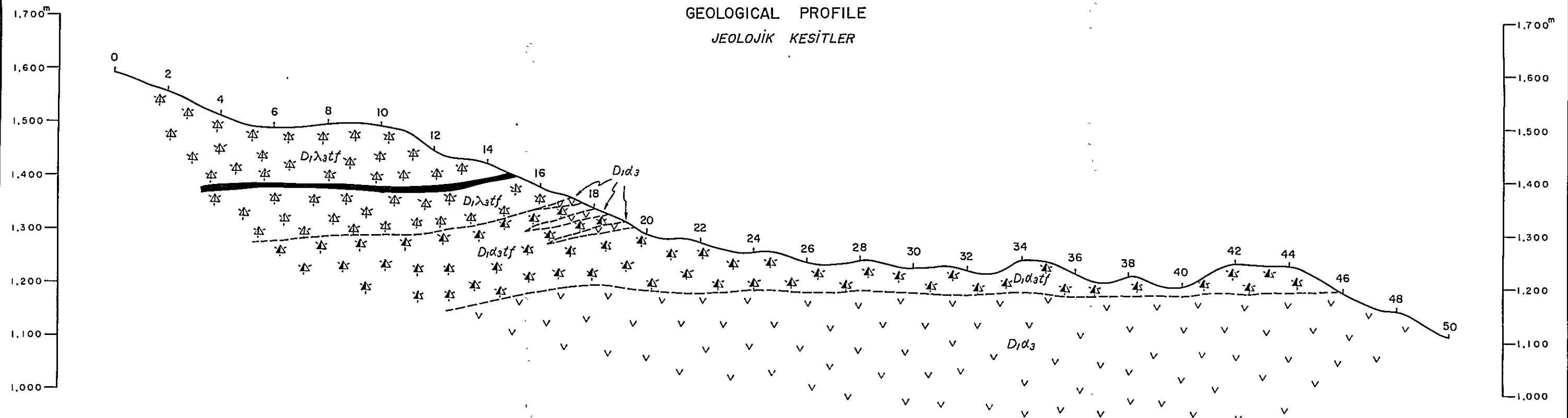
- dacite
dazit
 - dacite tuf, lapilli tuf, tuf breccia
dazit tuf, lapilli tuf, tuf breccia
 - andesite
andezit
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andezit tuf, lapilli tuf, tuf breccia
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kuvars diorit
 - name of rock facies based on member
 - ore horizon
cehler seviye
- Intrusive rocks
Intruzifler



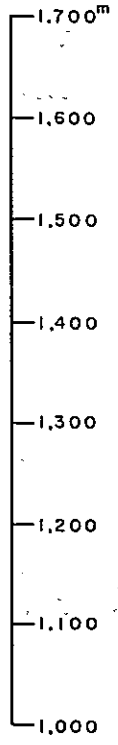
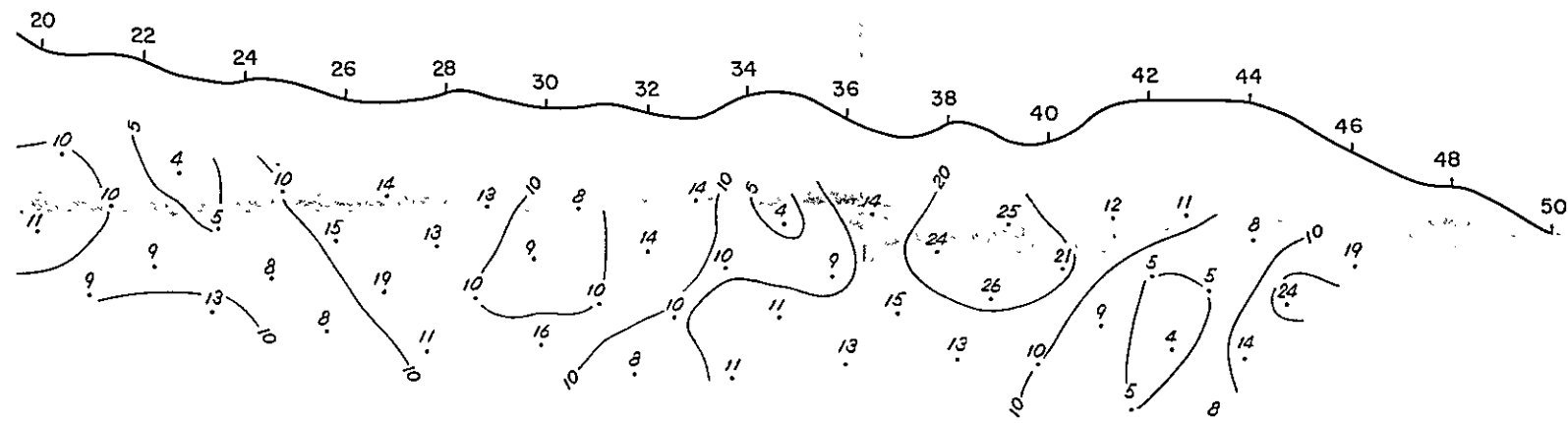
METAL CONDUCTION FACTOR
METAL FAKTÖR



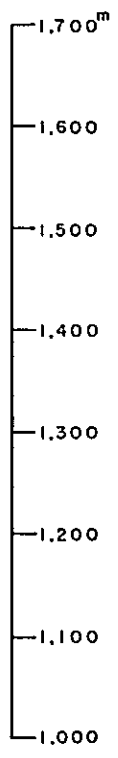
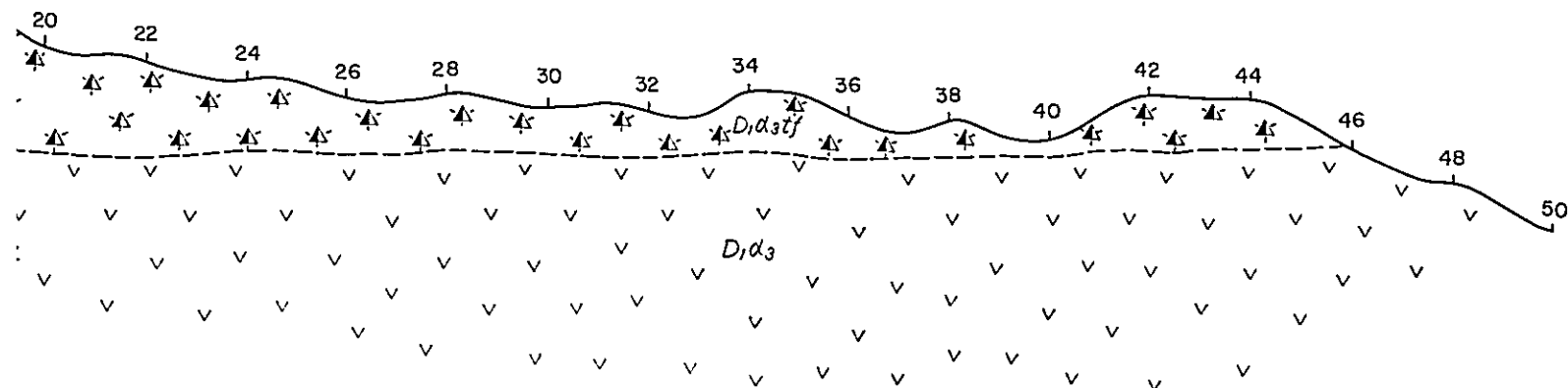
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JEOLJİK KESİTLER

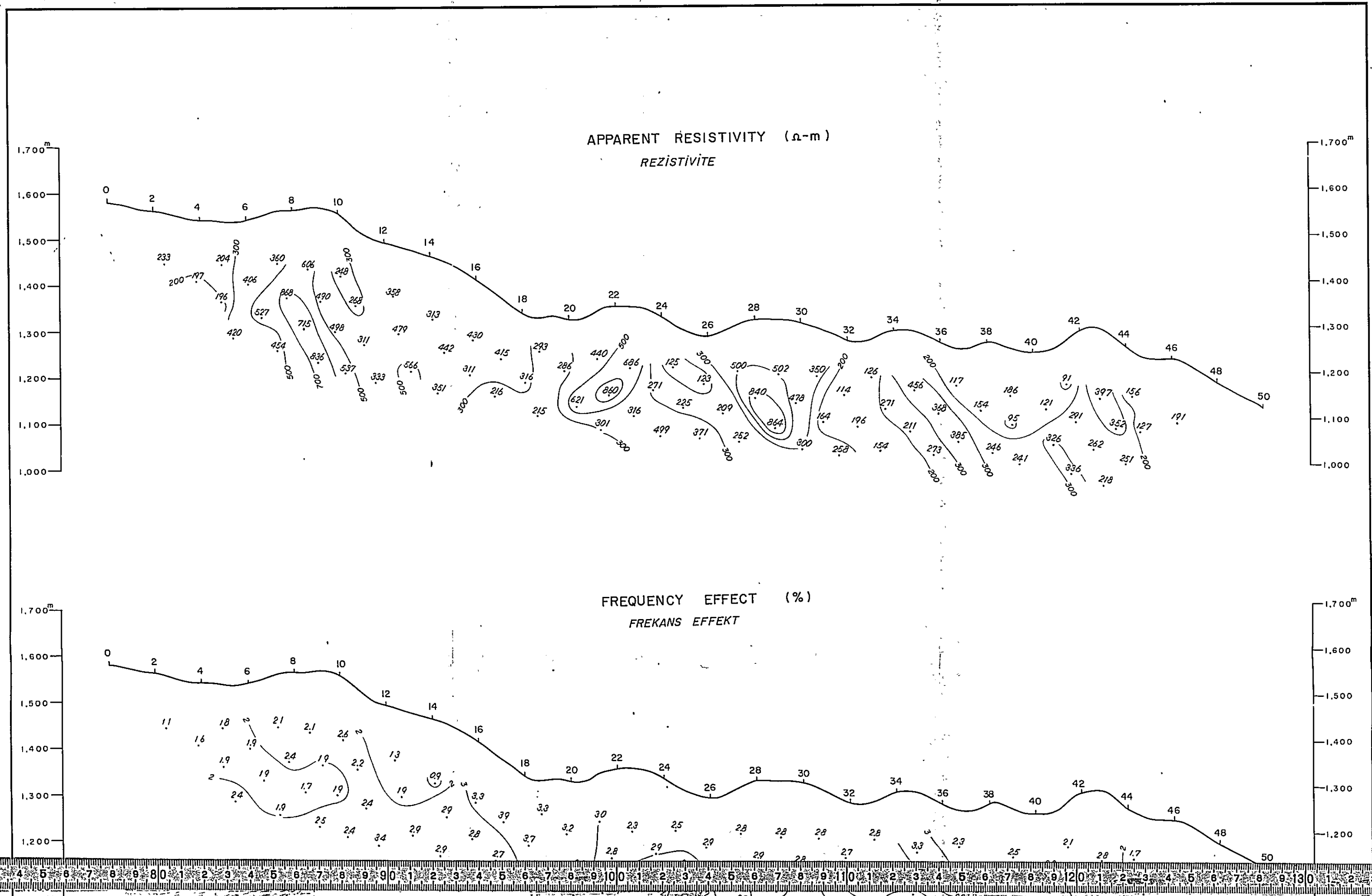


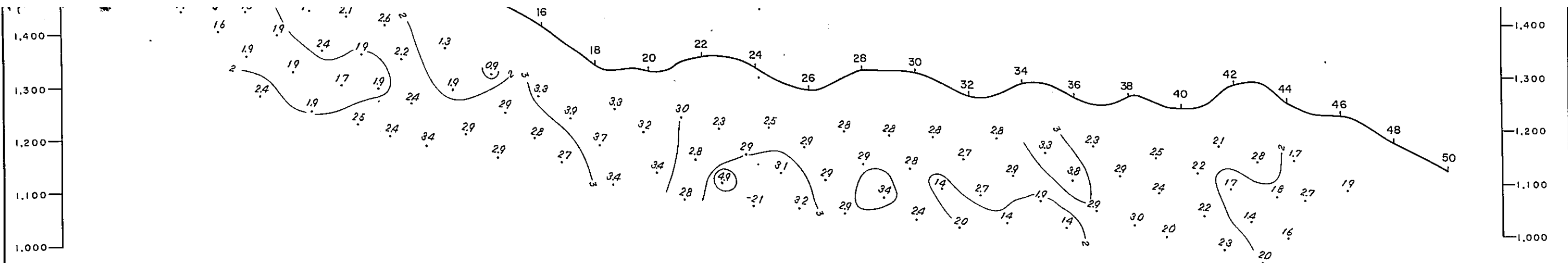
METAL FAKTÖR



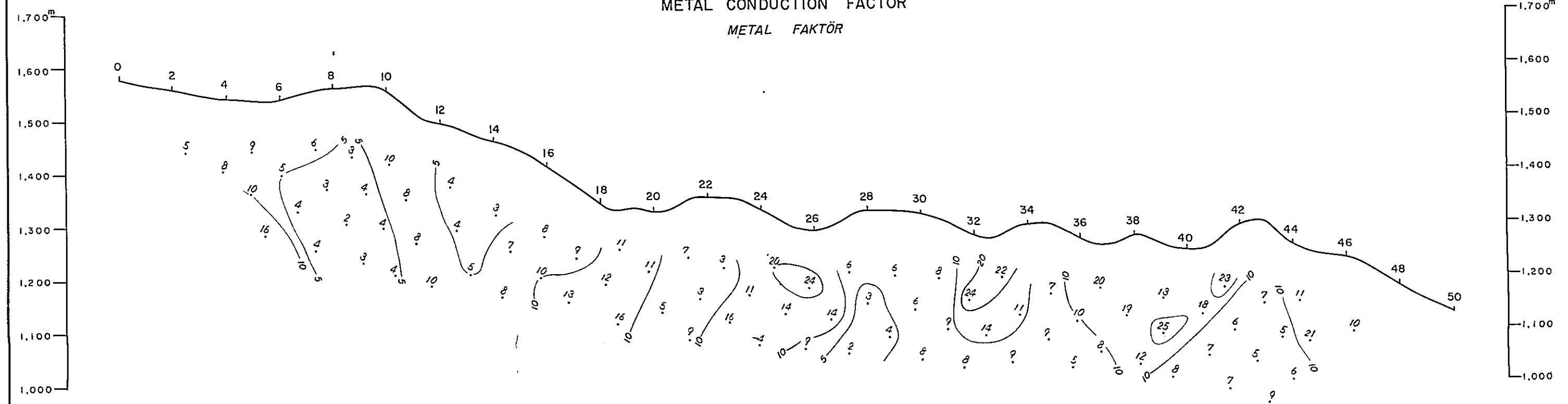
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JEOLJİK KESİTLER



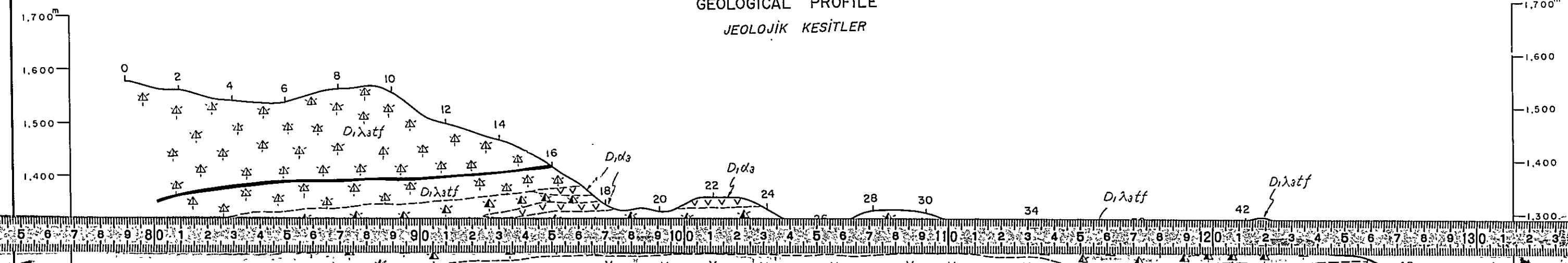


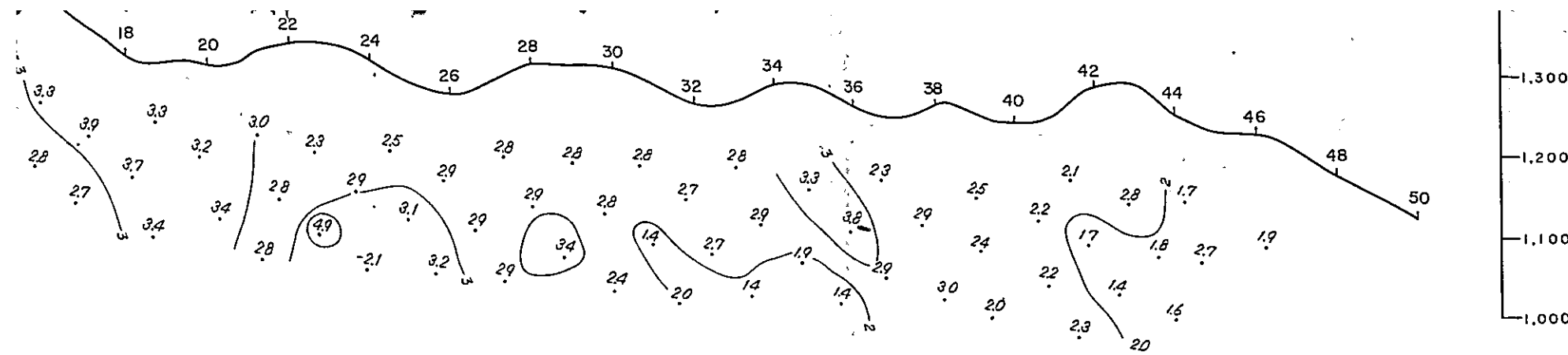


METAL CONDUCTION FACTOR
METAL FAKTÖR



GEOLOGICAL PROFILE
JEOLOJİK KESİTLER

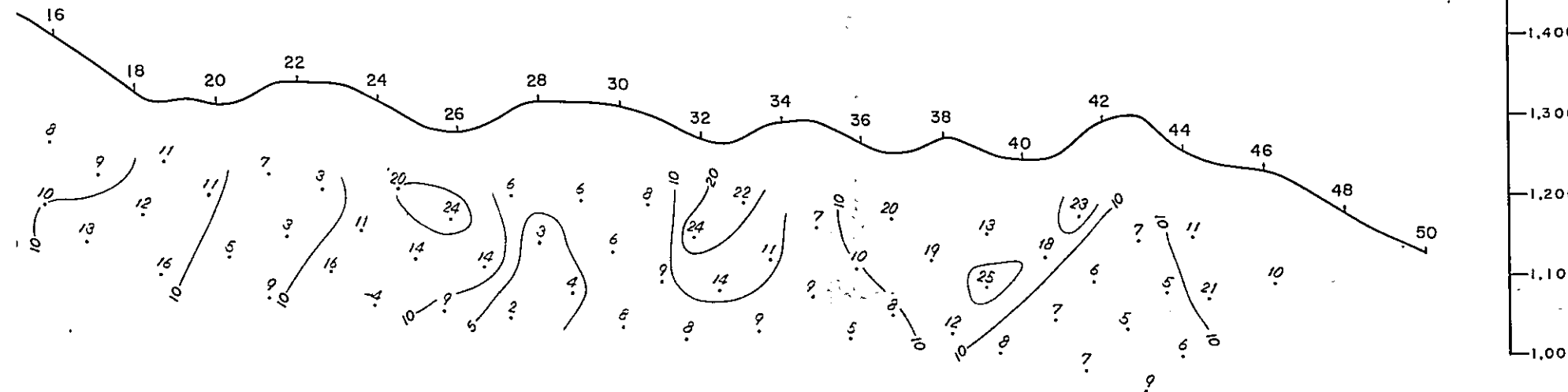




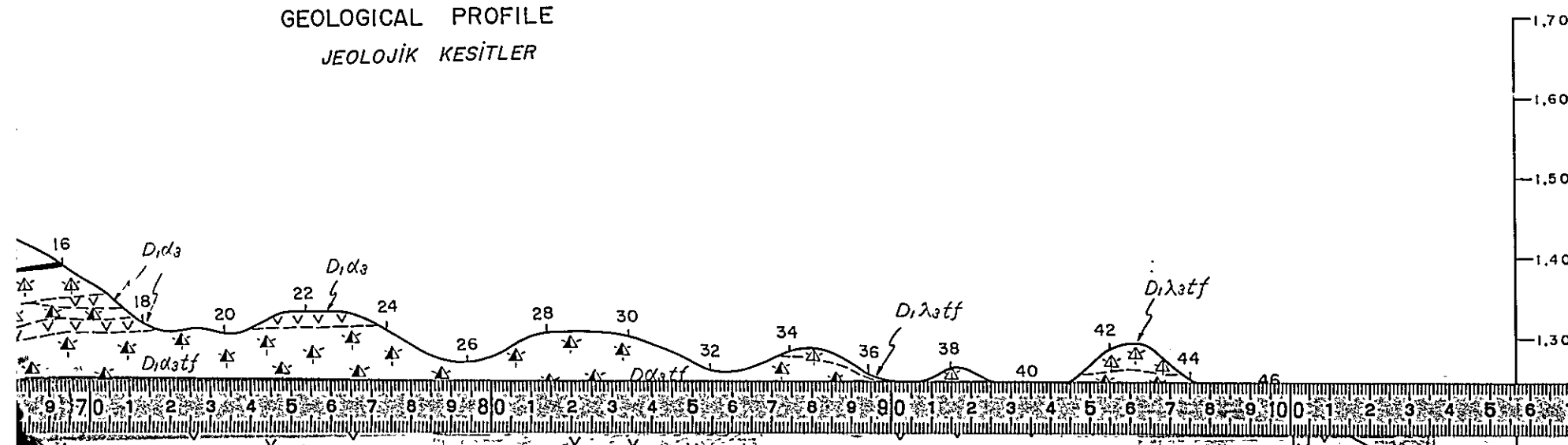
	dacite dasit
	dacite tuff, lapilli tuff, tuff breccia dasit tuf, lapilli tuf, tuf breş
	andesite andezit
	andesite tuff, lapilli tuff, tuff breccia andezit tuf, lapilli tuf, tuf breş
	basalt bazalt
	andesite andezit
	quartz diorite kuvars diorit
	name of rock facies based on member
	ore horizon ceher seviye

