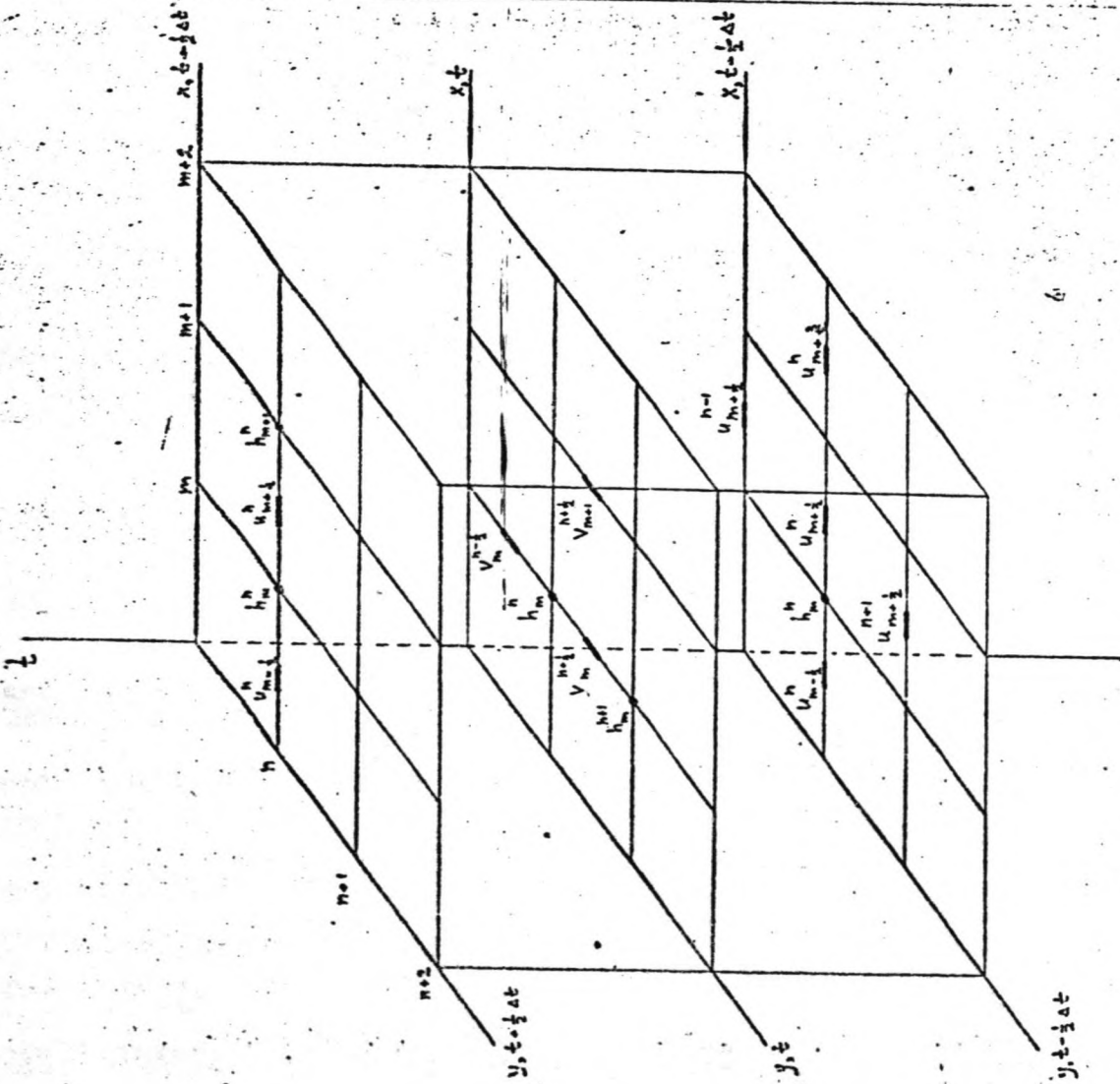




BIJLAGEN

behorende bij het deelontwerp
Vloeistofmechanica
van A.M. Burger

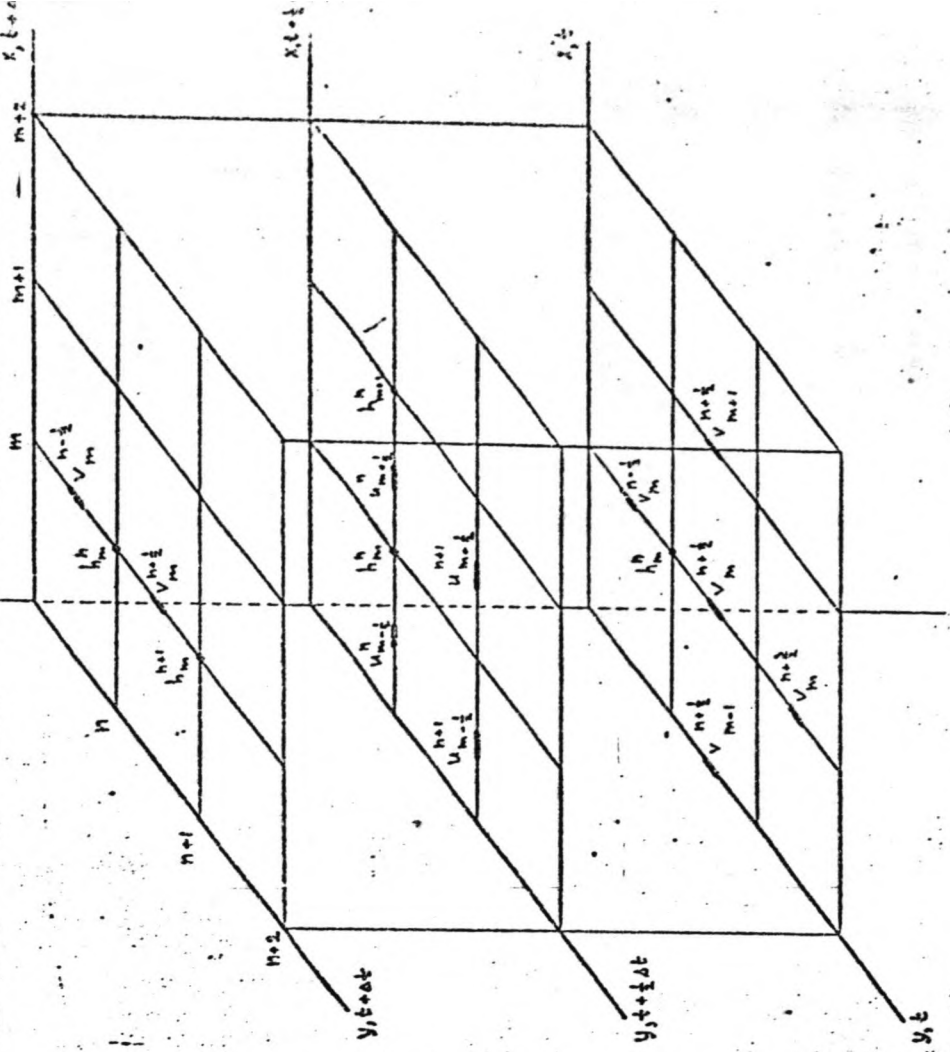




Rekenmolecuul voor de X-richting

$$\frac{\partial u}{\partial t} + u \frac{\partial u}{\partial x} + v \frac{\partial u}{\partial y} - \Omega v + g \frac{\partial h}{\partial x} + f \frac{u(u^2 + v^2)^{\frac{1}{2}}}{D} = 0 \quad (1)$$

$$(2) \quad (3) \quad (4) \quad (5) \quad (6)$$



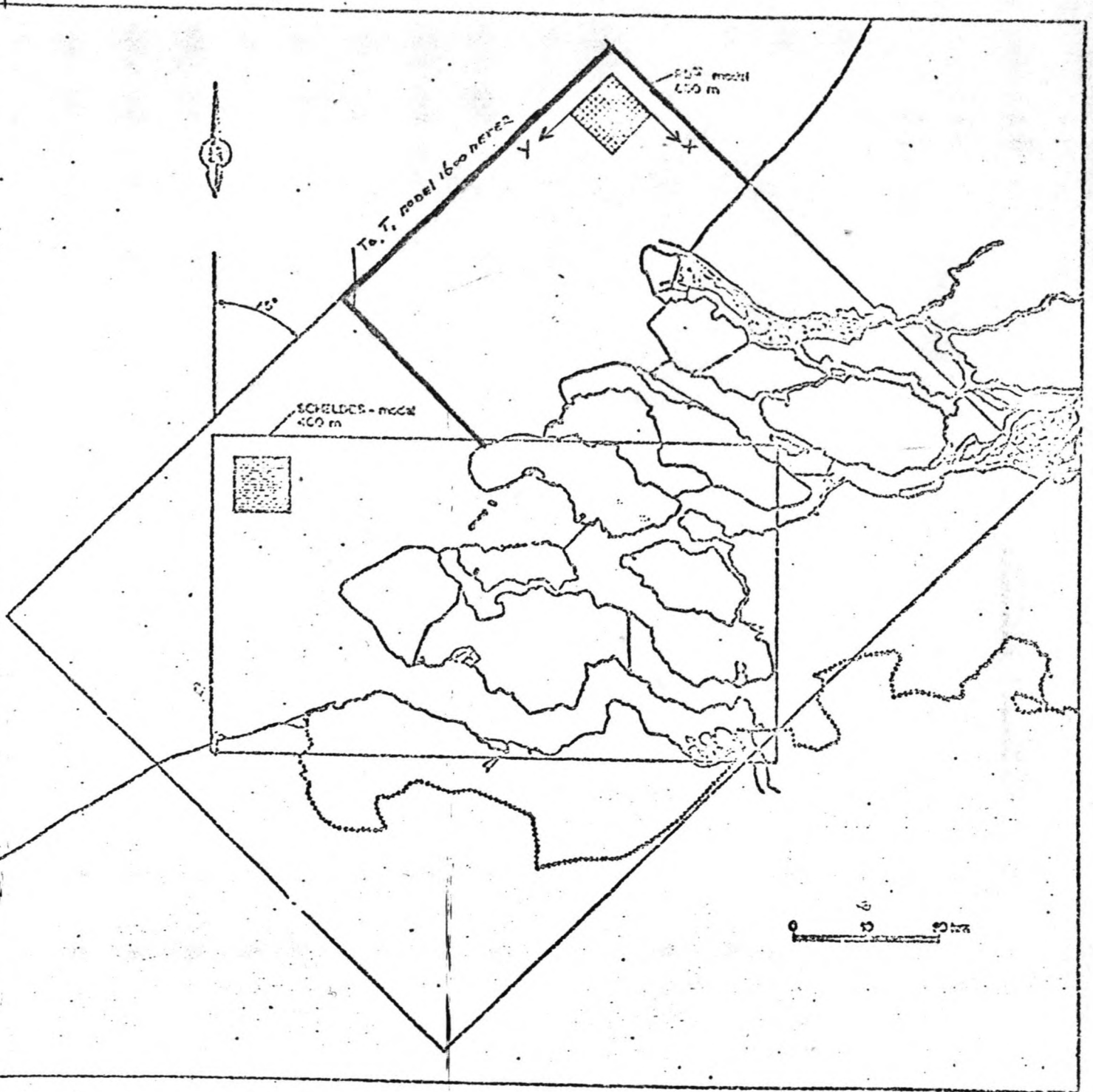
Rekenmolecuul voor de Y-richting

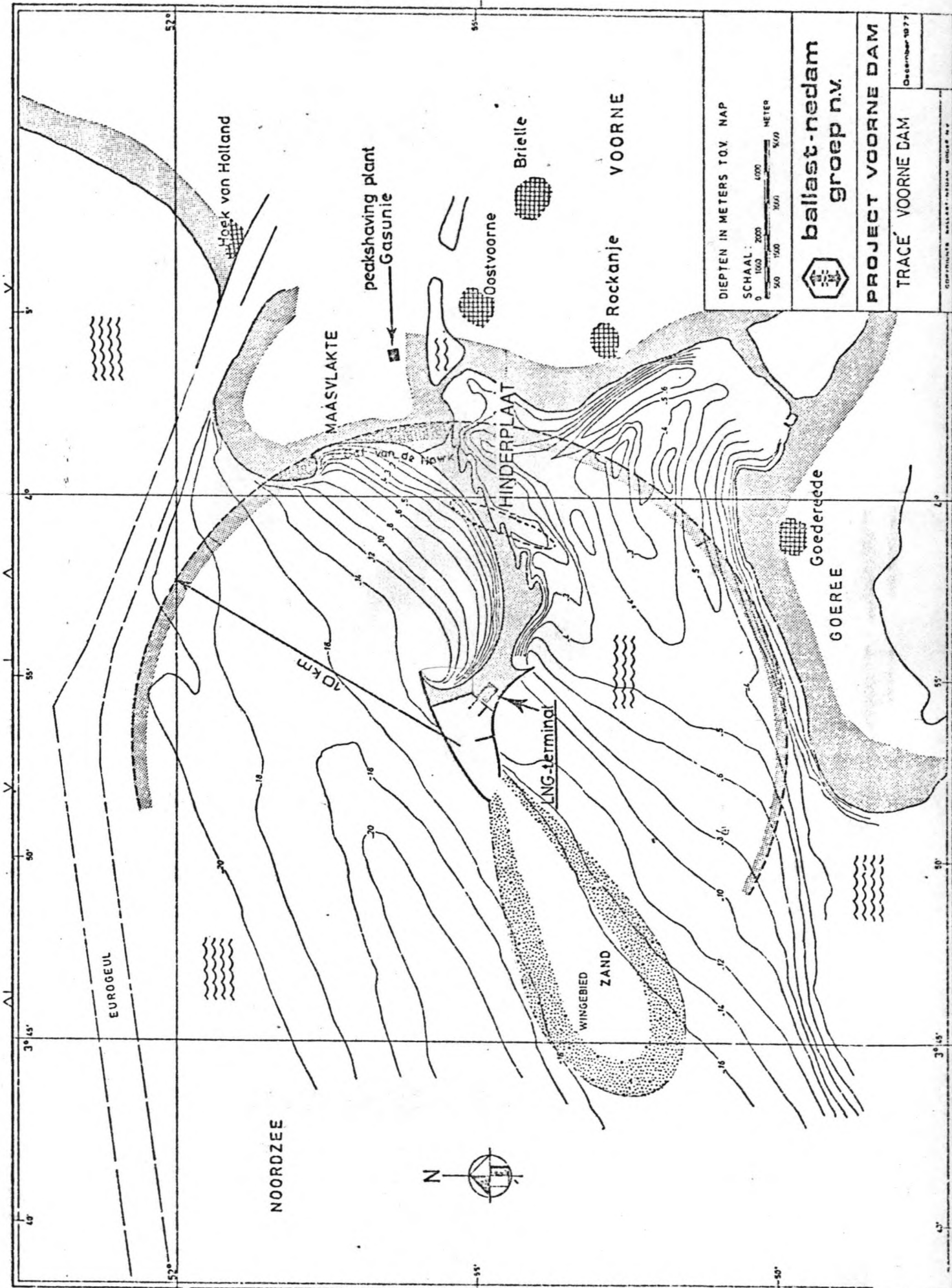
$$\frac{\partial v}{\partial t} + u \frac{\partial v}{\partial x} + v \frac{\partial v}{\partial y} + \Omega u + g \frac{\partial h}{\partial y} + f \frac{v(u^2 + v^2)^{\frac{1}{2}}}{D} = 0 \quad (1)$$

$$(2) \quad (3) \quad (4) \quad (5) \quad (6)$$

$$\text{Continuïteitsverg.} \quad \frac{\partial h}{\partial t} + (h-z) \frac{\partial u}{\partial x} + u \frac{\partial (h-z)}{\partial x} + (h-z) \frac{\partial v}{\partial y} + v \frac{\partial (h-z)}{\partial y} = 0 \quad (1)$$

$$(2) \quad (3) \quad (4) \quad (5)$$





DIEPTEN IN METERS TOV. NAP

SCHAAL :
0 1000 2000 3000 4000 5000
500 1500 2500 3500
METER



ballast-nedam
groep n.v.

PROJECT VOORNE DAM

TRACE VOORNE DAM

December 1977

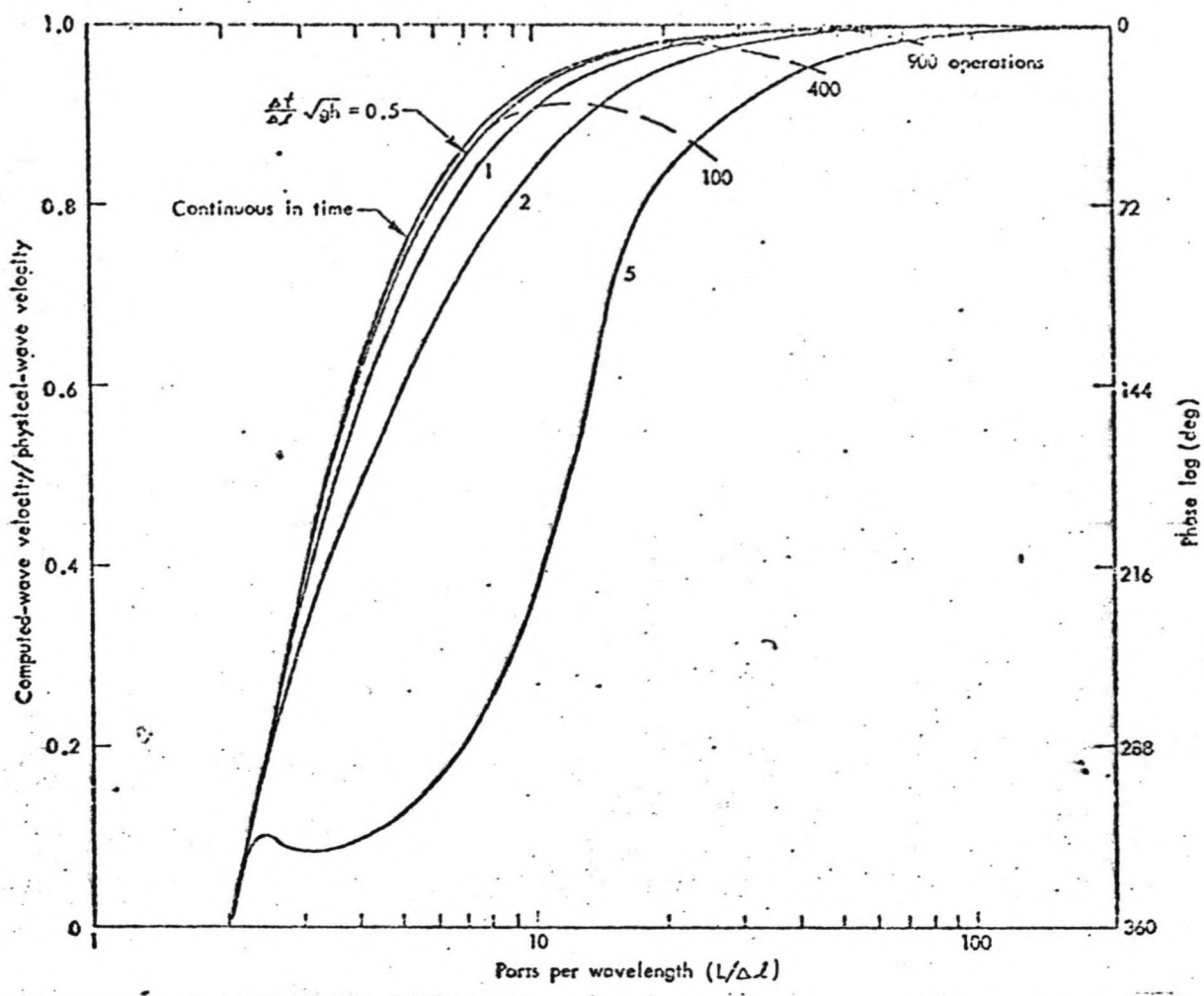
CONTOURPLAN MAASVLAKTE-RIJNDAM OEGEBIED N.V.

(x,y)	M_0	M_1		M_2		M_4	
	$T = \infty$	$T = 25 \text{ uur}$		$T = 12\frac{1}{2} \text{ uur}$		$T = 6\frac{1}{4} \text{ uur}$	
	c_0	c_1	ψ_1	c_2	ψ_2	c_4	ψ_4
1,1	-12	8	353	54	309	14	239
4,1	-12	8	353	57	310	15	240
7,1	-13	8	353	60	311	16	242
10,1	-13	9	353	63	312	16	243
13,1	-14	9	352	66	312	17	244
16,1	-14	9	351	70	312	17	245
18,1	-15	9	350	72	311	18	245
1,4	-12	8	355	55	306	14	237
1,7	-12	9	355	57	303	14	235
1,10	-12	9	356	58	299	13	233
1,13	-12	9	355	60	295	13	231
1,16	-12	9	355	61	292	12	229
1,19	-12	9	353	63	288	12	227
1,22	-12	10	350	65	285	12	224
1,25	-12	10	347	67	283	12	221
1,28	-13	10	348	70	280	11	217
1,31	-13	10	351	74	277	11	212
1,34	-14	10	353	79	274	10	207
4,34	-14	10	352	82	276	11	208
7,34	-14	11	351	82	277	11	209
10,34	-15	11	349	92	279	12	209
13,34	-16	11	349	96	280	12	209
16,34	-16	11	348	99	282	13	209
18,34	-17	11	348	101	283	13	208

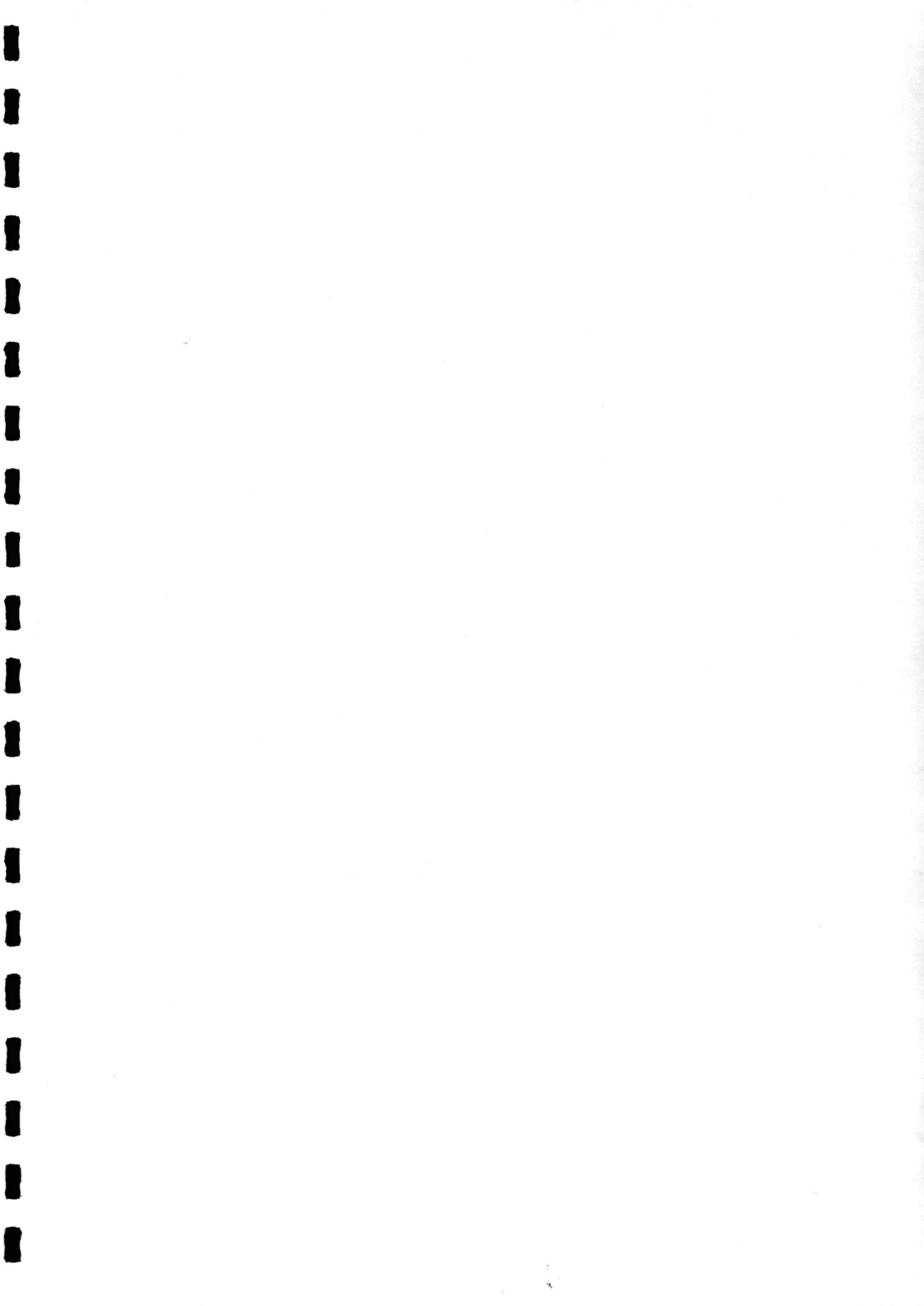
$$A_k = c_k \cos \psi_k$$

$$B_k = c_k \sin \psi_k$$

	A ₀	A ₁	B ₁	A ₂	B ₂	A ₄	B ₄
(1,1)	-0,12	0,079	-0,0097	0,340	-0,420	-0,072	-0,120
4,1	-0,12	0,079	-0,0097	0,366	-0,437	-0,075	-0,130
7,1	-0,13	0,079	-0,0097	0,394	-0,453	-0,075	-0,141
10,1	-0,13	0,089	-0,0109	0,421	-0,468	-0,073	-0,143
13,1	-0,14	0,089	-0,0125	0,442	-0,490	-0,076	-0,153
16,1	-0,14	0,089	-0,0141	0,468	-0,520	-0,072	-0,154
18,1	-0,15	0,089	-0,0156	0,472	-0,543	-0,076	-0,163
1,4	-0,12	0,080	-0,0070	0,323	-0,445	-0,076	-0,117
1,7	-0,12	0,090	-0,0078	0,310	-0,478	-0,080	-0,115
1,10	-0,12	0,090	-0,0063	0,281	-0,507	-0,078	-0,104
1,13	-0,12	0,090	-0,0078	0,254	-0,544	-0,082	-0,101
1,16	-0,12	0,090	-0,0078	0,228	-0,566	-0,079	-0,091
1,19	-0,12	0,089	-0,0109	0,195	-0,599	-0,082	-0,088
1,22	-0,12	0,098	-0,0174	0,168	-0,628	-0,086	-0,083
1,25	-0,12	0,097	-0,0225	0,151	-0,653	-0,091	-0,079
1,28	-0,13	0,098	-0,0208	0,122	-0,689	-0,088	-0,066
1,31	-0,13	0,099	-0,0156	0,090	-0,734	-0,093	-0,058
1,34	-0,14	0,099	-0,0122	0,055	-0,788	-0,089	-0,045
4,34	-0,14	0,099	-0,0139	0,086	-0,815	-0,097	-0,052
7,34	-0,14	0,109	-0,0172	0,100	-0,814	-0,096	-0,053
10,34	-0,15	0,108	-0,0210	0,144	-0,909	-0,105	-0,058
13,34	-0,16	0,108	-0,0210	0,166	-0,945	-0,105	-0,058
16,34	-0,16	0,108	-0,0229	0,206	-0,968	-0,114	-0,063
18,34	-0,17	0,108	-0,0229	0,227	-0,984	-0,115	-0,061



Invloed $\frac{\Delta t}{\Delta l} \sqrt{gh}$ op de golfvoortplantingssnelheid



275	278	280	281	289	283	287	277	292	285	286	282	277	270	265	263	257	251
265	269	271	273	276	276	286	273	285	279	282	278	279	271	260	260	254	249
251	252	252	264	265	259	265	273	270	265	261	267	276	275	259	266	248	240
224	241	263	267	270	269	260	255	269	265	265	267	266	271	276	265	256	251
245	247	250	257	251	265	258	257	252	262	256	255	247	238	274	261	243	255
272	281	265	246	228	229	253	257	252	237	239	254	245	250	237	251	246	253
241	239	238	238	225	223	230	239	247	242	237	236	234	230	234	246	244	241
233	195	201	228	248	245	235	207	214	214	236	237	228	217	224	239	248	231
232	186	162	182	196	223	251	247	235	226	205	211	210	219	211	210	215	224
245	251	226	172	174	173	191	194	218	238	226	207	181	175	198	208	210	200
224	236	246	245	224	197	168	156	167	195	219	225	211	184	177	173	184	191
222	210	213	224	232	225	211	179	150	137	156	188	215	212	206	192	178	167
165	179	153	2165	172	195	212	198	183	161	143	121	135	160	172	181	184	170
106	122	108	115	130	142	150	153	155	155	149	140	123	120	138	149	151	151
65	83	83	66	64	71	92	117	125	128	128	128	134	125	115	121	131	125
104	52	46	63	61	53	43	47	95	100	106	100	105	112	111	108	115	126
39	87	53	60	37	60	51	44	35	70	84	95	104	100	98	91	89	91
34	36	99	43	50	43	64	52	35	17	56	74	86	80	75	70	65	51
		29	104	41	28	52	37	39	35	20	43	74	73	71	68	75	61
				50	80	26	35	41				50	64	79	69	64	70
				150		20	40					50	87	65	61		
													45	85	73		
															65	103	
															38	31	

To-nodel. d.w. 2 1600 DIETER SCHEMATICISATIE MET ONGEWIJZDE BODEN.

EUROIA

SCHOUWEN RD.

JOEREE

SCHOUWEN

JOEREE

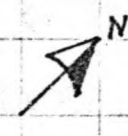
g-paer

HAI

4, V ←

	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
247	255	258	254	239	239	221	230	225	230	230	229	229	235	233	242
246	249	250	233	238	232	231	231	227	228	228	227	223	221	235	226
247	247	251	228	230	234	232	226	230	227	228	229	225	221	225	223
250	250	240	233	237	233	236	233	230	229	228	227	231	227 DEEP A	220	223
247	235	234	228	235	237	230	239	228	231	229	228	223	222	221	224
250	231	235	226	231	237	238	230	230	228	227	225	222	223	221	221
244	246	238	236	229	228	235	235	222	224	227	211	221	224	223	220
247	244	236	233	224	227	226	226	226	225	221	223	223	221 DEEP B	220	219
236	238	242	235	229	222	220	220	223	223	224	220	219	219	217	214
205	211	224	232	232	228	222	221	217	220	218	218	219	218	212	210
201	200	206	218	230	238	238	233	228	221	215	213	213	213	208	204
174	189	203	222	219	226	230	234	235	234	225	220	210 DEEP C	203	203	203
159	164	176	190	192	200	202	205	209	220	219	219	214	206	199	194
158	163	169	176	179	179	170	168	169	189	187	187	187	188	186	182
144	150	152	163	163	158	156	140	115	125	120	139	155	160	160	159
119	129	124	130	142	120	151	136	131	118	124	127	136	135	132	128
97	86	97	96				122	102	103	108	111	110	112	95	92
57	62	66					83	48	72	65	40	30	20	20	20
50	69						25	80							
38	50	50													
29															
20															
21															
22															
23															
24															
25															
26															

x, u



1600 METER

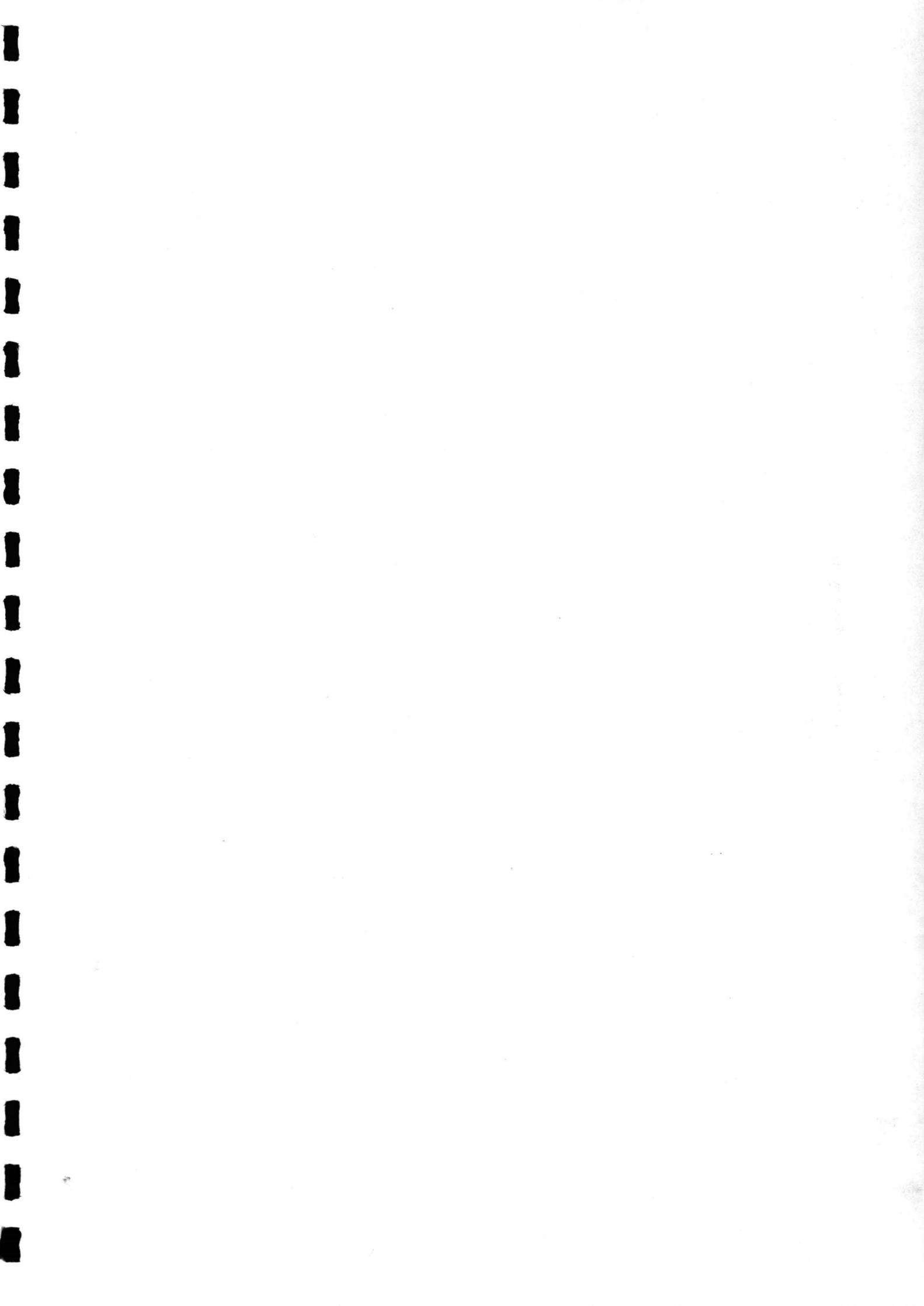
DIPTA IN DIT

DEEP PUNT VAN R.W.S.