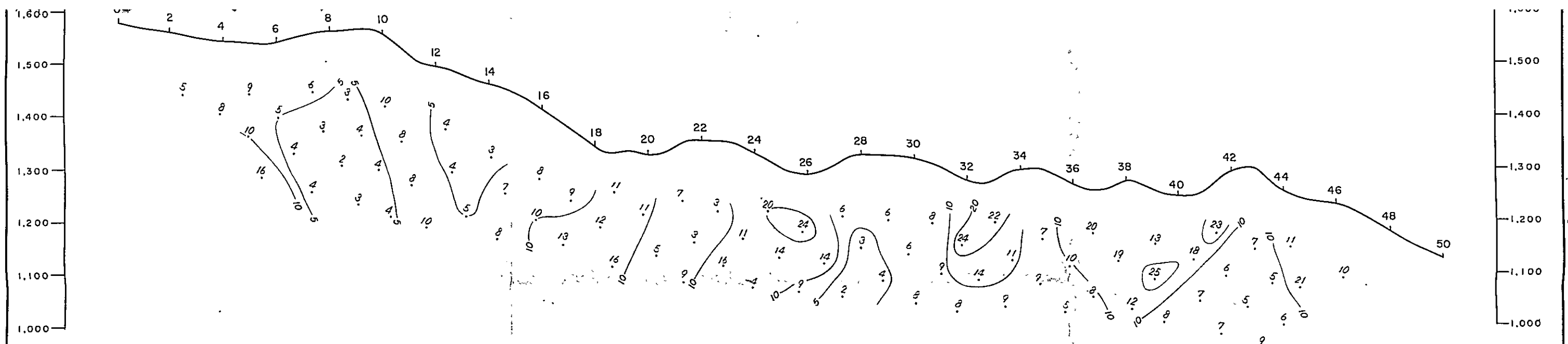
Intrusive rocks
Intruzifler

METAL CONDUCTION FACTOR
METAL FAKTÖR

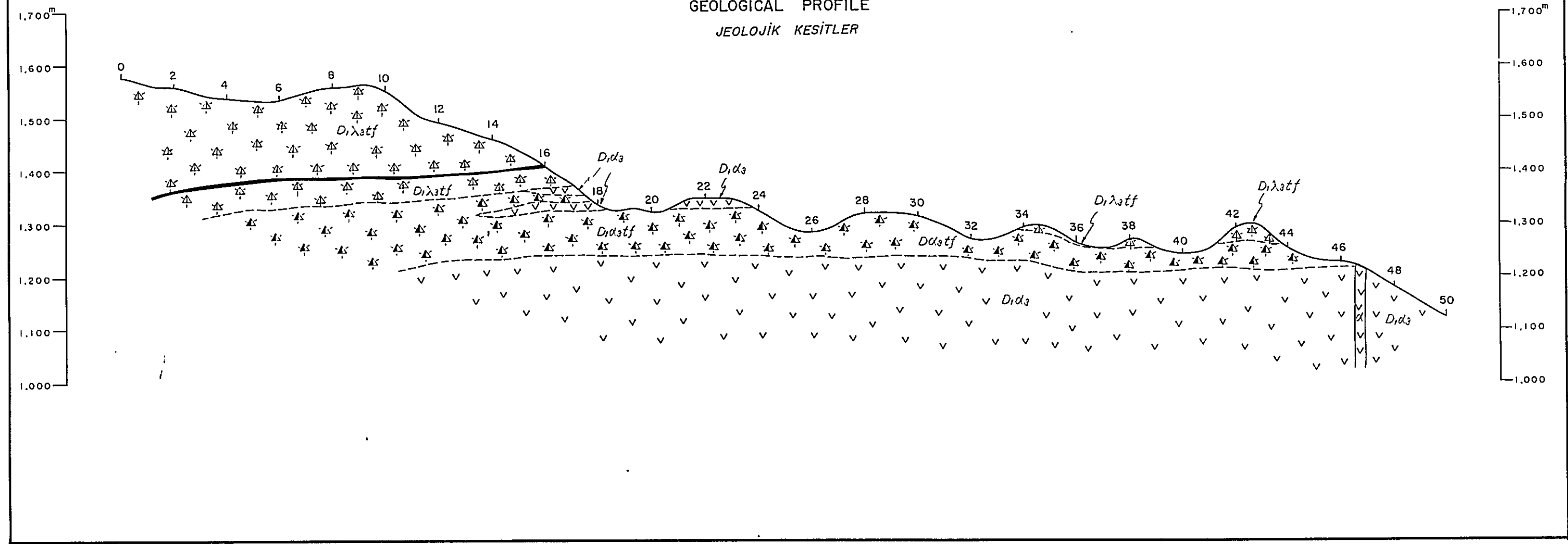


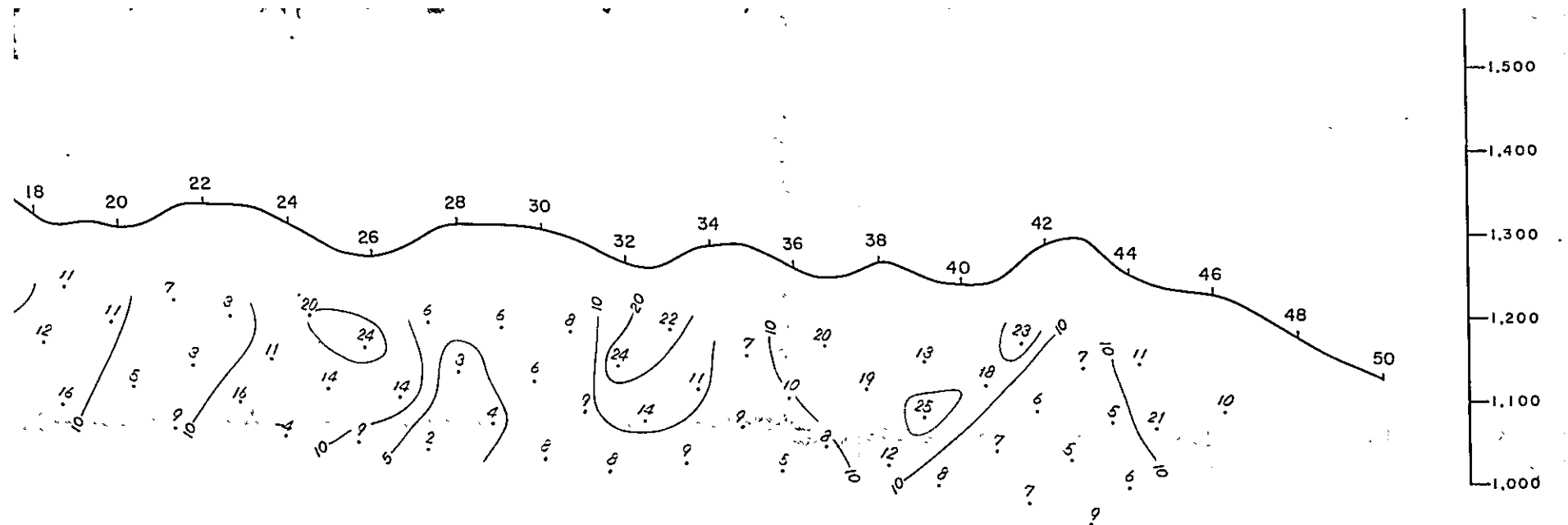
GEOLOGICAL PROFILE
JEOLJİK KESİTLER



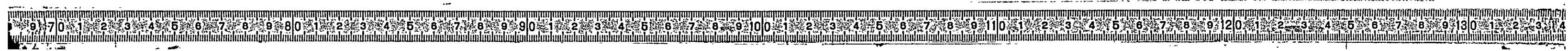
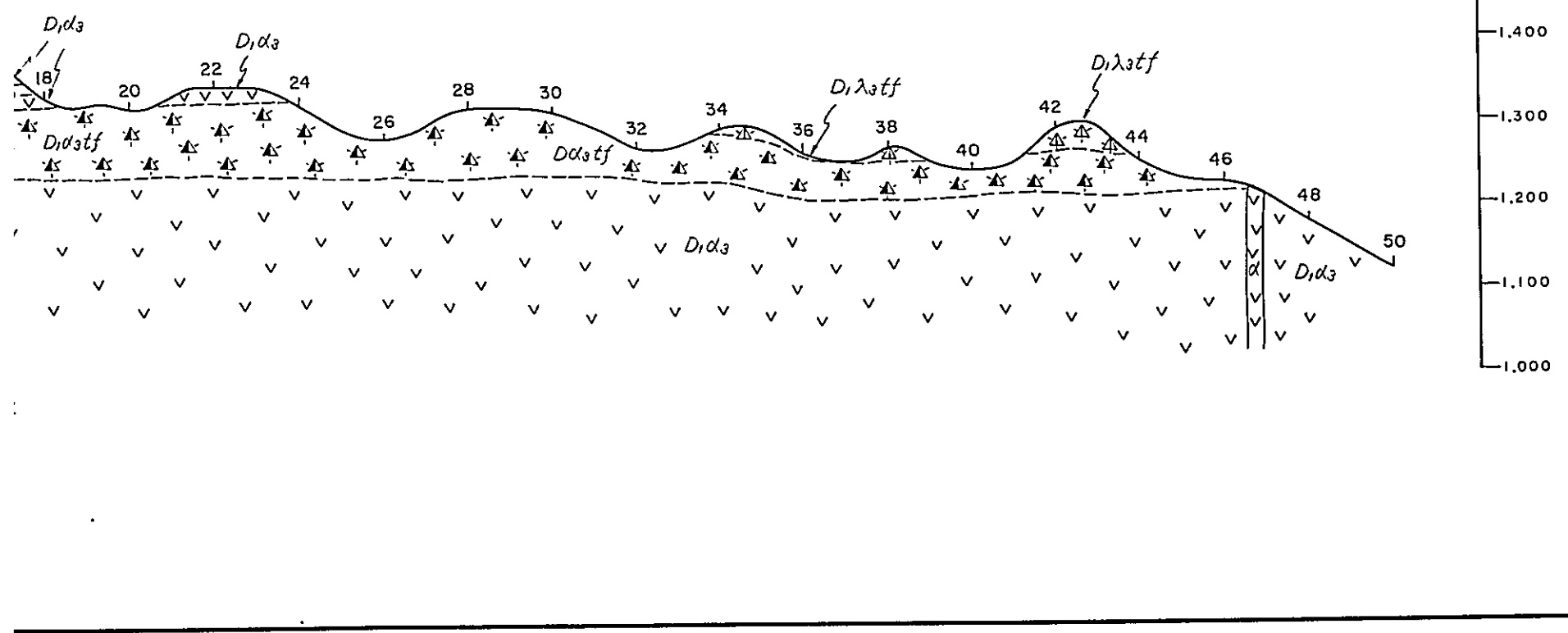


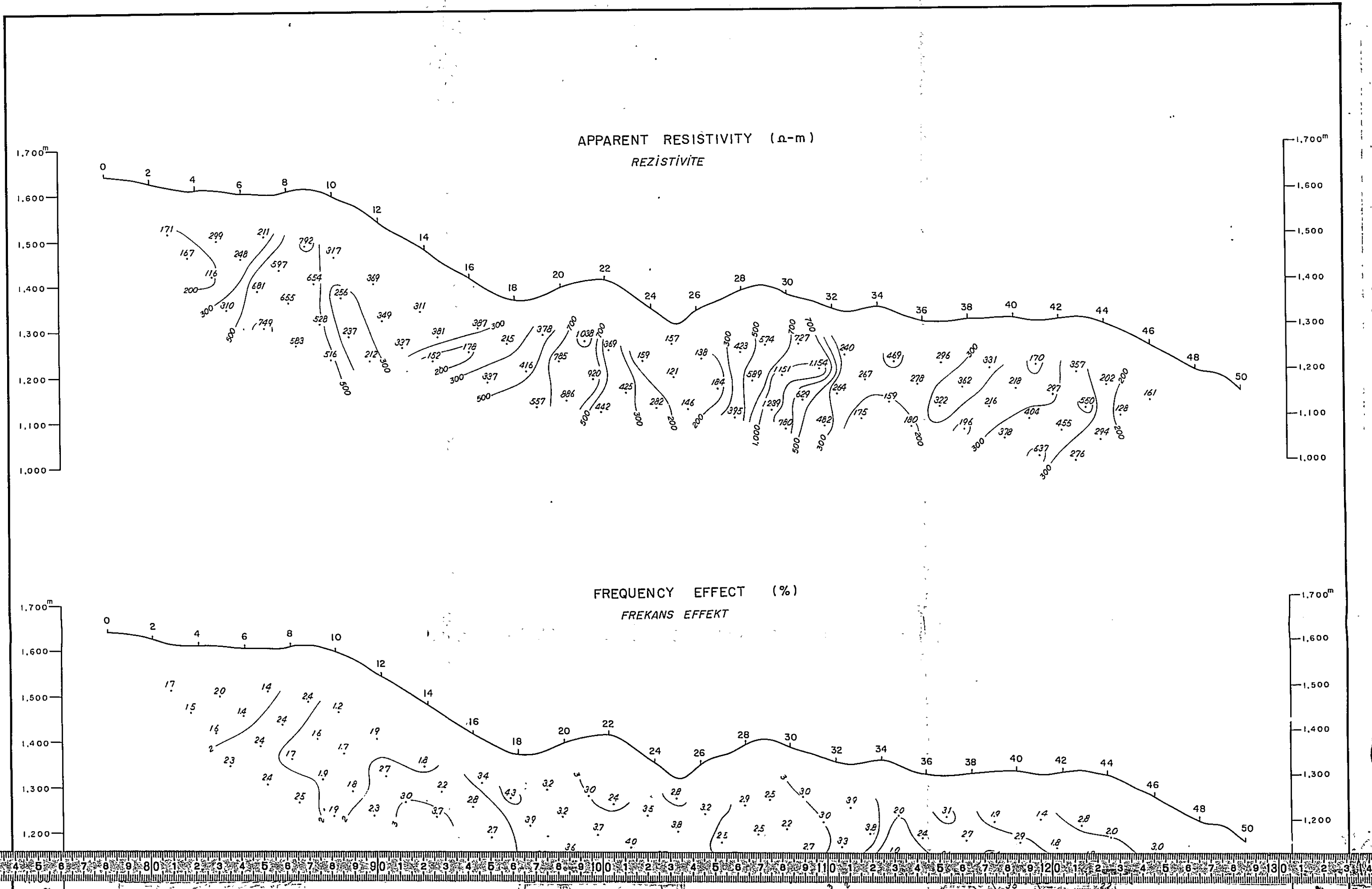
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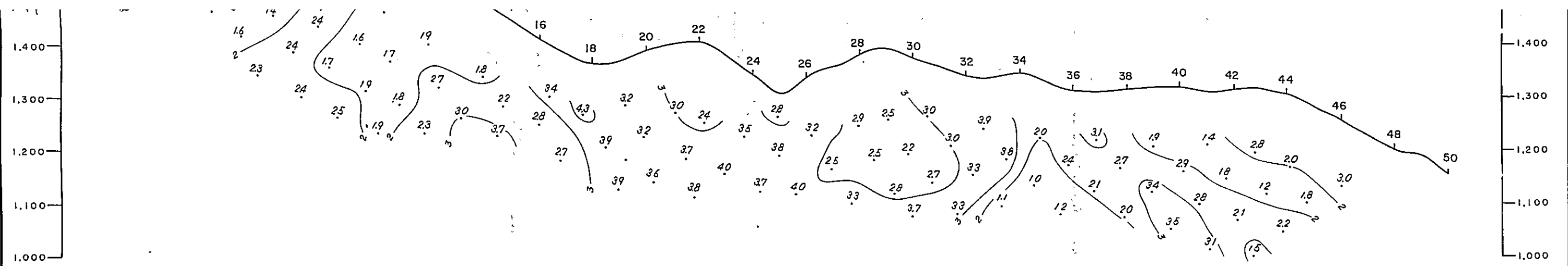




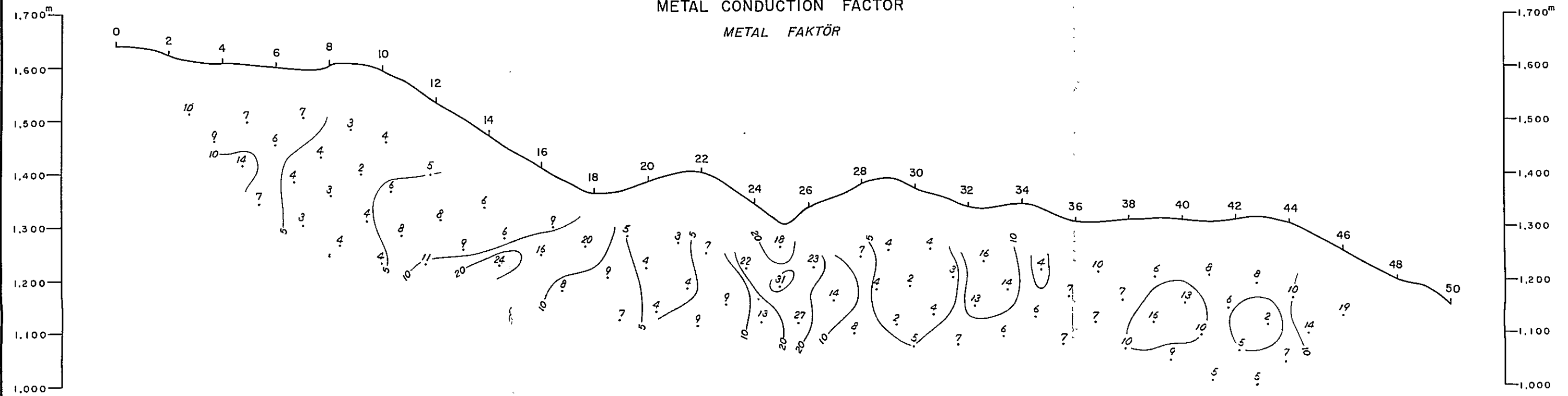
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 JEOLÖJİK KESİTLER



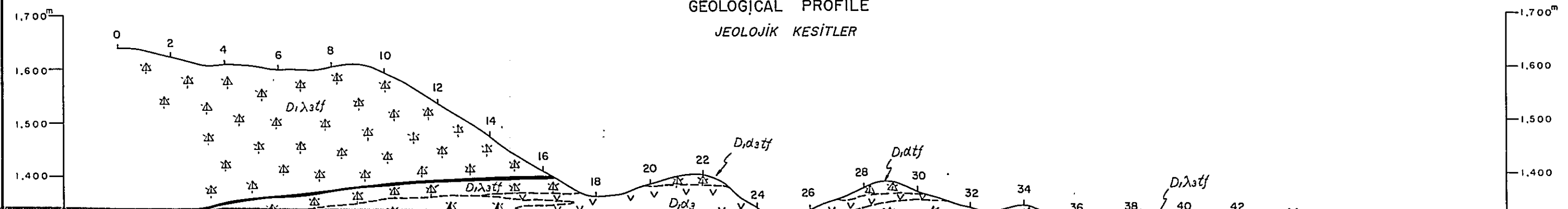


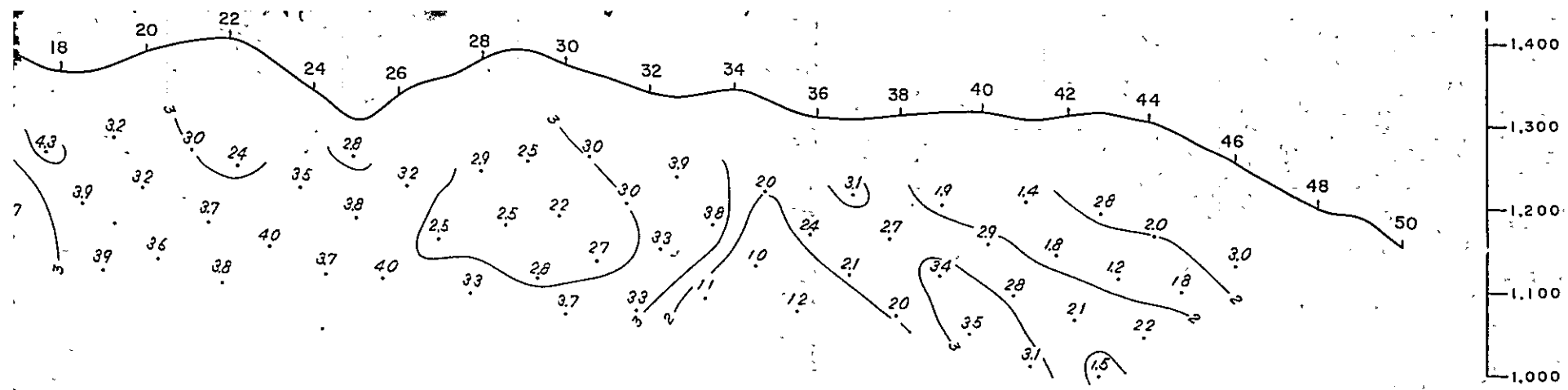


METAL CONDUCTION FACTOR
METAL FAKTÖR



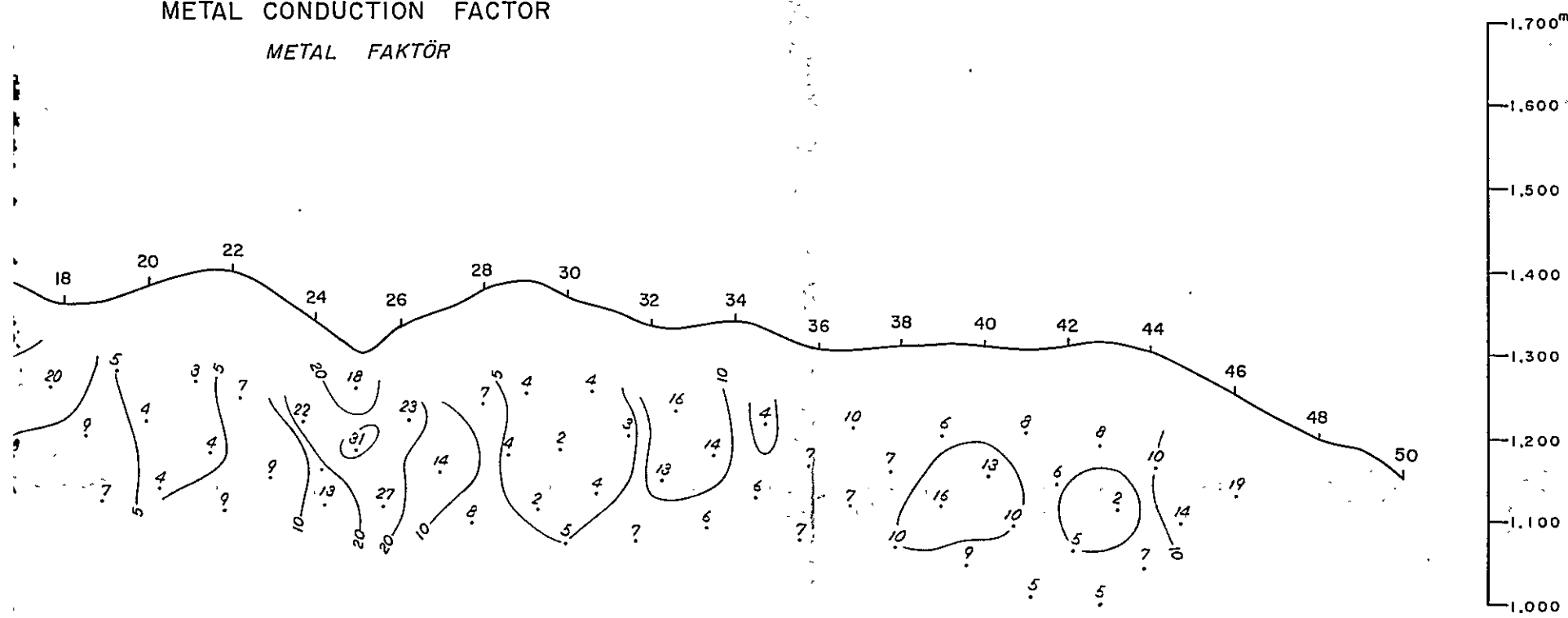
GEOLOGICAL PROFILE
JEOLOJİK KESİTLER



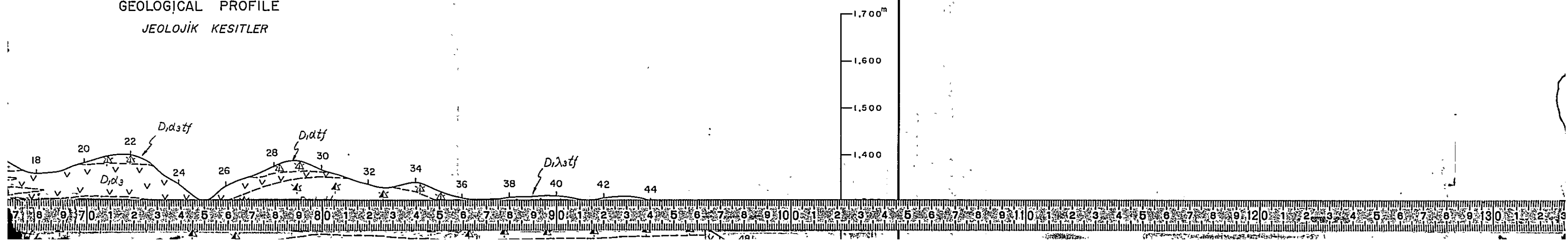


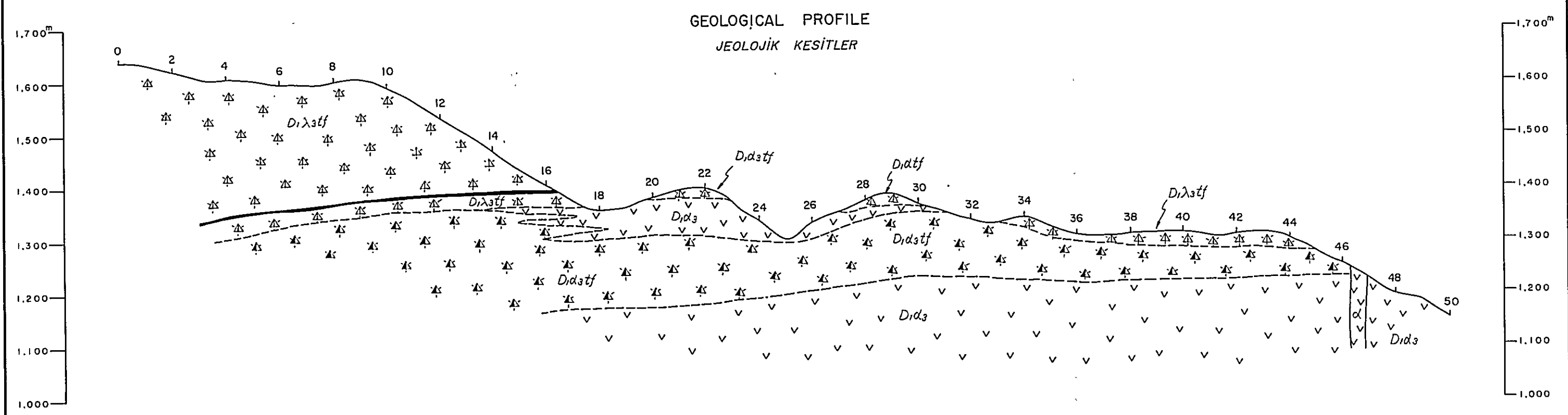
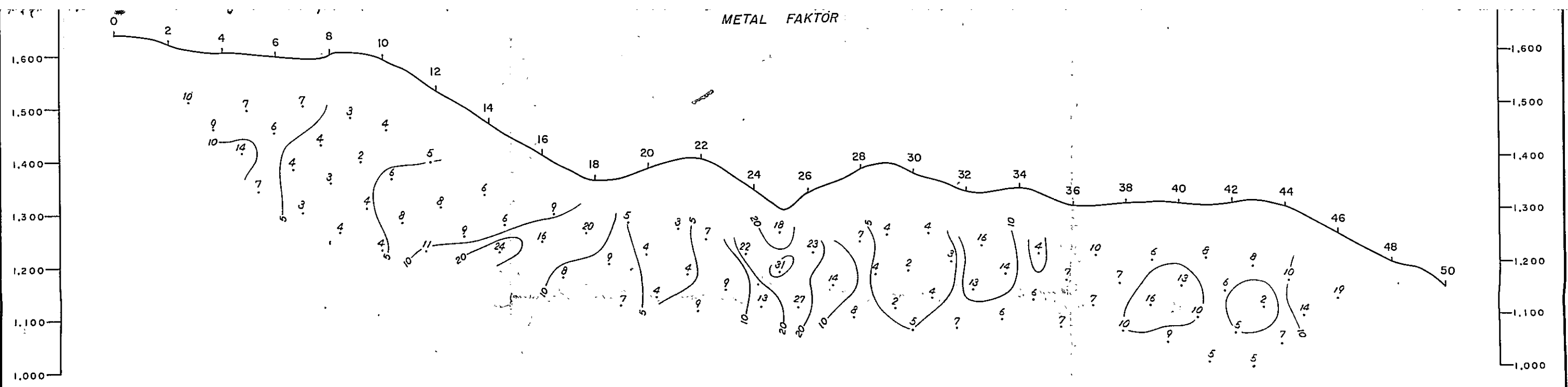
- dacite
dasit
 - dacite tuff, lapilli tuff, tuff breccia
dasit tuf, lapill tuf, tuf breg
 - andesite
andezit
 - andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapill tuf, tuf breg
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kuvars diorit
 - name of rock facies based on member
 - ore horizon
cevher seviye
- Intrusive rocks
intruzifler

METAL CONDUCTION FACTOR
METAL FAKTÖR

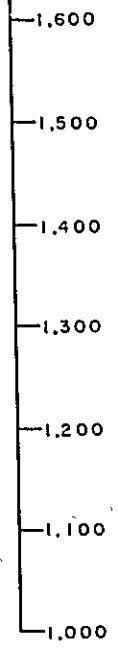
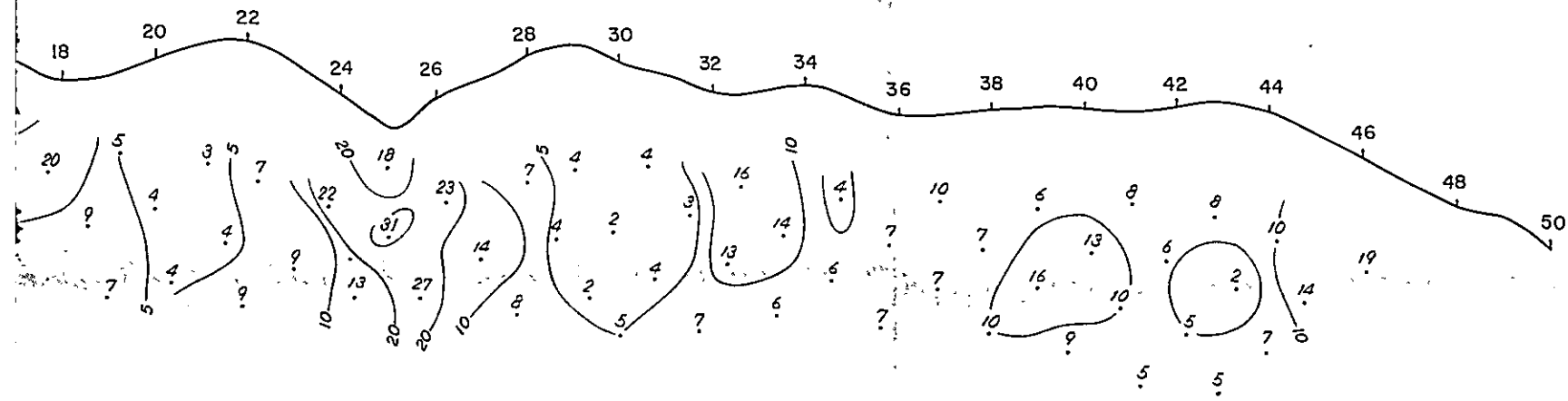


GEOLOGICAL PROFILE
JEOLOJİK KESİTLER

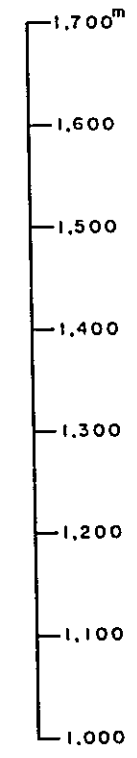
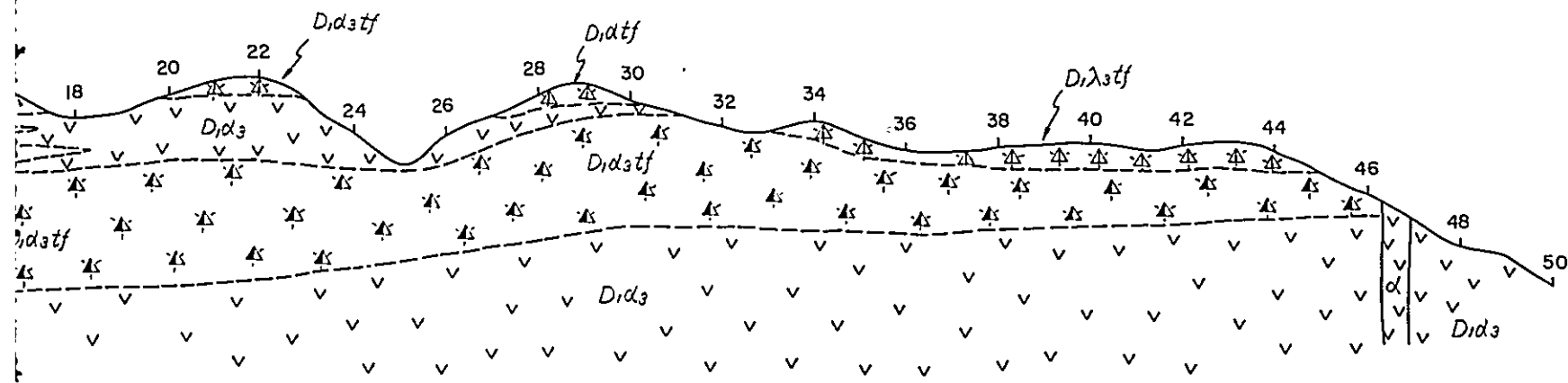


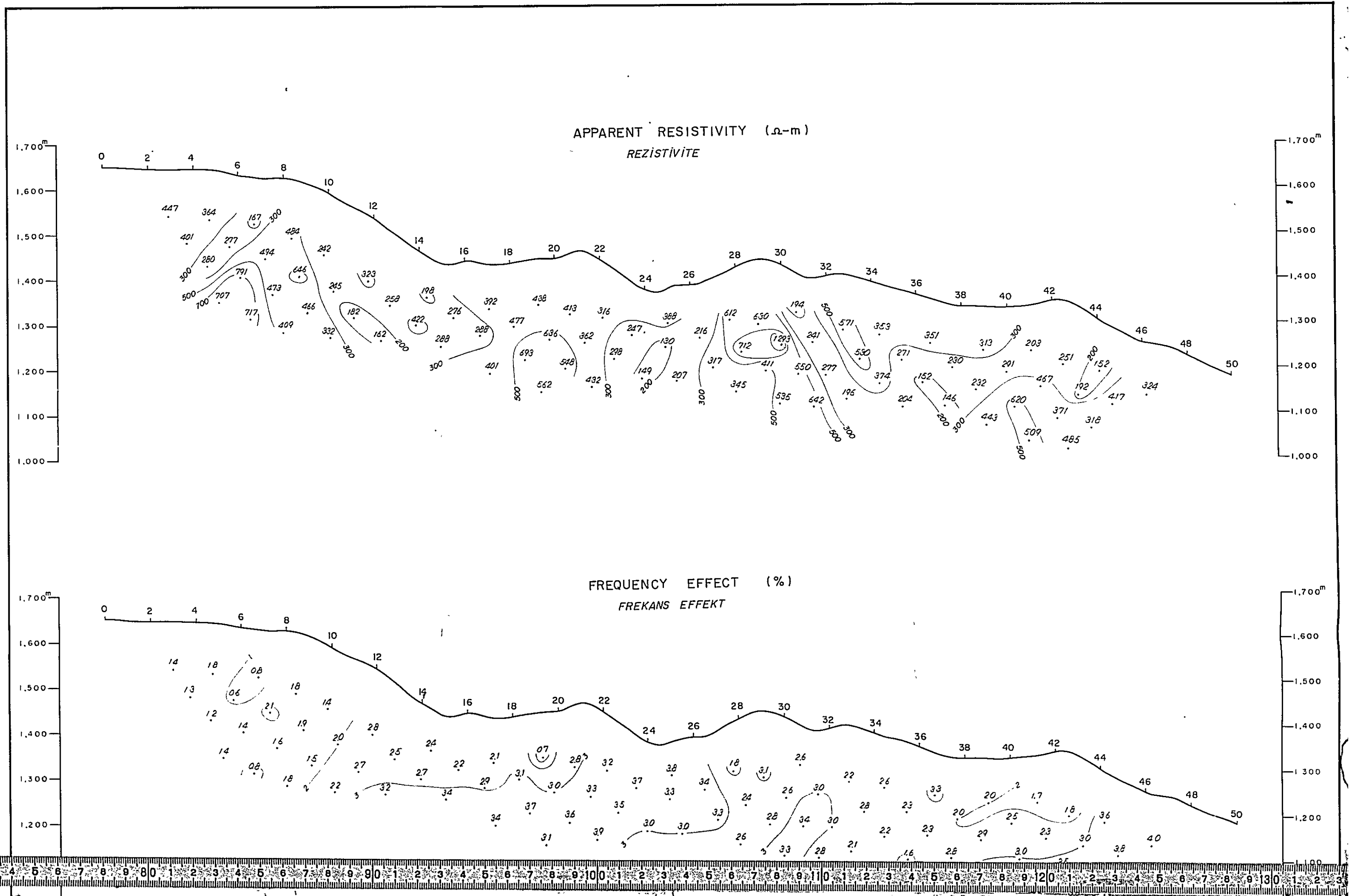


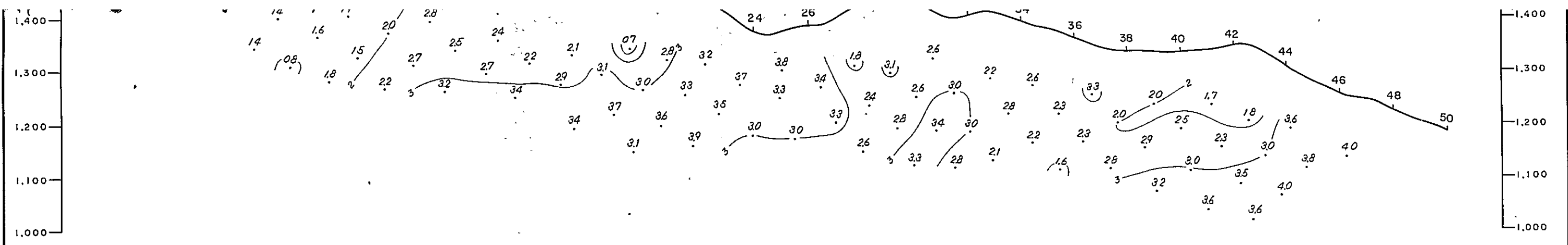
METAL FAKTOR*



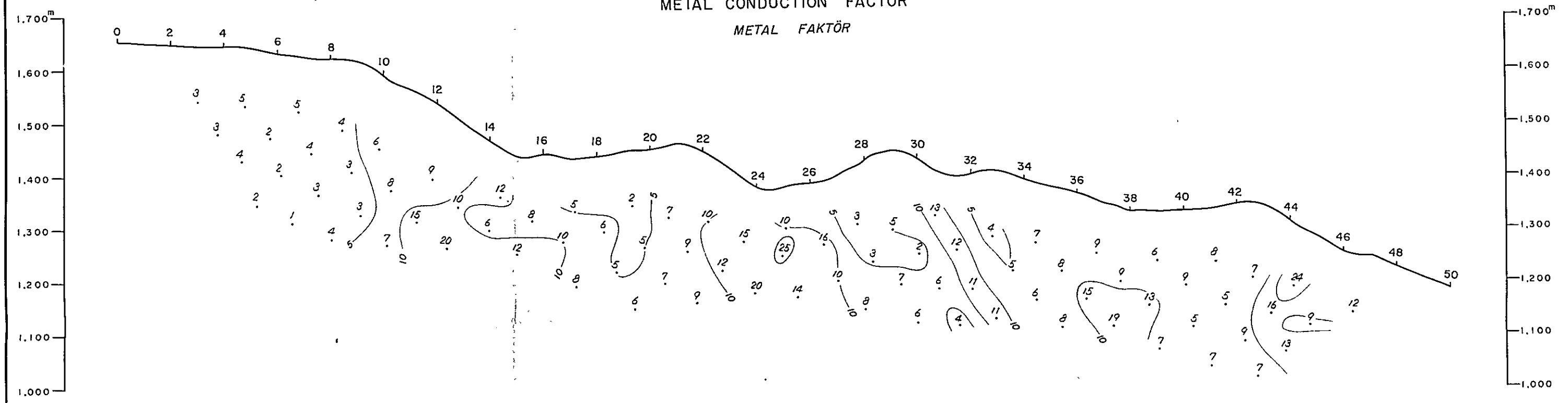
GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER



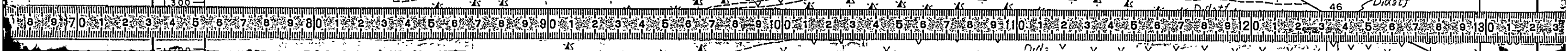
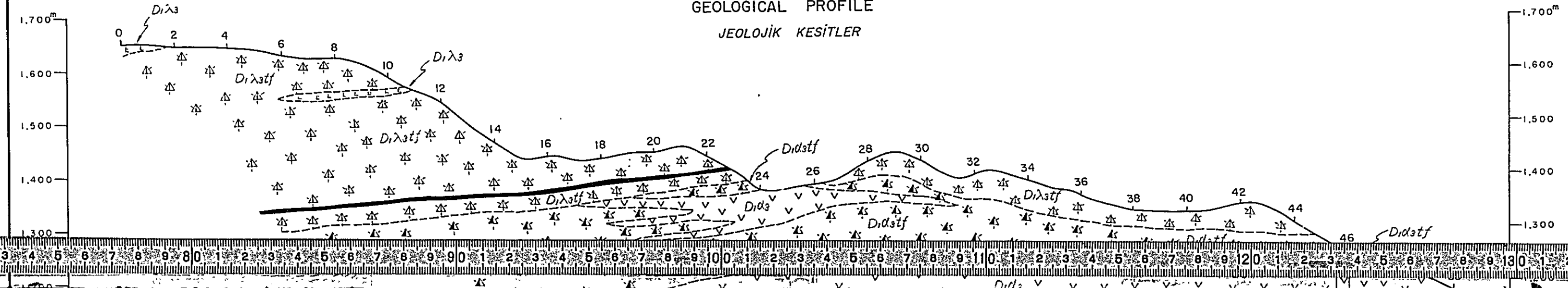


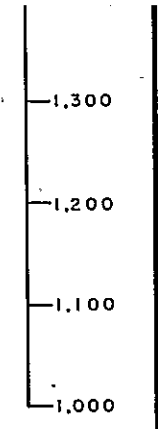
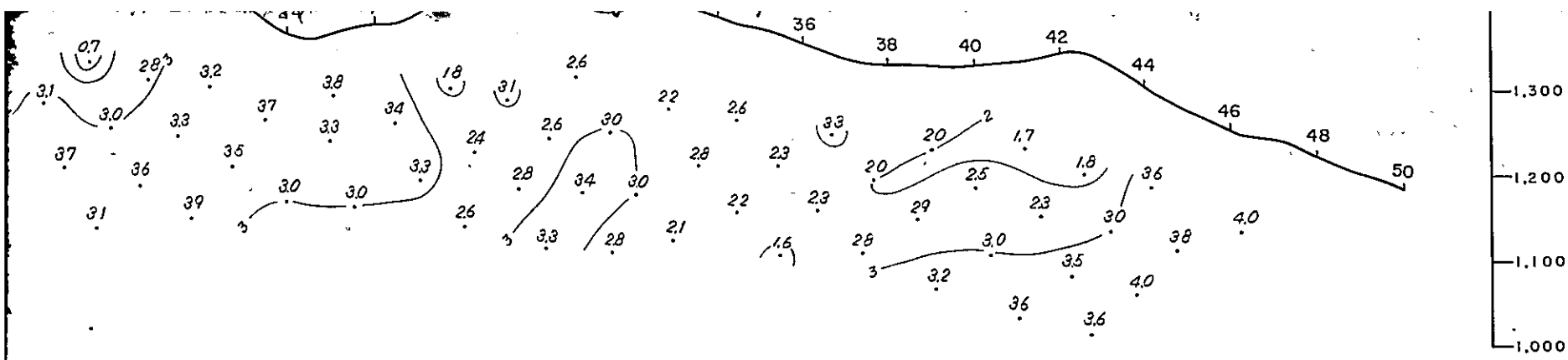


METAL CONDUCTION FACTOR
METAL FAKTÖR

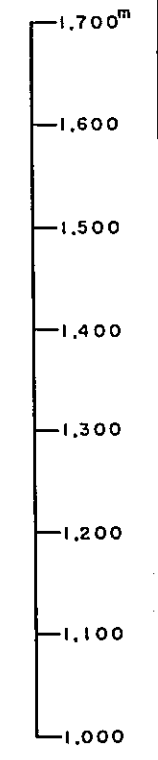
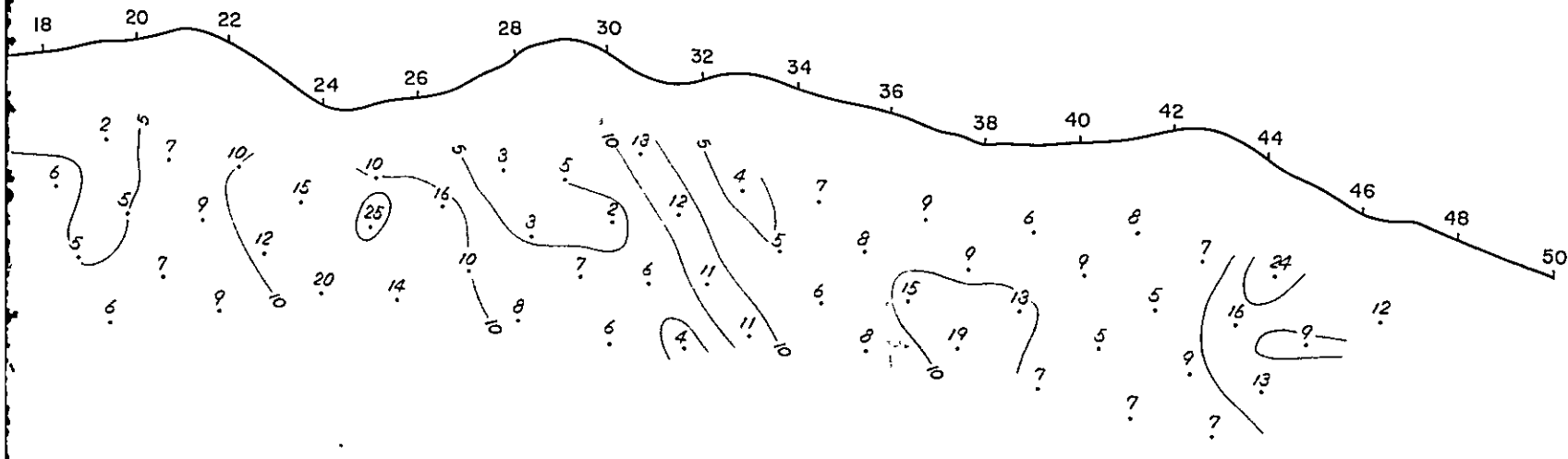