VOORNE

MASSIVAKTE

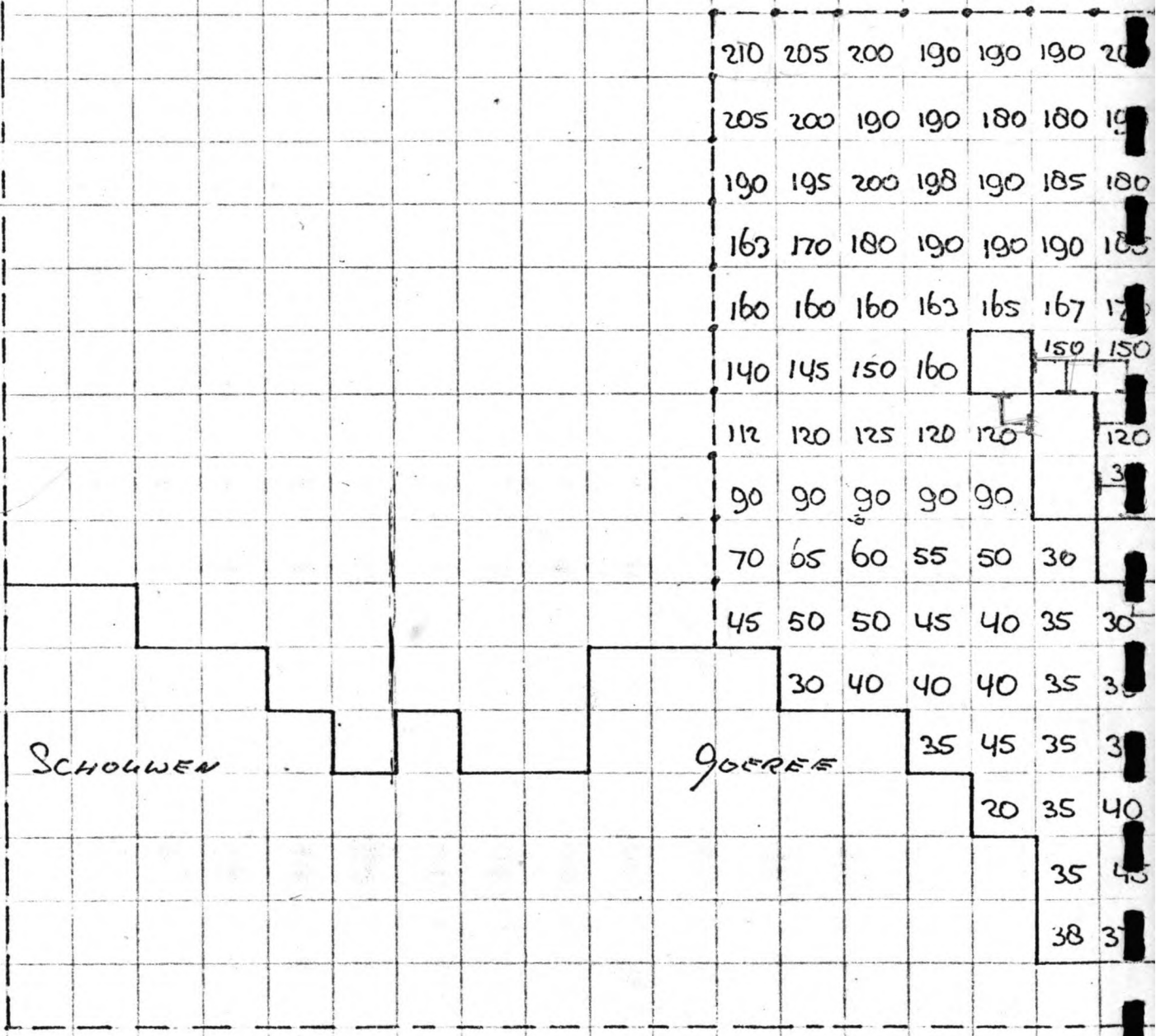
MASSIVAKTE



34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18

T1 - NODEL. D.W.2. 1600 METER SCHERPAZISATIE NET DAN.

o (7,24)



y, v ←

16 15 14 13 12 11 10 9 8 7 6 5 4 3 2

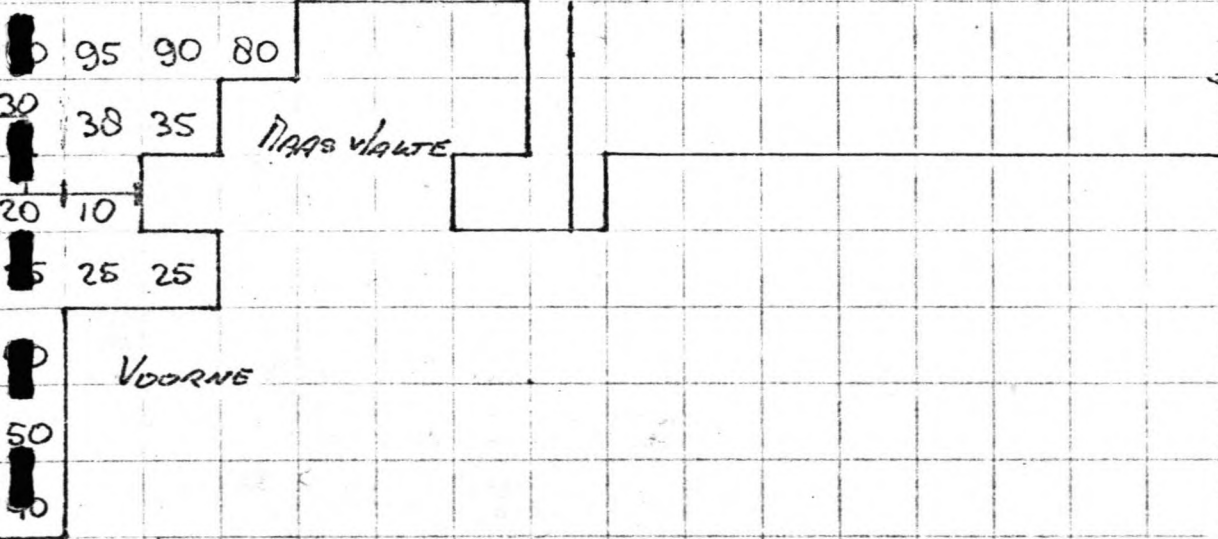
1
2
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20
21
22
23
24
25



x, u ↓

GEBIED MET GEWIJZIGDE BODENLIGGING

20	220	230	240	235	228
10	200	210	230	240	238
80	190	190	230	240	226
50	175	180	190	220	200
10	165	170	180	190	179
150	155	160	160	170	158
125	140	140	130	140	120

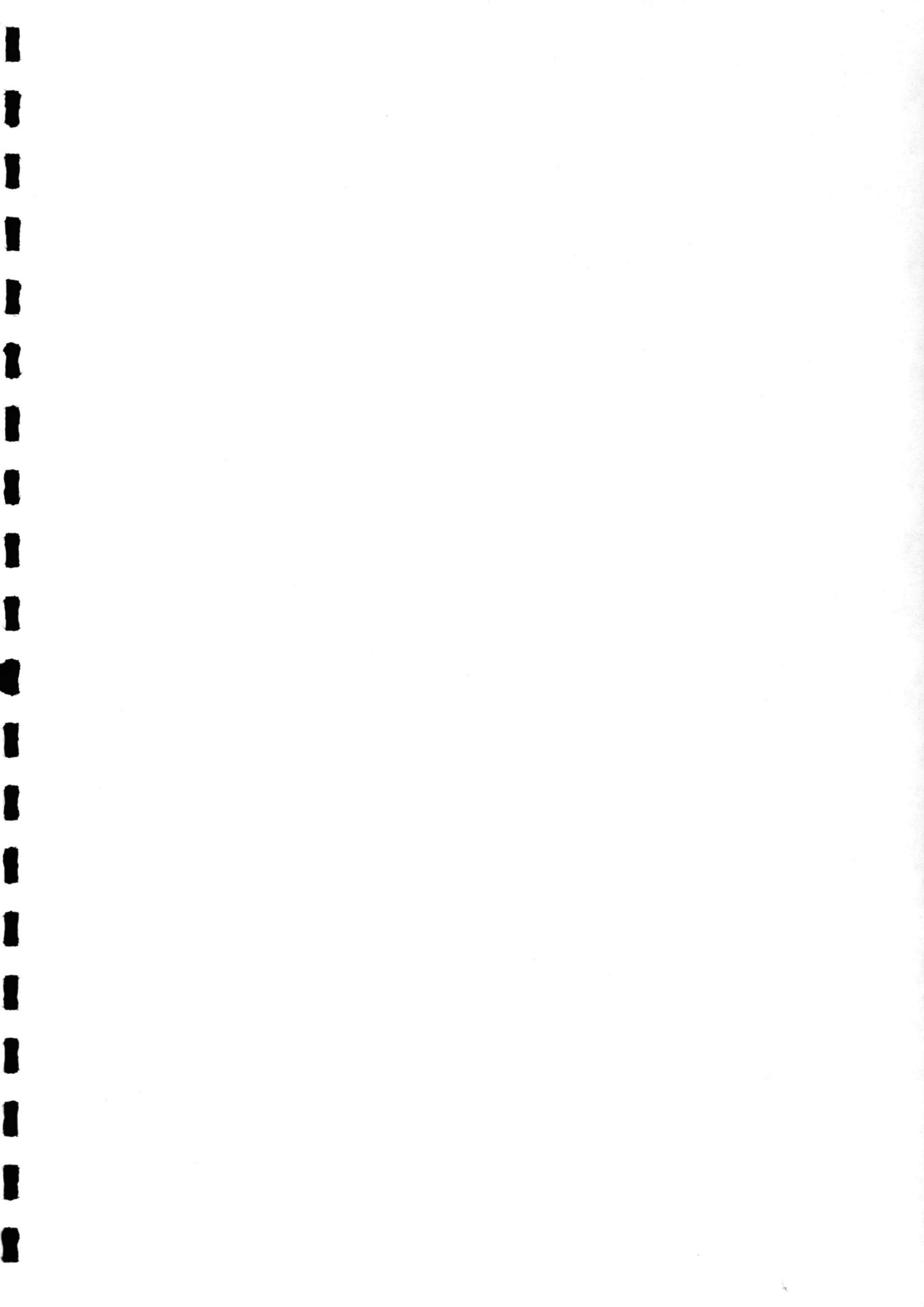


0: PUNT WAARIN ALS R.V.W. u=0 of v=0.

1600 METER

DIEPTE IN D.D.

0: PUNT WAARVAN h DIENT ALS R.V.W. VOOR T2





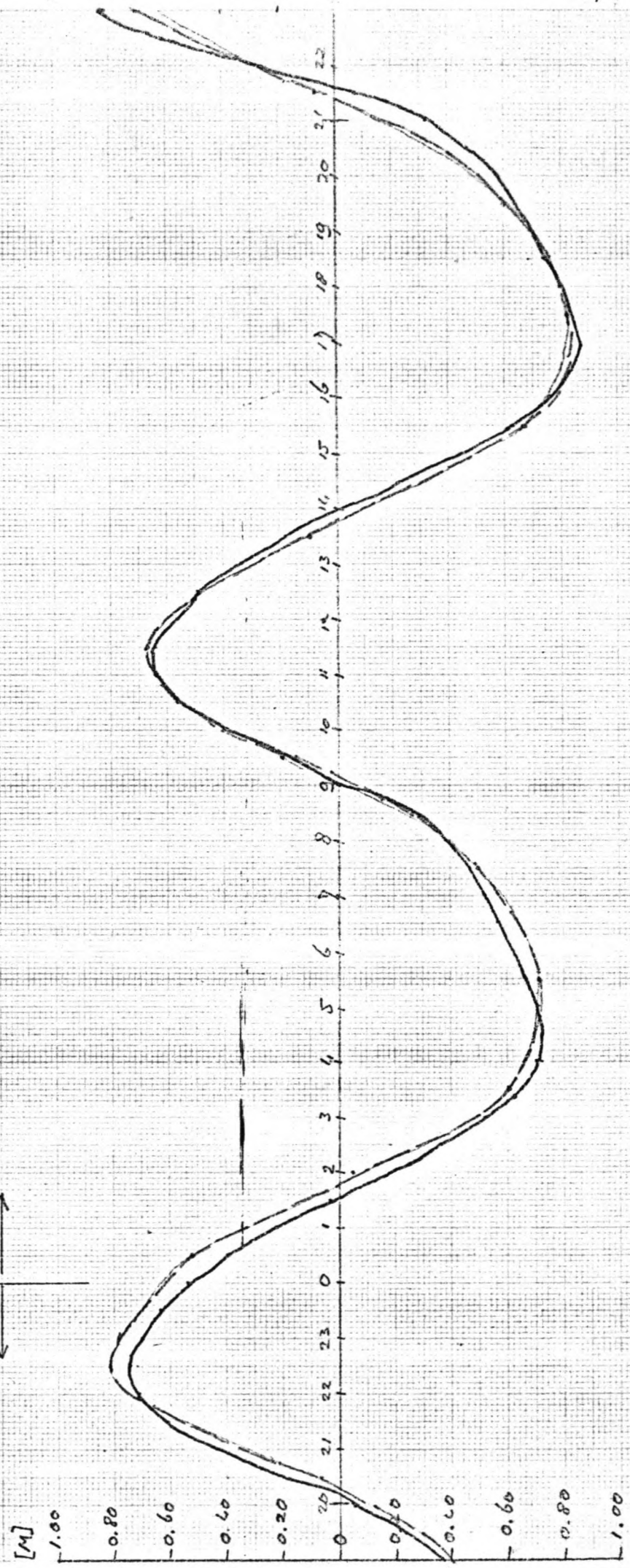
T₂ - NODEL. 800 NETER SCHEMATIS NET DAT.

	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
226	210	207	203	196	193	190	190	192	193	195	195	198	203	209	210	210	211	218	224	228	232	232	232	232	230	228
223	205	205	204	196	190	180	179	179	179	180	185	190	195	200	200	204	206	210	215	220	225	228	231	232	233	
219	205	205	204	200	195	190	179	179	176	174	177	180	185	190	193	196	200	203	206	212	218	224	230	234	238	
188	202	203	205	205	203	200	193	183	179	174	173	173	179	180	185	190	193	196	200	200	210	220	240	235	232	
180	186	193	200	202	203	205	203	200	190	180	177	173	173	172	180	184	188	191	195	195	205	220	230	240	226	
160	160	180	189	193	196	200	203	205	205	200	188	188	178	172	178	180	183	185	191	200	203	206	210	240	213	
160	160	160	170	177	182	188	190	196	200	200	193	187	181	180	177	175	177	178	180	190	200	200	210	220	200	
160	160	160	160	160	170	172	180	185	185	190	192	185	181	180	176	171	173	175	177	180	190	194	197	200	190	
160	160	160	160	160	160	160	160	160	160	159	158	160	160	161	162	163	164	166	167	170	175	180	187	191	195	179
149	150	151	153	160	160	160	160	160	160	155	150	150	150	150	153	156	160	162	163	165	167	170	172	174	158	
117	123	129	141	149	150	158	160	160	160					140	145	149	154	155	155	155	156	160	164	165	150	
106	112	118	120	123	131	139	140	140	125	115	100		60	130	135	140	145	145	144	144	141	150	150	130	120	
97	102	108	108	111	115	120	120	118	110	110			60	115	122	125	135	132	130	129	128	15	15	15	15	
84	90	95	94	94	95	99	102	103	103	103			35	99	109	110	110	110	110	100	100	15				
70	77	85	80	80	80	78	77	77	70	15			30	60	70	79	80	80	78	76	71	15				
56	66	75	73	70	60	64	60	58	56	53	51	50	15	30	40	54	55	53	50	15	15	15	15			

LICHTEIND GOEREE 9, 23

WATERHOOGTEN T.O.V. N.A.P.

1-9-75 2-9-75

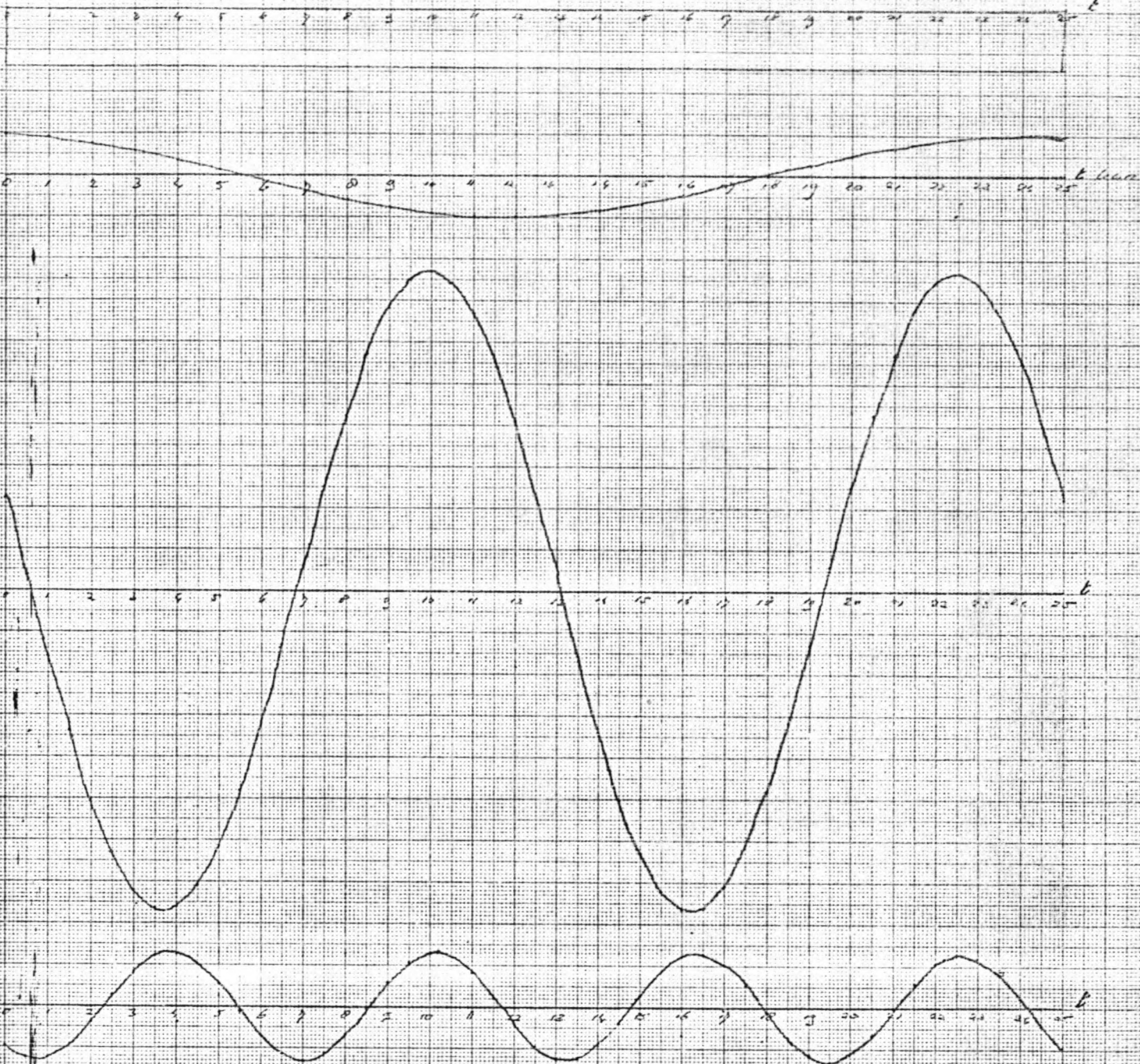


MEETGEVEENS R.W.S.

TO BEREKENING 1600 METER NET

1cm $\hat{=}$ 20cm WATERHOOGTE T.O.V. N.A.P.

t = 20.30 uur op 1-9-75 komt overeen met t = 162.000 sec in de To BEREKENING



Ingevoerde R.V.W. t.p.v. Lichtstand 900000

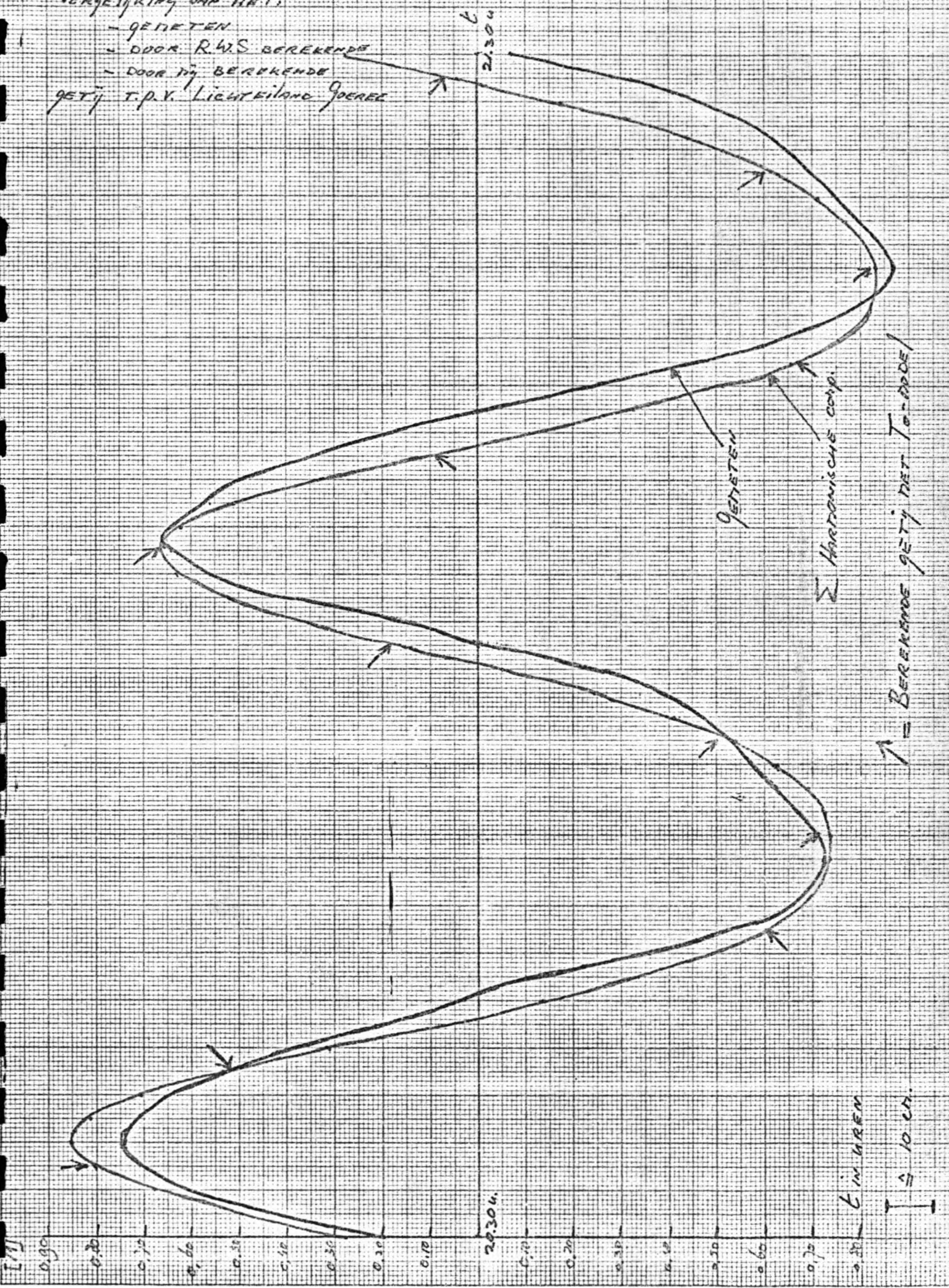
t in uren

$I \hat{=} 10$ en tot N.A.P.

VERGELYKING VAN HRT.

- GEIETEN
- DOOR R.W.S. BEREKENDE
- DOOR M. BEREKENDE

GETIJ T.P.V. LICHTKILAND GOEREE



↑ = BEREKENDE GETIJ MET T.O.M.D.E.

Σ Harmonische comp.

GEIETEN

20304

10 cm

10 cm

Gebruikersgids voor subroutine C06ABF t.b.v. de Fourier-analyse
van een gemeten getijkromme

Hieronder zal ik puntsgewijs een beschrijving geven van de handelingen die verricht moeten worden om van een aantal gemeten waterstanden van een getij te komen tot de harmonische componenten die het getij beschrijven. Dit als aanvulling op de beschrijving in bijlage VI-4a.

- 1) Kies de periode T waarover u het gemeten getij wilt analyseren.

Hierbij dient u zich te realiseren dat na de analyse het getij beschreven wordt door:

$$z(t) = \sum_{n=0}^k a_n \cdot \cos\left(n \cdot \frac{2\pi t}{T}\right) + \sum_{n=0}^k b_n \cdot \sin\left(n \cdot \frac{2\pi t}{T}\right)$$

Kies uw periode T dus zo, dat $\frac{T}{2}$, $\frac{T}{3}$, $\frac{T}{4}$ etc. voor u relevante informatie bevatten.

In mijn geval is $T = 25$ uur, zodat ik harmonische componenten krijg met perioden van achtereenvolgens 25 uur, $12\frac{1}{2}$ uur, $8\frac{1}{3}$ uur, $6\frac{1}{4}$ uur, 5 uur enz.

- 2) Maak uw waarnemingenreeks kunstmatig periodiek, zodanig dat na de door u gekozen periode T de reeks zich herhaalt (merk op dat de waarnemingenreeks door bijv. weersinvloeden nooit vanzelf periodiek zal zijn).

Uw laatste waarnemingen binnen de periode T moeten dus glad gaan aansluiten bij de eerste.

- 3) Teken de gemeten getijkromme voor één periode T en verdeel deze periode in 2^m - intervallen van gelijke grootte, waarbij $m \geq 3$ moet zijn.

Lees nu aan het begin van elk interval de bijbehorende waterstand af. Deze waarden worden de invoergegevens voor de Fourier-analyse.

In mijn geval is $m = 6$ gekozen, zodat uit de gemeten waterstanden 64 waarnemingen worden gegenereerd (merk op dat de 65ste waarneming weer overeen zal komen met de eerste).

- 4) Gebruik nu het programma zoals weergegeven in bijlage VI-4b.

Opmerkingen!

- a) Op de kaarten 8 en 26 moet waar het getal 70 staat altijd een getal komen te staan dat groter is dan het door u gegenereerde aantal waarnemingen (2^m).

b) Op kaart 52 wordt aangegeven dat $2^6 = 64$ waarnemingen worden ingevoerd.

c) Op de kaarten 53 t/m 116 worden de waarnemingen ingevoerd. Ook het imaginaire gedeelte (dat bij een getijanalyse altijd 0 is), dient te worden ingevoerd.

5) Interpretatie van de uitvoer.

De uitvoer wordt gegeven in 6 kolommen, waarvan de eerste twee overeenkomen met de laatste twee. In dit programma wordt namelijk eerst getransformeerd en vervolgens weer teruggetransformeerd.

In de eerste twee kolommen staan de invoergegevens afgedrukt. In de eerste kolom het reële gedeelte en in de tweede kolom het imaginaire gedeelte.

In de derde kolom staan onder elkaar resp.:

$$(\sqrt{2^m}) \cdot a_0 \text{ en } (\frac{1}{2}\sqrt{2^m}) \cdot a_1 \text{ t/m } (\frac{1}{2}\sqrt{2^m}) \cdot a_n$$

In mijn geval staan er dus resp.

$$8 \cdot a_0 \text{ en } 4 \cdot a_1 \text{ t/m } 4 \cdot a_{63}$$

In de vierde kolom staan onder elkaar resp.:

$$b_0 \text{ (is altijd 0) en } (\frac{1}{2}\sqrt{2^m}) \cdot b_1 \text{ t/m } (\frac{1}{2}\sqrt{2^m}) \cdot b_n$$

Als we nu dan voor mijn geval met behulp van de bijgevoegde uitvoerwaarden (bijlage VI-4c) $z(t)$ uitschrijven dan krijgen we:

$$\begin{aligned} z(t) &= a_0 + a_1 \cdot \cos \frac{2\pi t}{T} + b_1 \cdot \sin \frac{2\pi t}{T} + a_2 \cdot \cos \frac{4\pi t}{T} + b_2 \cdot \sin \frac{4\pi t}{T} + \\ & a_3 \cdot \cos \frac{6\pi t}{T} + \text{enz.} \\ &= -14,2 + 6,7 \cdot \cos \frac{2\pi t}{T} + 1,7 \cdot \sin \frac{2\pi t}{T} + 35,9 \cdot \cos \frac{4\pi t}{T} - \\ & 64,9 \cdot \sin \frac{4\pi t}{T} - 4,1 \cdot \cos \frac{6\pi t}{T} + \text{enz.} \end{aligned}$$

6) Door het aantal Fourier-componenten a en b dat u meeneemt wordt de mate van nauwkeurigheid bepaald, waarmee de som van de harmonische componenten het door u gemeten getijsignaal beschrijft.

1. Purpose

C06ABF calculates the finite Fourier transform of $2^{(M1-1)}$ complex data values using the Cooley-Tukey algorithm. $M1$ is a positive integer not less than 3.

IMPORTANT: before using this routine, read the appropriate machine implementation document to check the interpretation of italicised terms and other implementation-dependent details.

2. Specification (FORTRAN IV)

```

      SUBROUTINE C06ABF(A,B,N1,INVERS,M1,C)
      C      INTEGER N1,M1
      C      LOGICAL INVERS
      C      real A,B,C
      C      DIMENSION A(N1),B(N1),C(M1)

```

3. Description

This routine uses the Cooley-Tukey algorithm to calculate the finite Fourier transform of $n = 2^{(M1-1)}$ complex data values. The arrays A and B must contain on entry the real and imaginary components of the data respectively and on exit they contain the real and imaginary components of the relevant transform.

If $INVERS$ is $.FALSE.$ on entry to the routine, the Fourier transform

$$x_j + iy_j = \frac{1}{\sqrt{n}} \times \sum_{k=1}^n (a_k + ib_k) \exp(i2\pi(j-1)(k-1)/n)$$

for $j = 1, 2, \dots, n$

is calculated, and if $INVERS$ is $.TRUE.$ on entry, the inverse Fourier transform

$$a_k + ib_k = \frac{1}{\sqrt{n}} \times \sum_{j=0}^n (x_j + iy_j) \exp(-i2\pi(k-1)(j-1)/n)$$

for $k = 1, 2, \dots, n$

is calculated. In these formulae i denotes $\sqrt{-1}$.

C06ABF

4. References

- [1] COOLEY, J.W. and TUKEY, J.W.
An algorithm for the machine calculation of
complex Fourier series.
Math. Comput. 19, pp. 297-301, 1965.
- [2] SINGLETON, R.C.
Algol procedures for the fast Fourier
transform.
C.A.C.M. 11, pp. 773-776, 1968.

5. Parameters

- A - *real* array of DIMENSION at least (N1).
Before entry, A must contain the real components of the data
and on exit, it contains the real components of the relevant
transform
i.e. A(j) must contain either a_j or x_j before entry and on
exit it contains x_j or a_j respectively, depending on the
value of INVERS on entry.
- B - *real* array of DIMENSION at least (N1).
Before entry, B must contain the imaginary components of the
data and on exit, it contains the imaginary components of
the relevant transform
i.e. B(j) must contain either b_j or y_j before entry and on
exit it contains y_j or b_j respectively, depending on the
value of INVERS on entry.
- N1 - INTEGER.
On entry, N1 must specify the minimum dimensions of the
arrays A and B where $N1 \geq 2^{(M1-1)}$. Unchanged on exit.
- INVERS - LOGICAL.
On entry, INVERS specifies whether the Fourier transform or
the inverse Fourier transform is to be calculated. If INVERS
is .FALSE. on entry, the Fourier transform is calculated, and
if it is .TRUE. on entry, the inverse Fourier transform is
calculated. Unchanged on exit.
- M1 - INTEGER.
On entry, M1 specifies M1, such that the number of data values
to be used in the transformation, n, is given by $n=2^{(M1-1)}$.

5. Parameters (contd)

C - *real* array of DIMENSION at least (M1).
The array C is used as a work array by the routine and its contents are not specified on exit.