GEOLOGICAL PROFILE
JEOLJİK KESİTLER

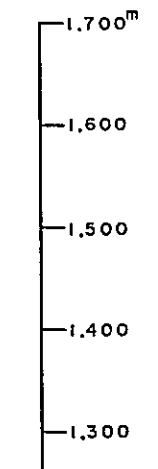
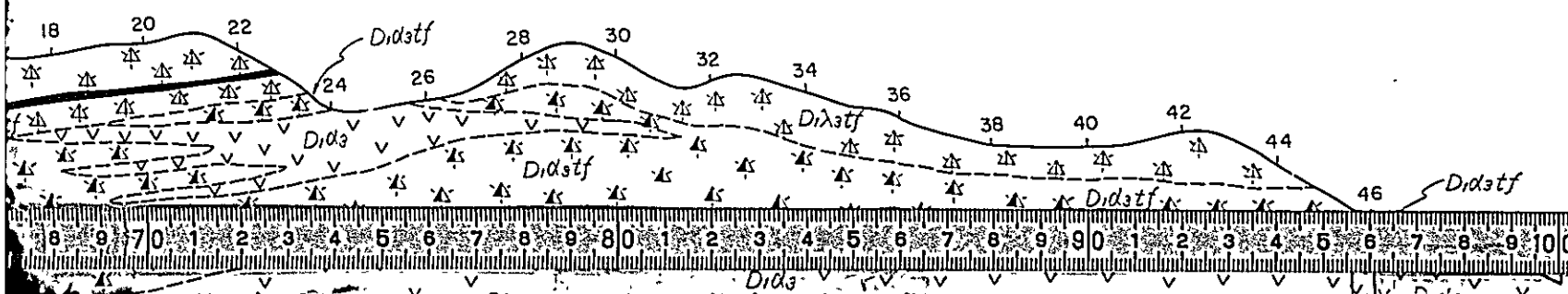




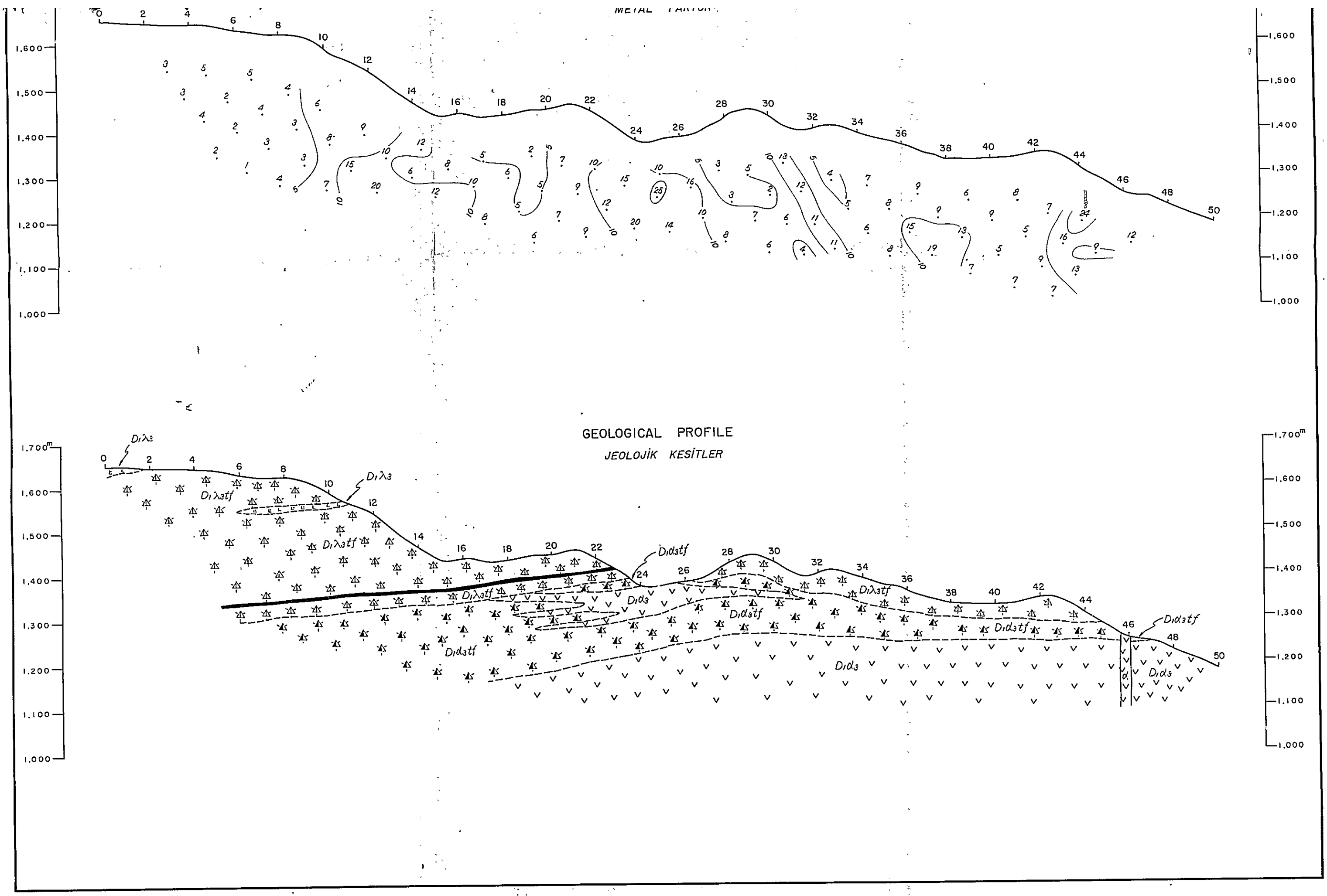
METAL CONDUCTION FACTOR
METAL FAKTÖR



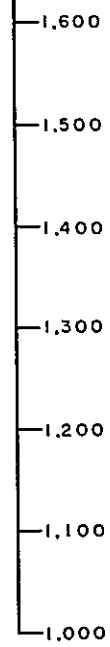
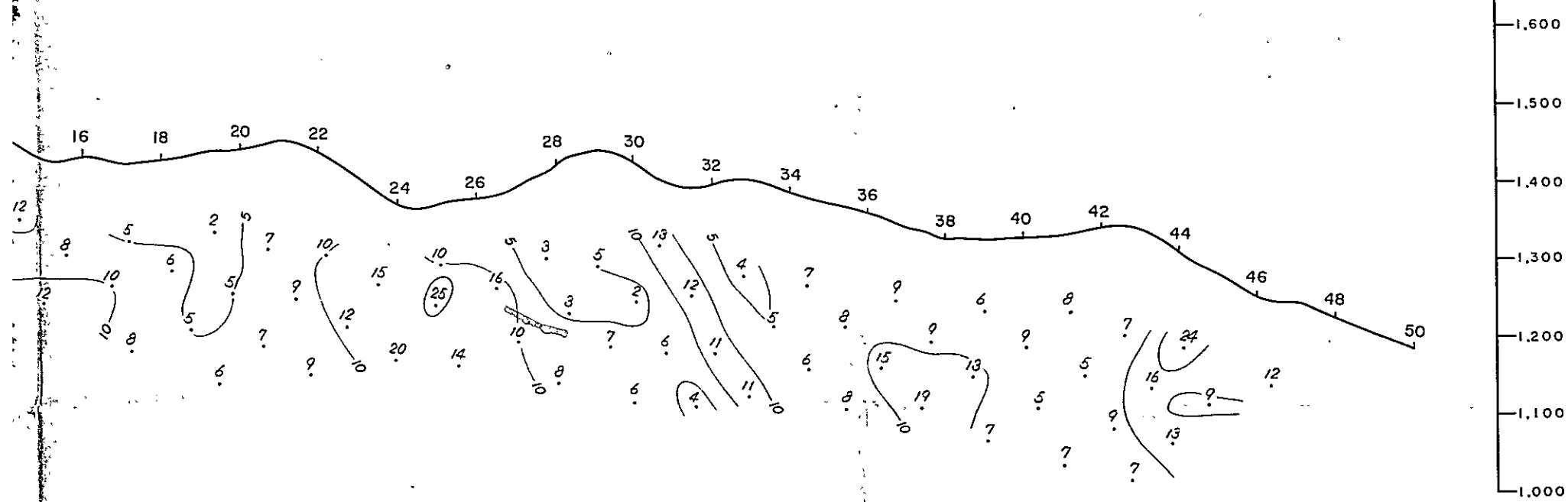
GEOLOGICAL PROFILE
JEOLJİK KESİTLER



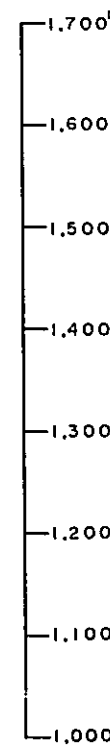
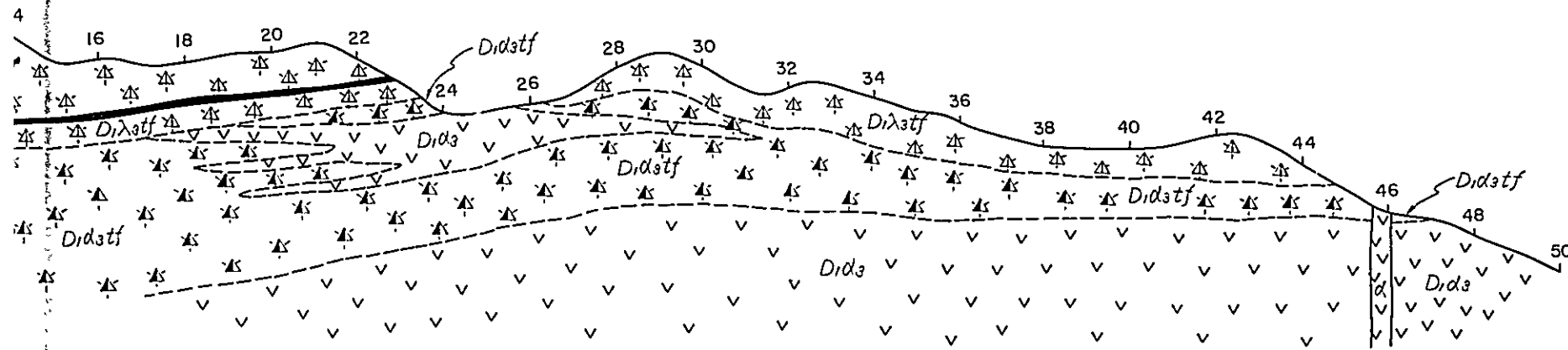
- dacite
dasit
 - dacite tuff, lapilli tuff, tuff breccia
dast tuf, lapilli tuf, tuf breç
 - andesite
andezit
 - andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breç
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kuvars diorit
 - name of rock facies based on member
 - ore horizon
cevher seriyte
- Intrusive rocks
Intruzifler



METAL FAKTOR



GEOLOGICAL PROFILE
JEOLÖJİK KESİTLER

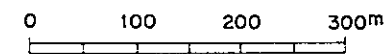


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MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY
PHASE III

CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS R LINE
KEN DERE-FOL DERE
IP KESİTLERİ

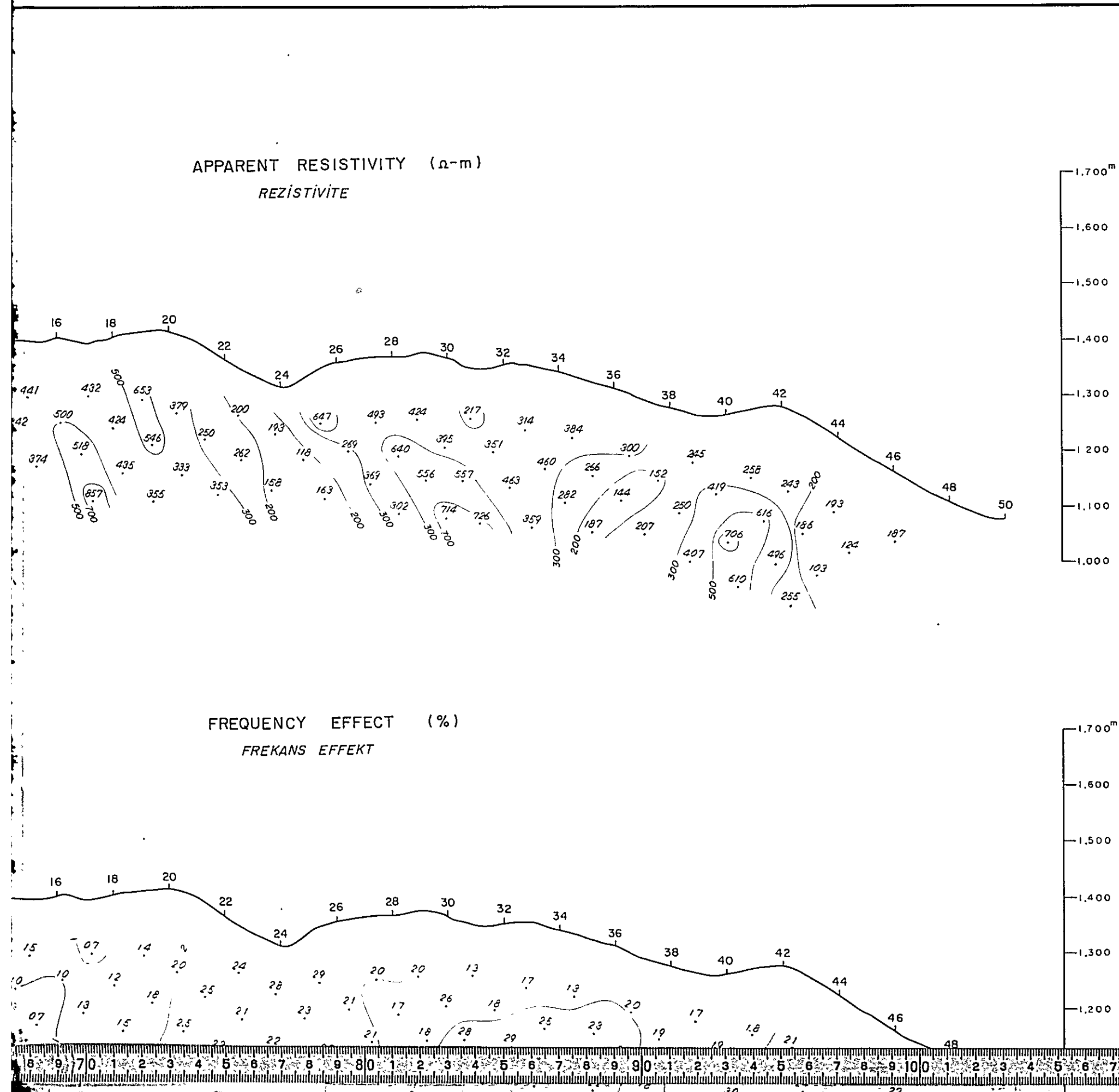
Scale
Ölçek 1 : 5,000



METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

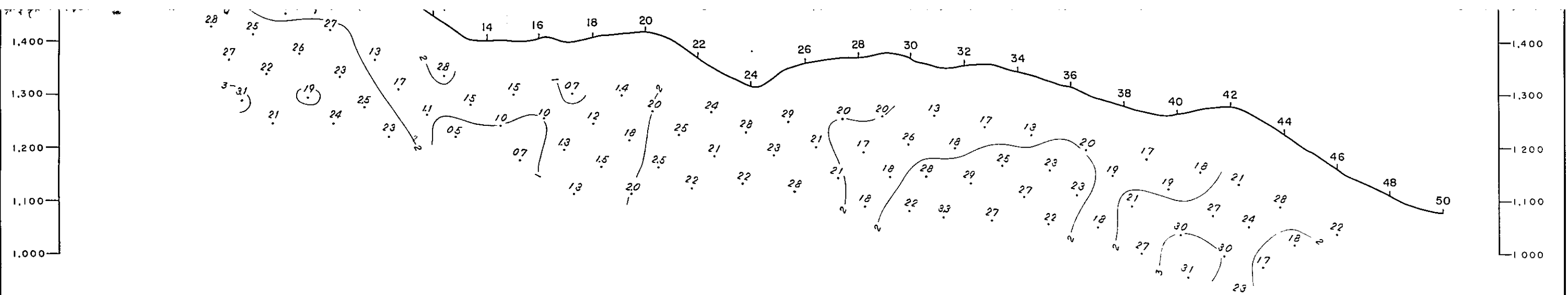
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd

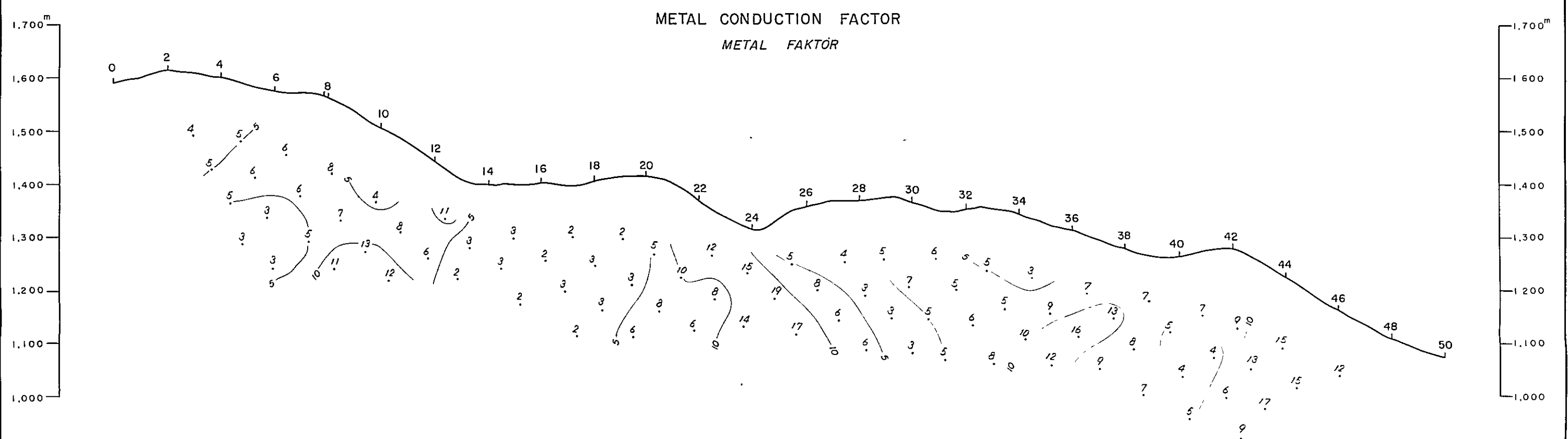


LEGEND
TJAND

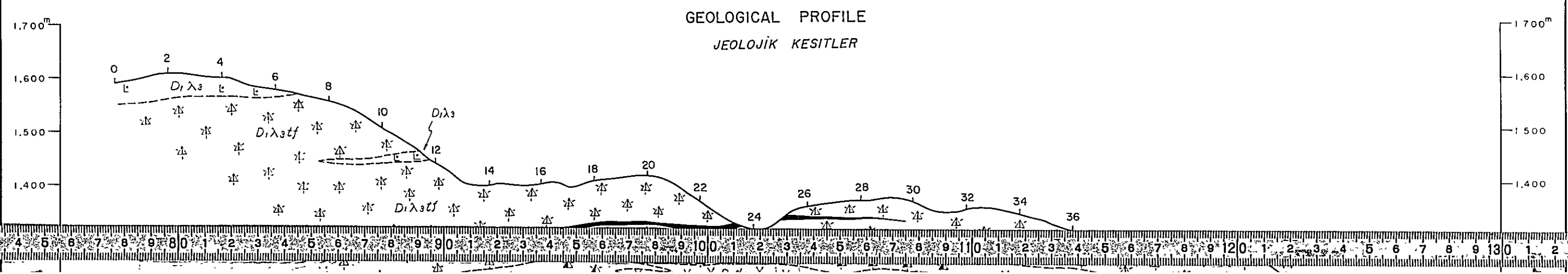
- dacite
dazit
- dacite tuff, lapilli tuff, tuff breccia
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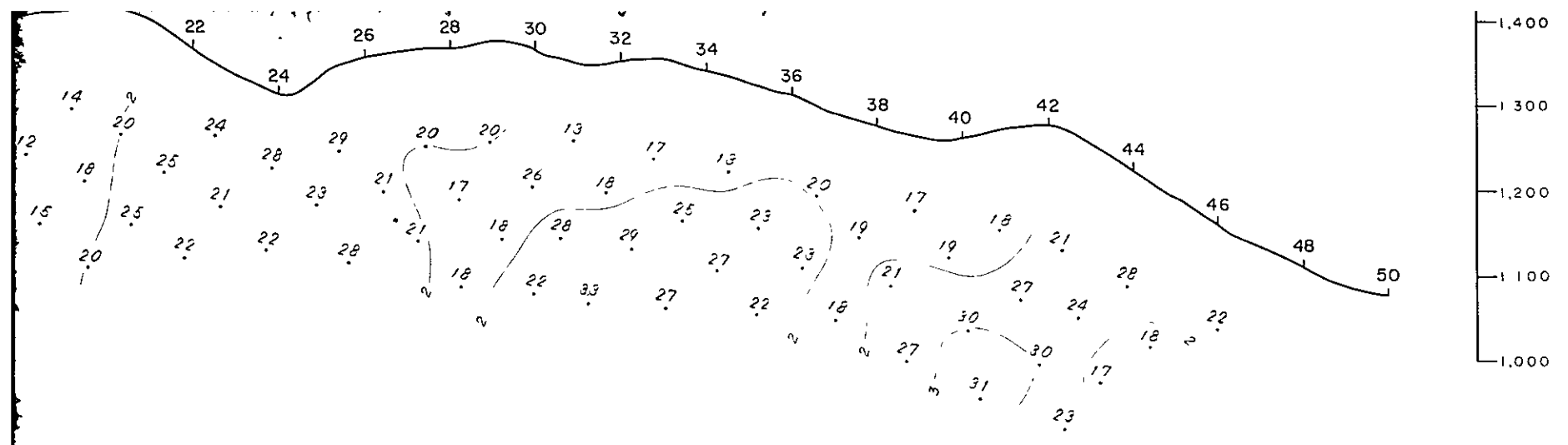