6. Error Indicators None.

7. Auxiliary Routines

This routine calls the NAG Library routines C06AAY, C06ABZ and X01AAF.

8. Timing

The computation time is dependent on the number of data values and is proportional to $M \times 2^M$ where $M = M1-1$.

9. Storage

There are no internally declared arrays.

10. Accuracy

Basic precision arithmetic is used throughout. The accuracy will depend on the range of the data values specified.

11. Further Comments

The routine will fail if the number of data values specified is greater than the largest integer representable on a computer. This value may be calculated using X02BBF.

12. Keywords

Complex Finite Fourier Transform.
Fast Fourier Transform.
F.F.T.

C06ABF

13. Example

To calculate the Fourier transform of a set of data values and then perform the inverse Fourier transform to reproduce the original data values.

The program reads the value of $M = M1-1$ and then the 2^M complex data values, each complex value being represented by two numbers (the first being the real part and the second being the imaginary part).

Program

This single precision example program may require amendment

- i) for use in a DOUBLE PRECISION implementation
 - ii) for use in either precision in certain implementations.
- The results produced may differ slightly.

```

45
C   COSABF EXAMPLE PROGRAM TEXT
C   NAG COPYRIGHT 1975
C   MARK 4.5 REVISED
      INTEGER NIN, NOUT, I, M, M1, N, N1
      REAL TITLE(7), X1, X2, A(11), B(11), AD(11), BD(11), C(11),
* D(11), CW(7)
      LOGICAL TRAN
      DATA NIN /5/, NOUT /6/
      READ (NIN,99999) TITLE
      WRITE (NOUT,99998) (TITLE(I),I=1,6)
      READ (NIN,99997) M
      M1 = M + 1
      N = 2**M
      WRITE (NOUT,99995)
      DO 20 I=1,N
          READ (NIN,99996) X1, X2
          A(I) = X1
          AD(I) = -X1
          B(I) = X2
          BD(I) = X2
20  CONTINUE
      TRAN = .FALSE.
      N1 = 11
      CALL COSABF(A, B, N1, TRAN, M1, CW)
      DO 40 I=1,N
          C(I) = A(I)
          D(I) = B(I)

```

13. ExampleProgram (contd)

```
40 CONTINUE
  → TRAN = .TRUE.
  CALL C06ABF(A, B, N1, TRAN, M1, CW)
  DO 60 I=1,N
    WRITE (NOUT,99994) AD(I), BD(I), C(I), D(I), A(I), B(I)
60 CONTINUE
  STOP
99999 FORMAT (6A4, 1A3)
99998 FORMAT (4(1X/), 1H , 5A4, 1A3, 7HRESULTS/1X)
99997 FORMAT (I3)
99996 FORMAT (2F9.4)
99995 FORMAT (1H , 11X, 4HDATA, 15X, 9HTRANSFORM, 12X, 9HSEC. TRAN,
  * 5HSFORM/7X, 4HREAL, 7X, 4HIMAG, 7X, 4HREAL, 7X, 4HIMAG, 7X,
  * 4HREAL, 7X, 4HIMAG)
99994 FORMAT (1H , 6F11.4)
  END
```

Data

C06ABF EXAMPLE PROGRAM DATA

```
3
0.34907 -0.37168
0.54890 -0.35669
0.74776 -0.31175
0.94459 -0.23702
1.13350 -0.13274
1.32350 0.00074
1.51370 0.16298
1.69330 0.35348
```


C06ABF

13. Example (contd)Results

C06ABF EXAMPLE PROGRAM RESULTS

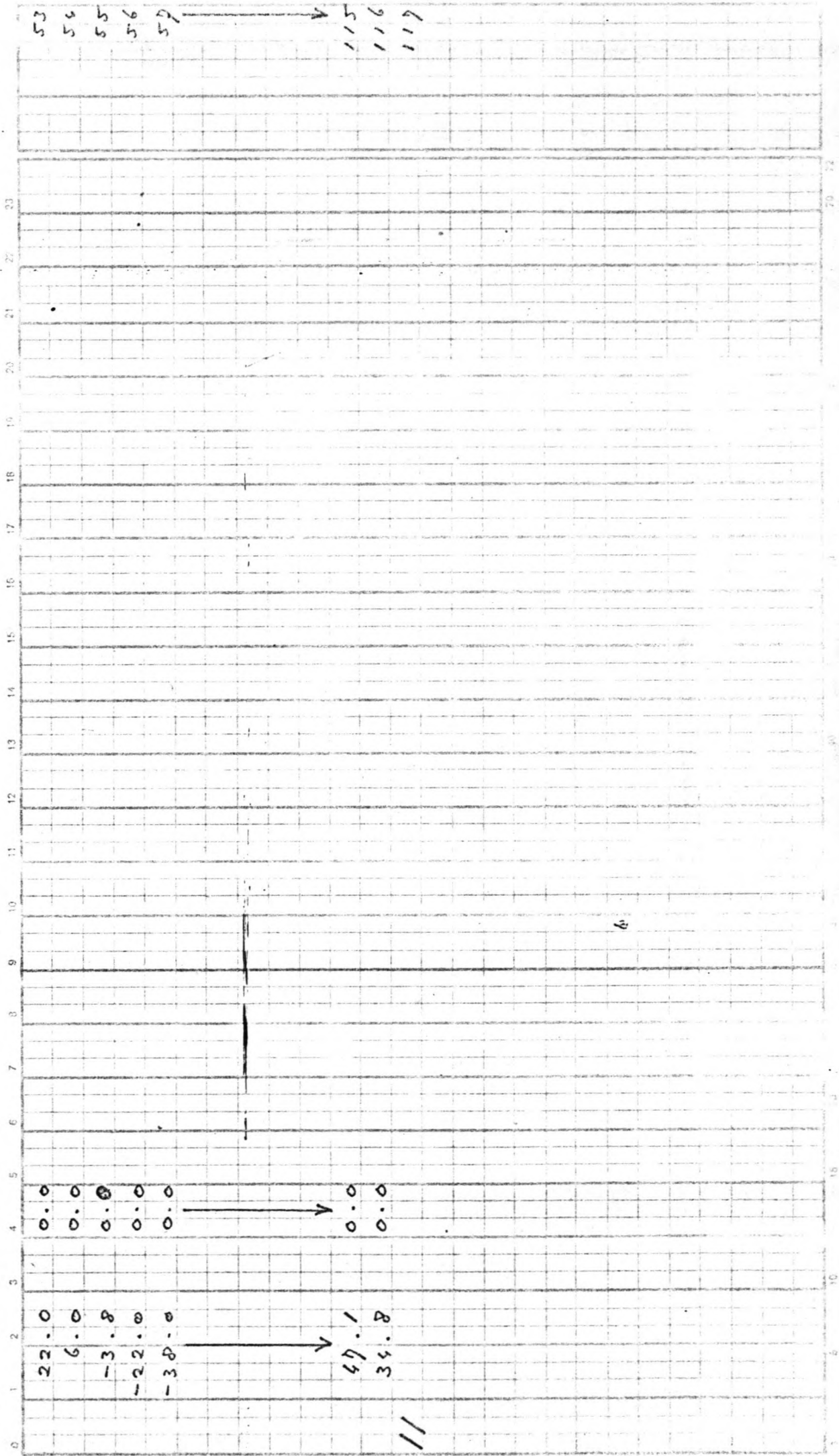
DATA		TRANSFORM		SEC. TRANSFORM	
REAL	IMAG	REAL	IMAG	REAL	IMAG
0.3491	-0.3717	2.9219	-0.3156	0.3491	-0.3717
0.5489	-0.3567	0.1180	-0.6791	0.5489	-0.3567
0.7478	-0.3118	-0.1066	-0.3946	0.7478	-0.3118
0.9446	-0.2370	-0.2022	-0.2540	0.9446	-0.2370
1.1385	-0.1327	-0.2709	-0.1463	1.1385	-0.1327
1.3285	0.0007	-0.3405	-0.0315	1.3285	0.0007
1.5137	0.1630	-0.4406	0.1431	1.5137	0.1630
1.6933	0.3535	-0.6917	0.6267	1.6933	0.3535

CONCEPTPROGRAMMA

NAAM:	AANTAL BLADEN:
PROJECTNUMMER:	PONSEN
	CORRIGEREN

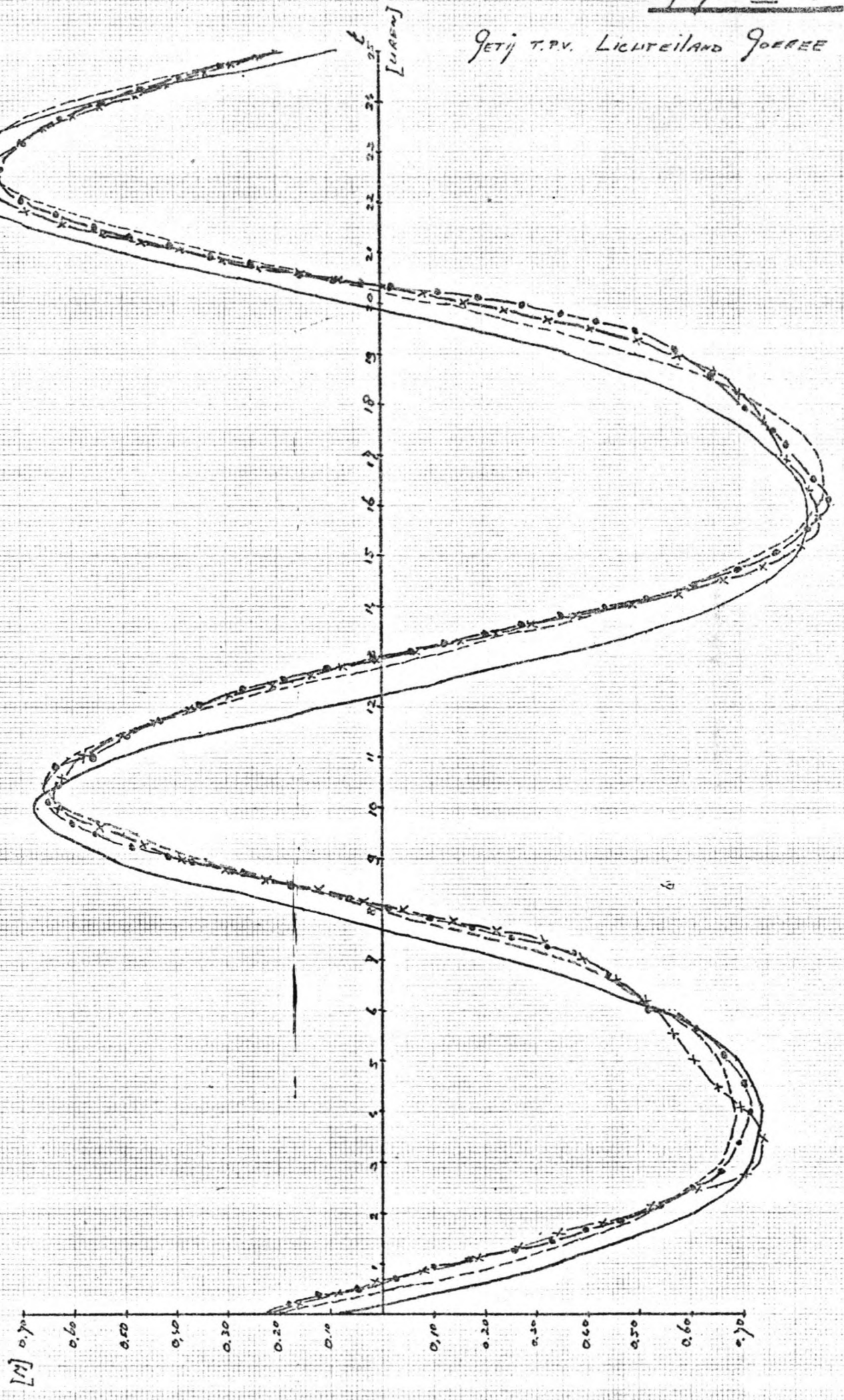
FORTRAN

ALCOL PL/1



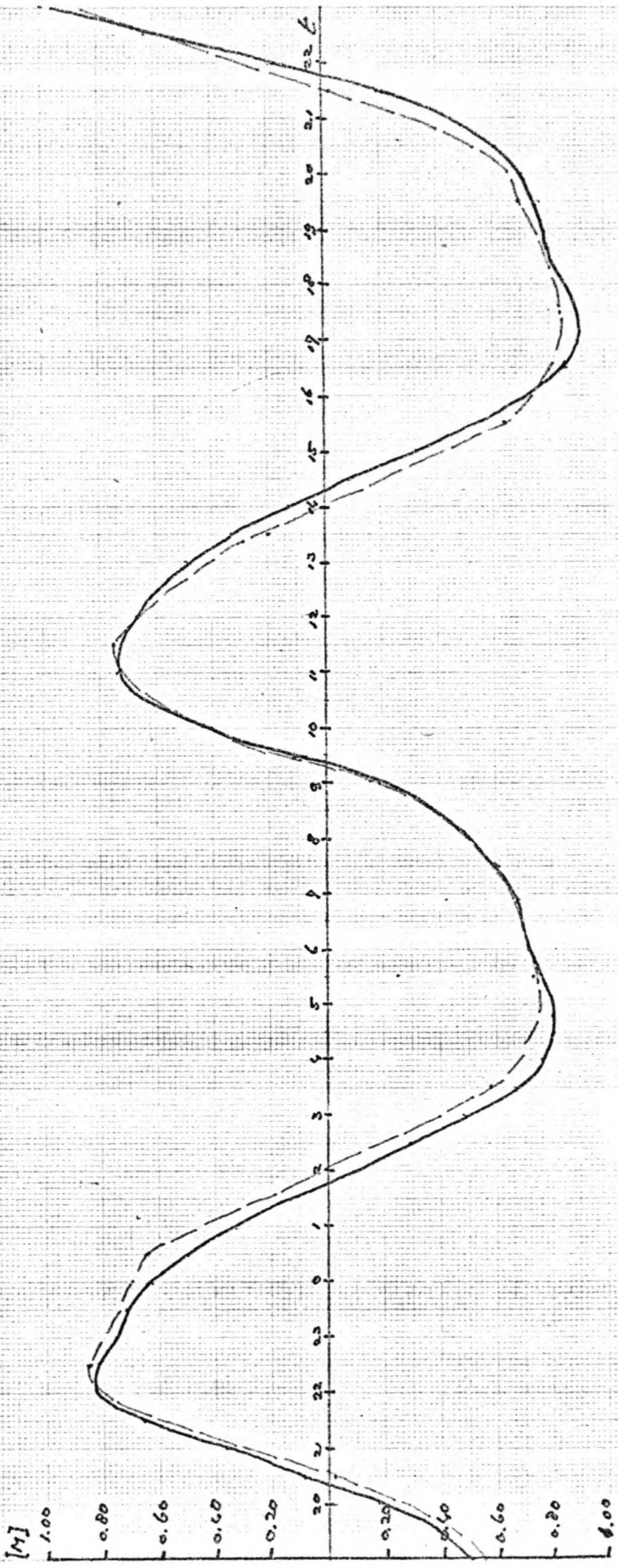
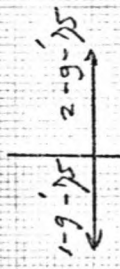
DATA		TRANSFORM		SEC. TRANSFORM	
REAL	IMAG	REAL	IMAG	REAL	IMAG
22.0000	0.0	-113.9625	0.0	22.0000	0.0000
6.0000	0.0	26.9101	6.6672	6.0000	-0.0000
-3.8000	0.0	143.6033	-259.5516	-3.8000	-0.0000
-22.0000	0.0	-16.5169	-5.1871	-22.0000	-0.0000
-38.0000	0.0	-19.0377	-40.2554	-38.0000	0.0000
-50.0000	0.0	-1.5789	12.8758	-50.0000	-0.0000
-62.5000	0.0	9.2262	20.2811	-62.5000	-0.0000
-67.5000	0.0	5.9175	-2.9102	-67.5000	-0.0000
-71.0000	0.0	3.5478	-5.3791	-71.0000	0.0000
-72.0000	0.0	-5.7061	-0.9603	-72.0000	-0.0000
-71.5000	0.0	-1.9430	2.0941	-71.5000	-0.0000
-69.0000	0.0	-1.4255	3.2220	-69.0000	-0.0000
-65.5000	0.0	1.6922	-1.1741	-65.5000	0.0000
-61.5000	0.0	0.0091	-0.8173	-61.5000	0.0000
-57.0000	0.0	-2.7711	-2.0115	-57.0000	0.0000
-54.0000	0.0	-0.1648	0.4383	-54.0000	0.0000
-50.0000	0.0	-0.5375	1.9000	-50.0000	-0.0000
-44.4000	0.0	-0.5518	-0.0073	-44.4000	-0.0000
-33.5000	0.0	1.0403	-1.8166	-33.5000	0.0000
-30.0000	0.0	0.3239	0.8047	-30.0000	-0.0000
-11.0000	0.0	-2.5350	-0.1607	-11.0000	-0.0000
8.0000	0.0	0.4472	-2.3238	8.0000	0.0000
19.0000	0.0	1.5348	1.0422	19.0000	-0.0000
35.0000	0.0	-1.6493	-1.2129	35.0000	0.0000
53.5000	0.0	1.0022	-1.9041	53.5000	-0.0000
60.0000	0.0	0.0350	0.1232	60.0000	0.0000
65.3000	0.0	1.0978	0.8712	65.3000	0.0000
64.0000	0.0	0.8075	-1.2665	64.0000	0.0000
56.8000	0.0	1.3304	-0.2919	56.8000	-0.0000
51.0000	0.0	0.7911	-0.3839	51.0000	-0.0000
44.5000	0.0	-0.7883	1.1853	44.5000	-0.0000
31.5000	0.0	0.3521	-0.7146	31.5000	-0.0000
18.0000	0.0	1.0375	0.0	18.0000	0.0000
0.5000	0.0	0.3521	-0.7146	0.5000	-0.0000
-18.0000	0.0	-0.7883	-1.1853	-18.0000	-0.0000
-33.0000	0.0	0.7911	0.3839	-33.0000	-0.0000
-51.5000	0.0	1.3304	0.2919	-51.5000	0.0000
-62.5000	0.0	0.8075	1.2665	-62.5000	-0.0000
-74.0000	0.0	1.0978	-0.8712	-74.0000	0.0
-80.5000	0.0	0.0350	-0.1232	-80.5000	-0.0000
-85.4000	0.0	1.0022	1.9041	-85.4000	0.0000
-87.0000	0.0	-1.6493	1.2129	-87.0000	-0.0000
-84.9000	0.0	1.5348	-1.0422	-84.9000	-0.0000
-82.0000	0.0	0.4472	2.3238	-82.0000	-0.0000
-77.8000	0.0	-2.5350	0.1607	-77.8000	0.0000
-73.5000	0.0	0.3239	-0.8047	-73.5000	0.0000
-70.0000	0.0	1.0403	1.8166	-70.0000	0.0000
-65.2000	0.0	-0.5518	0.0073	-65.2000	0.0000
-61.0000	0.0	-0.5375	-1.9000	-61.0000	-0.0000
-55.0000	0.0	-0.1648	-0.4383	-55.0000	-0.0000
-45.0000	0.0	-2.7711	2.0115	-45.0000	0.0000
-30.0000	0.0	0.0091	0.8173	-30.0000	-0.0000
0.0	0.0	1.6922	1.1741	-0.0000	-0.0000
27.0000	0.0	-1.4255	-3.2220	27.0000	0.0000
48.0000	0.0	-1.9430	-2.0941	48.0000	0.0000
61.0000	0.0	-5.7061	0.9603	61.0000	0.0000
69.0000	0.0	3.5478	5.3791	69.0000	-0.0000
74.0000	0.0	5.9175	2.9102	74.0000	0.0000
72.6000	0.0	9.2262	-20.2811	72.6000	0.0000
69.3000	0.0	-1.5789	-12.8758	69.3000	0.0000
63.9000	0.0	-19.0377	40.2554	63.9000	-0.0000
57.0000	0.0	-16.5169	5.1871	57.0000	-0.0000
47.1000	0.0	143.6033	259.5516	47.1000	-0.0000
34.8000	0.0	26.9101	-6.6672	34.8000	-0.0000

GETIJ T.P.V. LICHTVELD JOEREE



—: BEREKEND MET COMPONENTEN R₀
 - - -: BEREKEND MET N₀ 4/17 6.
 - x - x -: BEREKEND MET N₀ 6/17 4.
 - o - o -: GEMETEN.

MEETPUNT G-PAAL COORD 20,19



MEETGEGEVENS R.W.S.

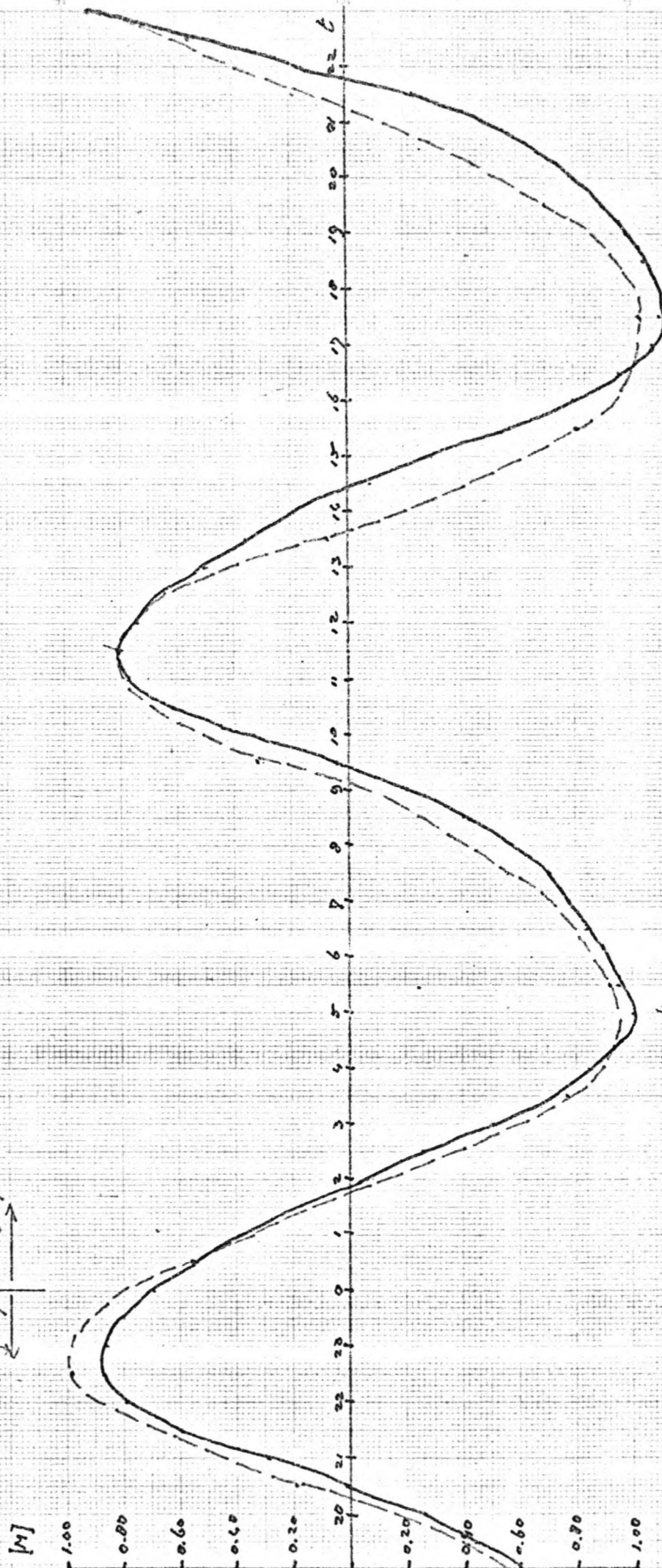
T.O. BEREKENING 1600 METER NET.

t in uren

1 = 20 cm T.O.V. N.A.P.

MEETPUNT B. G. II COÖRD 74,33

1-9-75 2-9-75



NEETGESEVENS R.W.S.

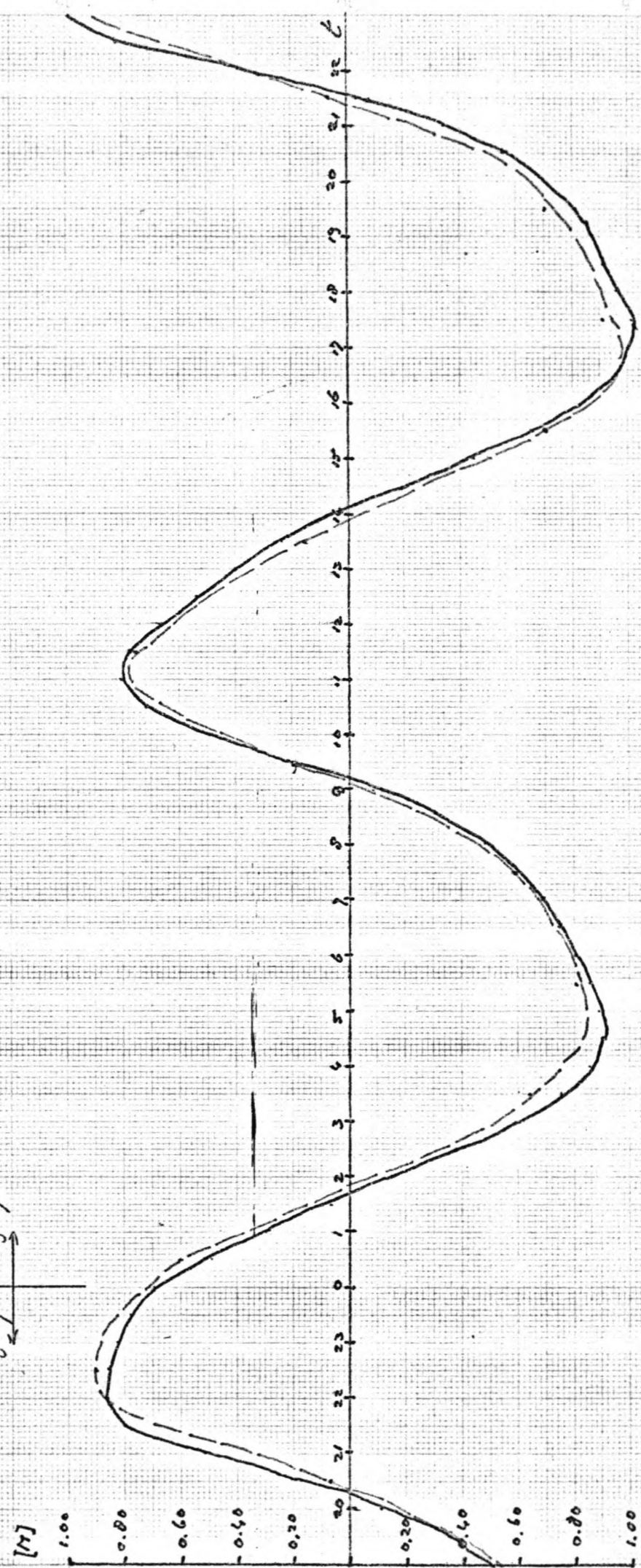
TO BEREKENING 1600 METER NET.

t in uren

± 20 cm t.o.v. N.A.P.

MEETpunt B.9. II coord 17,26.

1-9-75 2-9-75



MEETGEVEENS R.W.S.

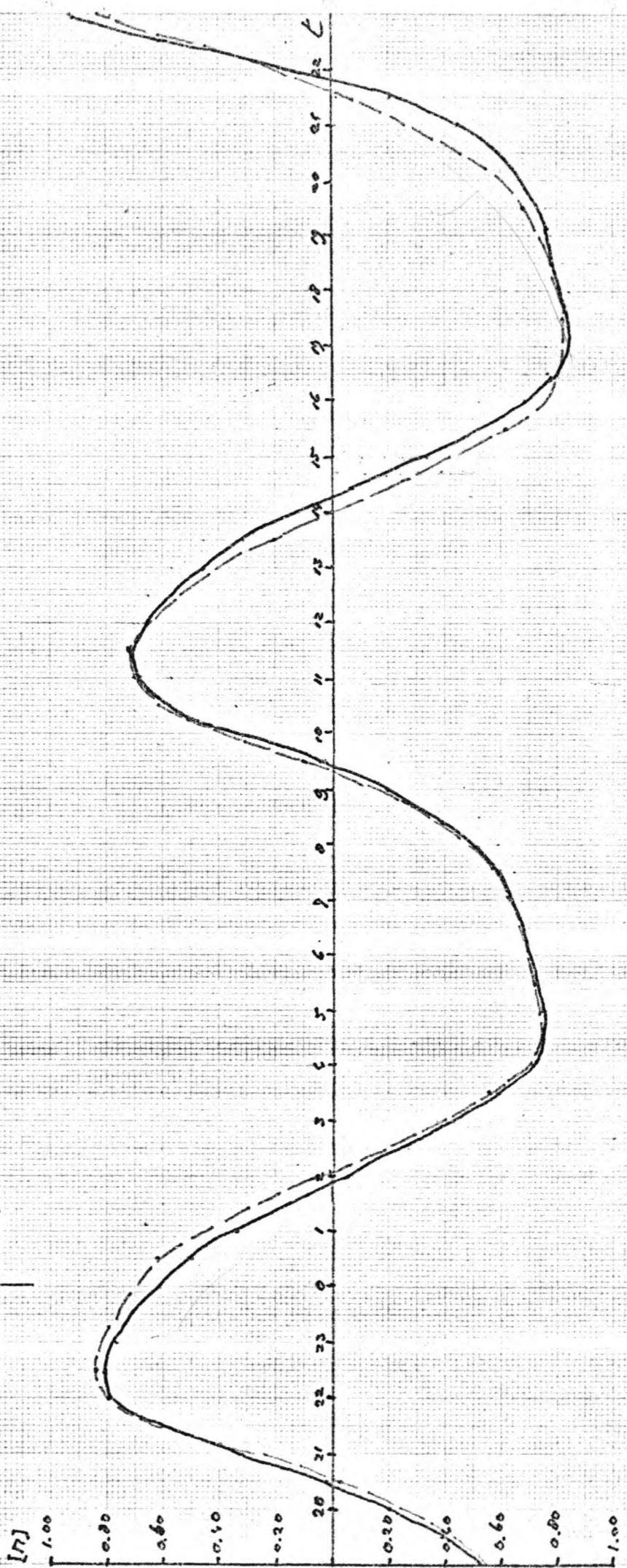
To BEREKENING 1600 DETER NIET.

6 in UREN

1 = 20 cm T.O.V. N.A.P.

MEETPUNT HA-I COORD T0, T8

1-2-75 | 2-9-75



MEETGEVENENS R.W.S.

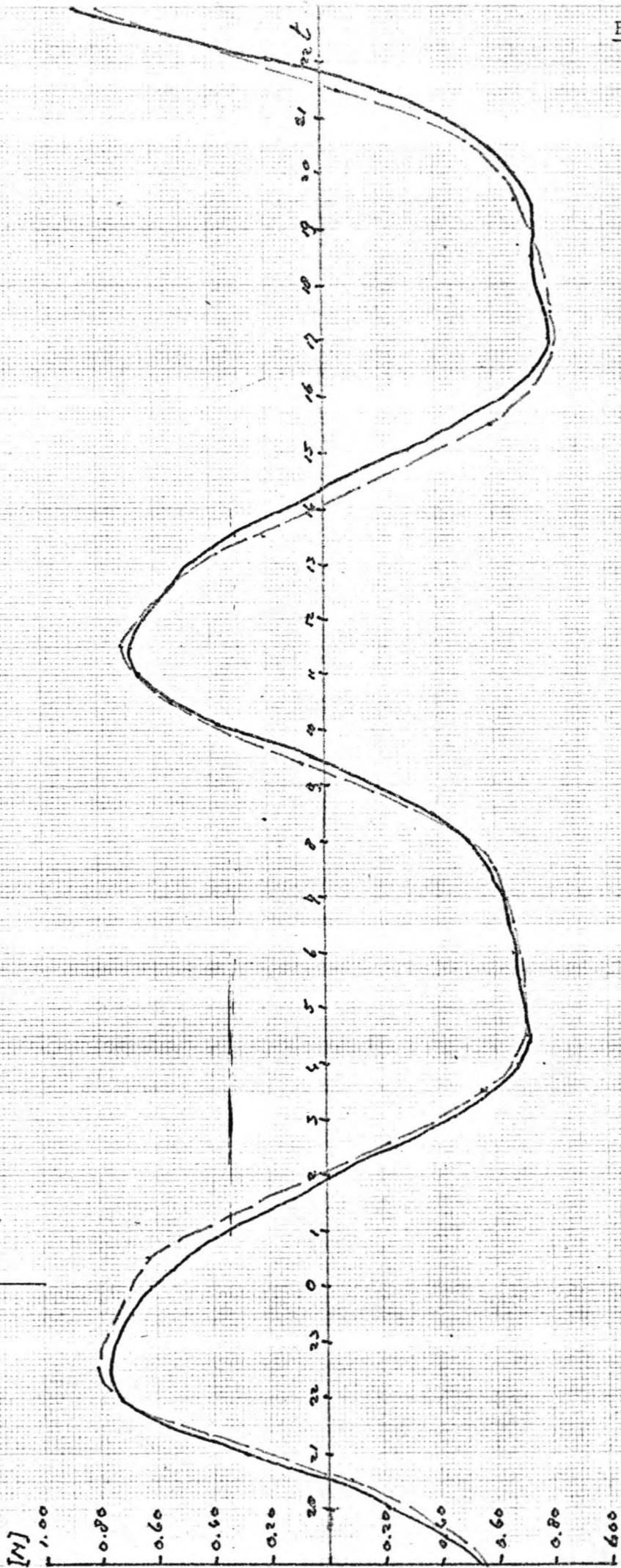
TO BEREKENING 1600 DEER NET.

t IN UREN

± 20 cm T.O.V. N.A.P.