METAL CONDUCTION FACTOR
METAL FAKTÖR

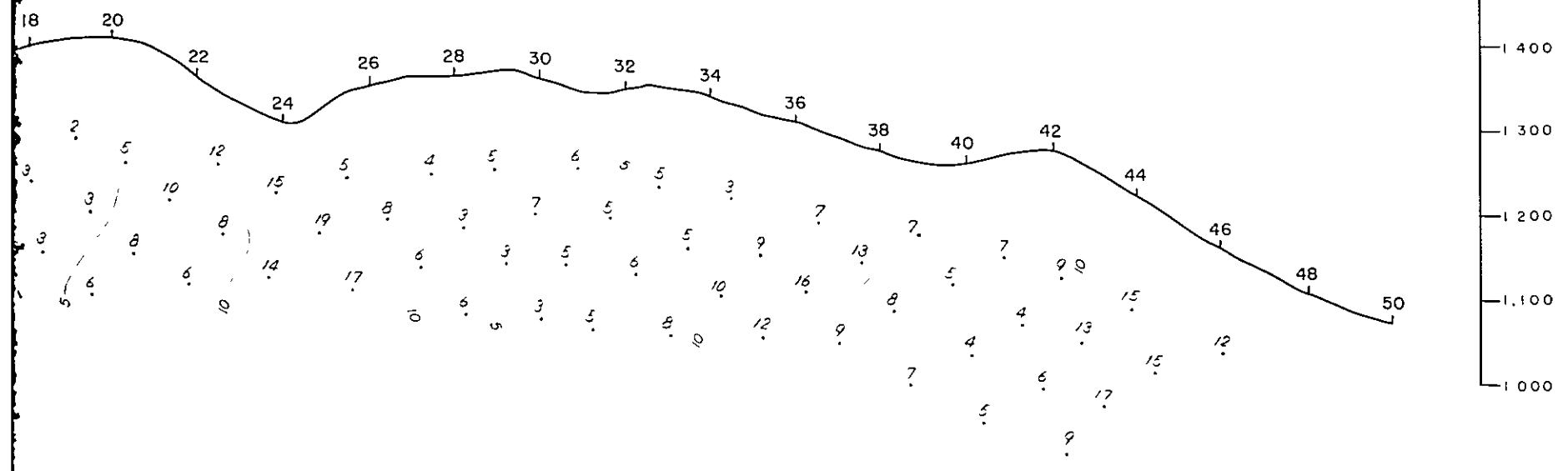


GEOLOGICAL PROFILE
JEOLÓGIK KESITLER

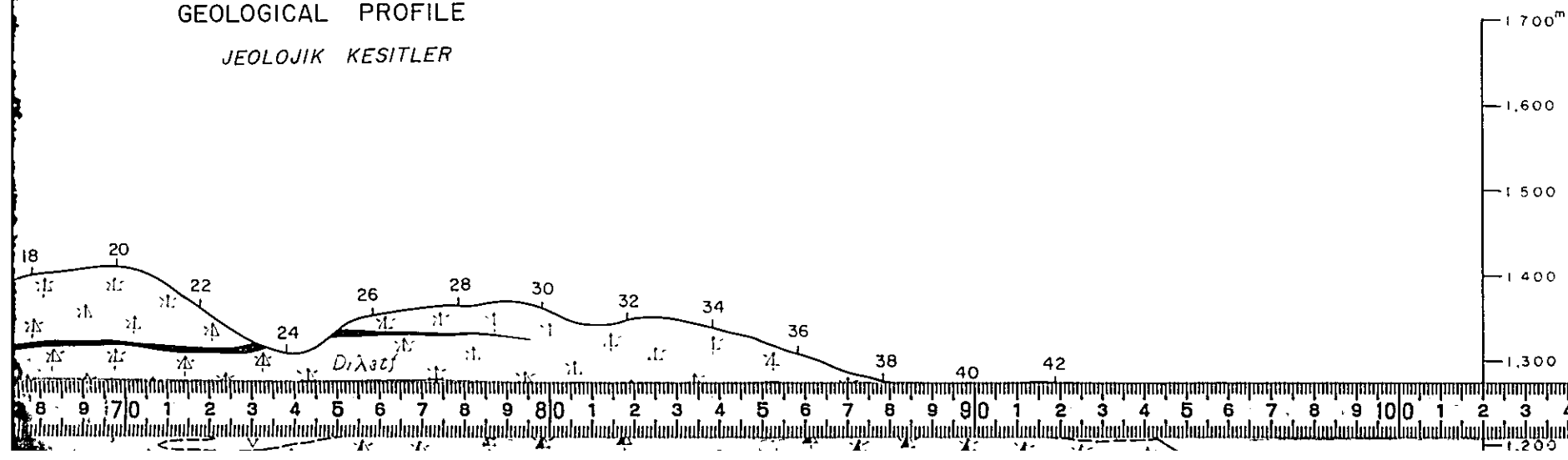













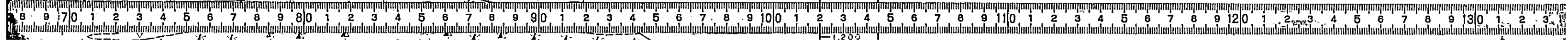
METAL CONDUCTION FACTOR
METAL FAKTOR

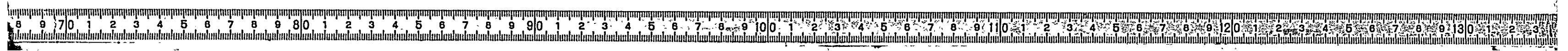
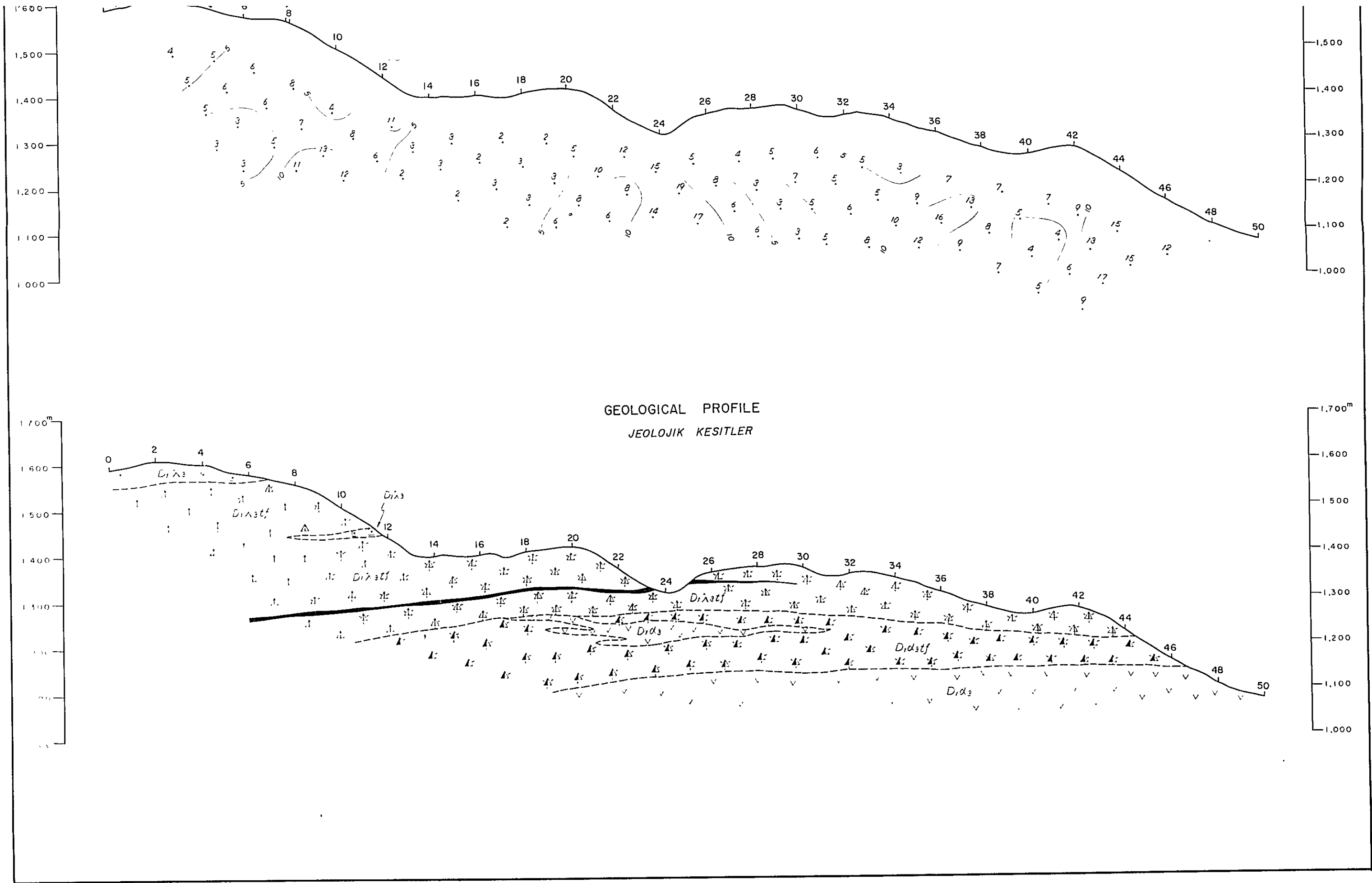


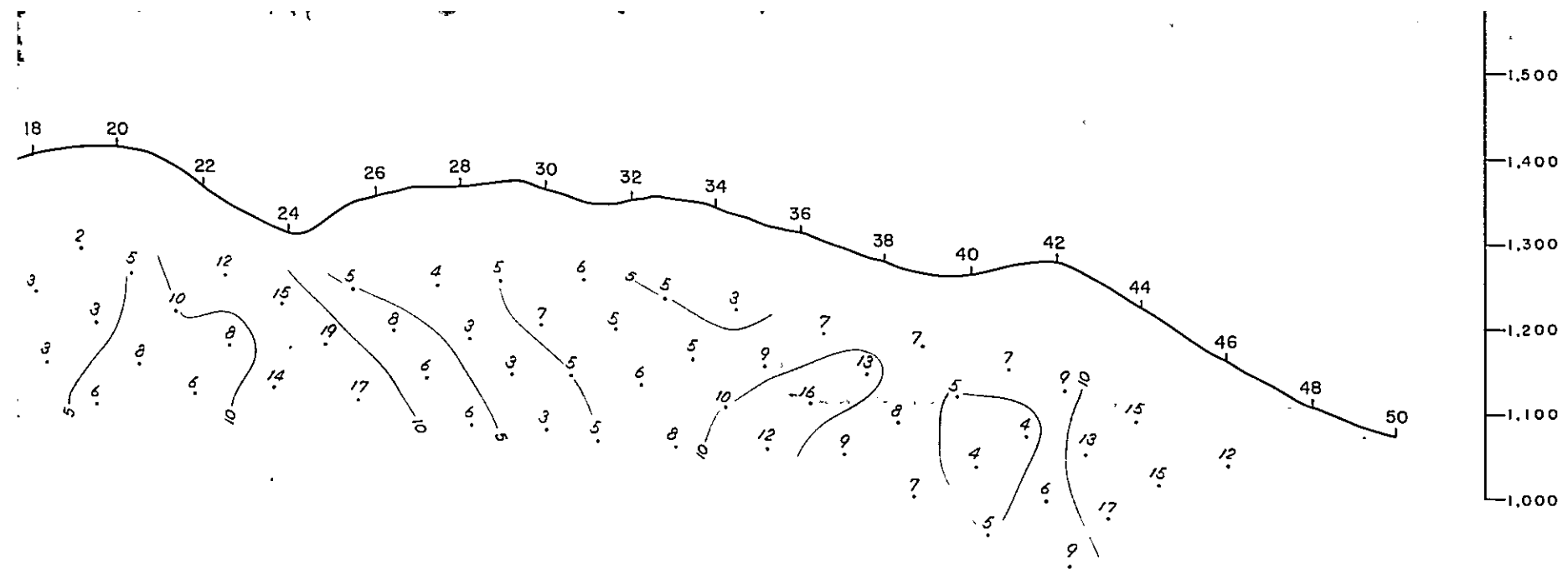
GEOLOGICAL PROFILE
JEOLUJIK KESITLER



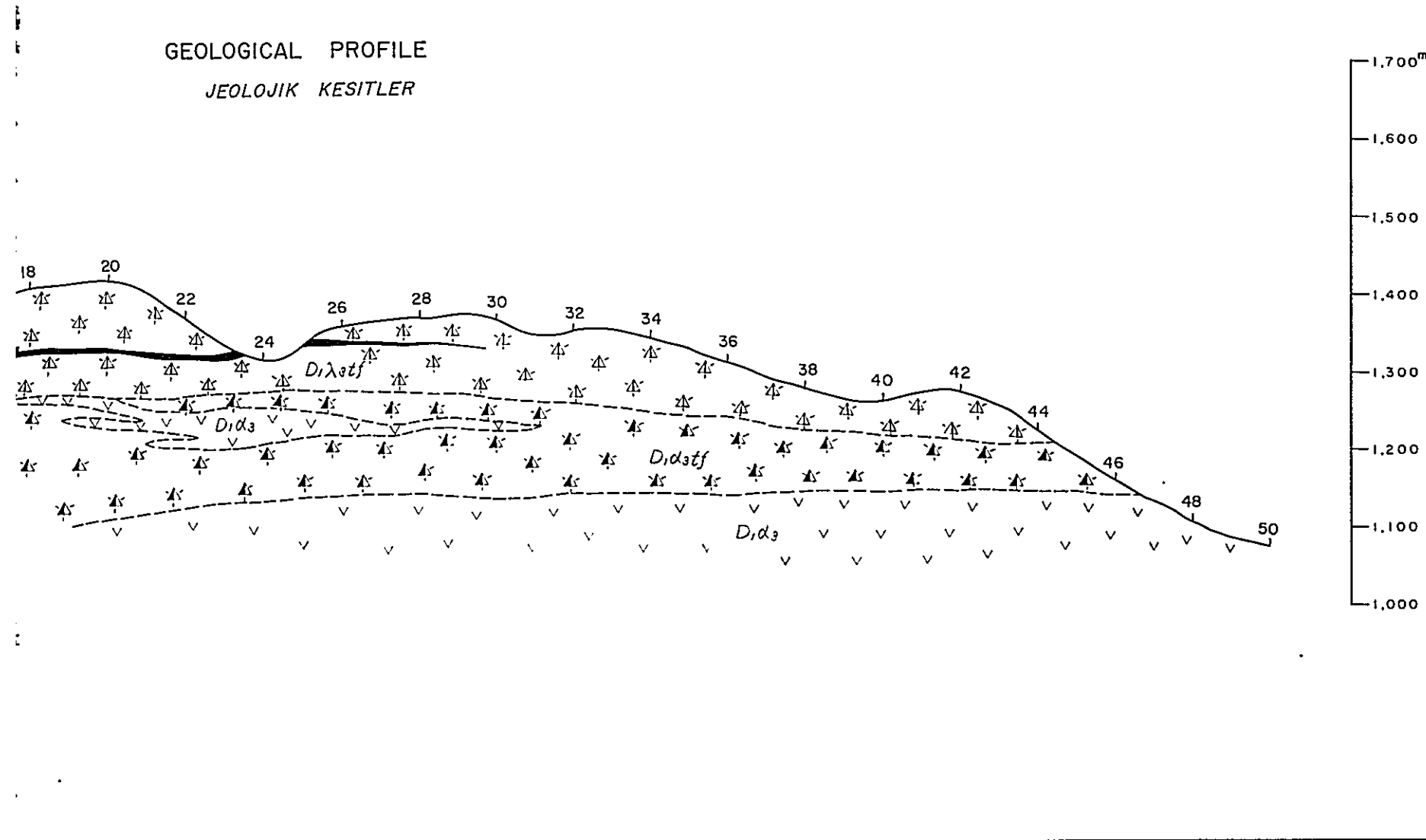
- ILLAND**
-  dacite
dazit
 -  dacite tuff, lapilli tuff, tuff breccia
dazit tuf lapilli tuf tuf breş
 -  andesite
andezit
 -  andesite tuff, lapilli tuff, tuff breccia
andezit tuf lapilli tuf tuf breş
 -  basalt
bazalt
 -  andesite
andezit
 -  quartz diorite
kuvars diorit
 -  name of rock facies based on member
 -  ore horizon
cehler seviye
- Intrusive rocks
Intruziyeler

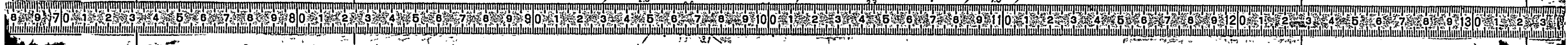
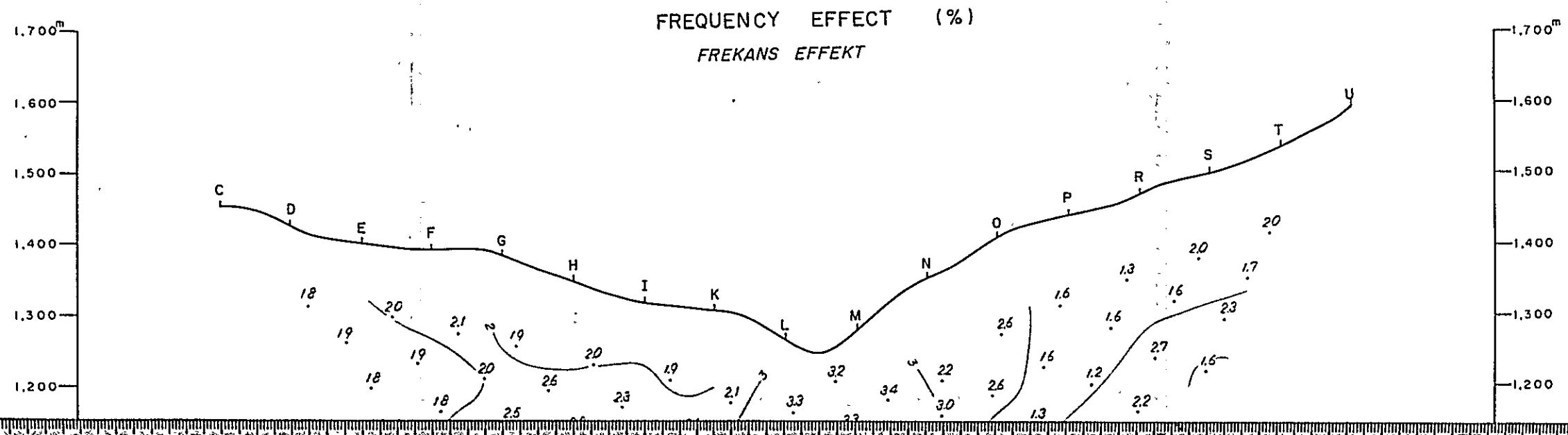
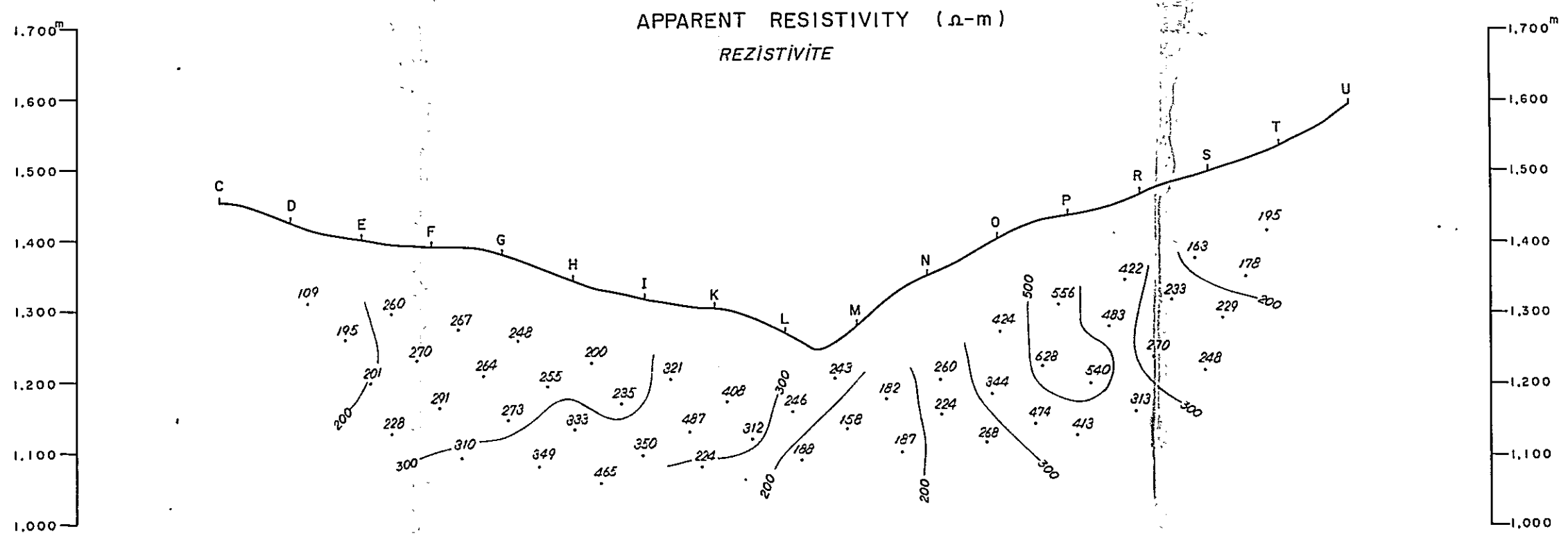






GEOLOGICAL PROFILE
 JEOLUJK KESITLER





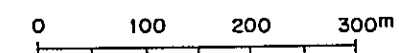
PL-9-13

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY

PHASE III

CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS BAZ LINE
KEN DERE · FOL DERE
IP KESİTLERİ