MEETPUNT NA-III COORD 10,15

1-9-'15
2-9-'15

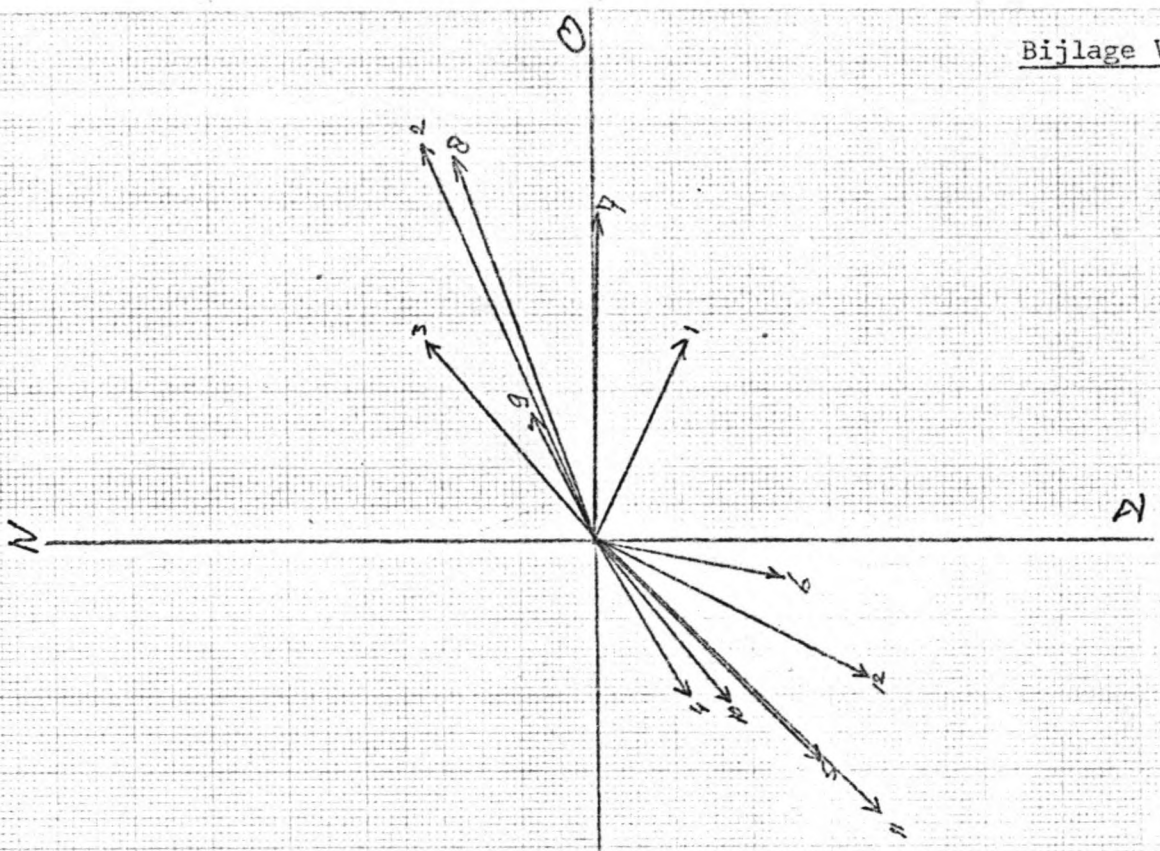


— PRET GEGEVENS R.W.G.

- - - TO BEREKENING 1600 METER METER NET.

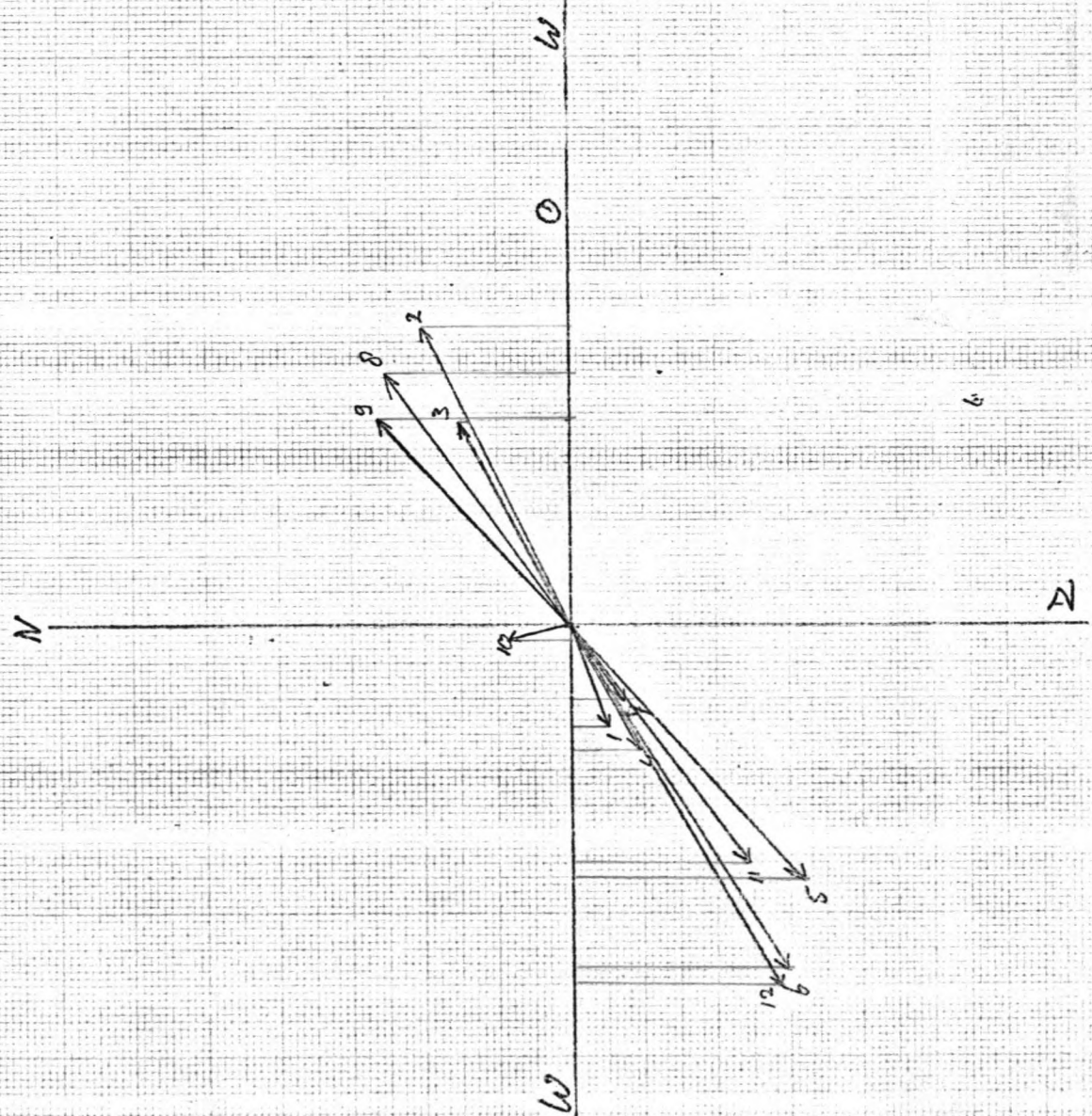
t in uur

I $\hat{=}$ 20 cm T.O.V. N.A.P.



To berekening

1 cm $\hat{=}$ 10 cm/sec

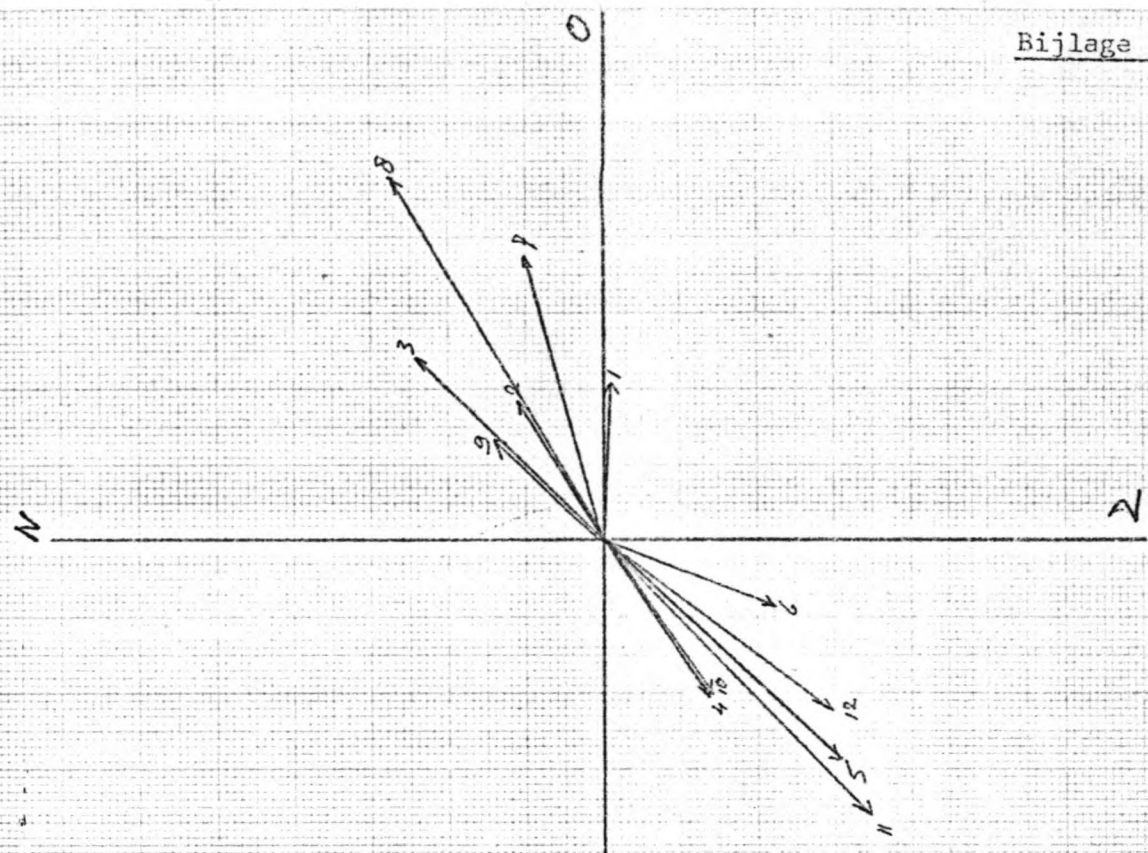


Metgegevens R.W.S.

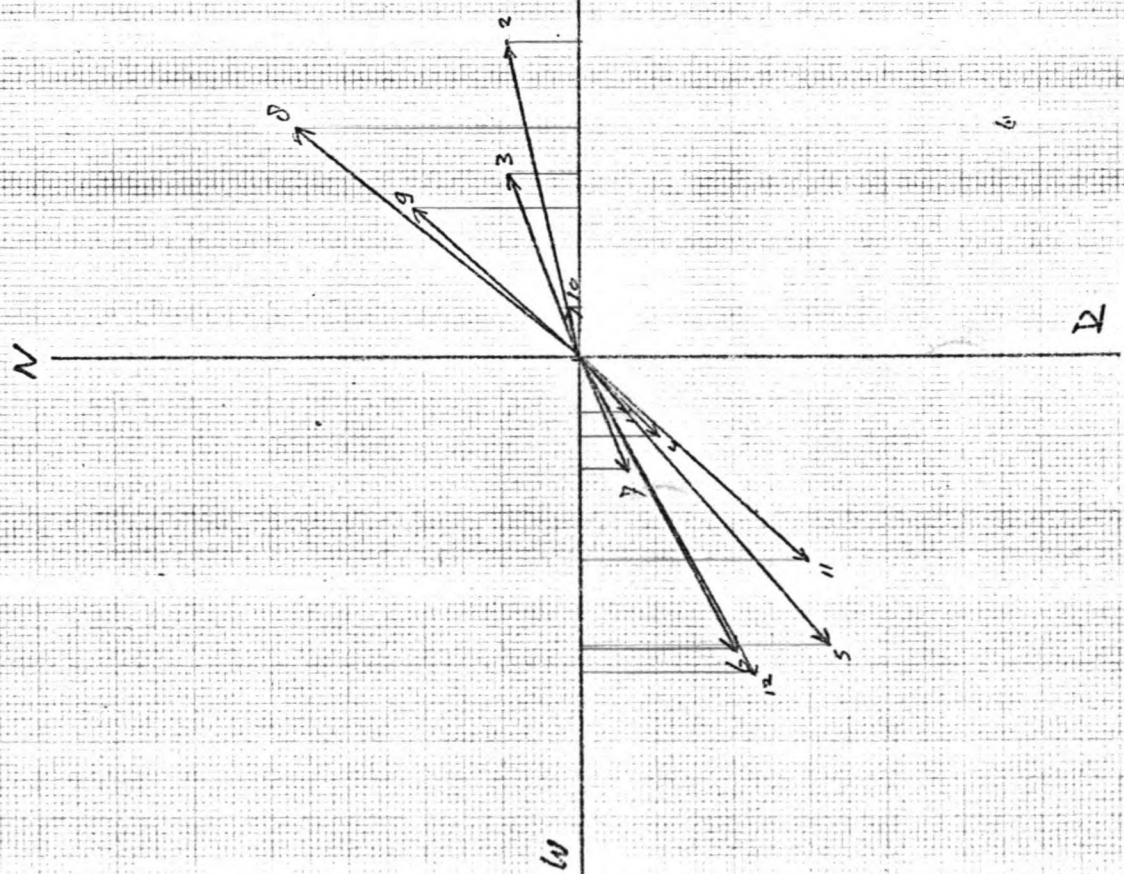
MEETPUNT B
coörd. g-3

1cm $\hat{=}$ 10 cm/sec

TO BEREKENING

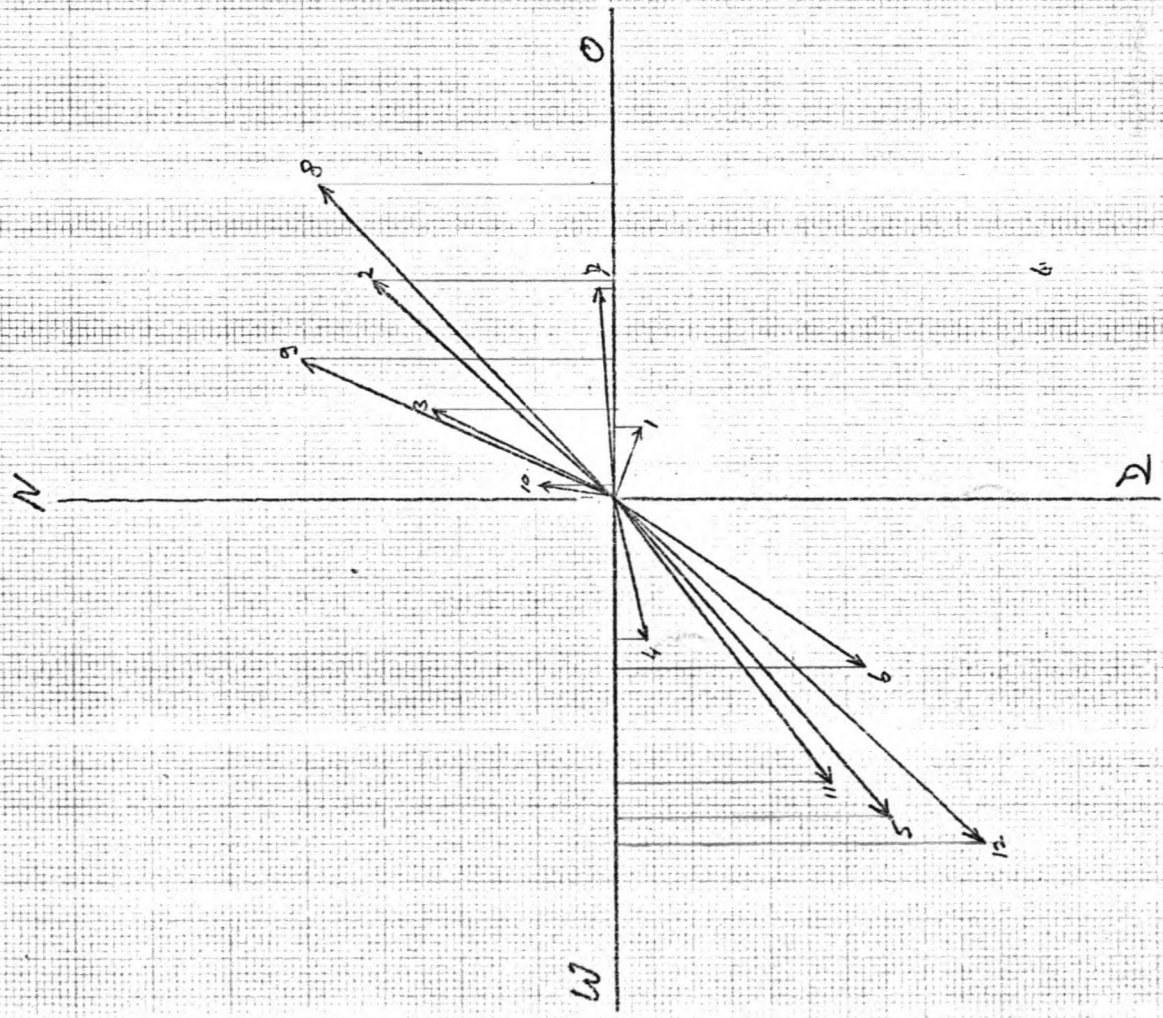


Meetpunt C coord 13,4

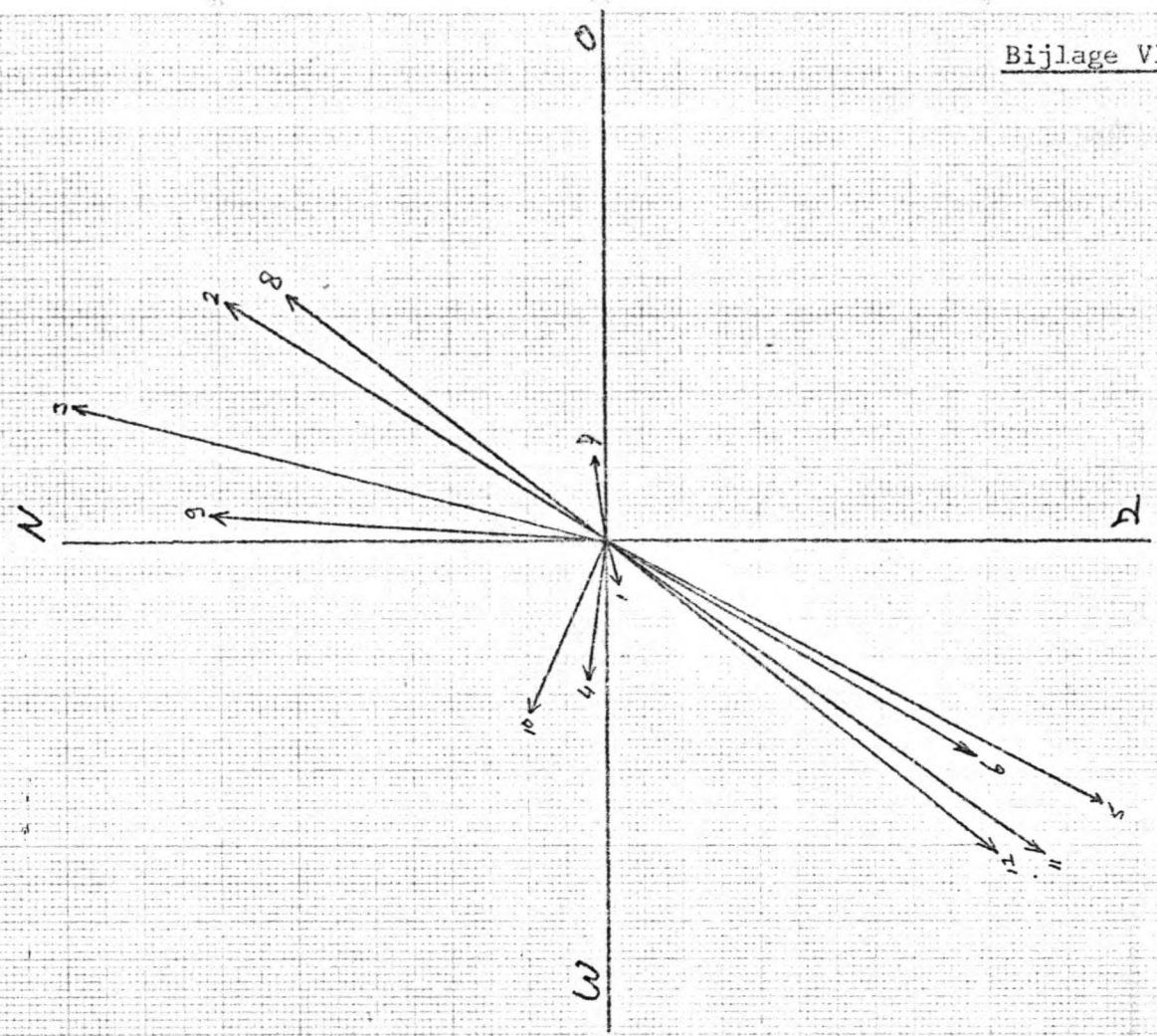


MEETPUNT C R.W.S

SCHOLWENBANK NOORD COÖRD 22, 9, 32



Disregard R.W.S



To berekening

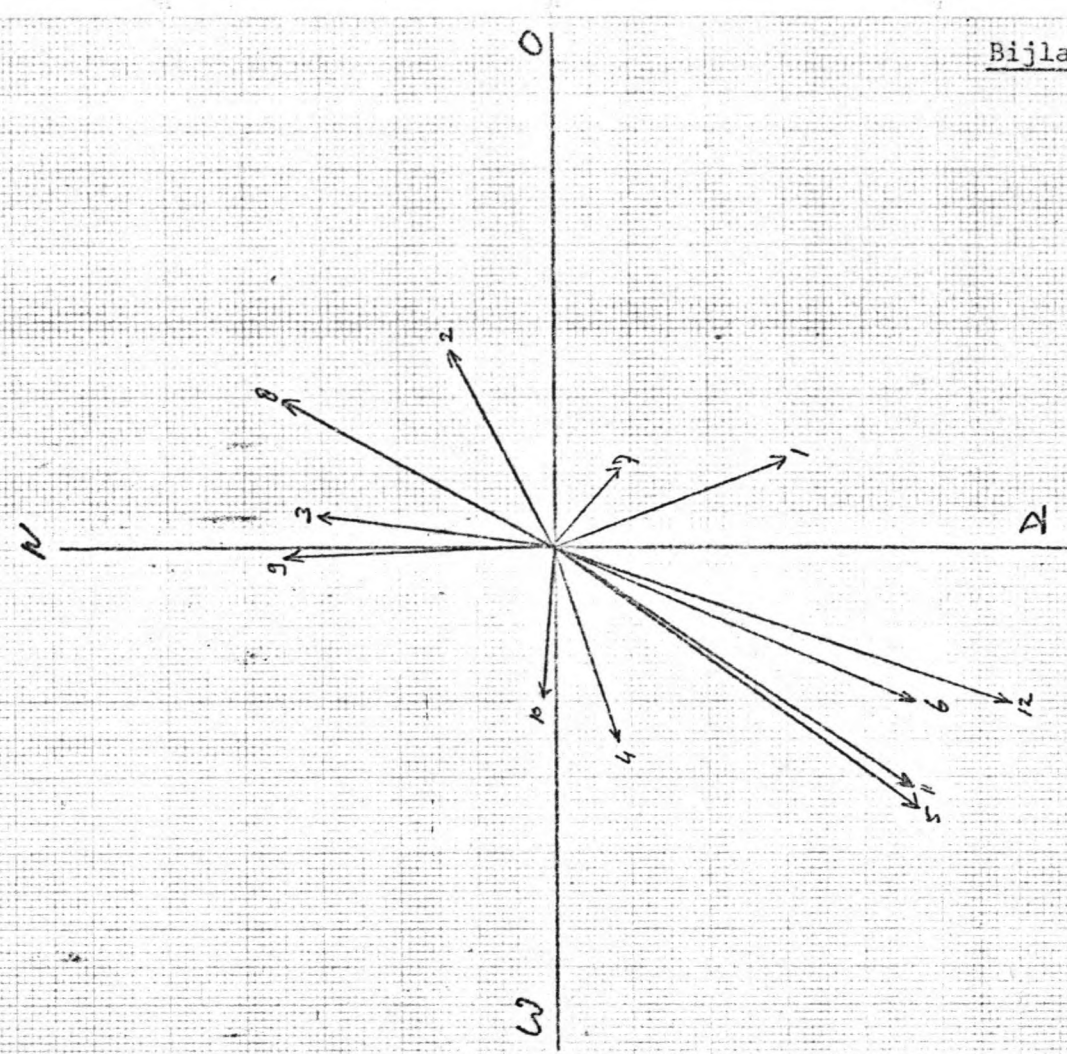
1 cm = 10 cm/sec

NET PUNT

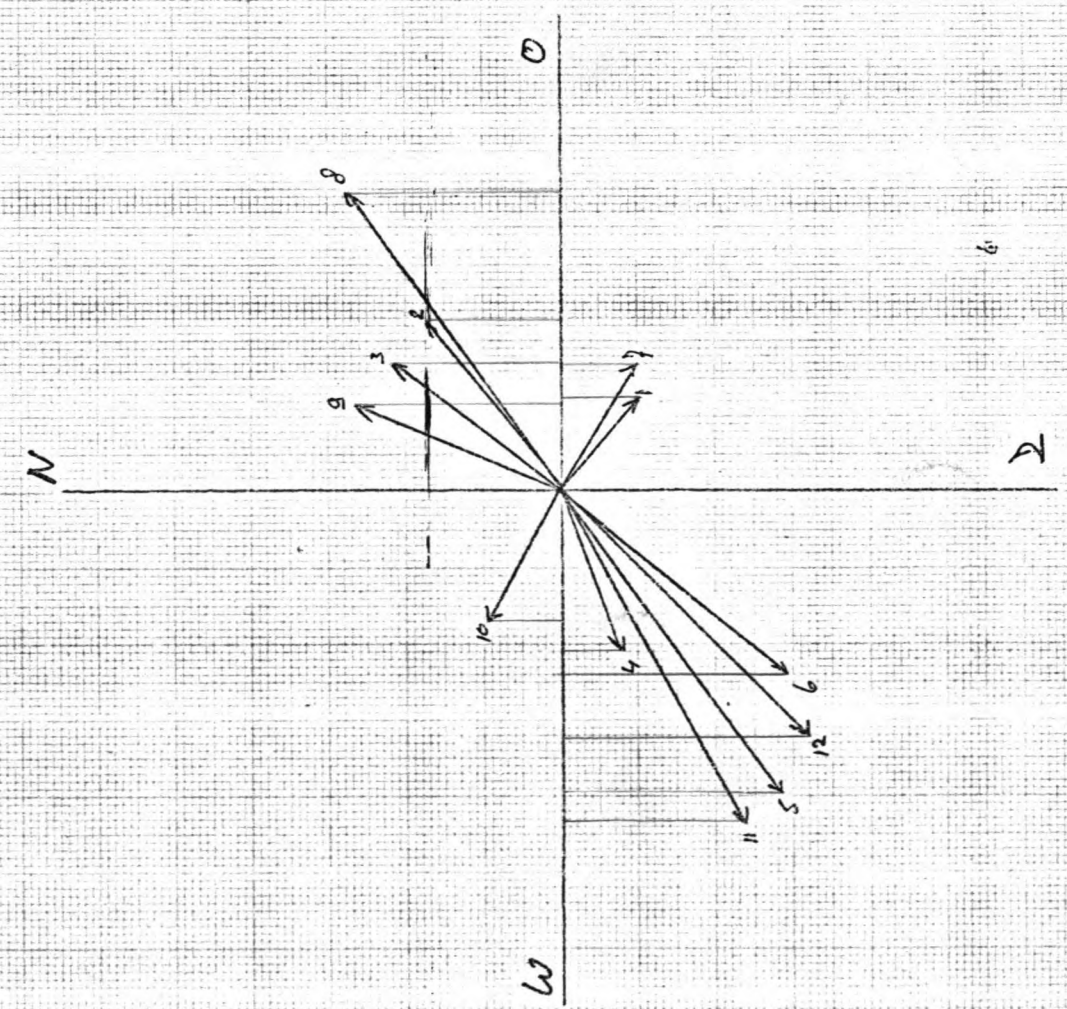
Euro 1A

COORD

2,26

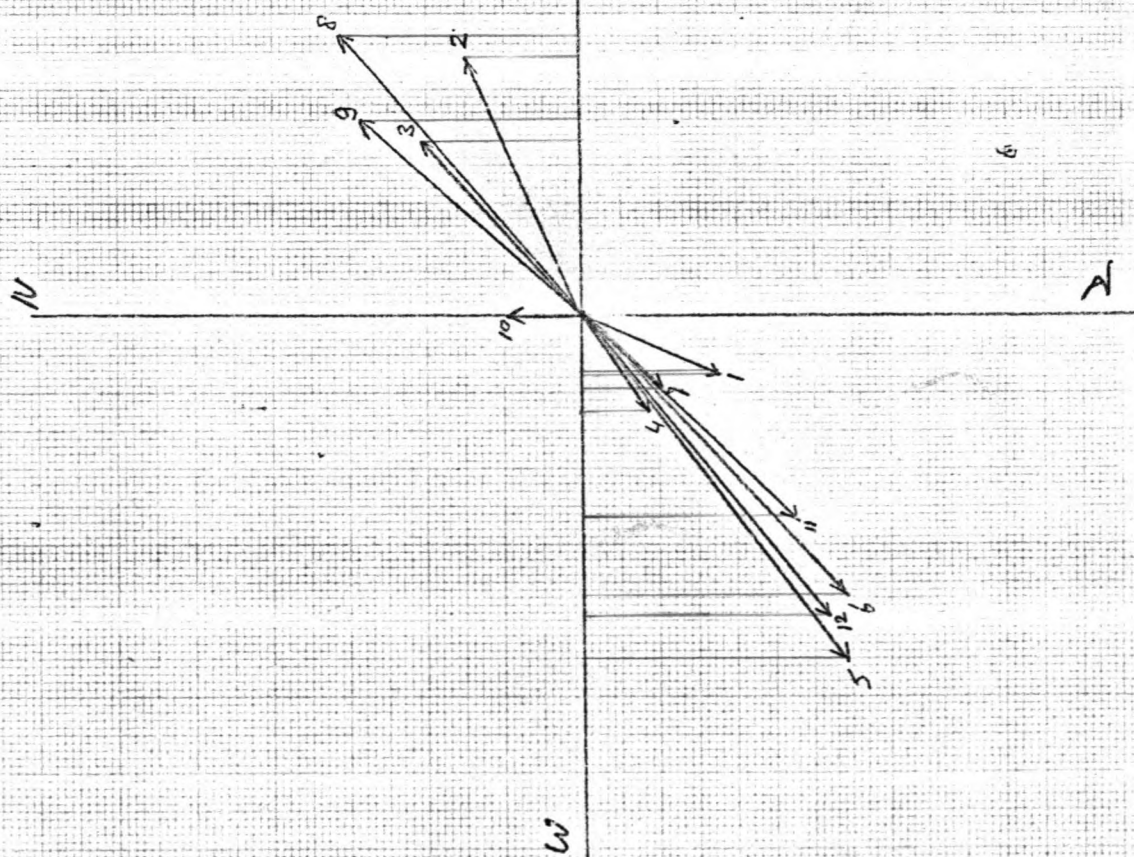


To BSA rekening / cm Δ 10 cm/sec

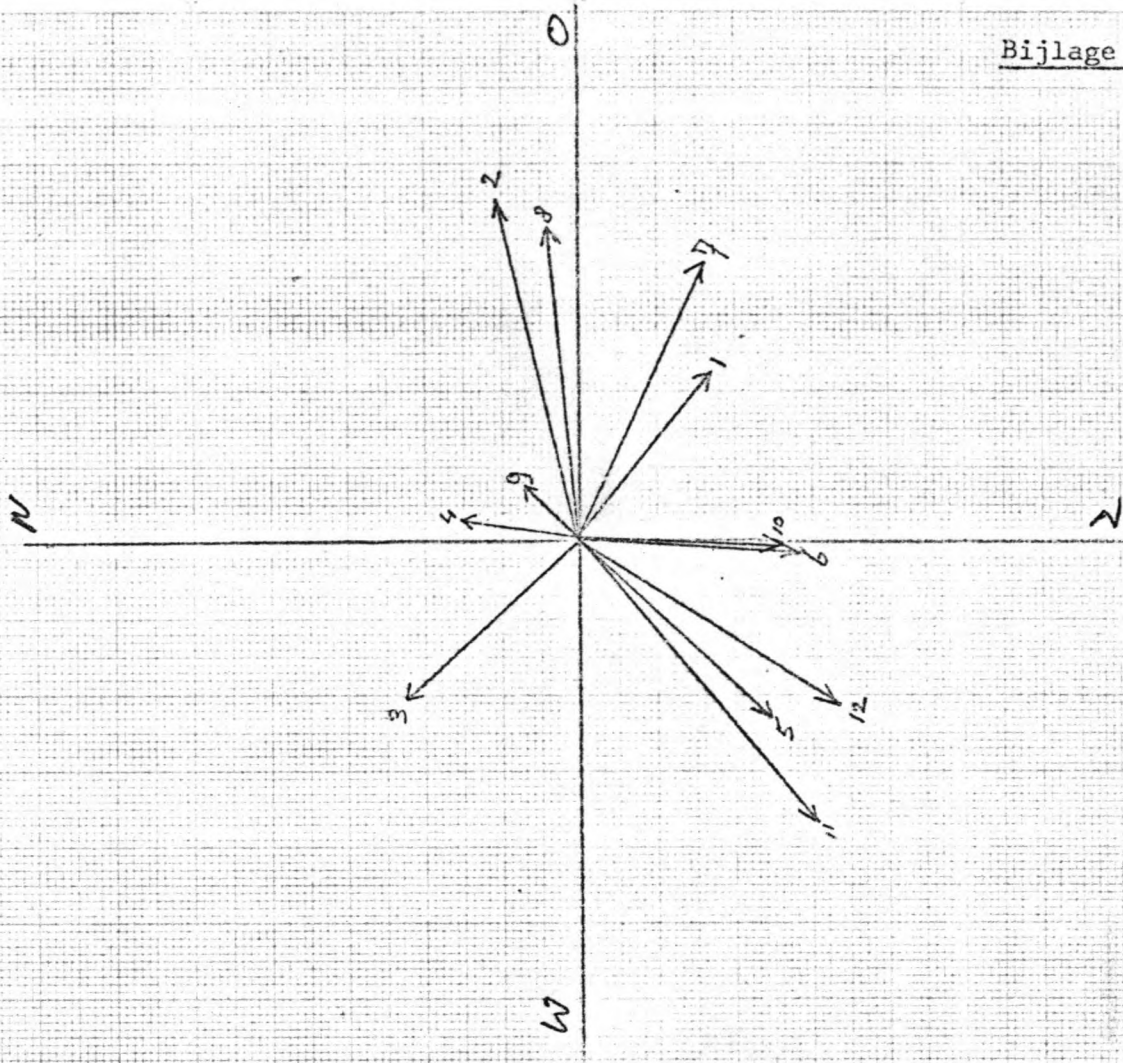


DIST 989 meters R.W.S.