Scale 1 : 5,000
Ölçek



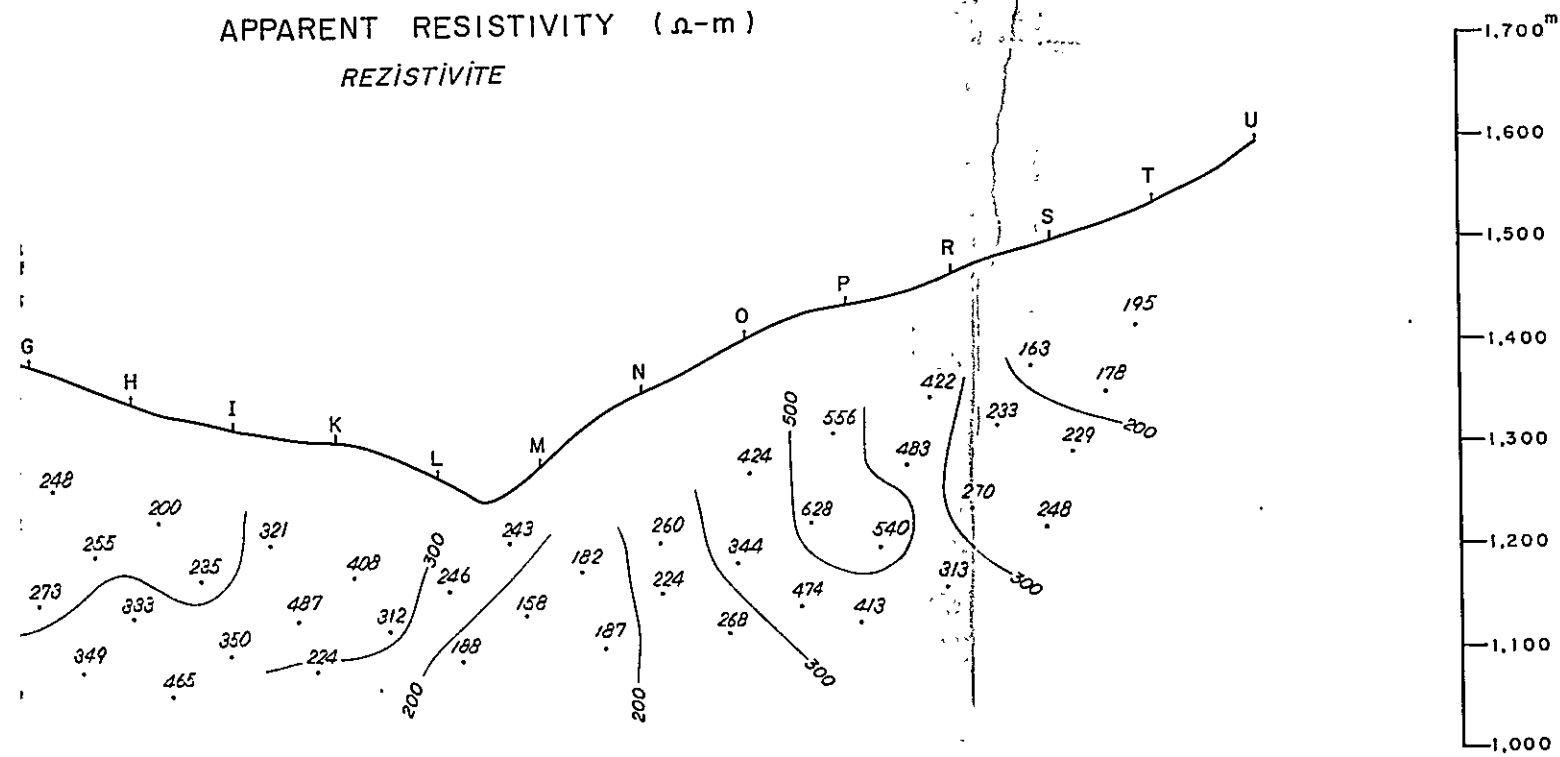
METAL MINING AGENCY OF JAPAN

JAPAN INTERNATIONAL COOPERATION AGENCY

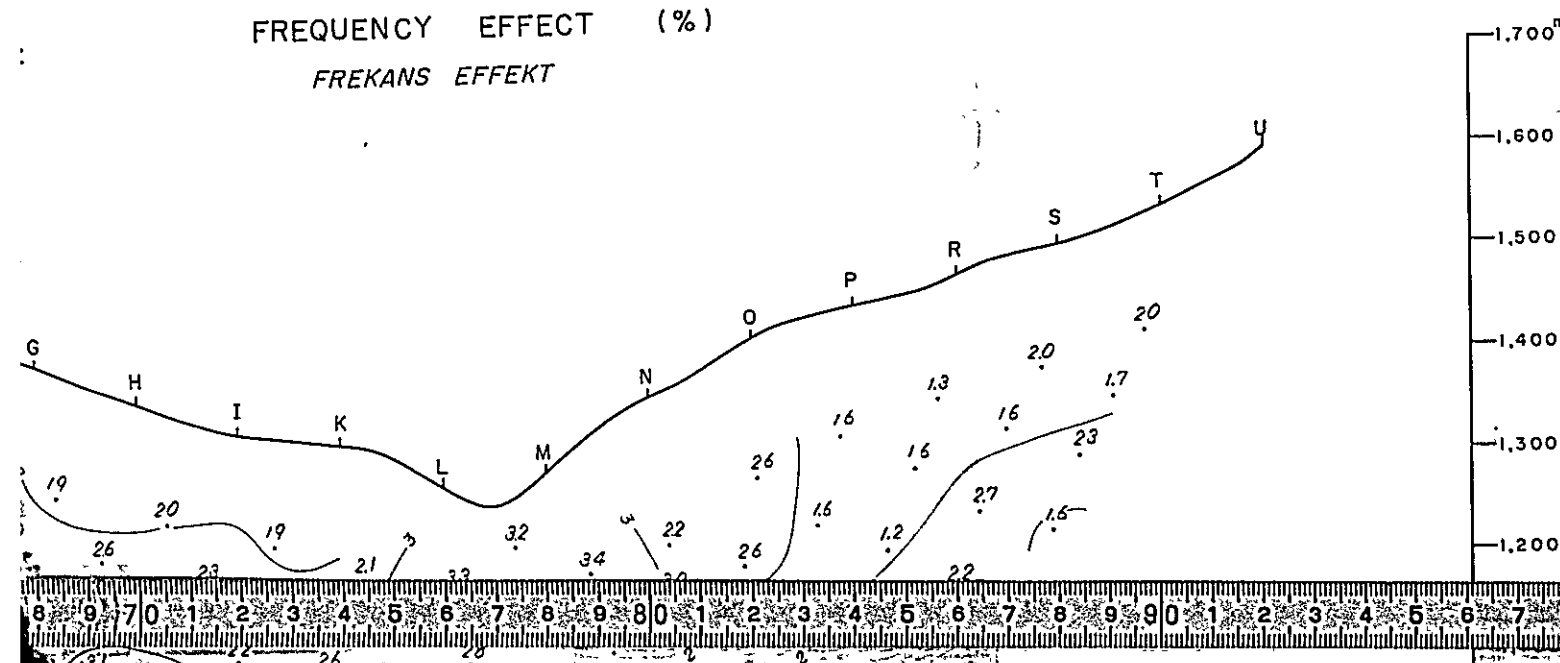
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd.

APPARENT RESISTIVITY (Ω -m)
REZİSTİVİTE

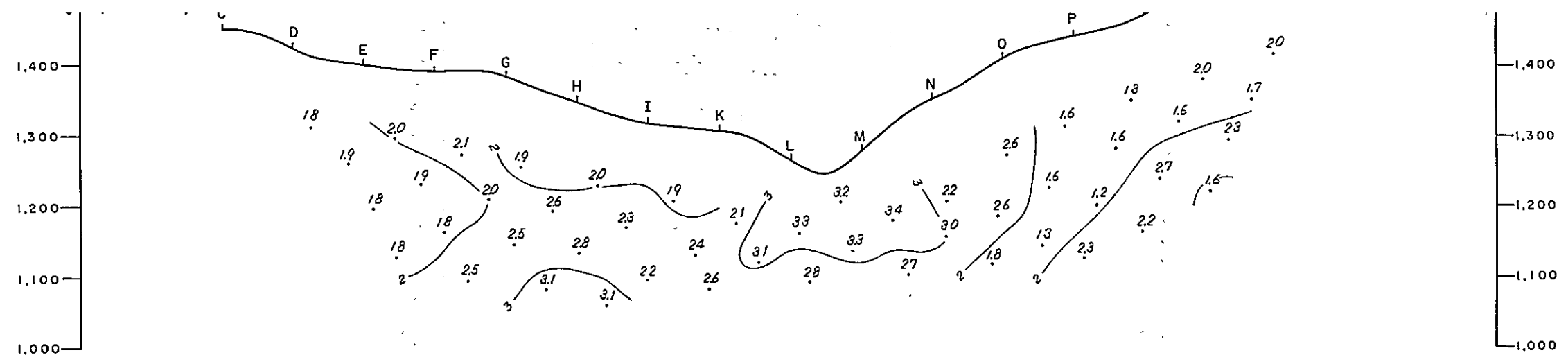


FREQUENCY EFFECT (%)
FREKANS EFEKTİ

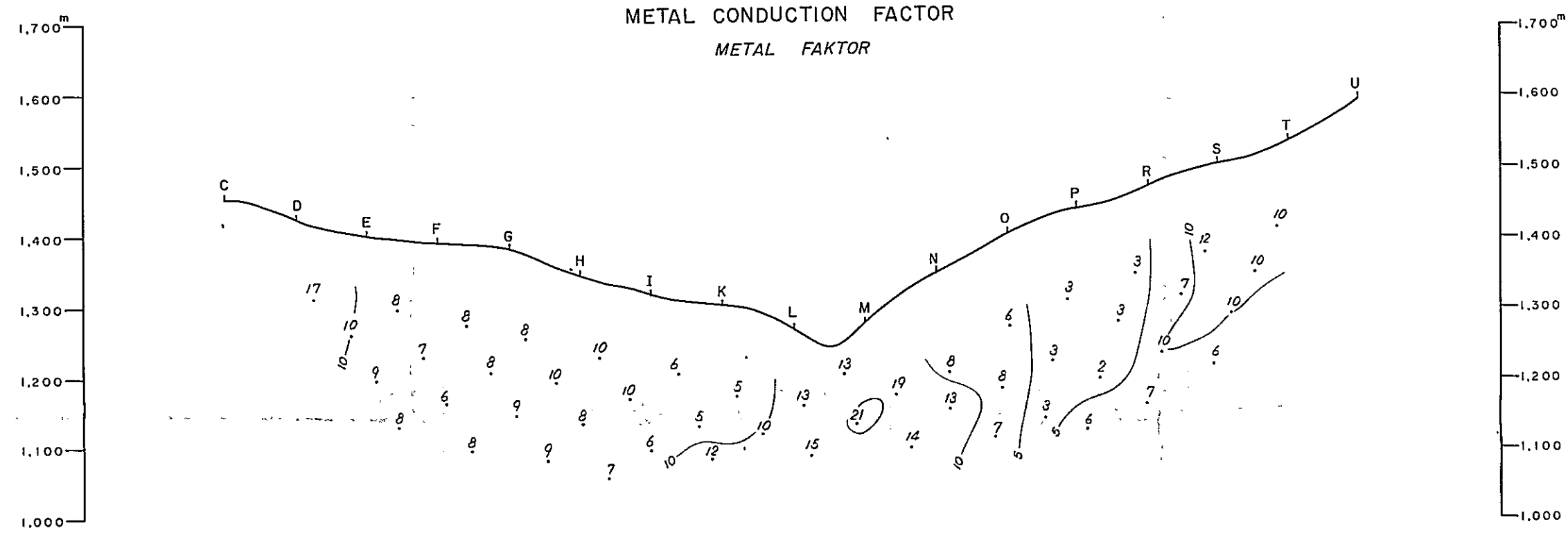


LEGEND
LEJAN

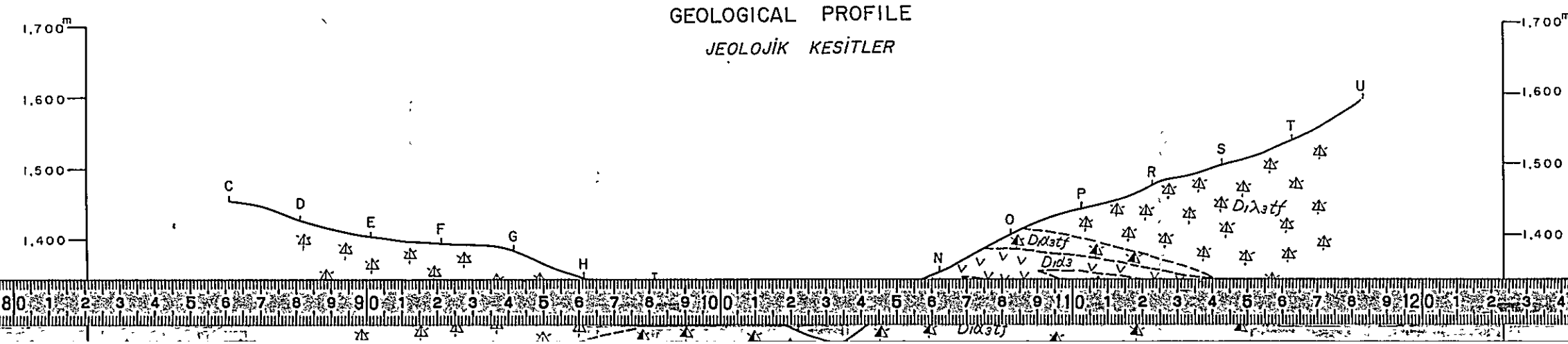
- dacite
dasit
- dacite tuff, lapilli tuff, tuff breccia
dasit tuf, lapilli tuf, tuf breş
- andesite
andezit
- andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breş

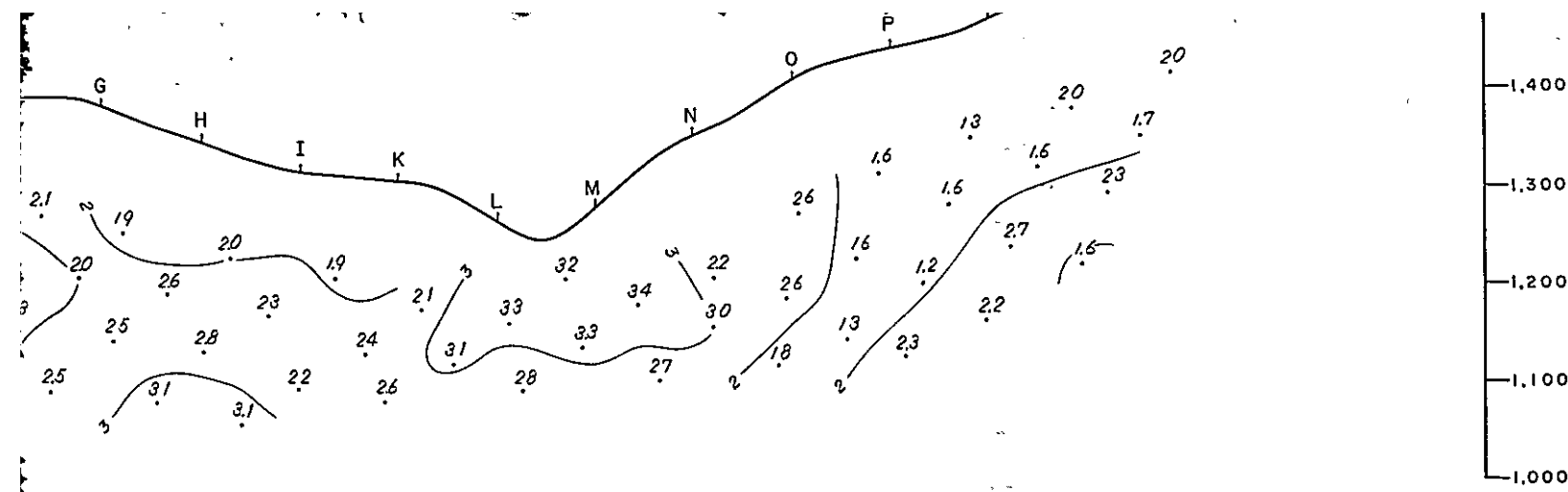


METAL CONDUCTION FACTOR
METAL FAKTOR

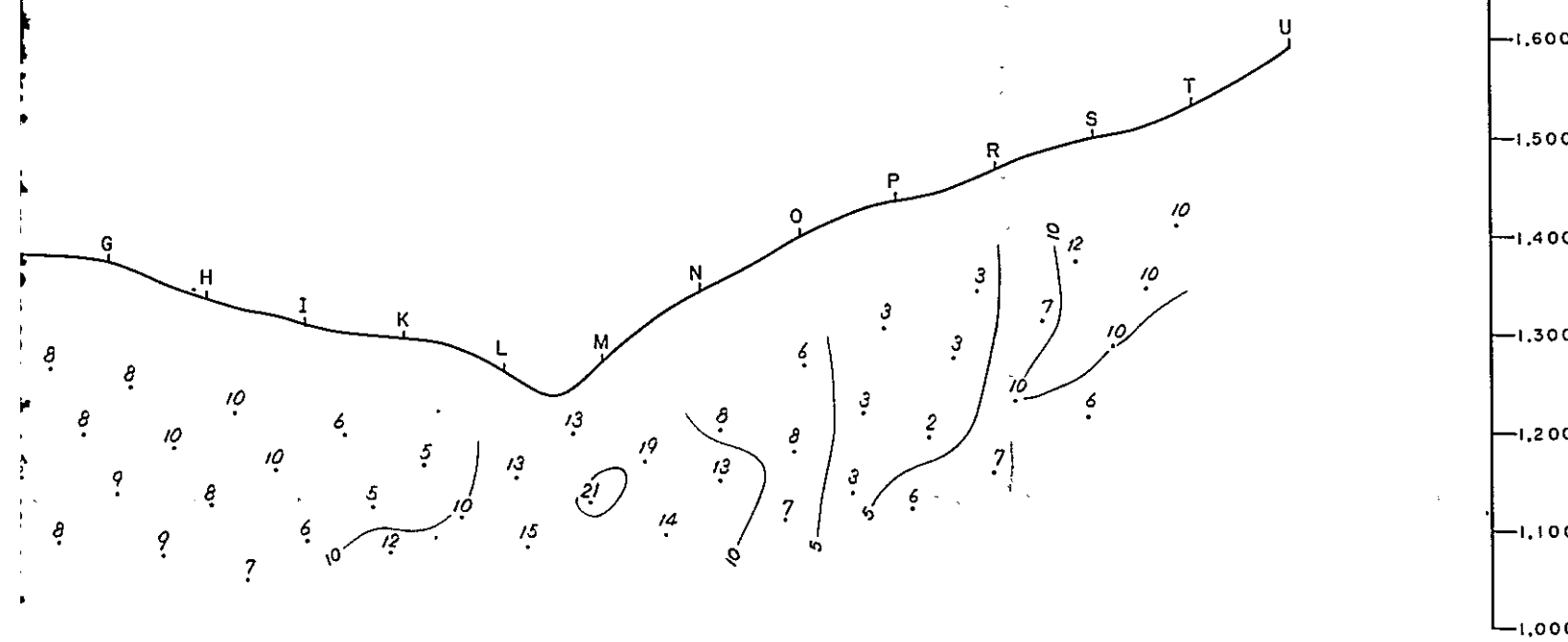


GEOLOGICAL PROFILE
JEOLJİK KESİTLER

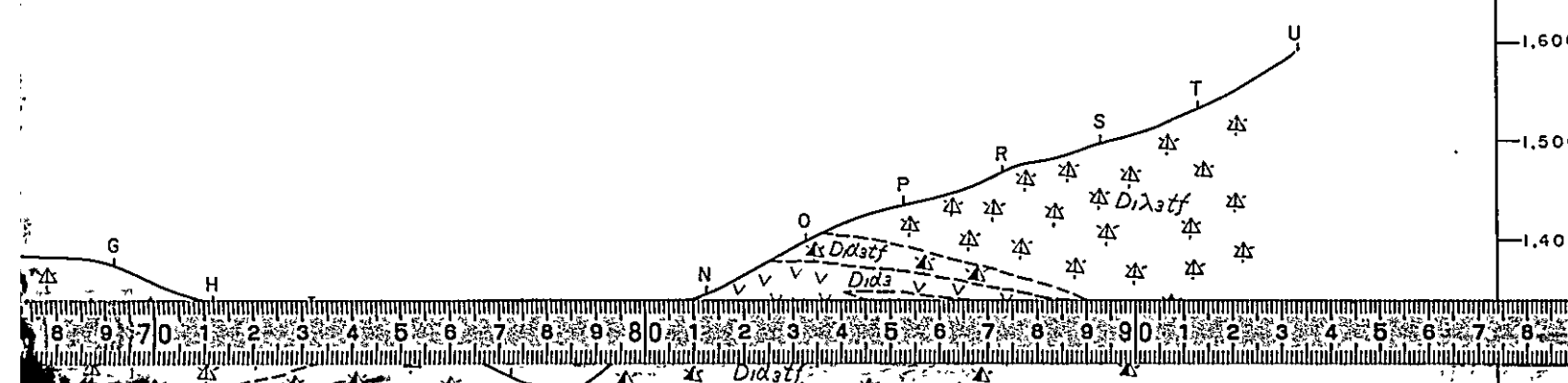




METAL CONDUCTION FACTOR
METAL FAKTÖR

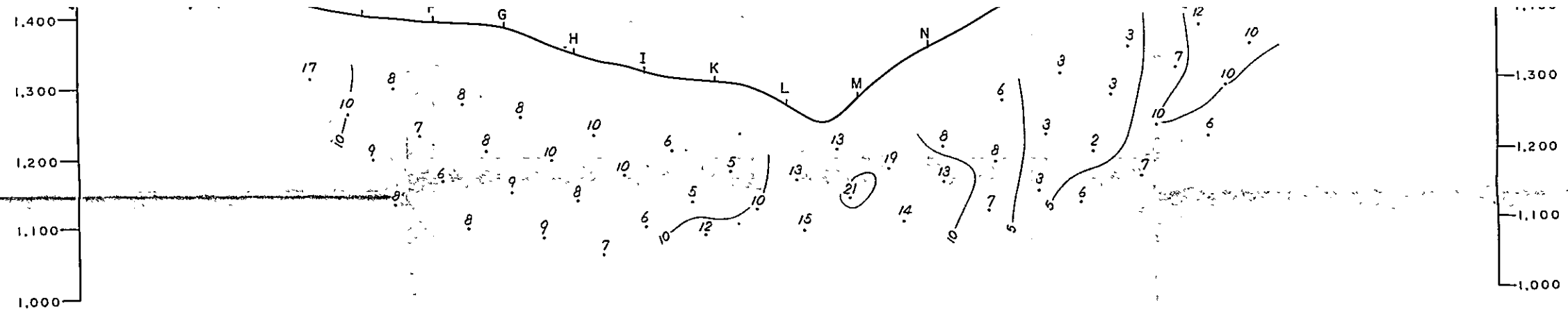


GEOLOGICAL PROFILE
JEOLÓJIK KESİTLER

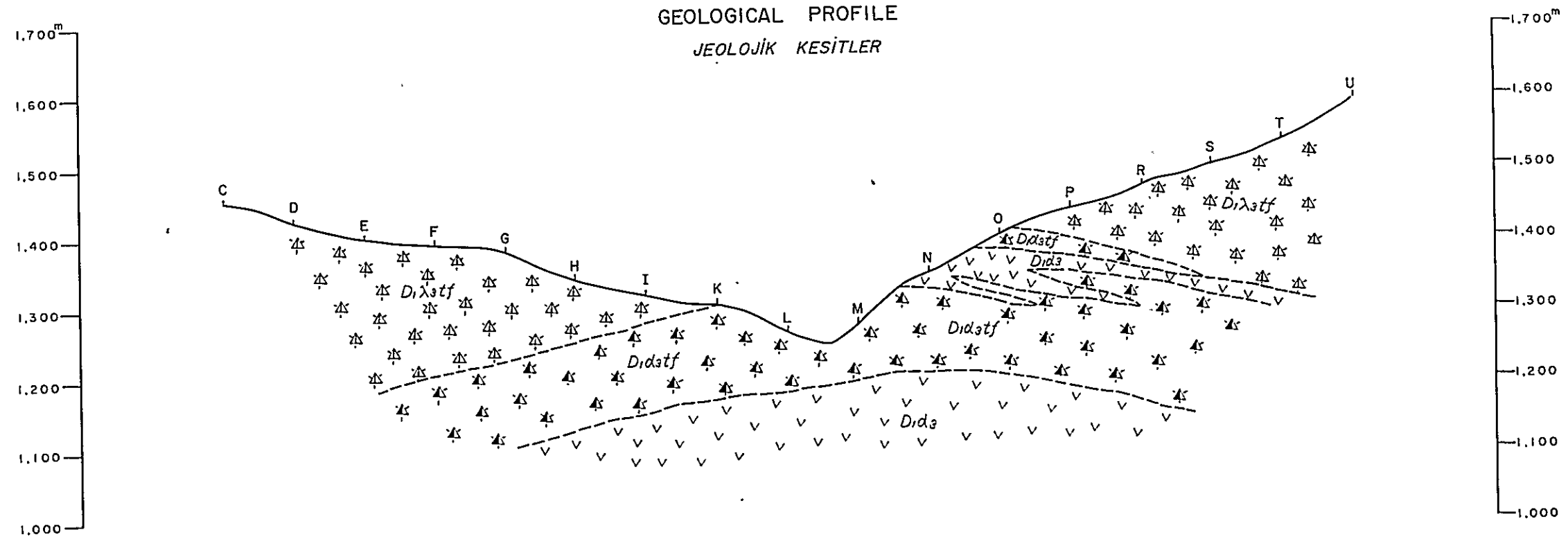


LEGEND
LEJAND

- dacite
dasit
 - dacite tuff, lapilli tuff, tuff breccia
dasit tuf, lapilli tuf, tuf breş
 - andesite
andezit
 - andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breş
 - basalt
bazalt
 - andesite
andezit
 - quartz diorite
kvarz diorit
 - name of rock facies based on member
 - ore horizon
cevher seviye
- Intrusive rocks
Intruzifler

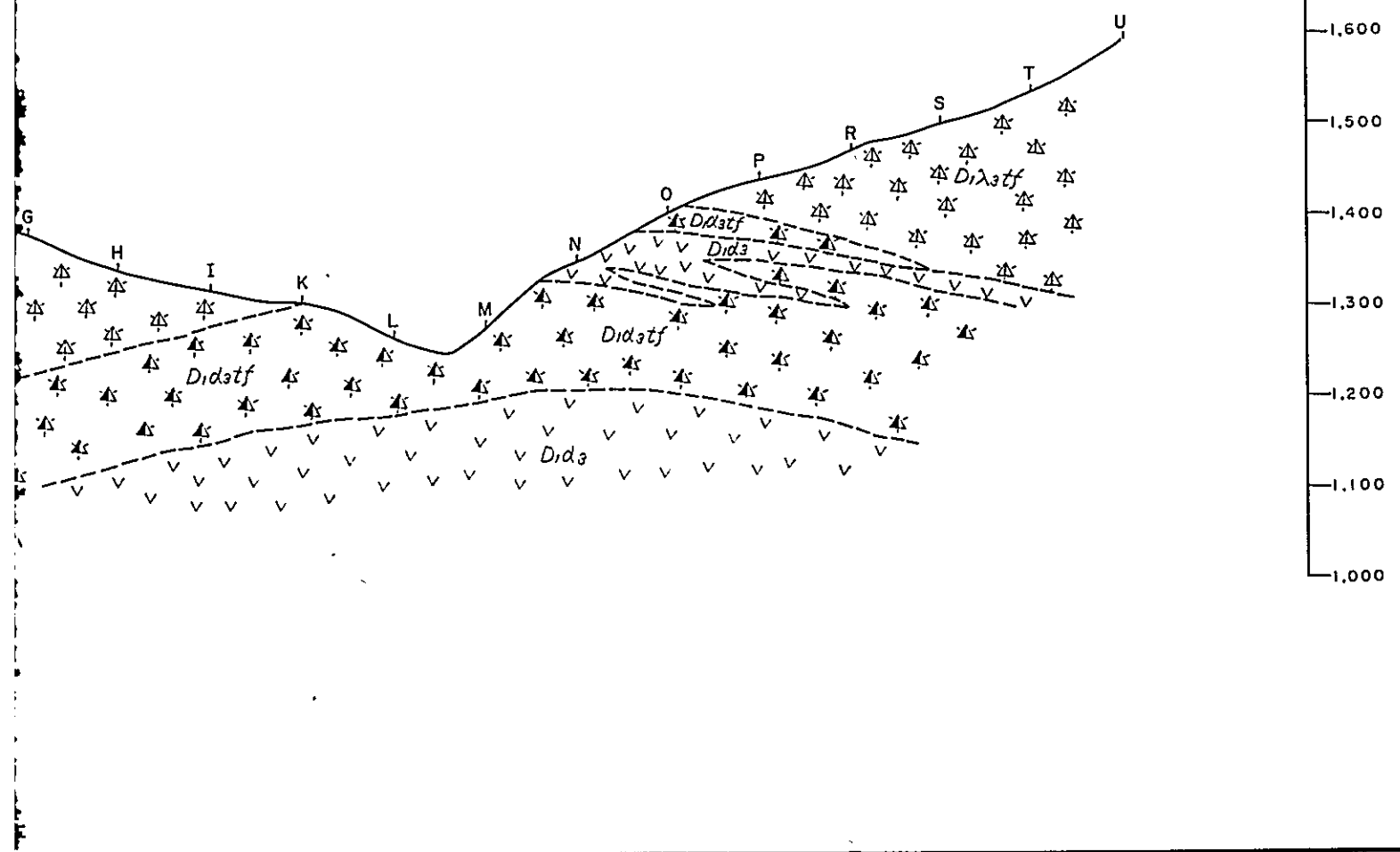


GEOLOGICAL PROFILE
 JEOLJİK KESİTLER





GEOLOGICAL PROFILE
 JEOLÖJİK KESİTLER



PL-9-14

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY

PHASE III

CROSS SECTIONS OF INDUCED POLARIZATION
ACROSS I LINE
KEN DERE FOL DERE
IP KESİTLERİ

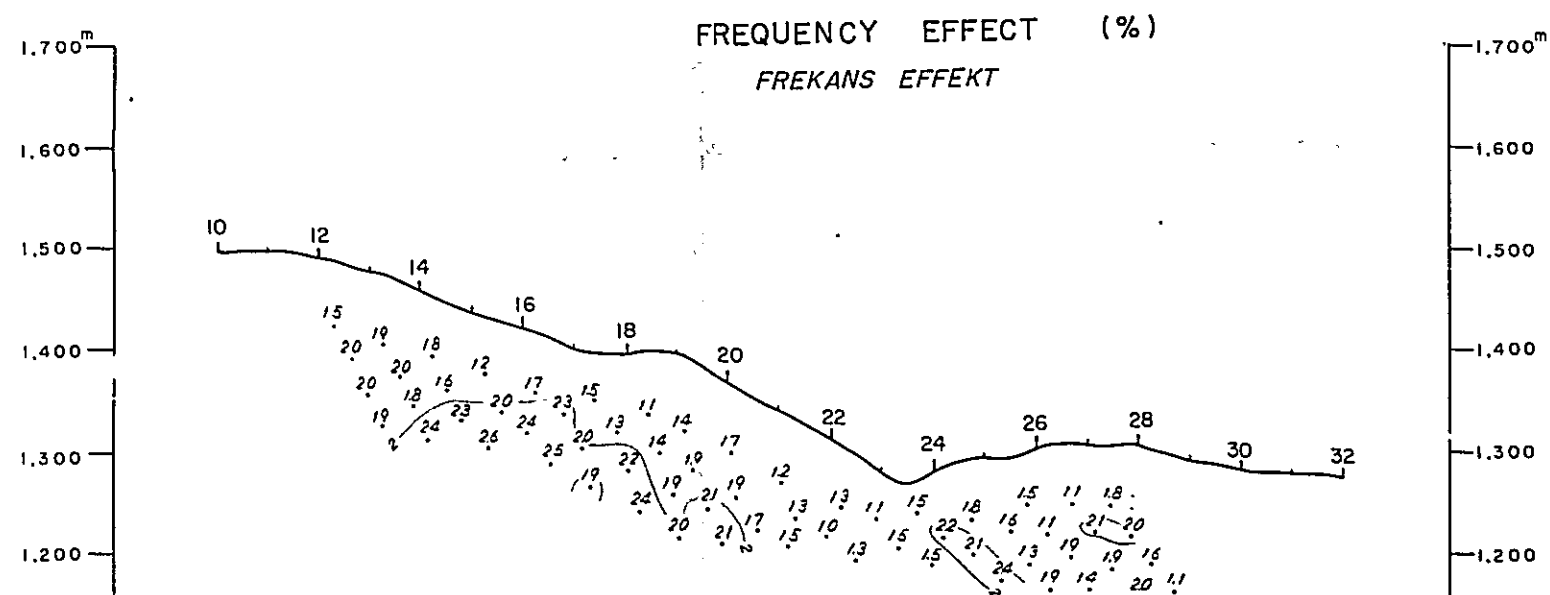
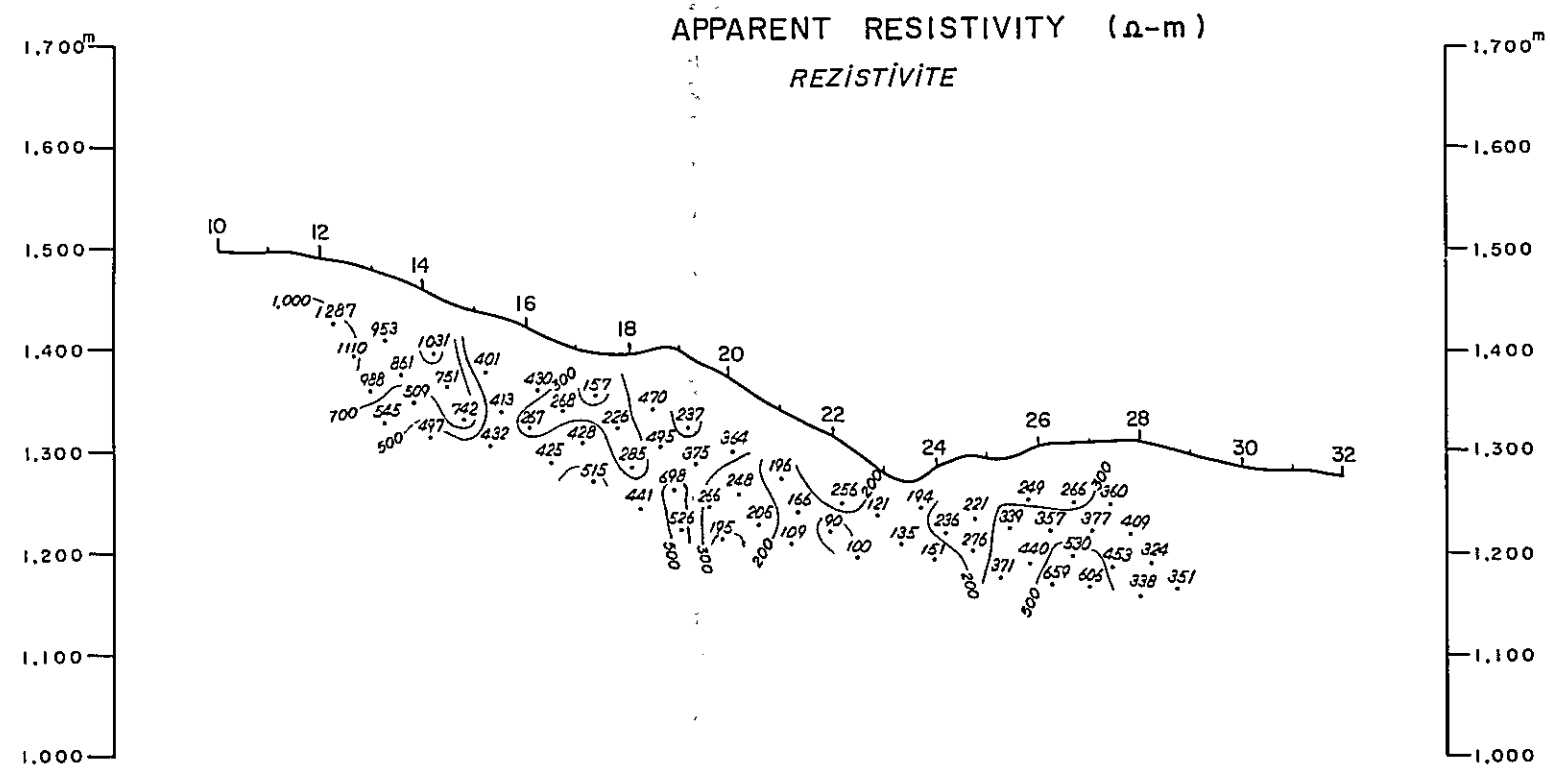
Scale
Ölçek 1 : 5,000

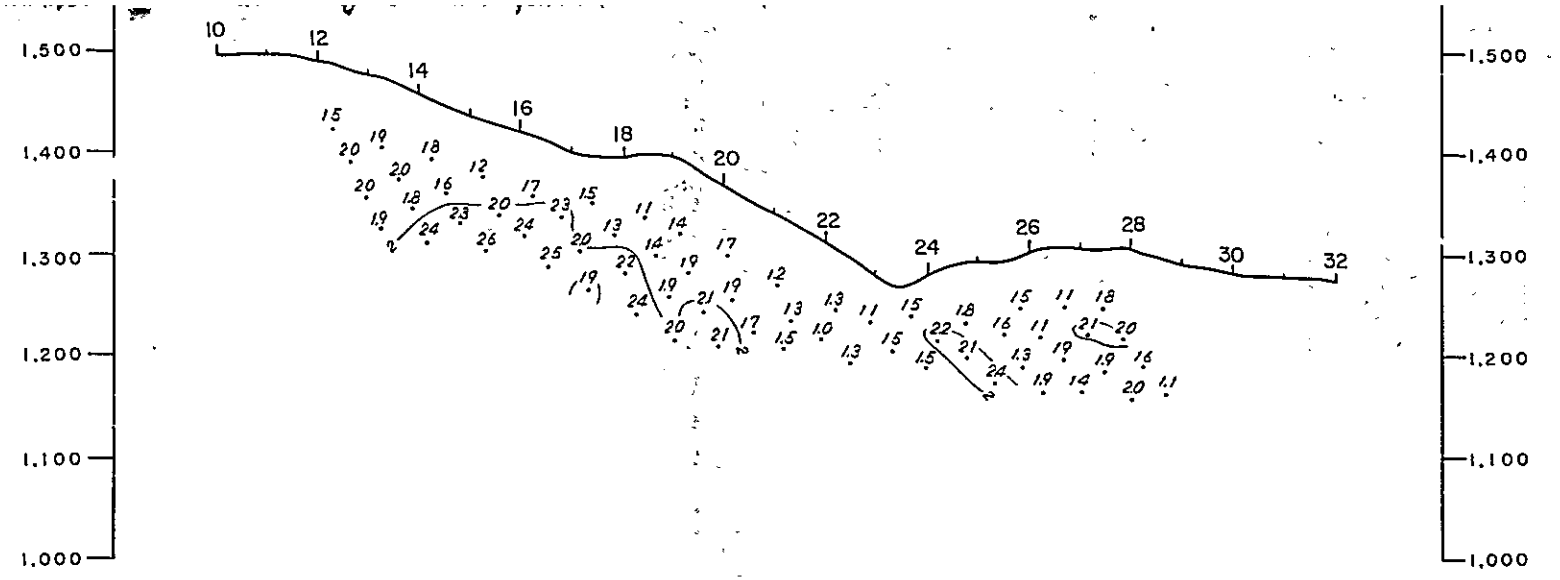


METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

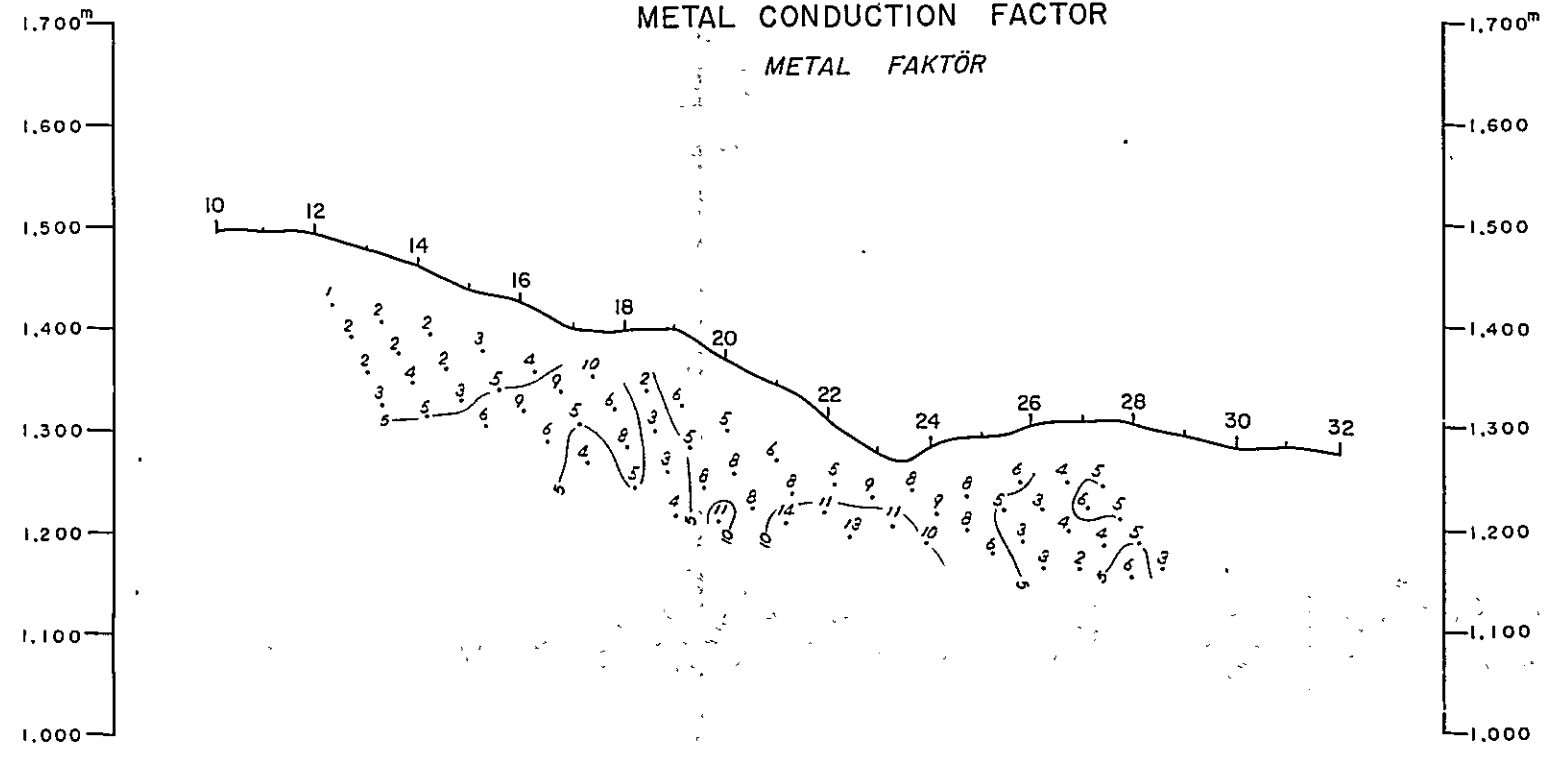
FEBRUARY 1977

Prepared by Nikko Exploration & Development Co., Ltd.