MEETPUNT A COÖRD 5, 3



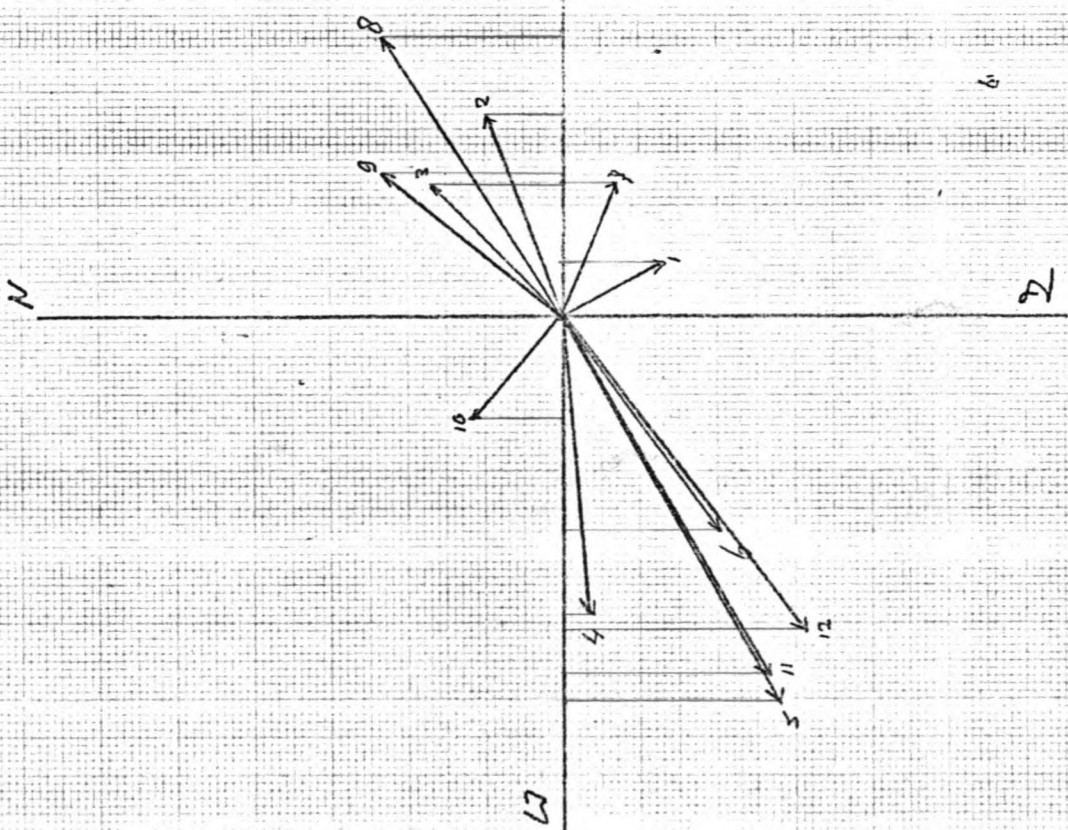
1107929185ms R.W.S



TO - BEREKENING

1 cm $\hat{=}$ 10 cm/sec.

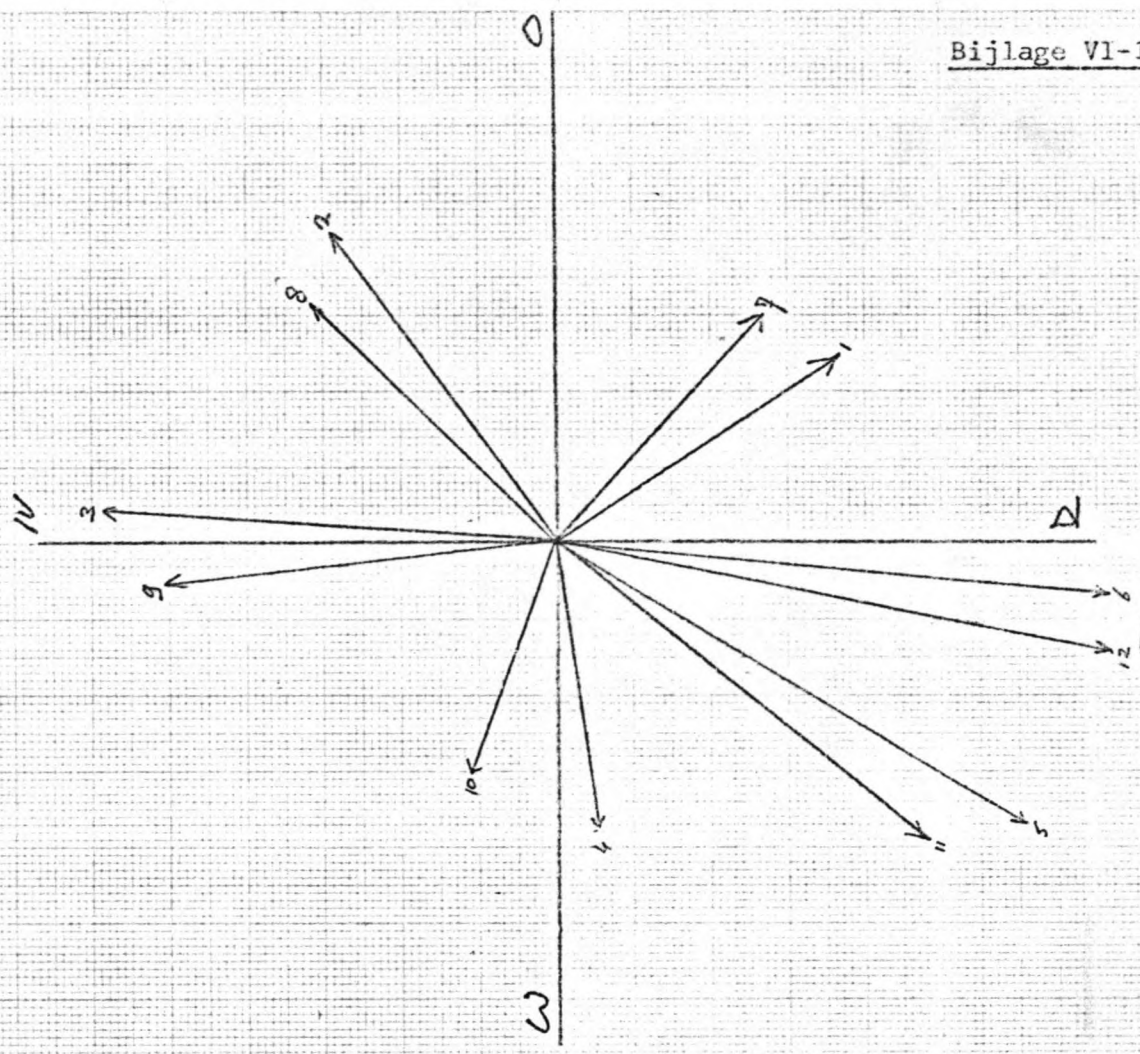
MEETpunt Bg II coörd 14, 33



Measuring

R.W.S

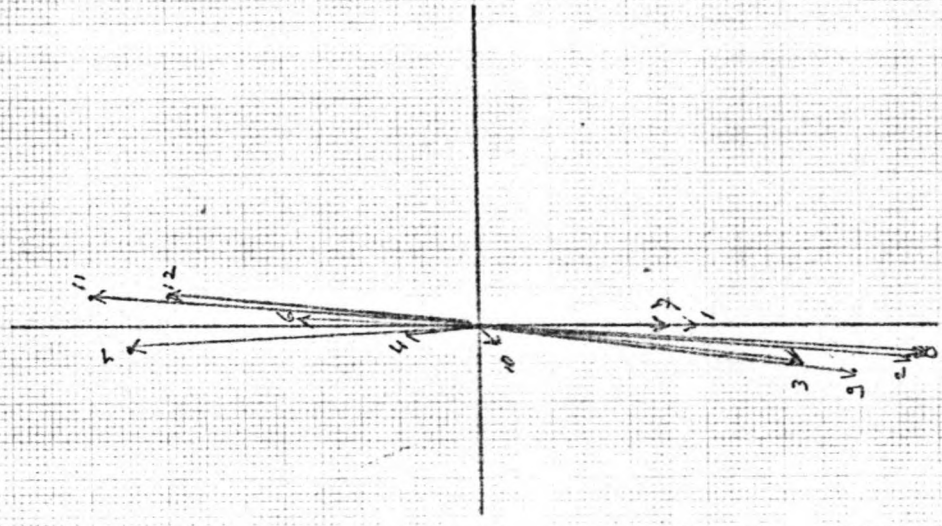
Bijlage VI-16



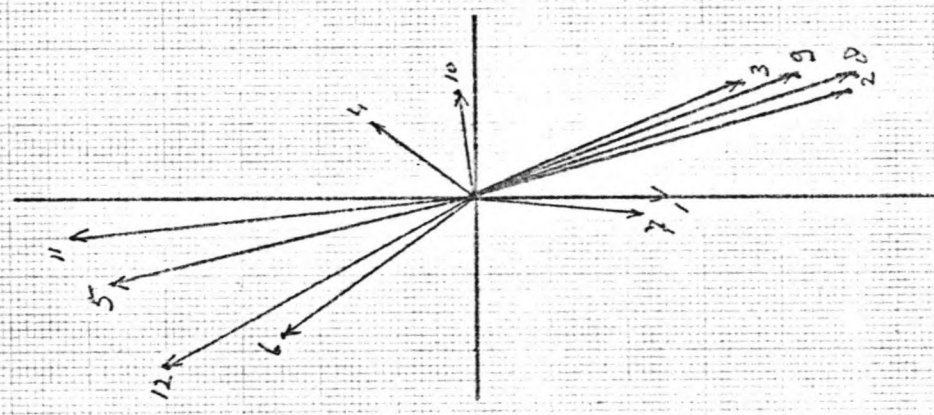
TO BEREKENING

1 cm = 10 cm/sec.

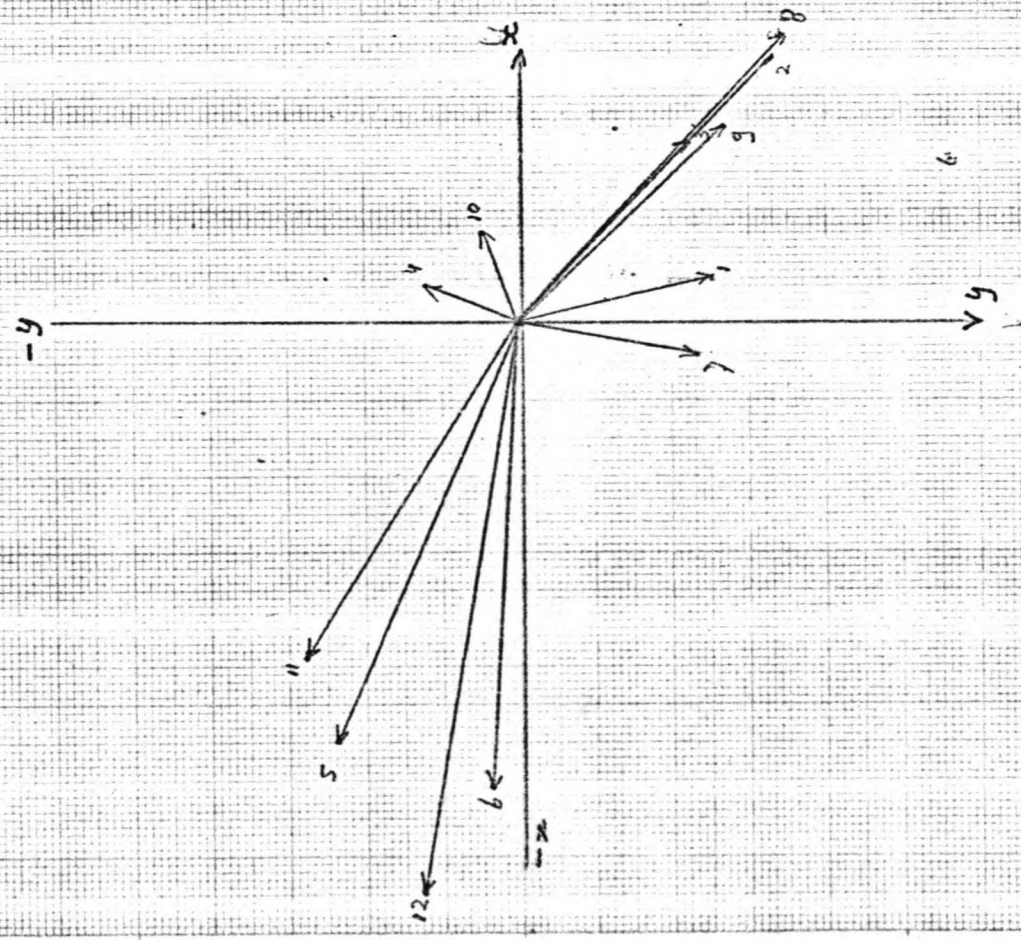
(14,19)
1 cm \approx 10 cm/s



(14,20)

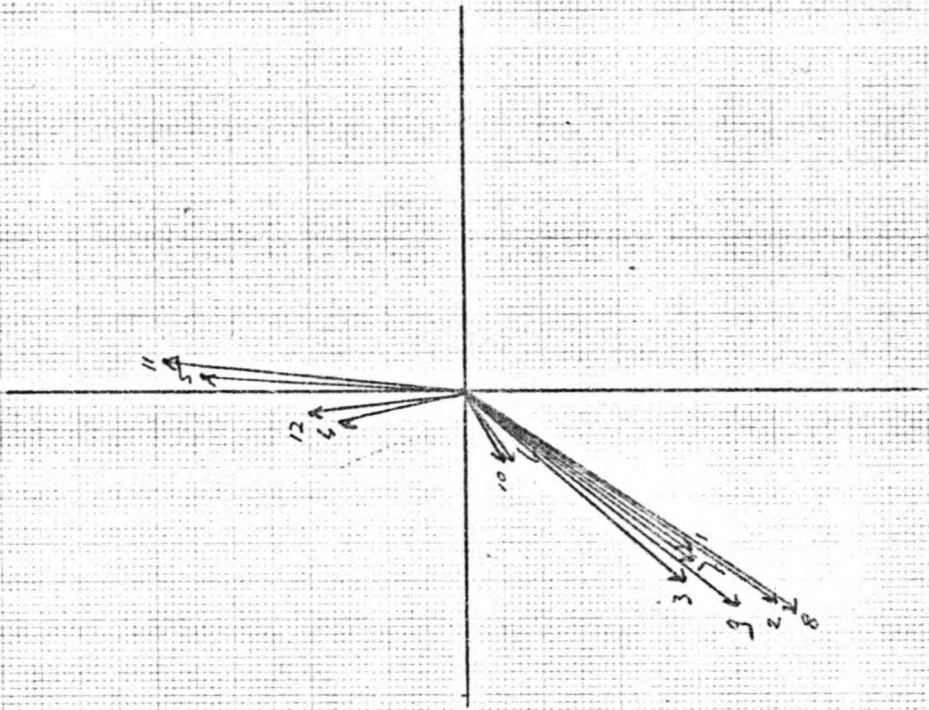


(15,20)

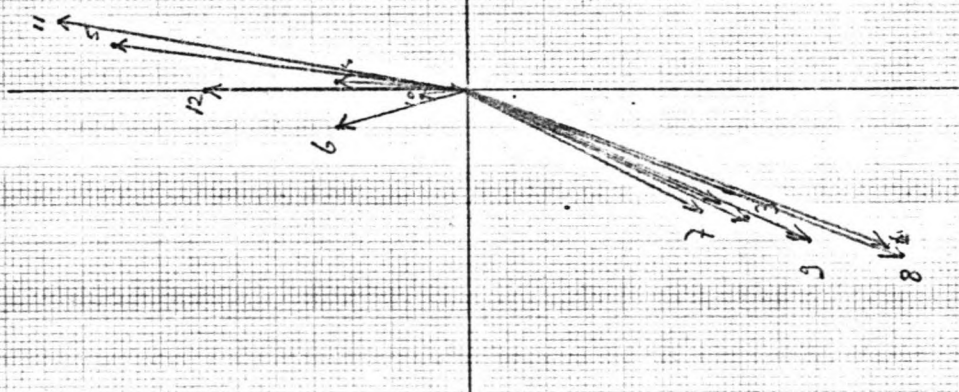


1 cm Δ 10 $\frac{cm}{s}$

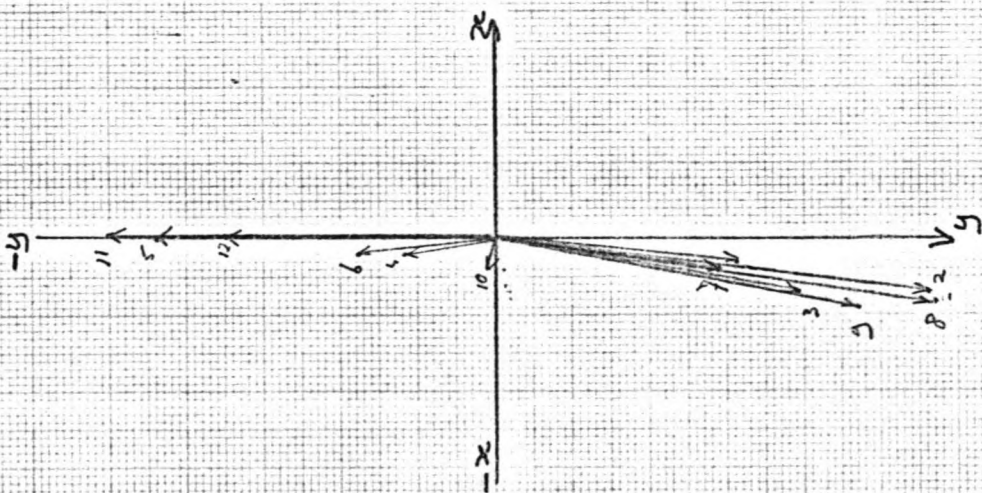
(15, 17)

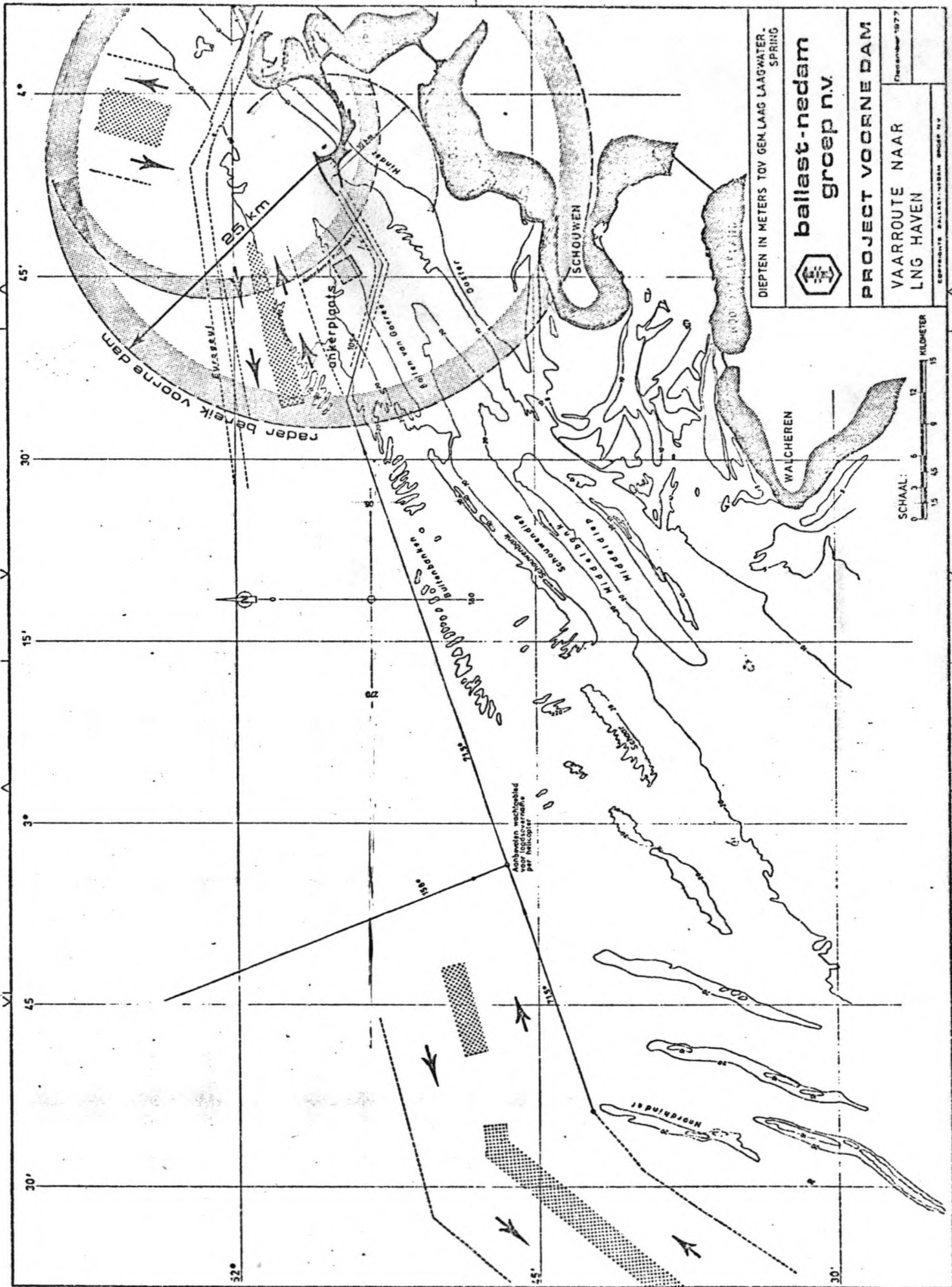


(14, 17)



(14, 18)





DIPTEN IN METERS TOY GEN LAAG LAAGWATER SPRING

ballast-nedam
groep n.v.



PROJECT VOORNE DAM

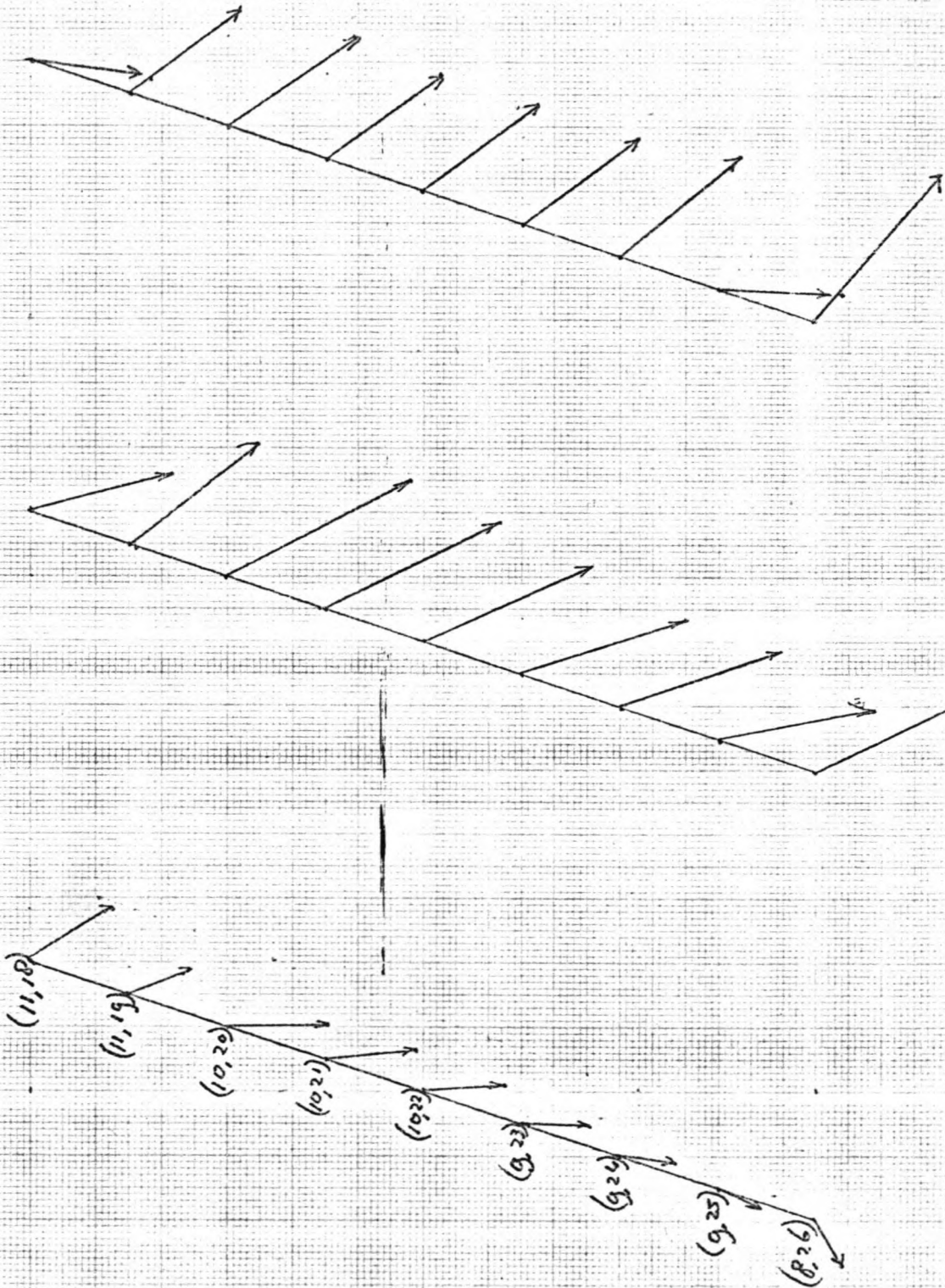
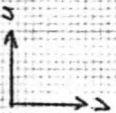
VAARROUTE NAAR
LNG HAVEN

Februari 1977

EGP/FRONTIS BALLAST-NEDAM GROEP N.V.

SCHAAL: 0 3 6 9 12 15
KILOMETER

STROORBELD IN DE TOEGANGSVEL UIT T₂ BEREKENING.



Tijdstip 1

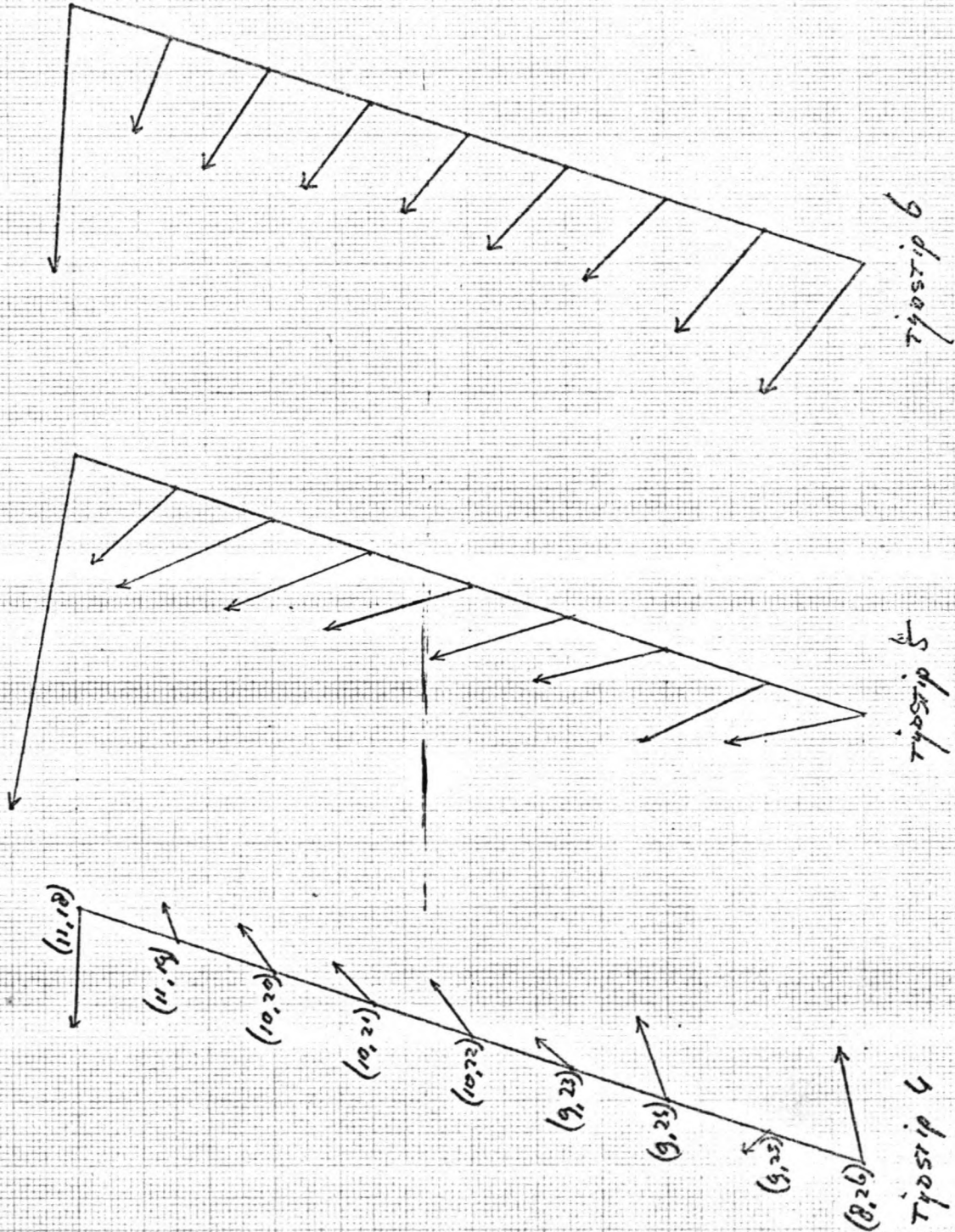
Tijdstip 2

Tijdstip 3

1 cm ≙ 20 cm/s

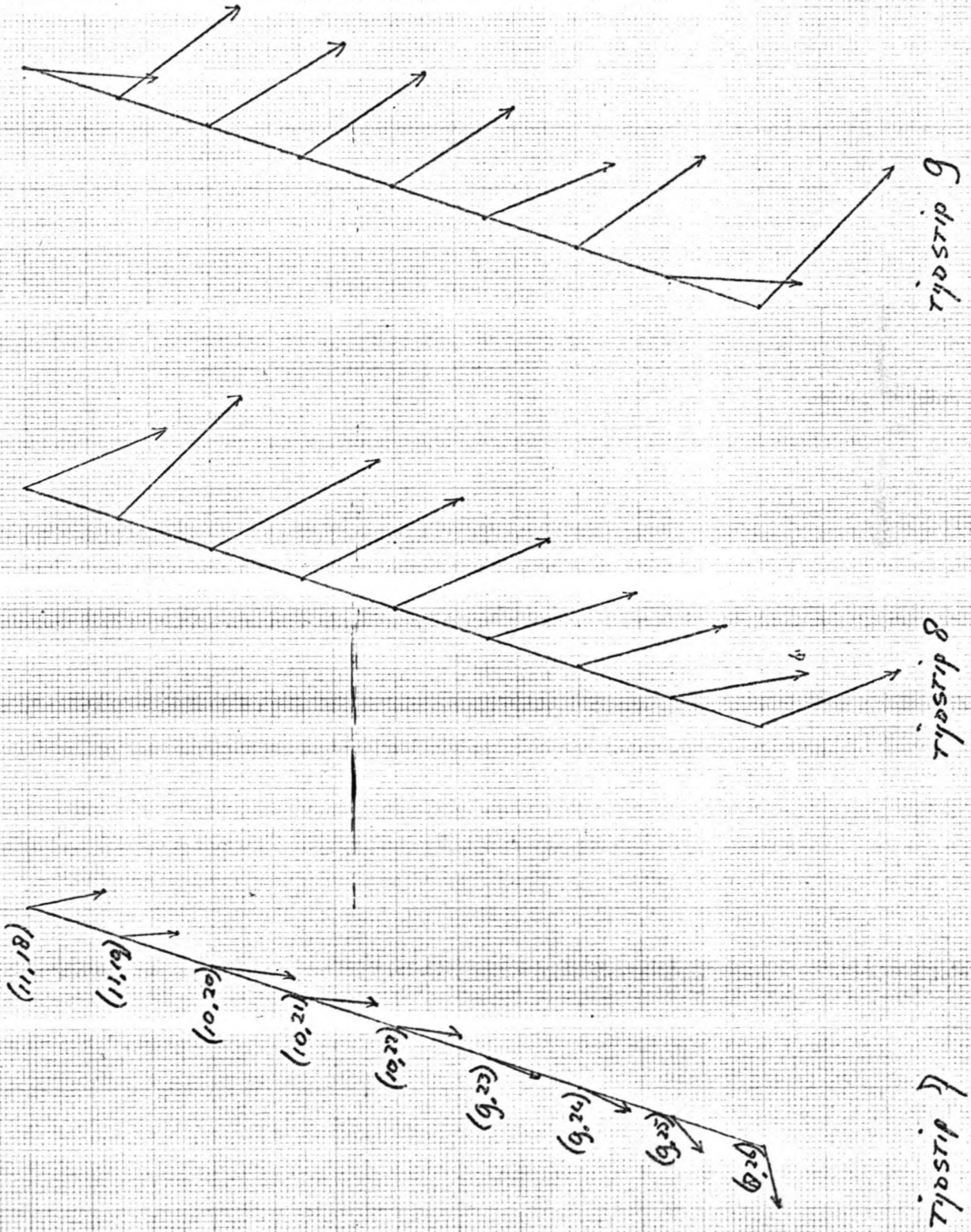
1 cm = 20 cm

STROOBBED IN DE TOEGANGEN UIT T2 BEREKENING.