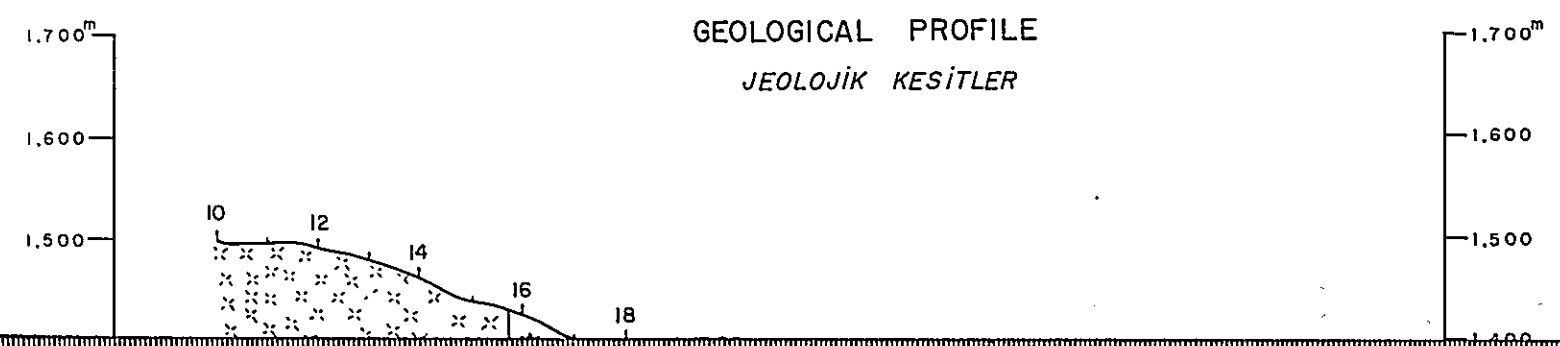













METAL CONDUCTION FACTOR
METAL FAKTÖR



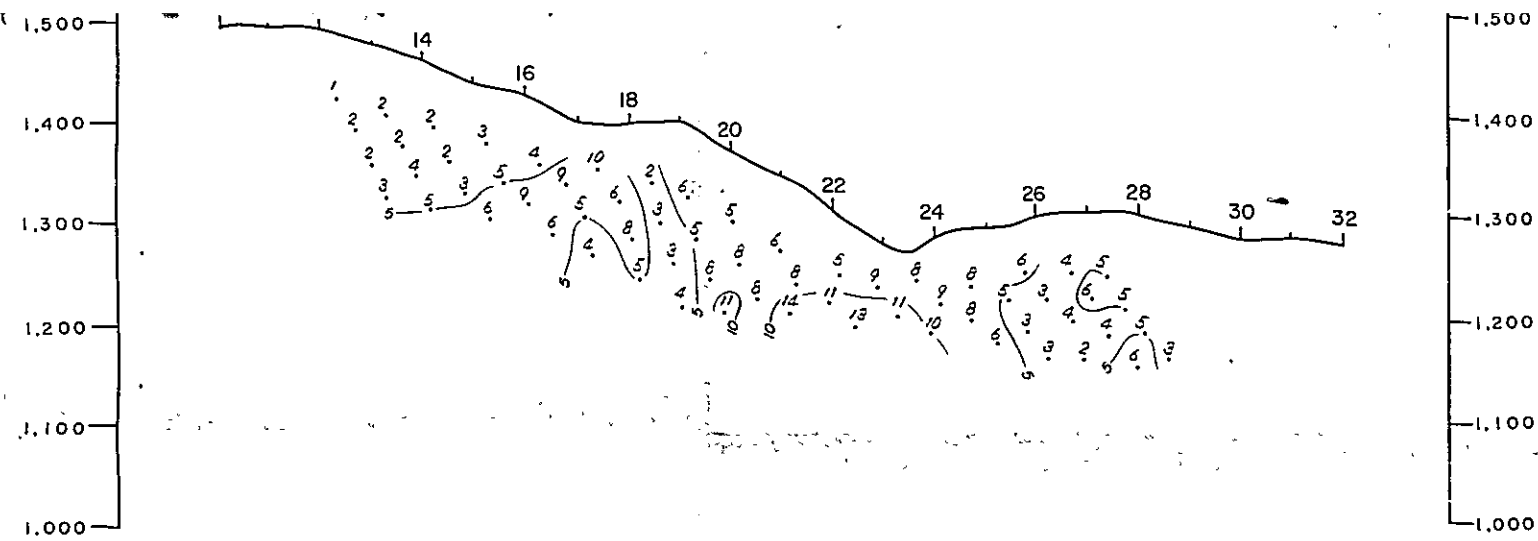
GEOLOGICAL PROFILE
JEOLOJİK KESİTLER









LEGEND
LEJAND

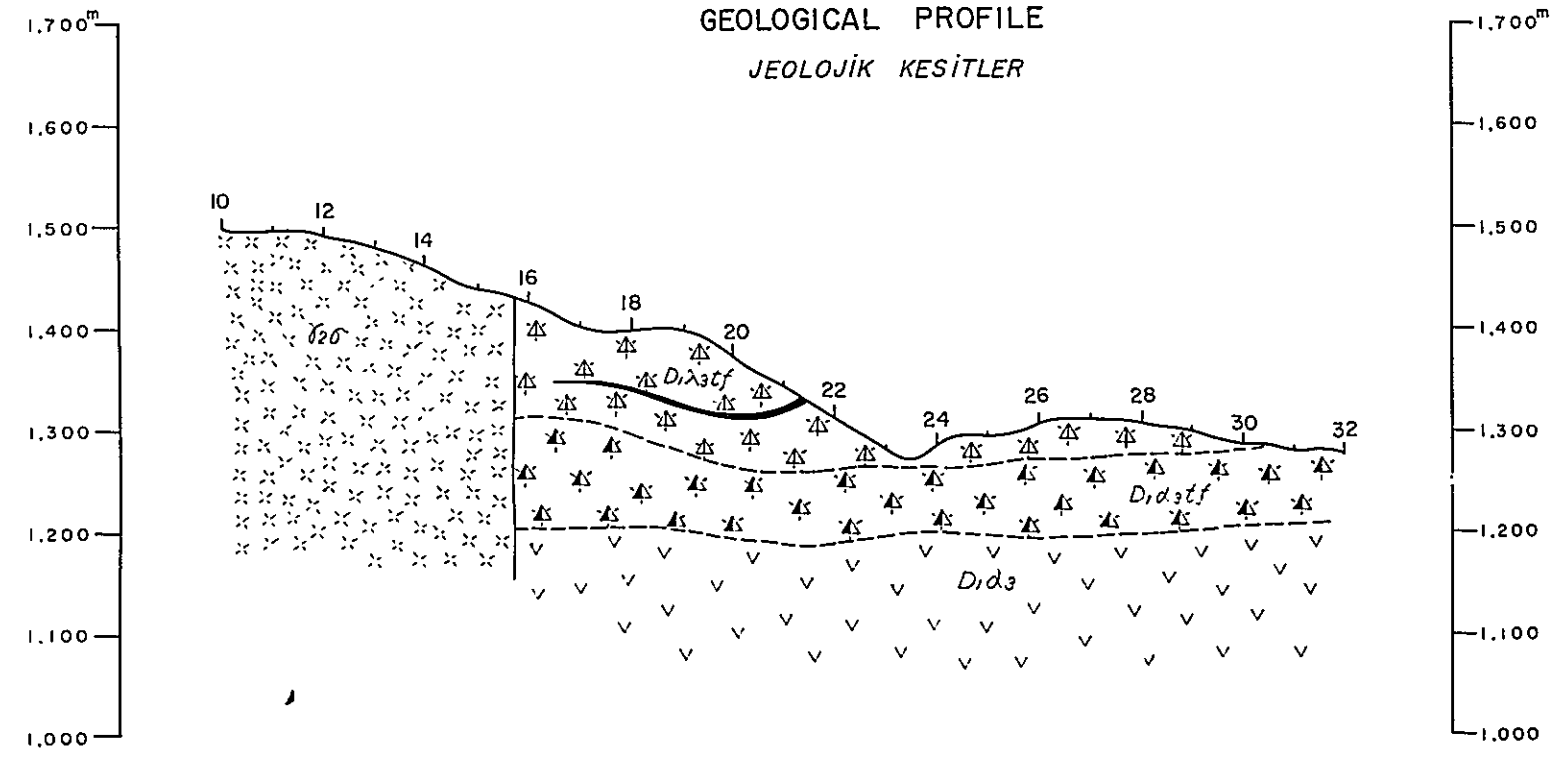
-  dacite
dazit
 -  dacite tuff, lapilli tuff, tuff breccia
dazit tuf. lapilli tuf. tuf breş
 -  andesite
andezit
 -  andesite tuff, lapilli tuff, tuff breccia
andezit tuf. lapilli tuf. tuf breş
 -  basalt
bazalt
 -  andesite
andezit
 -  quartz diorite
kuvarlı diorit
 -  name of rock facies based on member
 -  ore horizon
ceher seviye
- } Intrusive rocks
Intruzifler

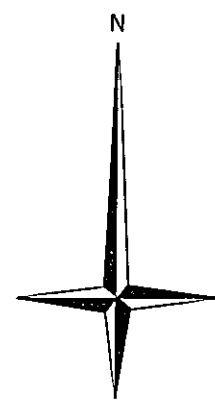
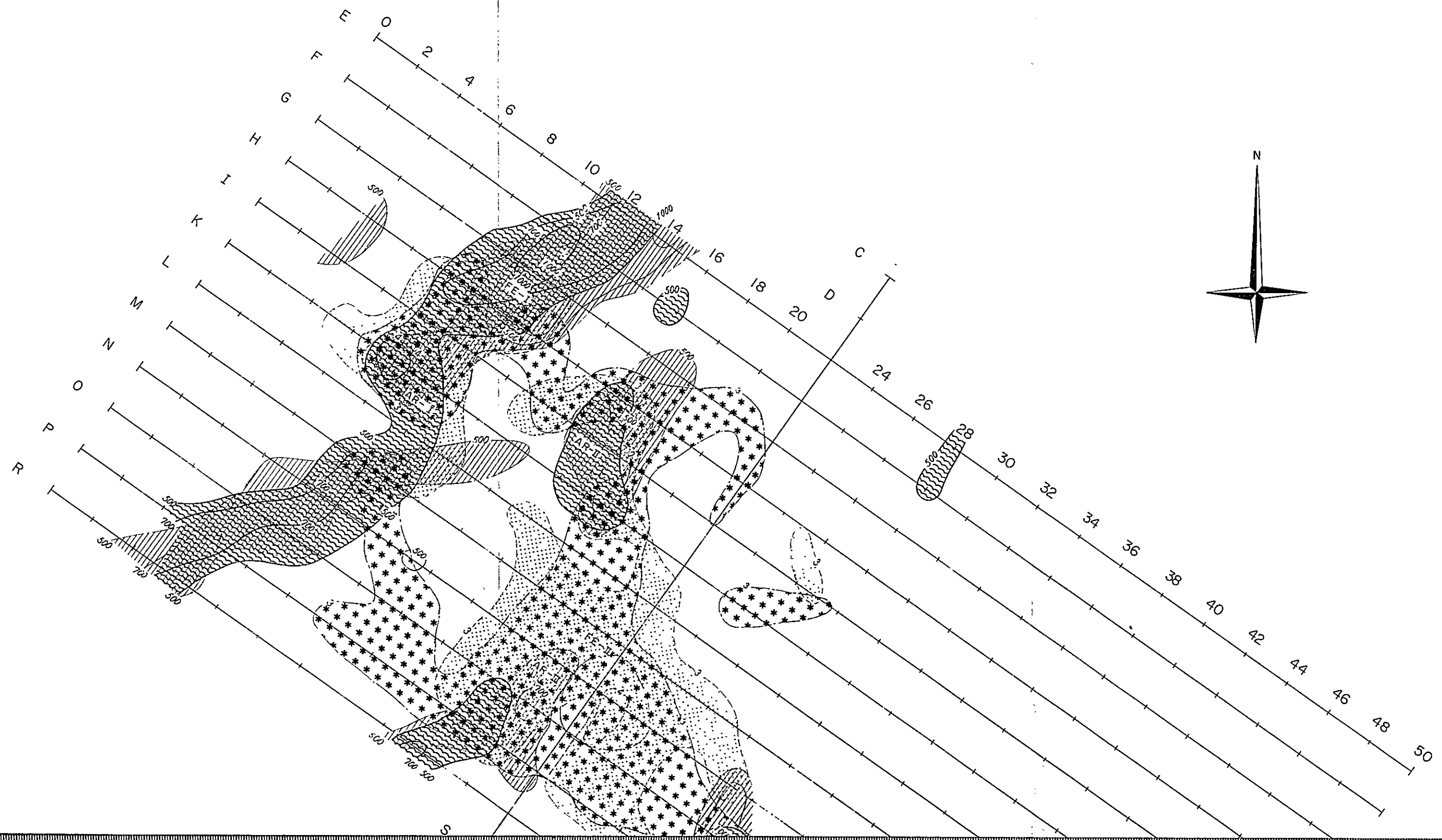




-  andesite tuff, lapilli tuff, tuff breccia
andezit tuf, lapilli tuf, tuf breç
 -  basalt
bazalt
 -  andesite
andezit
 -  quartz diorite
kuvarlı diorit
 -  name of rock facies based on member
 -  ore horizon
cevher seviye
- Intrusive rocks
Intruzifler

GEOLOGICAL PROFILE
JEOLOJİK KESİTLER





PL - 10

MINERAL RESEARCH AND EXPLORATION INSTITUTE
GEOLOGICAL SURVEY
OF
TRABZON AREA, NORTHEASTERN TURKEY
PHASE III

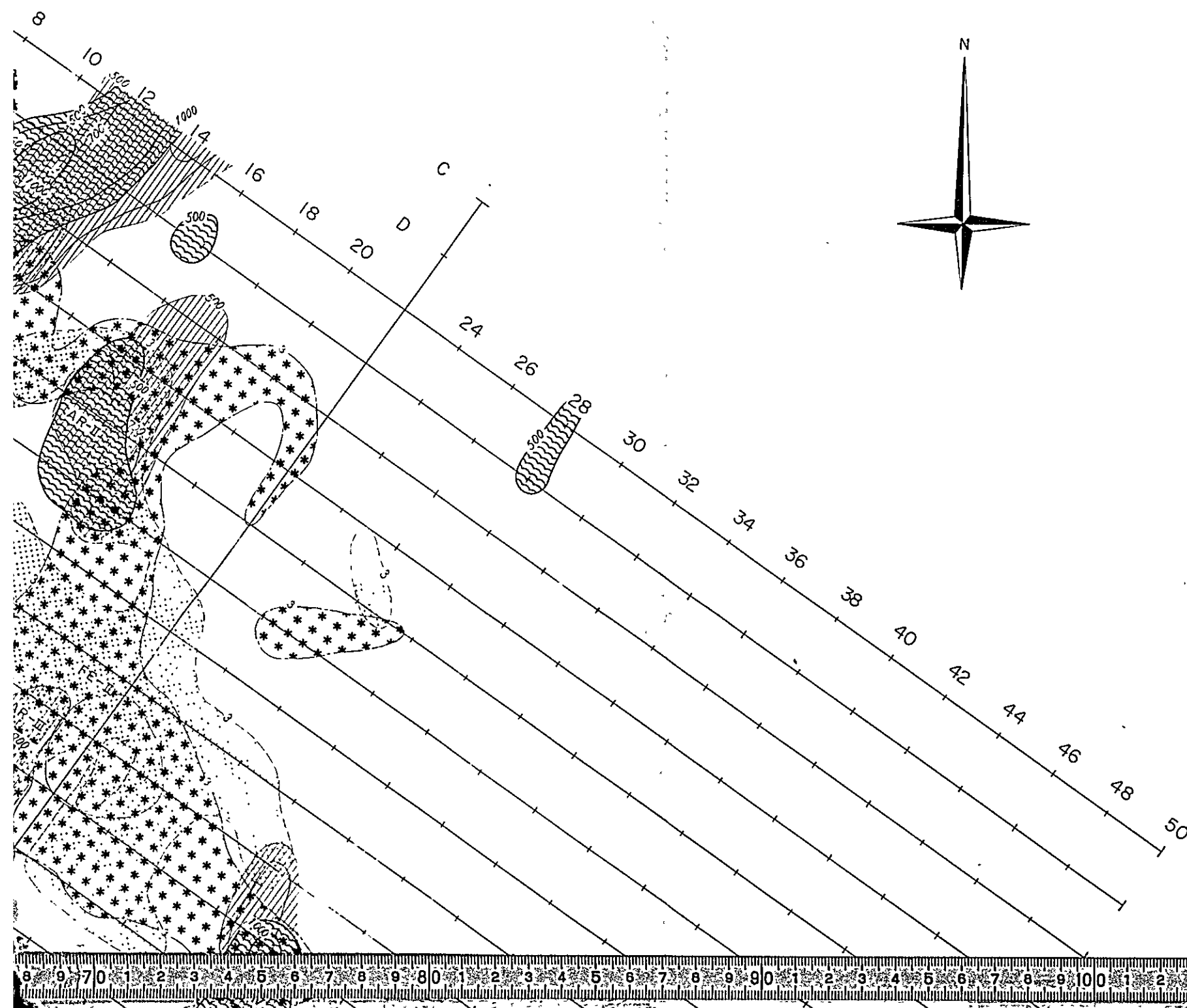
INTERPRETATION MAP OF IP SURVEY
YORUM HARITASI

Scale
Ölçek 1 : 5,000
0 100 200 300m




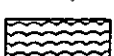
METAL MINING AGENCY OF JAPAN
JAPAN INTERNATIONAL COOPERATION AGENCY

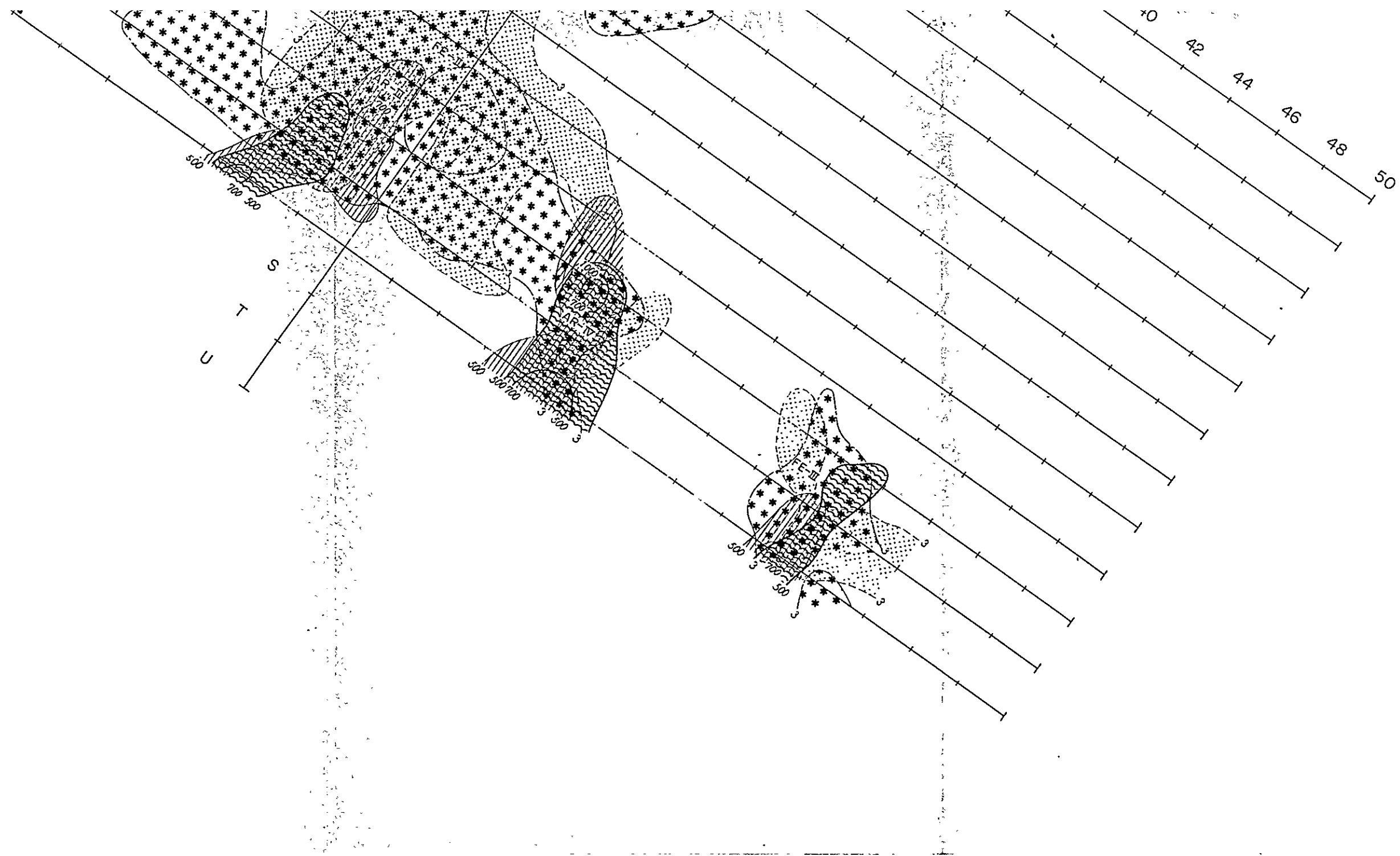
FEBRUARY 1977

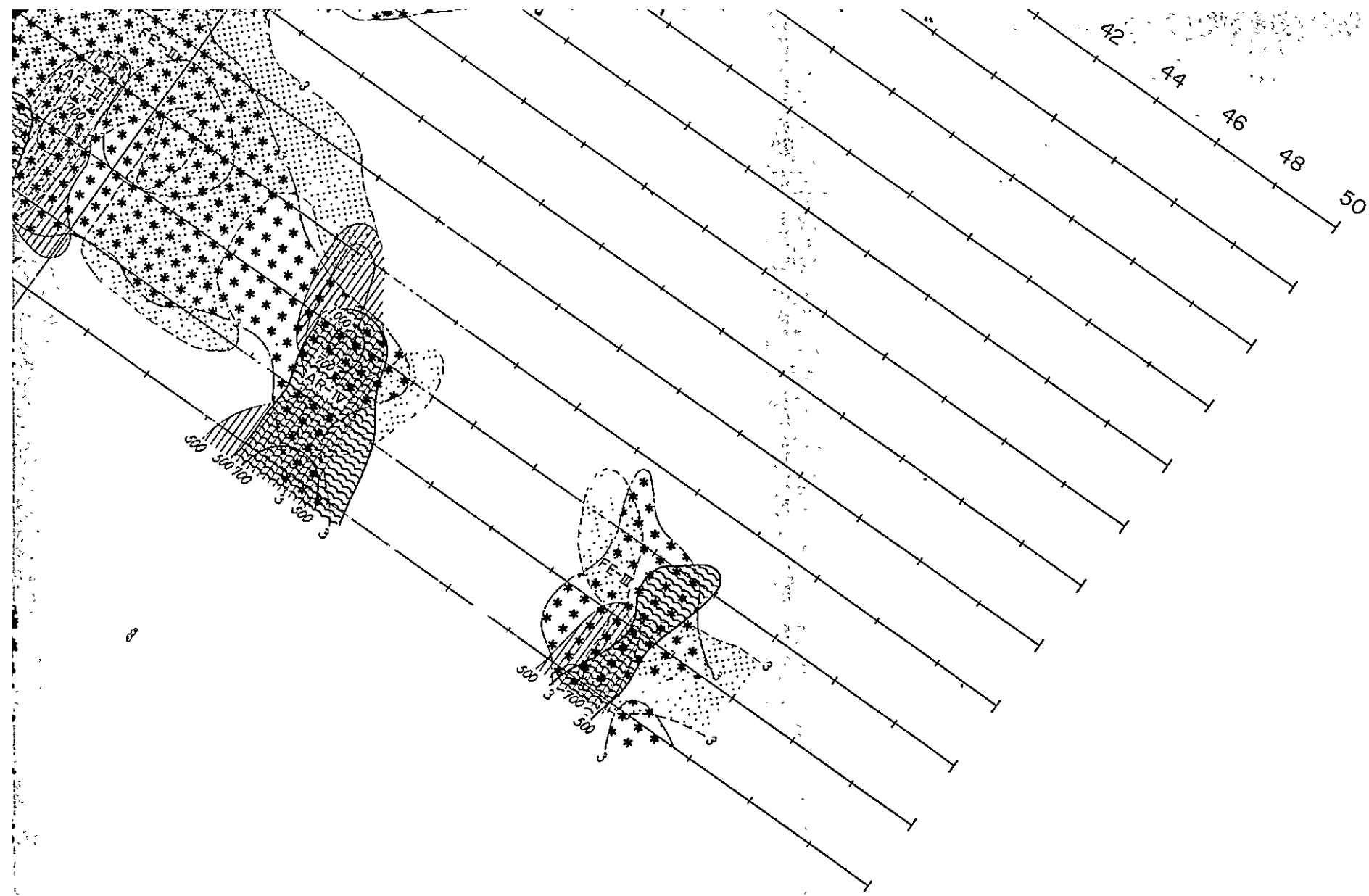
Prepared by Nikko Exploration & Development Co., Ltd.






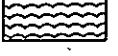
LEGEND
LEJAND

-  frequency effect
frekans effekti $\geq 3, 4 (\%) n=3$
-  frequency effect
frekans effekti $\geq 1, 4 (\%) n=4$
-  apparent resistivity
rezistivite $\geq 500, 700, 1000 \Omega \cdot m n=3$
-  apparent resistivity
rezistivite $\geq 500, 700, 1000 (\Omega \cdot m) n=4$





LEGEND
LEJAND

-  frequency effect
frekans effekti $\approx 3-4$ (Ω) $n=3$
-  frequency effect
frekans effekti $\approx 3-4$ (Ω) $n=4$
-  apparent resistivity
rezistivite $\approx 500, 700, 1000$ $n=3$
-  apparent resistivity
rezistivite $\approx 500, 700, 1000$ (Ω m) $n=4$