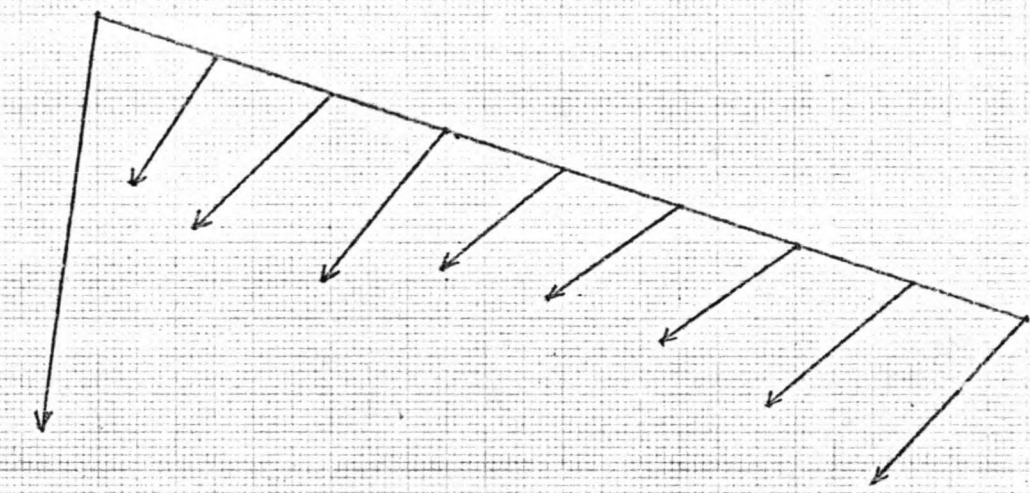
1 cm = 20 cm/s

STROOMBELD IN DE TOEGANGSGEELD AIT TO BEREKENING.

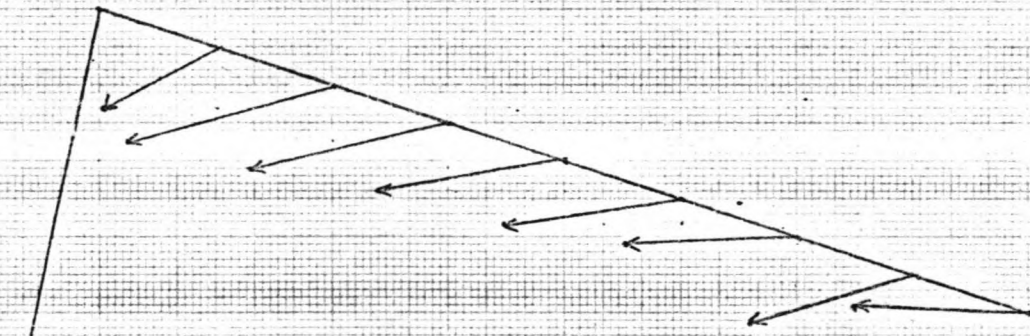


100 Δ 20 cm

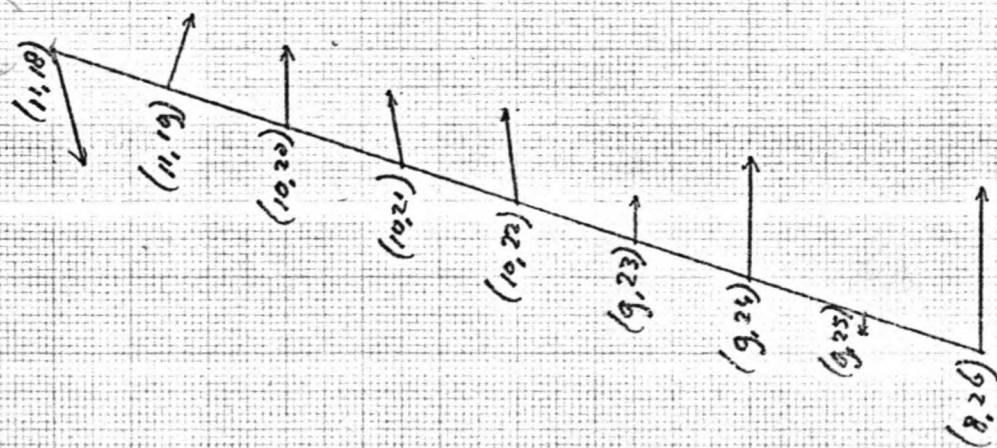
STROONBEEF in DE TOEGANGSGEEL uit T₂ BEREKENING.



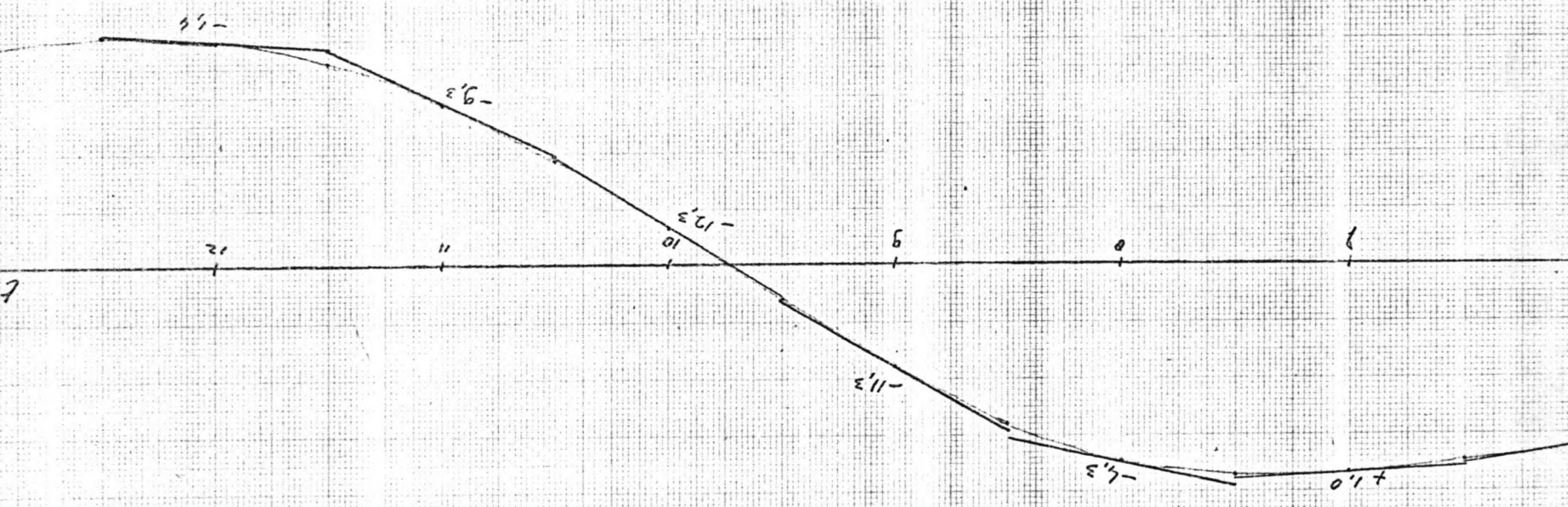
Tijdstip 12



Tijdstip 11



Tijdstip 10

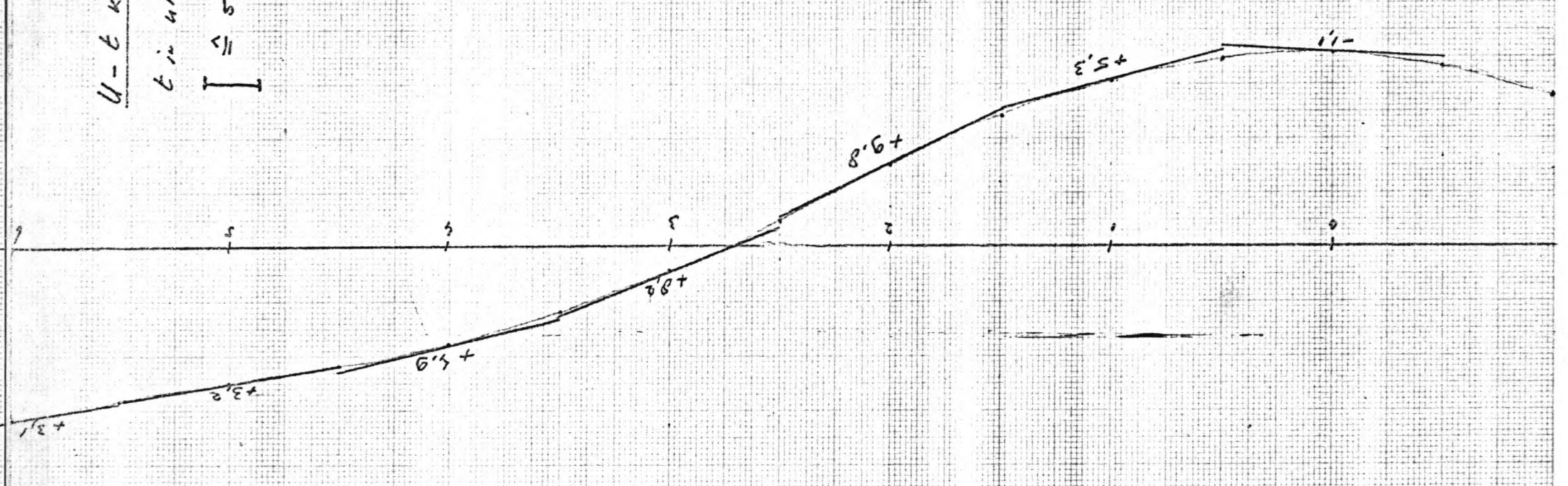


Billage VII-1

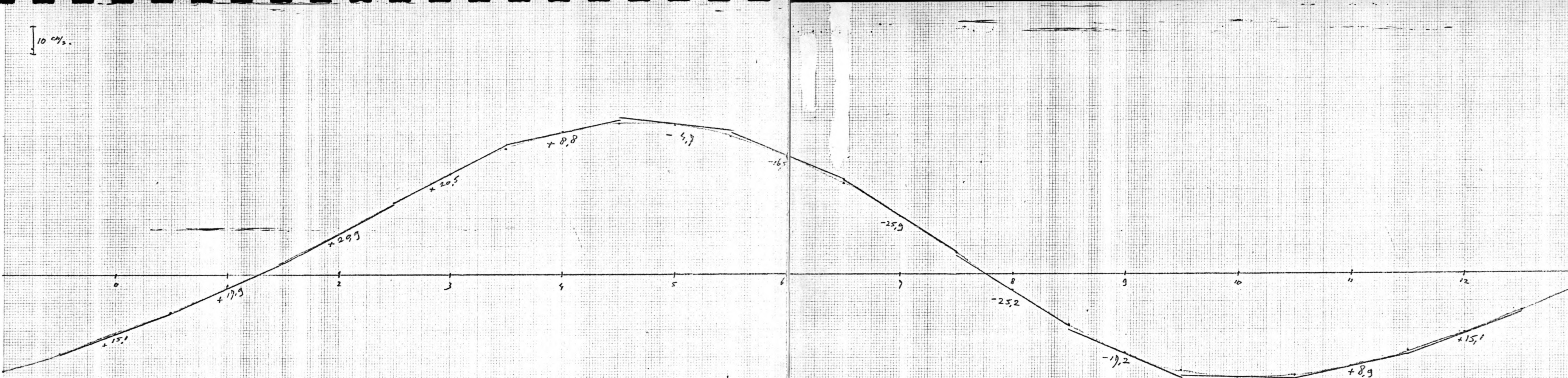
U-t kroonhe voor (7,24)

t in uren

$\dot{U} \approx 5 \text{ cm/s}$

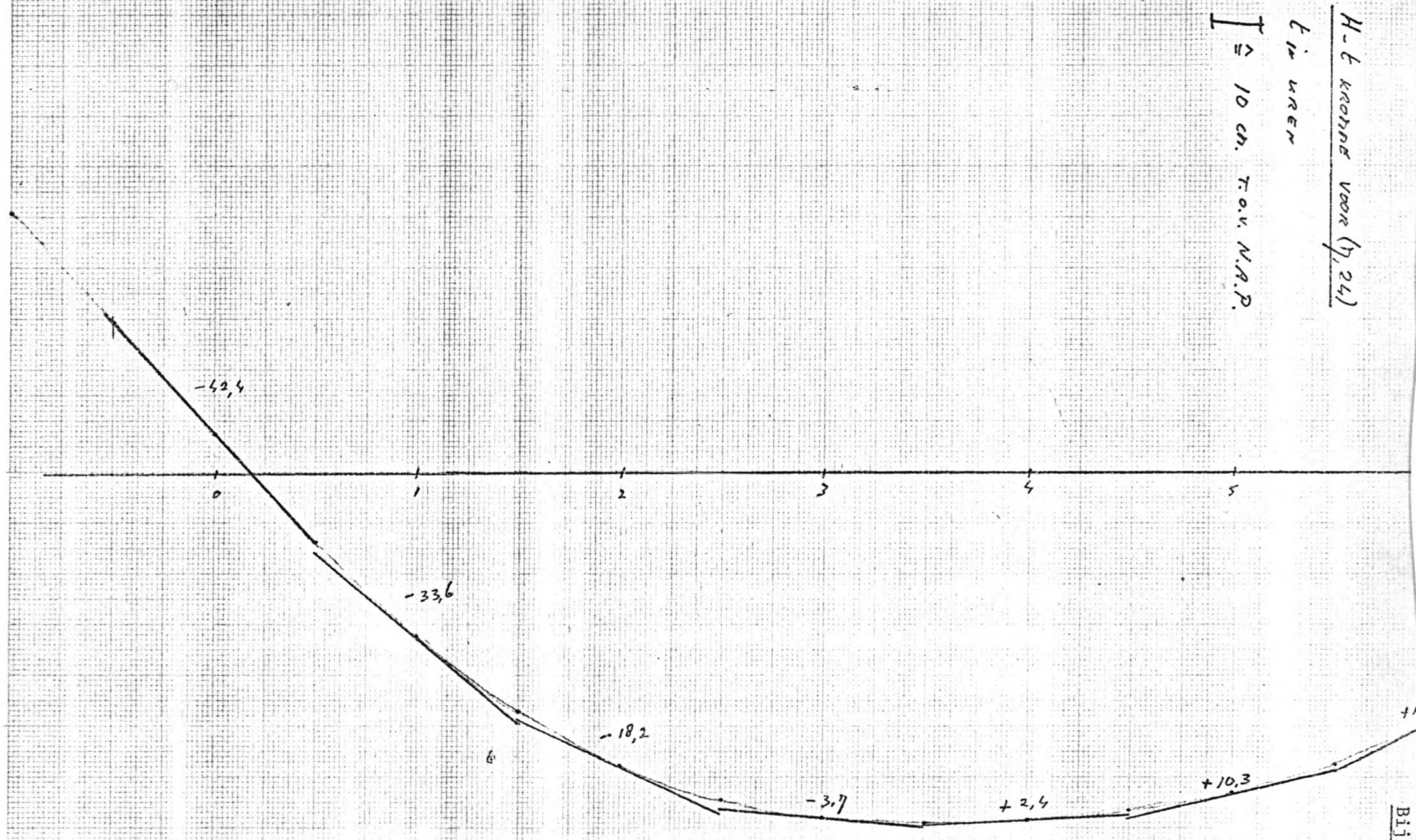


10 cm/s



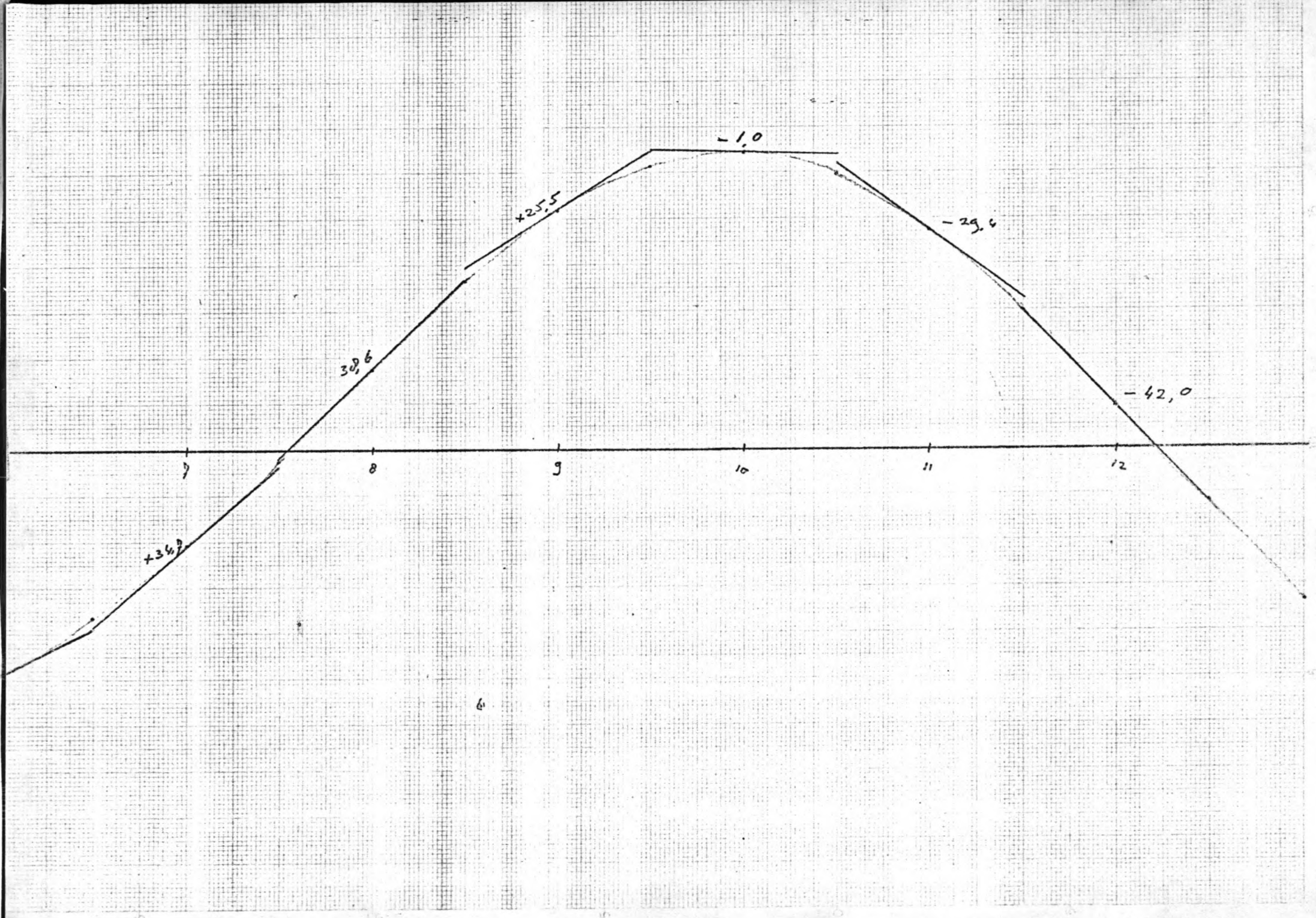
Bijlage VII - 2
N-t kroonje voor (7,24)
L in luren
I = 10 cm/s

H

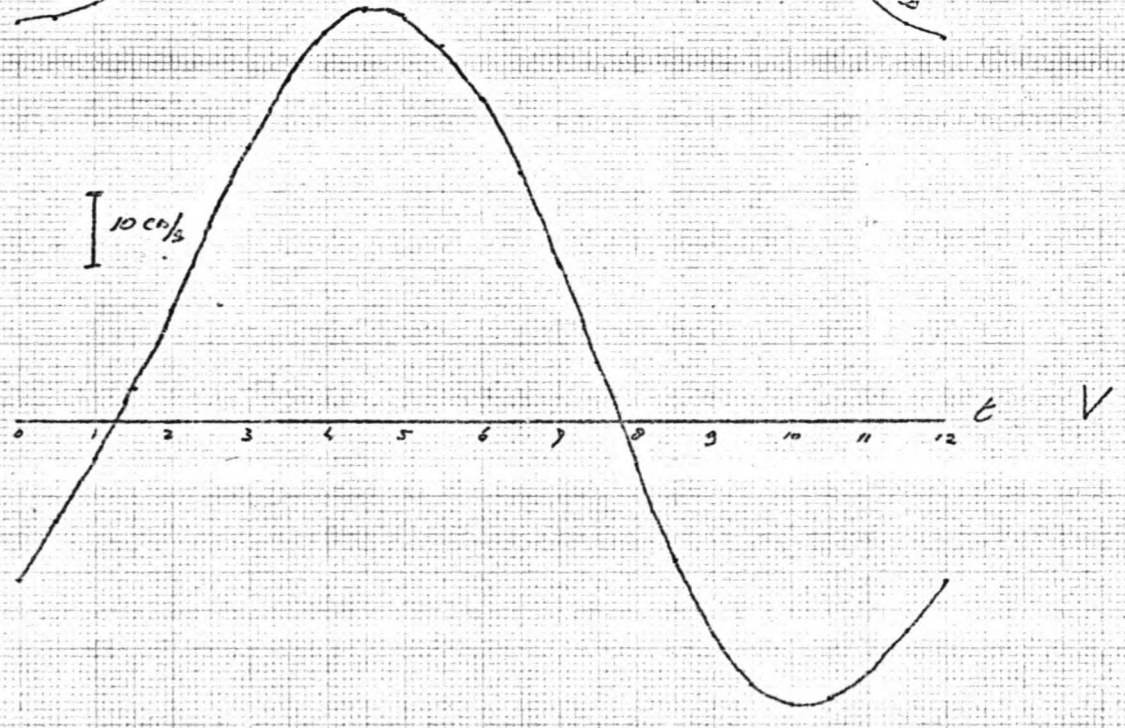
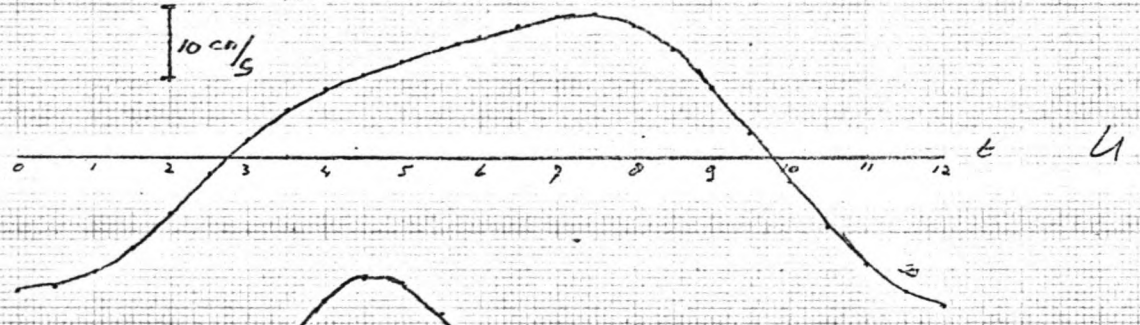
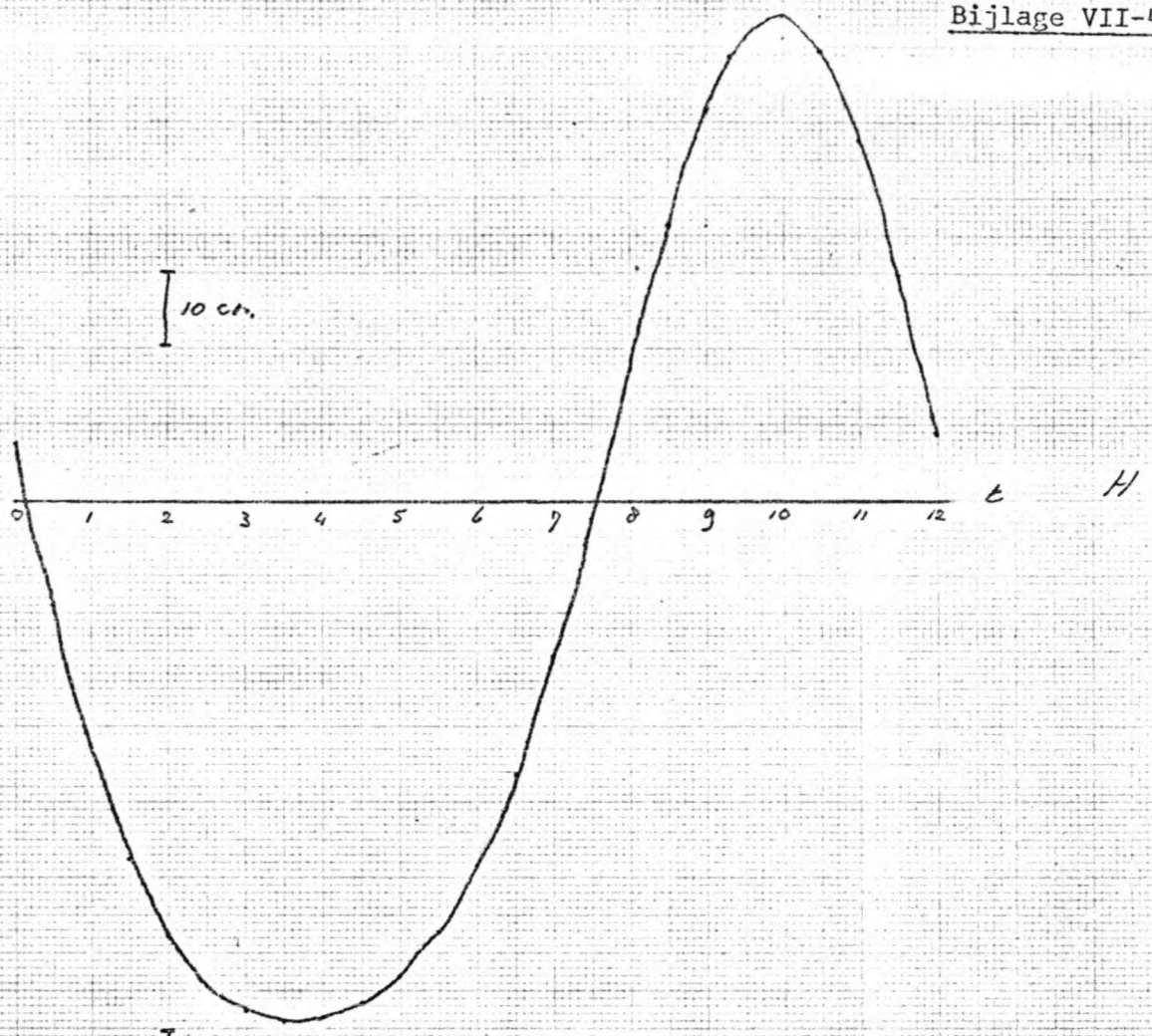


H-t kroonst voor (7,21)
 L in wren
 I = 10 cm. T.o.v. N.A.P.

Bijlage VII-3



2.24 (2.24)

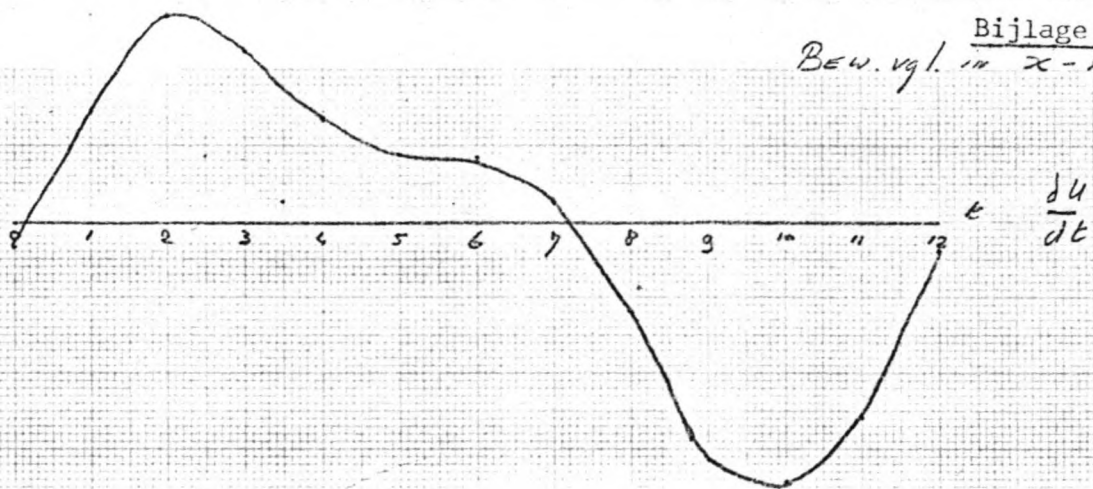


Tijd in UREN

0.24)

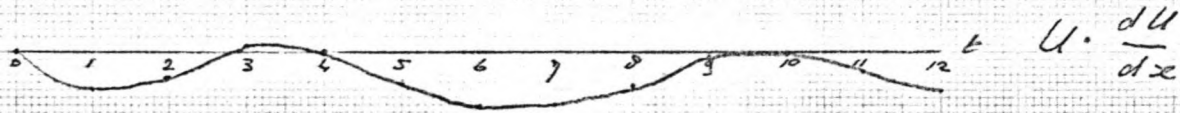
Bijlage VII-5
BEW. vgl. in x-RICHTING

①



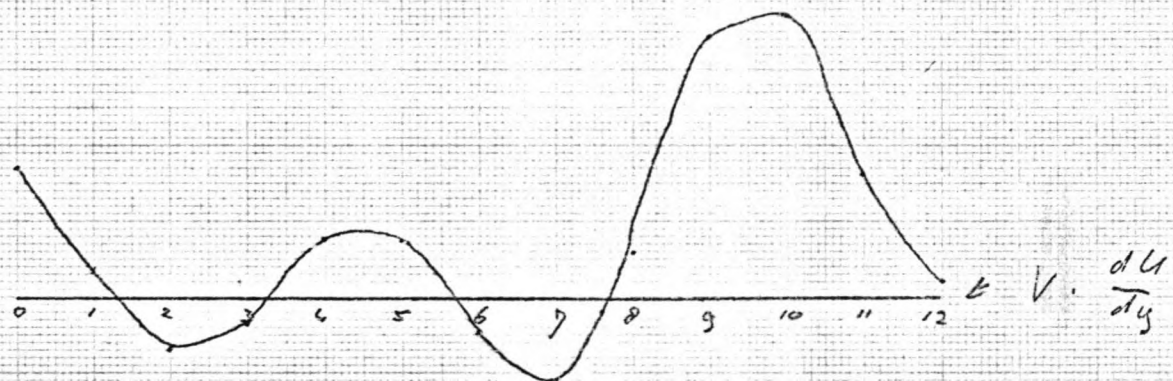
②

x 10

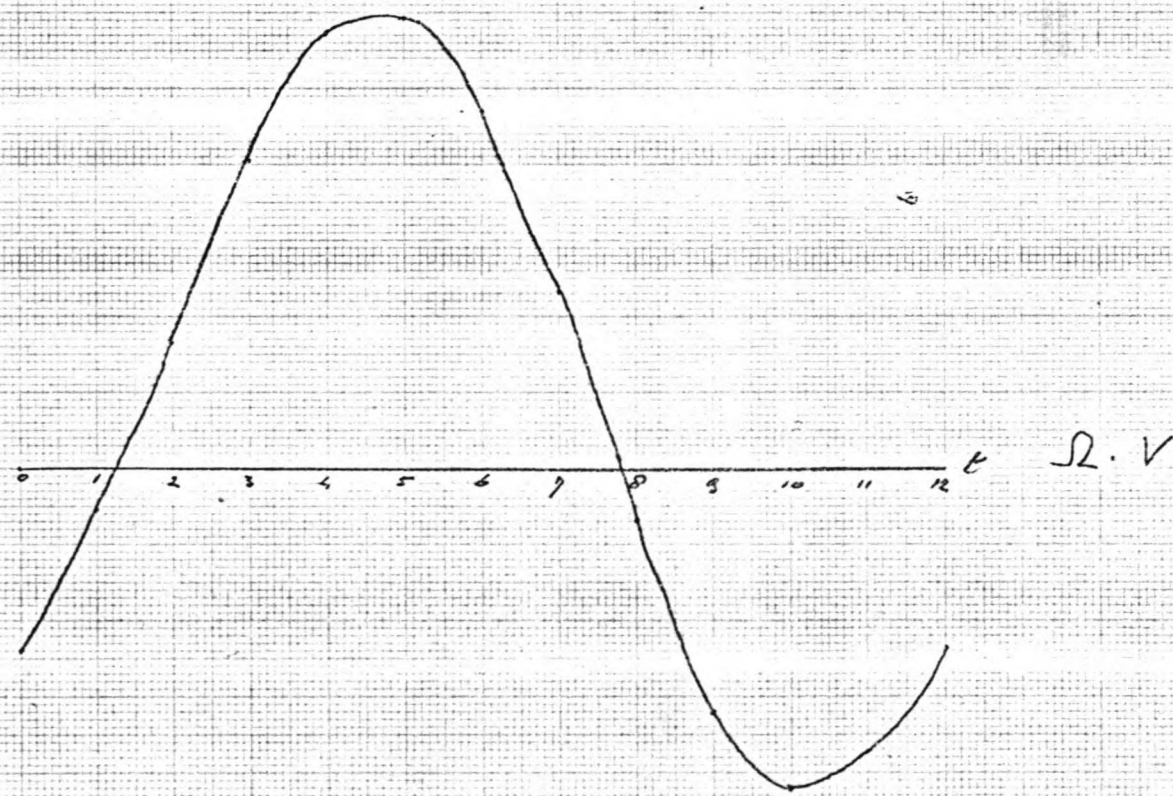


③

x 10



④



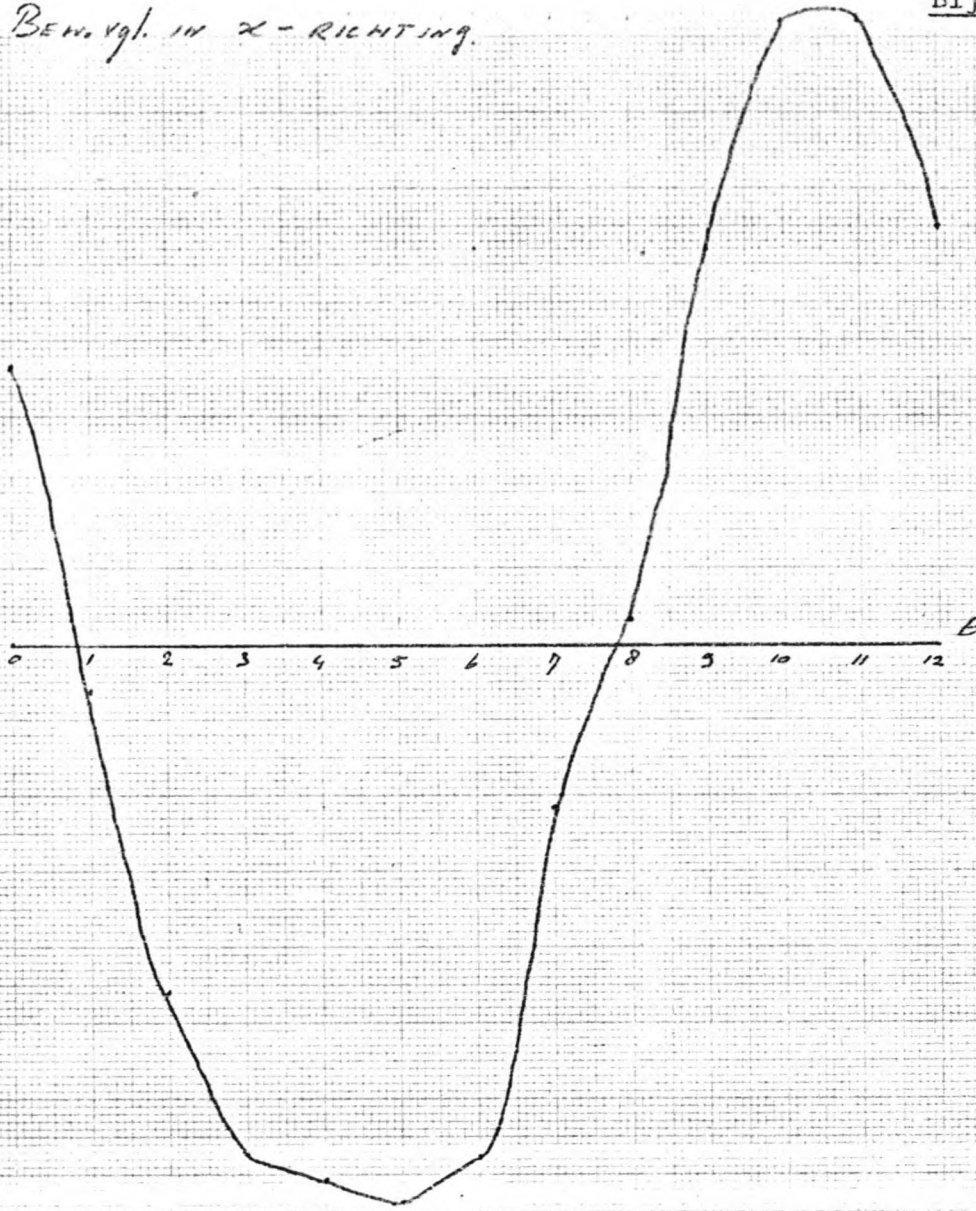
| = 10⁻⁵ m/s²

TIJD IN UREN.

(7,24)

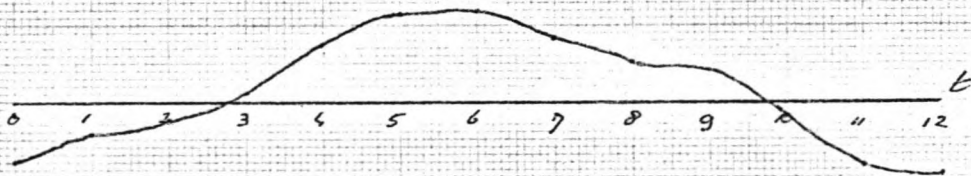
Bew. vgl. in x-richting.

(5)



$$g \cdot \frac{dh}{dx}$$

(6)



$$f \cdot \frac{u(u^2 - v^2)^{1/2}}{D}$$

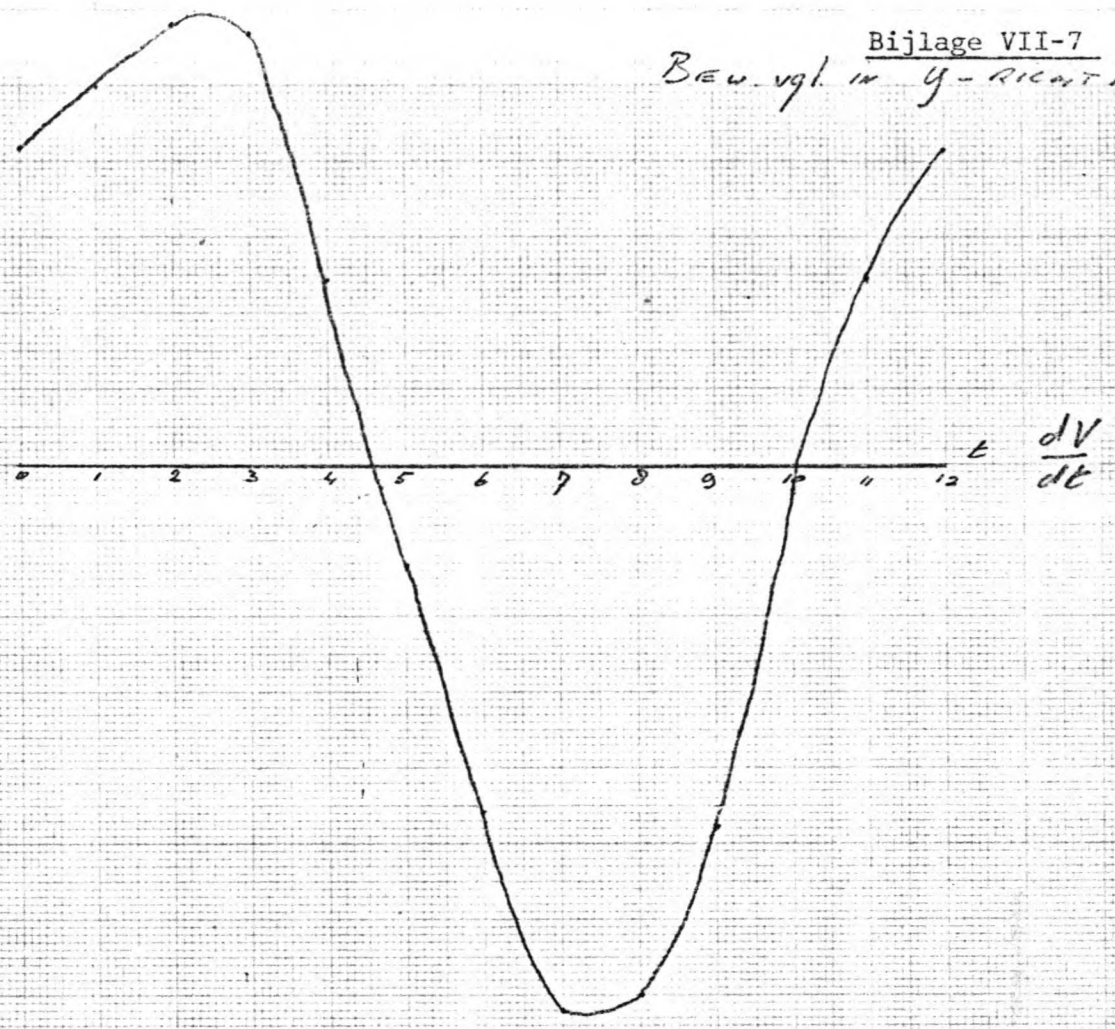
$$| = 10^{-5} \text{ m}^2$$

Tijd in uren

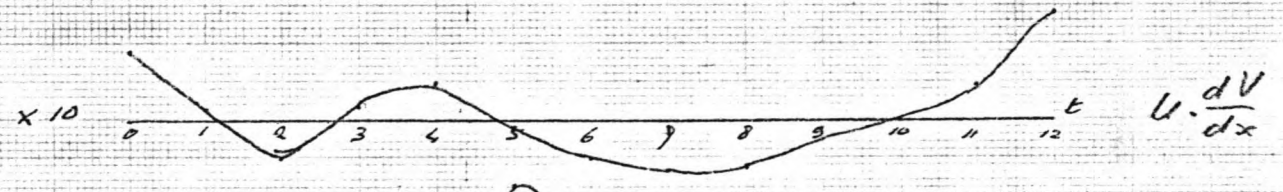
(7,21)

Bijlage VII-7
Bew. vgl. in y-richting

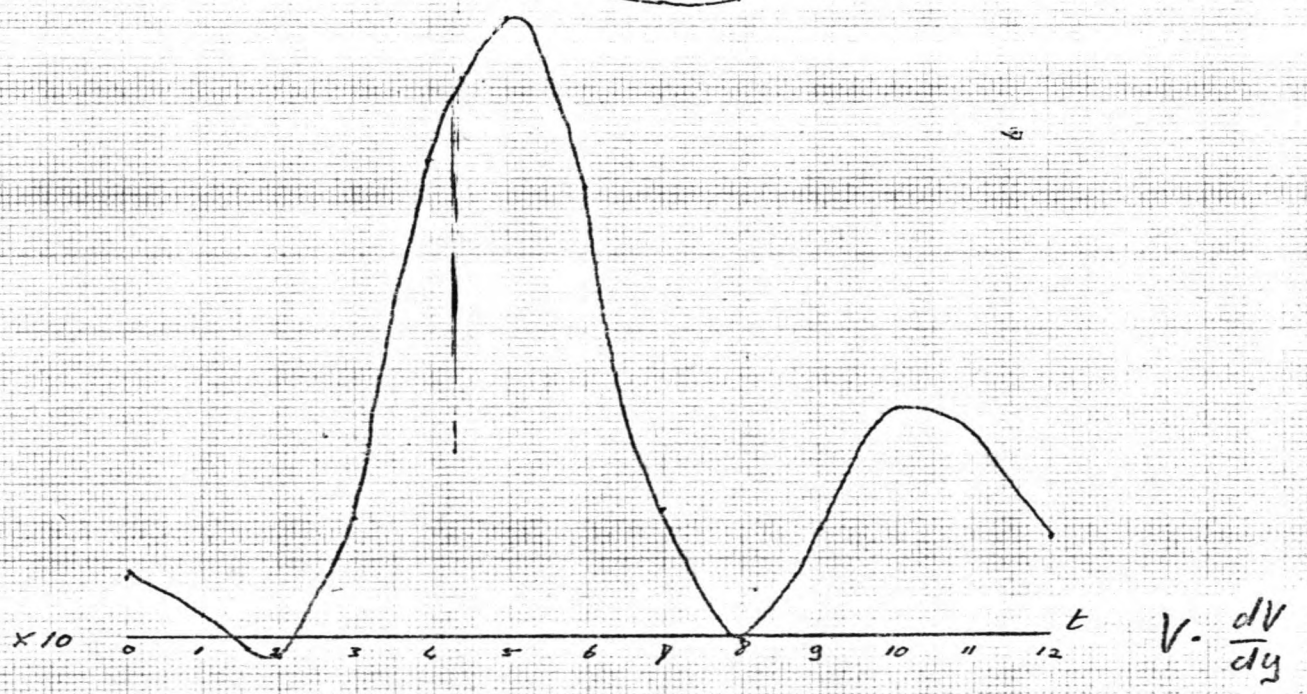
①



! ②



! ③

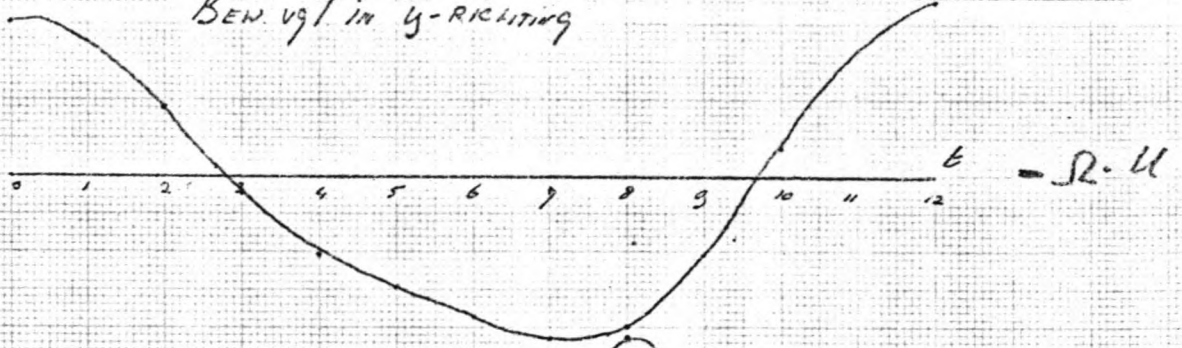


[= 10⁻⁵ 1/32
Tijd in UREN

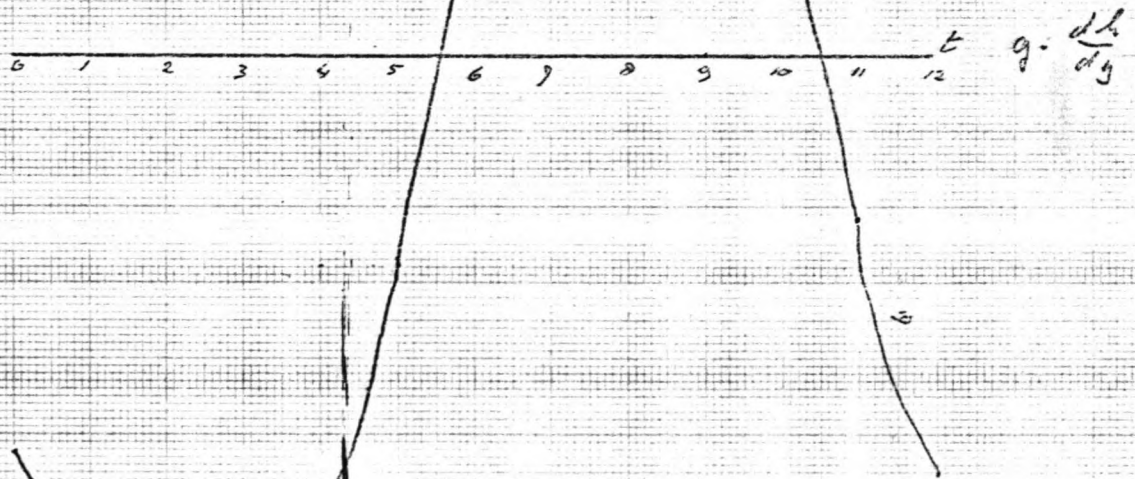
(7.24)

Bew. vgl in y-richting

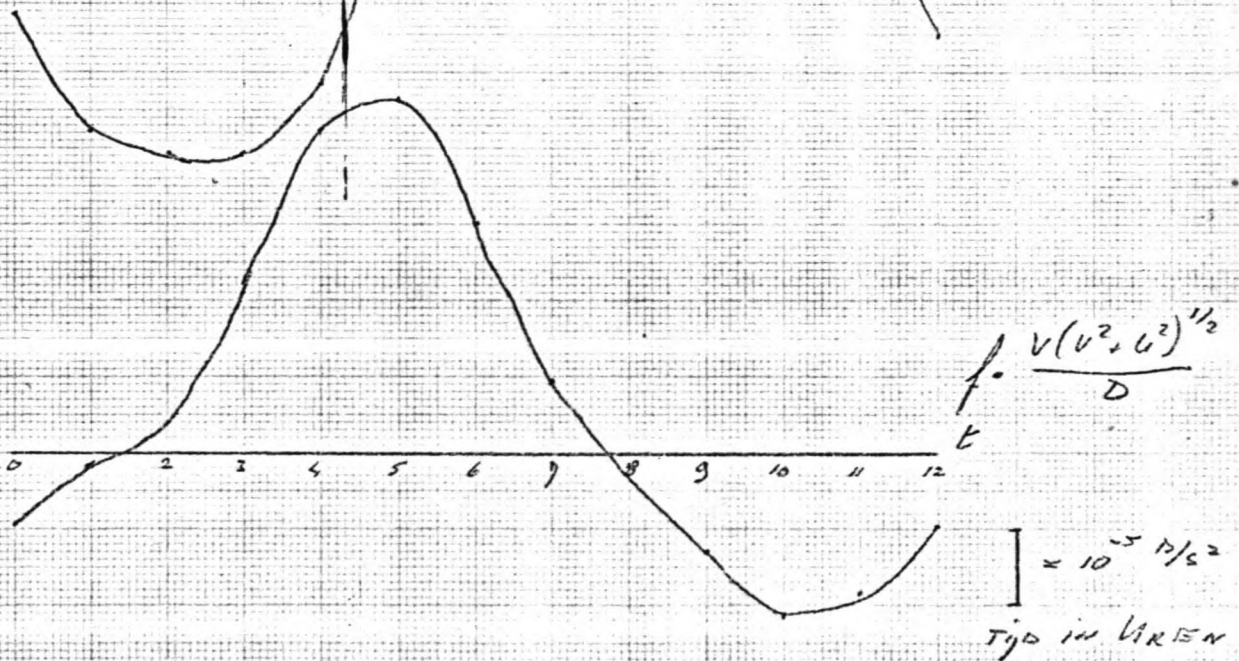
④



⑤



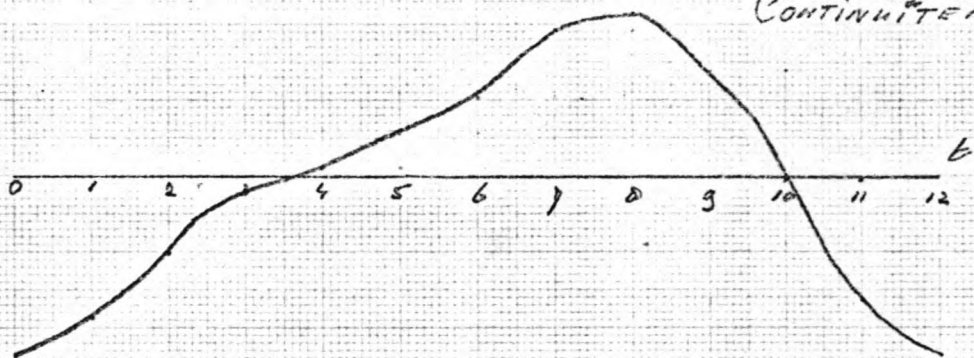
⑥



(p. 24)

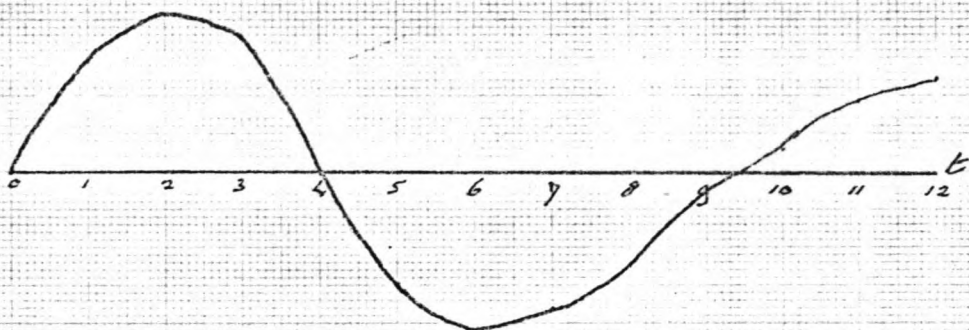
Bijlage VII-9
CONTINUÏTEIT 3 vgt.

①



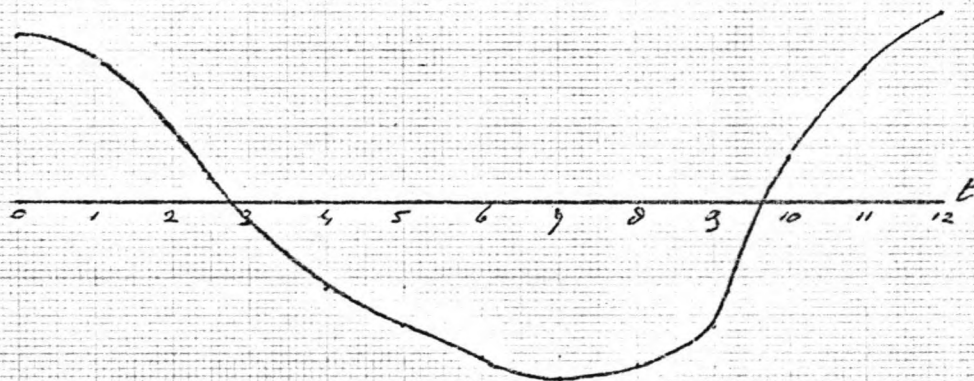
$$\frac{dh}{dt}$$

②



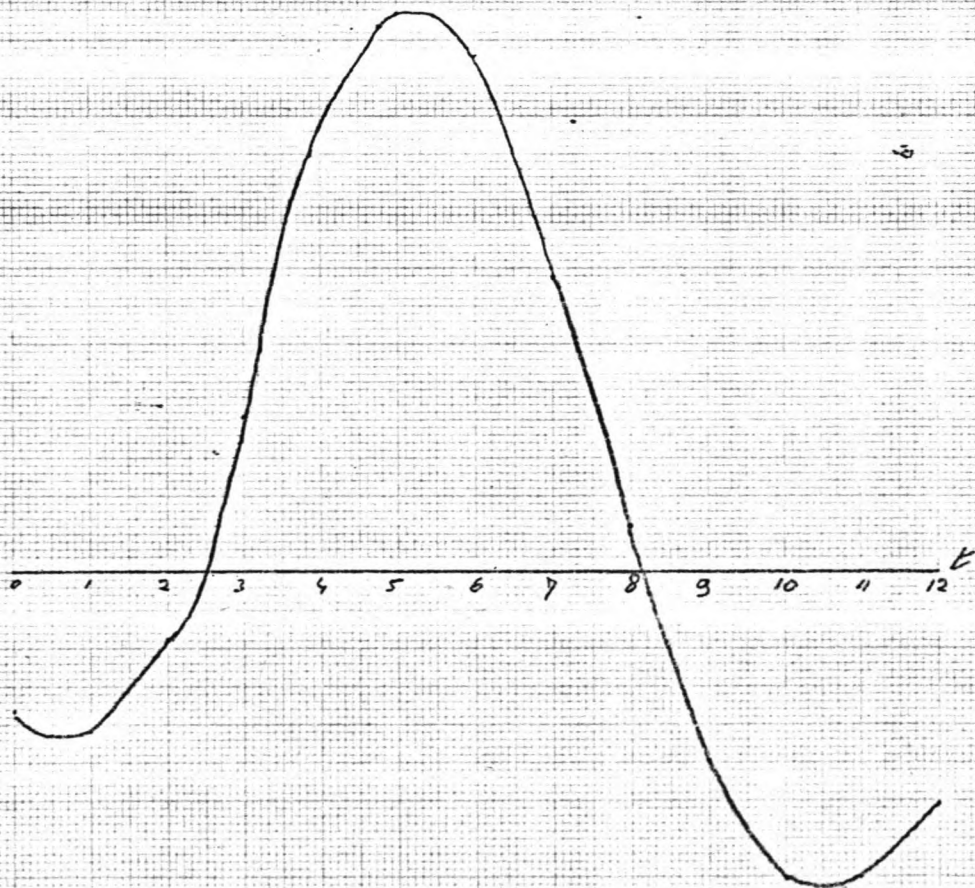
$$D \cdot \frac{dh}{dx}$$

③



$$U \cdot \frac{dD}{dx}$$

④



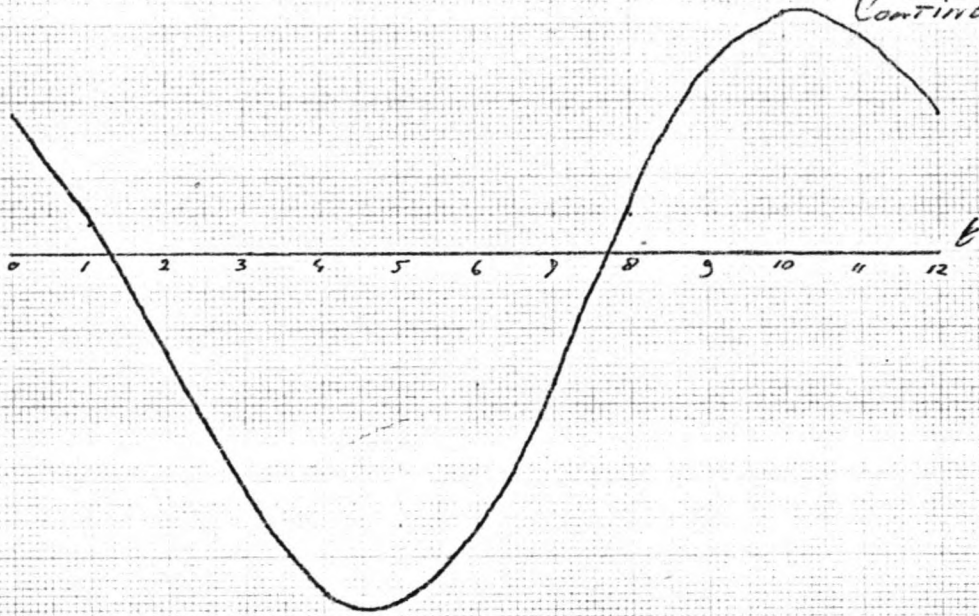
$$D \cdot \frac{dV}{dy}$$

$\left| \right. = 5 \cdot 10^{-5} \text{ m/s}$
tijd in uren

(7,24)

Bijlage VII-10
Continuïteitsvgl.

5



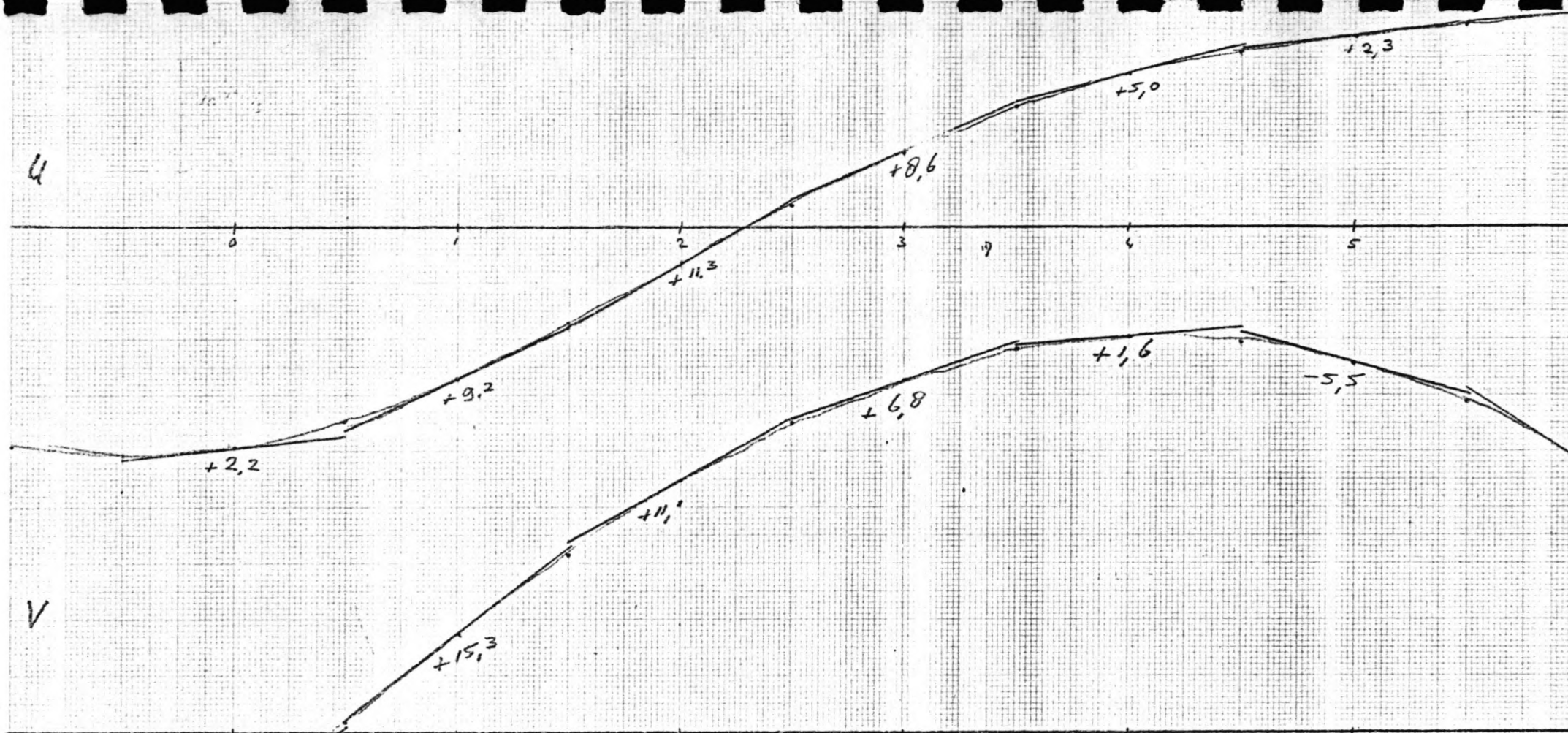
$V_0 \frac{dD}{dy}$

$\left[= 5 \cdot 10^{-5} \text{ m/s} \right]$
Tijd in uren.

VERBODEN TABLET VOOR PUNT (7.24)

Tijdstip	Bewegingsvergelijking in X-richting 1*						Bewegingsvergelijking in Y-richting 1*						Continuïteitsvergelijking 2*																			
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑳	㉑	㉒	㉓	㉔									
	$\frac{dU}{dt}$	$U \cdot \frac{dU}{dx}$	$V \cdot \frac{dU}{dy}$	$\Omega \cdot V$	$g \cdot \frac{dU}{dz}$	$f \cdot \frac{(dU)^2}{D}$	Rest ^{3*}	$\frac{dV}{dt}$	$V \cdot \frac{dV}{dx}$	$\Omega \cdot V$	$g \cdot \frac{dV}{dz}$	$f \cdot \frac{(dV)^2}{D}$	Rest ^{3*}	$\frac{dU}{dt}$	$U \cdot \frac{dU}{dx}$	$V \cdot \frac{dU}{dy}$	$\Omega \cdot V$	$g \cdot \frac{dU}{dz}$	$f \cdot \frac{(dU)^2}{D}$	Rest ^{3*}	$\frac{dV}{dt}$	$V \cdot \frac{dV}{dx}$	$\Omega \cdot V$	$g \cdot \frac{dV}{dz}$	$f \cdot \frac{(dV)^2}{D}$	Rest ^{3*}	$\frac{dU}{dt}$	$U \cdot \frac{dU}{dx}$	$V \cdot \frac{dU}{dy}$	$\Omega \cdot V$	$g \cdot \frac{dU}{dz}$	$f \cdot \frac{(dU)^2}{D}$
0	-0.50	0	+0.20	-3.07	+6.00	-1.20	0.63	+6.06	+0.15	+0.15	+3.33	-0.50	-0.66	-4.78	0	+11.06	-2.08	-2.08	+9.17													
1	+2.10	-0.08	+0.05	-0.87	-1.00	-0.68	-0.18	+0.11	+0.02	+0.05	+2.90	-1.00	-0.23	-2.35	+0.66	+2.11	+1.92	+1.92	+2.07													
2	+3.36	-0.05	-0.11	+2.72	-7.50	-0.35	-0.85	+0.34	-0.08	-0.04	+1.68	-1.50	+0.65	-5.06	+1.32	+3.07	+1.21	+1.21	-6.54													
3	+3.72	+0.01	-0.05	+6.63	-11.00	+0.70	-0.81	+0.29	+0.03	+0.25	+0.36	-11.50	+3.53	-1.14	+0.20	-1.20	+0.20	+0.20	-15.76													
4	+2.22	0	+0.12	+9.25	-11.50	+1.23	+1.53	+3.99	+0.08	+1.01	+1.66	-10.00	+6.63	+0.67	-0.63	-0.63	-0.63	-23.19														
5	+1.15	-0.06	+0.12	+9.71	-12.00	+1.87	+0.99	-2.18	-0.02	+1.32	+3.50	-3.50	+7.56	+0.06	-0.35	-0.13	+0.13	-22.89														
6	+1.10	-0.14	-0.07	+7.67	-11.00	+1.93	-0.19	-7.57	-0.09	+0.96	+3.02	+3.50	+4.90	-1.22	+0.25	-0.20	+0.20	-17.87														
7	+0.45	-0.11	-0.18	+3.77	-7.00	+1.36	-1.71	-11.73	-0.11	+0.27	+3.80	+4.50	+1.80	-2.07	+0.65	-0.98	-4.71	-0.67														
8	-1.95	-0.07	+0.10	-1.10	+0.50	+0.84	-1.68	-11.52	-0.11	-0.01	+3.25	+15.00	-0.29	-0.08	-0.02	-0.02	-0.02	+3.32														
9	-5.12	-0.01	+0.56	-5.22	+0.50	+0.69	-0.60	-7.79	-0.04	+0.23	+1.69	+1.50	-2.12	+0.05	+0.08	-4.55	-5.70	+12.01														
10	-5.53	-0.00	+0.61	-6.85	+1.50	-0.32	+1.37	-0.50	+0.01	+0.69	+0.63	+3.00	-3.68	-0.27	+1.55	+0.88	+0.88	+15.95														
11	-4.21	-0.04	+0.27	-6.09	+1.50	-1.34	+0.93	+3.03	+0.08	+0.53	+3.70	-3.50	-3.01	-0.73	+5.62	+0.91	+0.91	+14.21														
12	-0.63	-0.08	+0.06	-3.85	+9.00	-1.53	-2.85	+6.04	+0.23	+0.21	+3.76	-3.00	-1.57	-4.67	+6.06	+1.35	+1.35	+9.17														

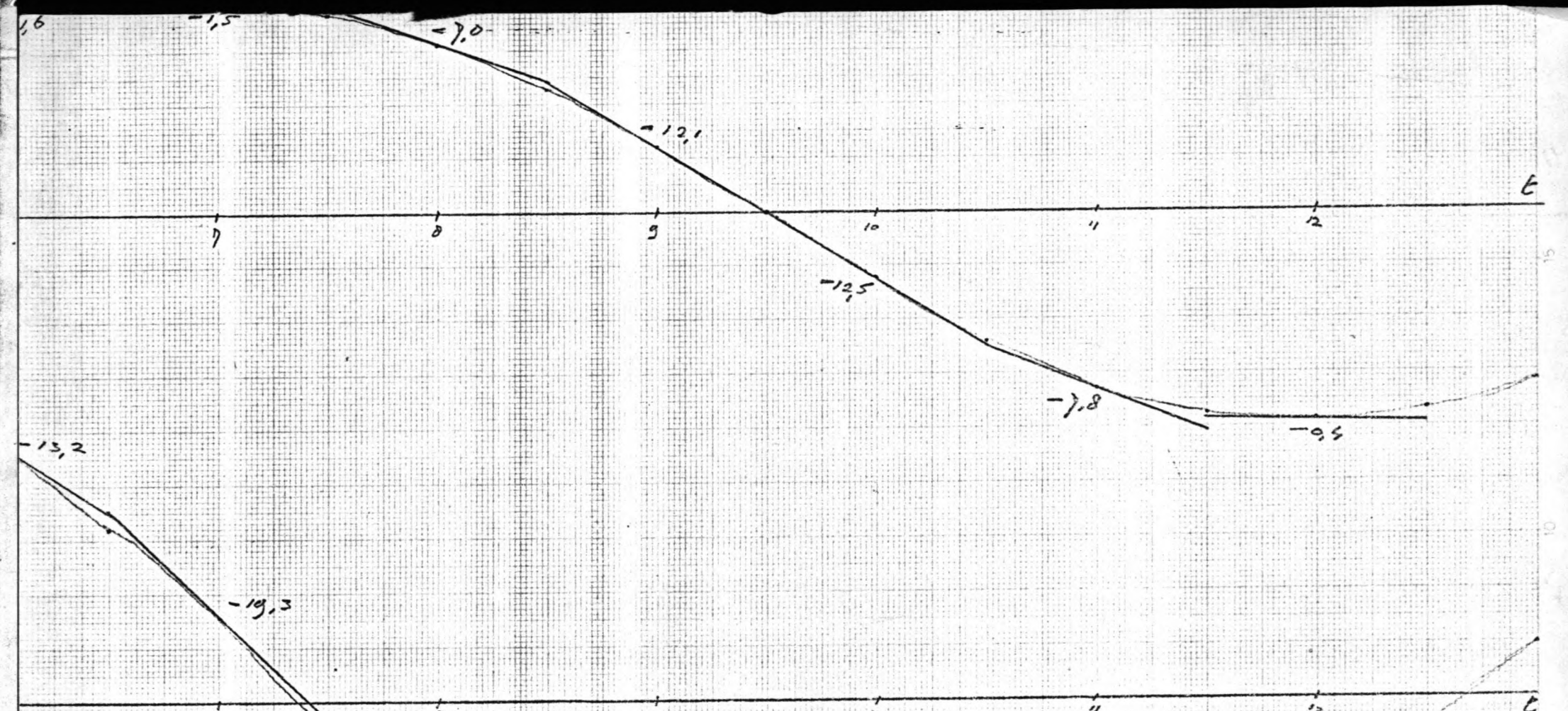
1* Door verhoging vloeisnelheid 1/10 waarden van de gravitatie met $\frac{g}{100} \cdot 10^3$ zijn alle waarden opgenomen in de tabel over boven.
 2* Alle waarden in 10⁻⁵ 1/s.
 3* De rest-term is de som van de termen ① t/m ⑫.



U
V

U-t kroonke voor (15,22)
 V-t kroonke
 t in uren
 I = 5 cm/s

Bijlage VII-12

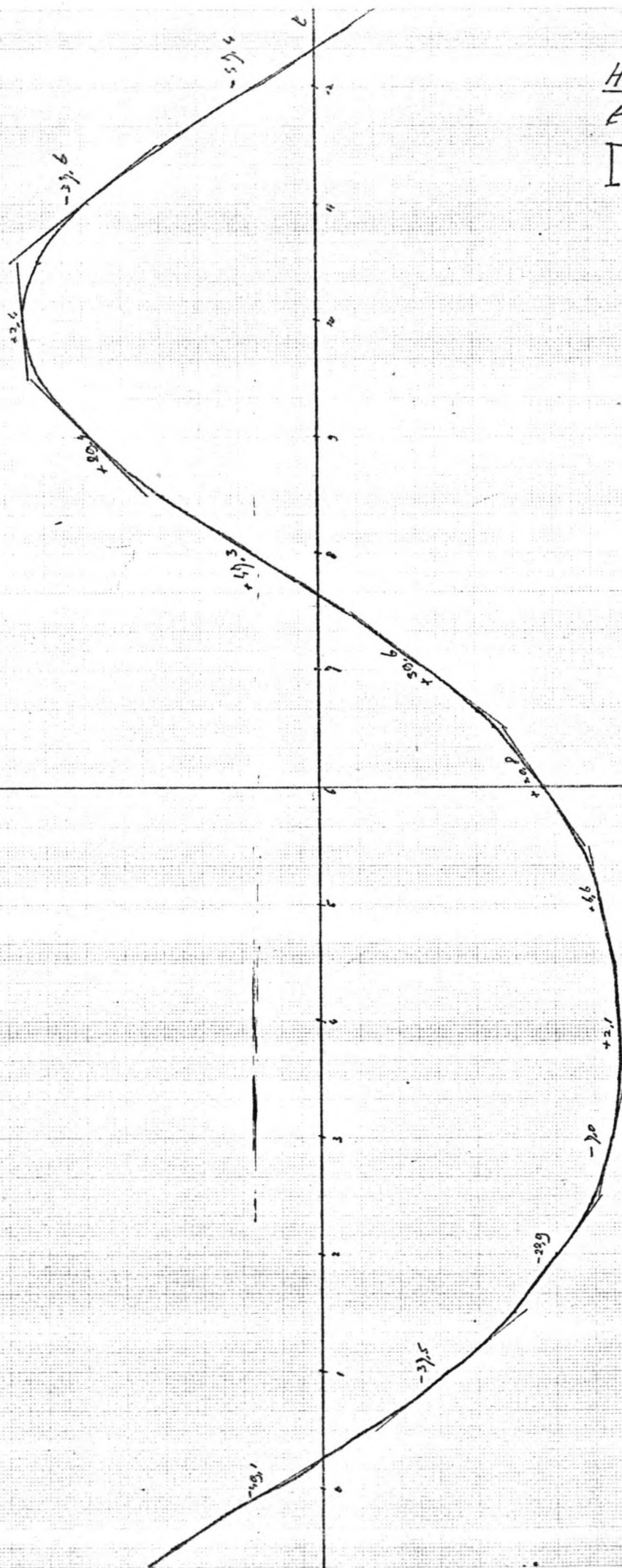


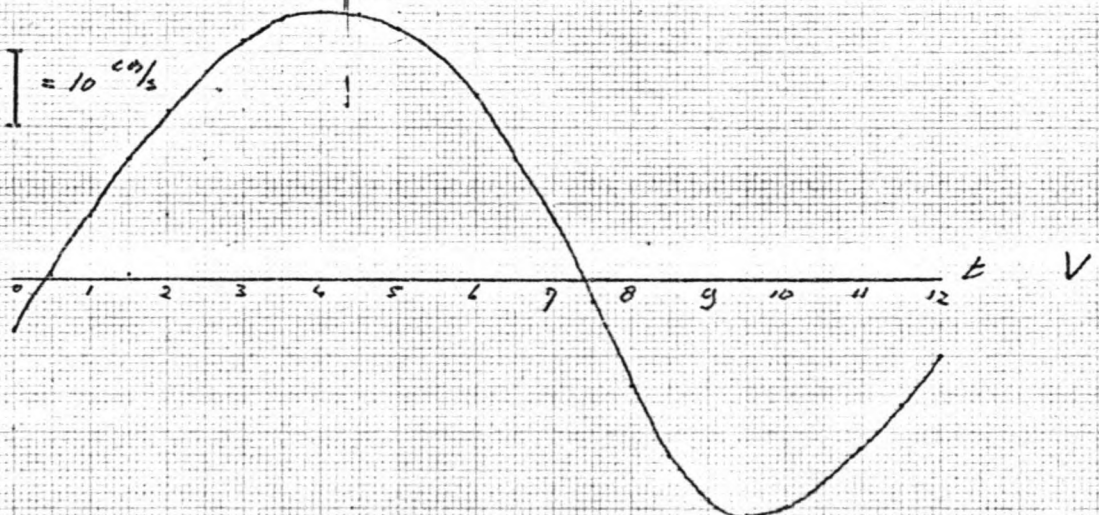
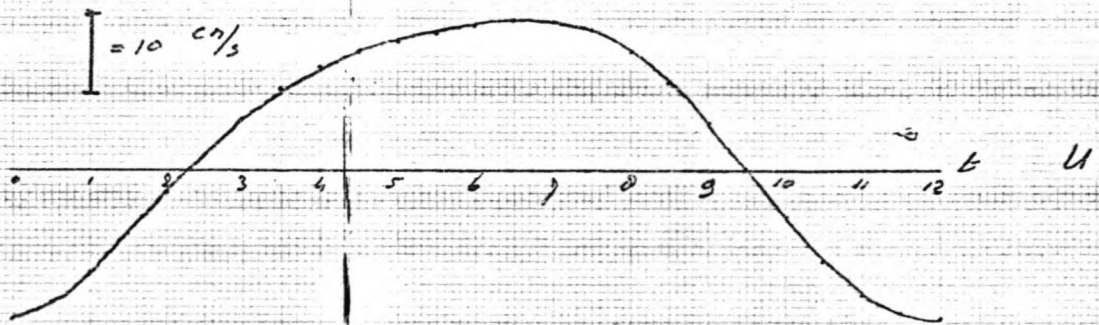
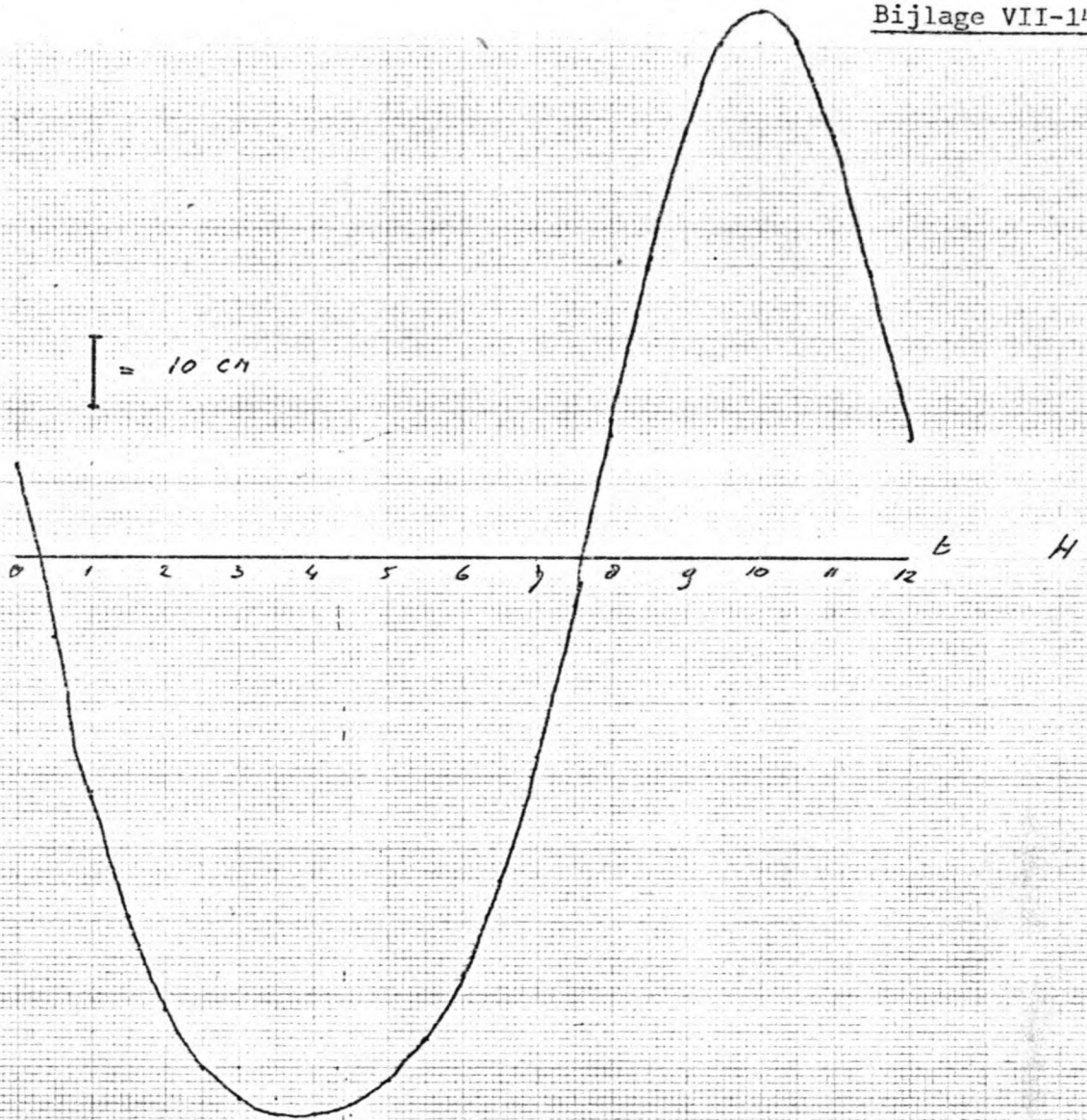
Graph showing values plotted against a horizontal axis from 7 to 12.

H-t kromme voor (15,22)

t in uren.

l = 10 cm t.o.v. N.A.P.



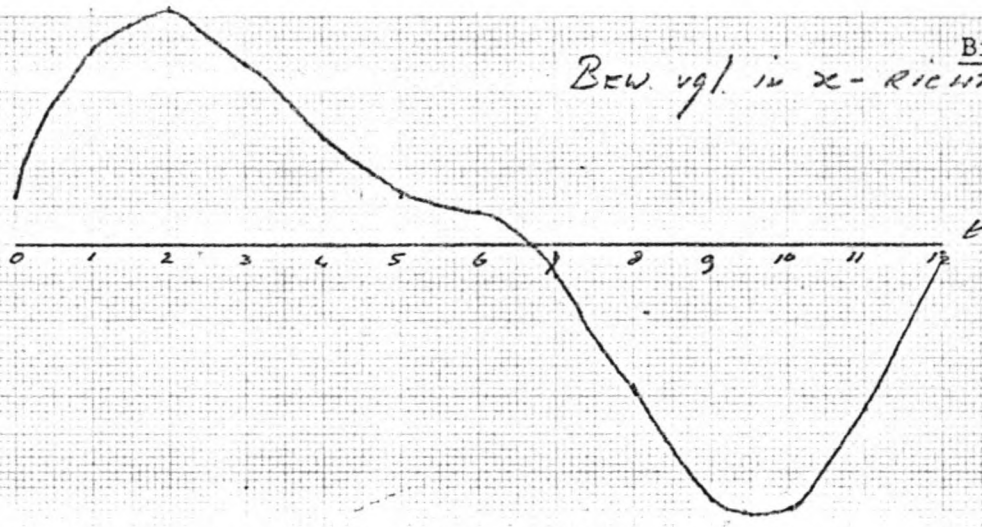


Tijd in uren

(15,22)

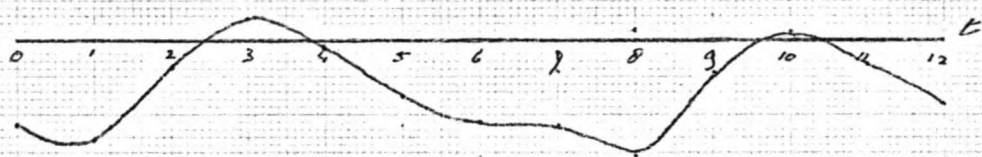
BEW. vgl. in x-RICHTING

①



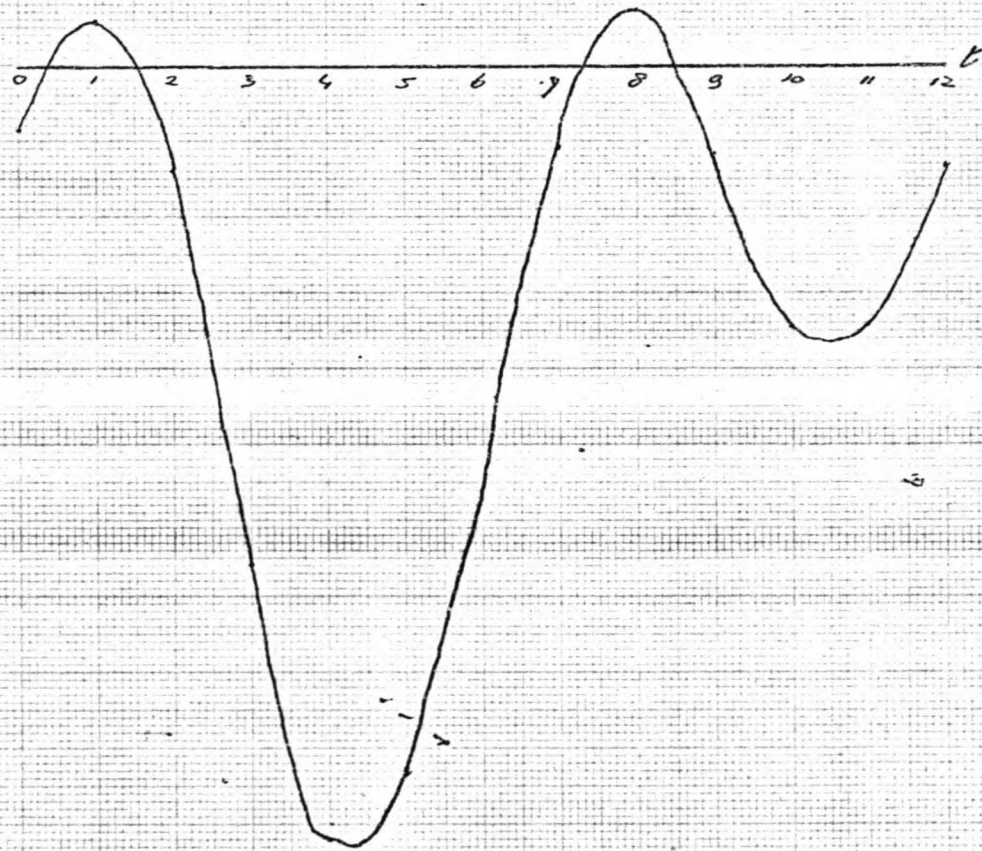
$\frac{dU}{dt}$

② x 10



U. $\frac{dU}{dx}$

③ x 10



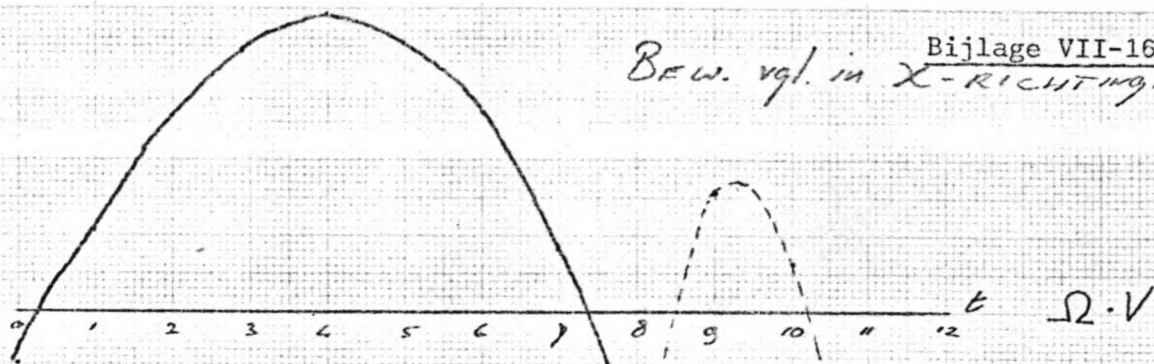
V. $\frac{dU}{dy}$

$\left[= 10^{-5} \frac{17/2}{1/5} \right]$
Tijd in uren

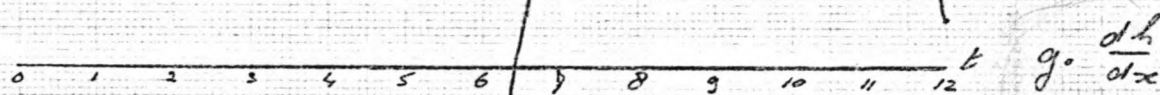
(15, 22)

Bew. vgl. in X-RICHTUNG. Bijlage VII-16

4

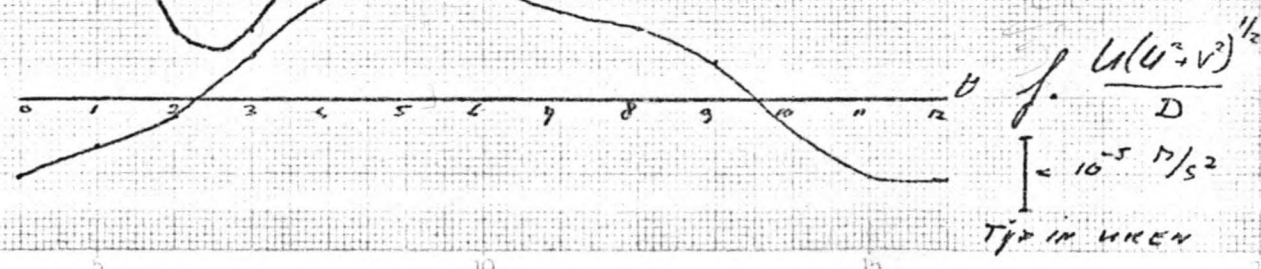


5



$g \cdot \frac{dh}{dt}$

6



$f \cdot \frac{u(u^2+v^2)^{1/2}}{D}$

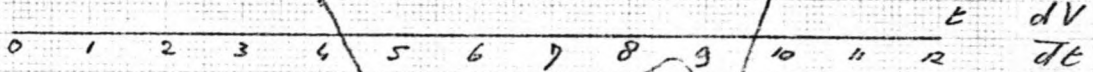
$= 10^{-5} \text{ m}^2/\text{s}^2$
Tijp in uren

(15, 22)

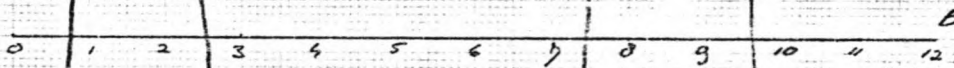
Bijlage VII-17

Bew. vgl in y-richting

①



! ② x 10



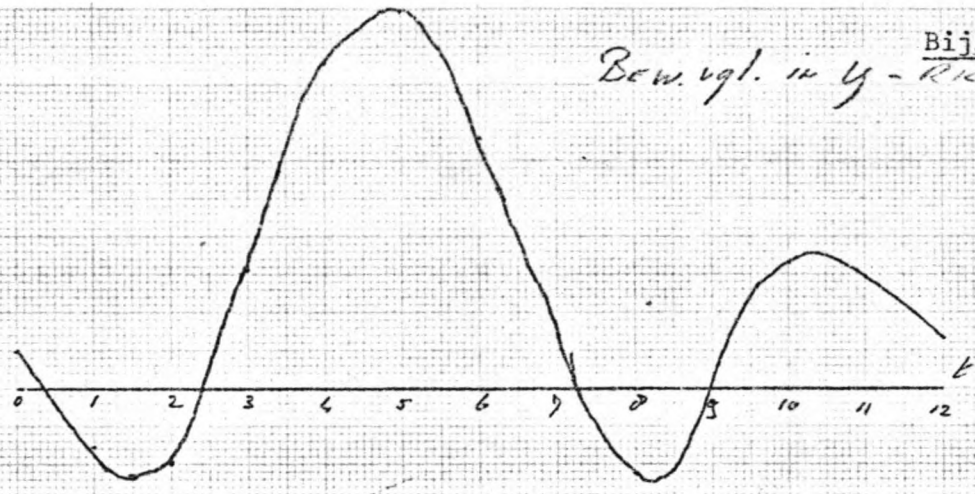
$U \cdot \frac{dV}{dx}$

$\downarrow = 10^{-5} \text{ m}^2/\text{s}^2$
TijD in UREN

(15,22)

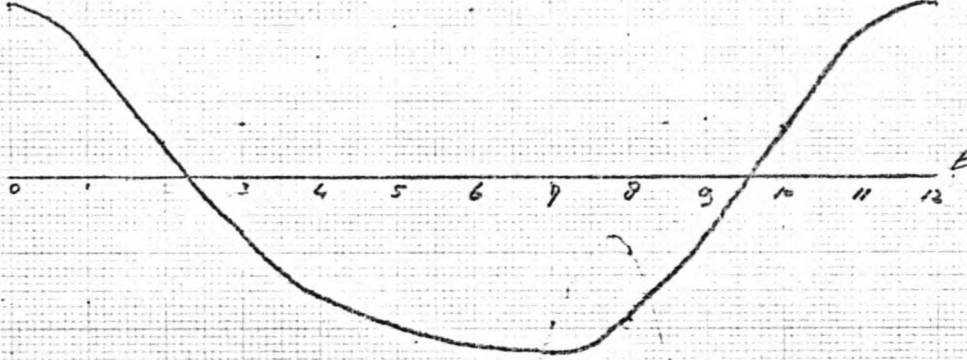
Bew. vgl. in y-Richting

3) x10



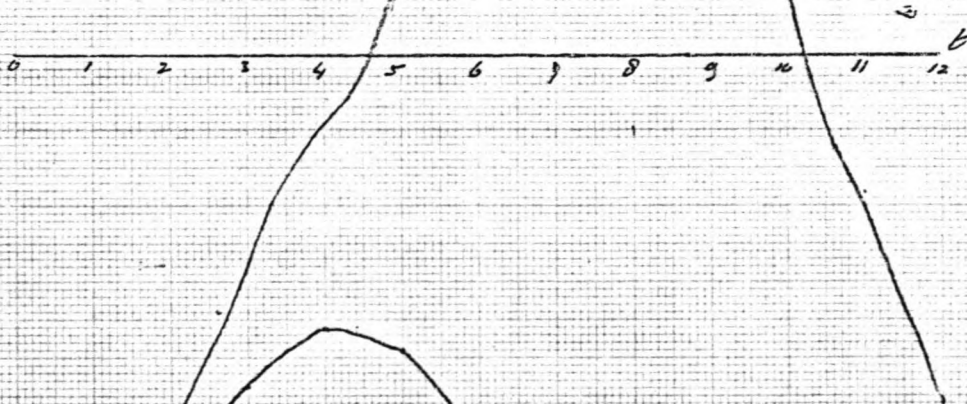
$V \cdot \frac{dV}{dy}$

4)



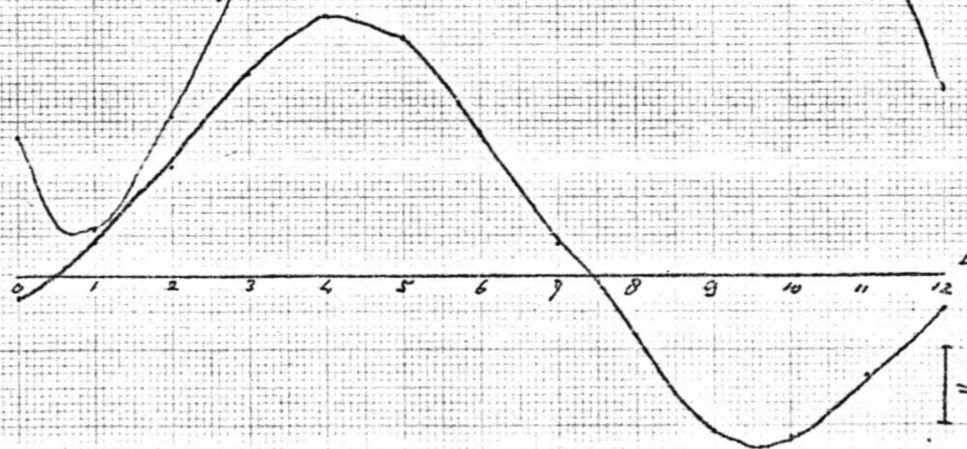
$-\Omega \cdot u$

5)



$g \cdot \frac{dh}{dy}$

6)



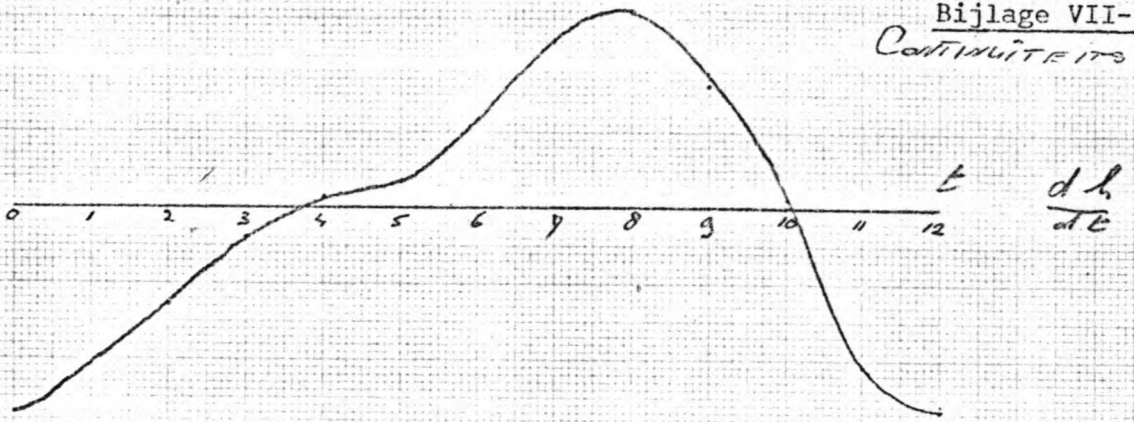
$f \cdot \frac{V \cdot (N^2 + u^2)^{1/2}}{D}$

$= 10^{-5} \text{ r/s}^2$
Tijd in uren

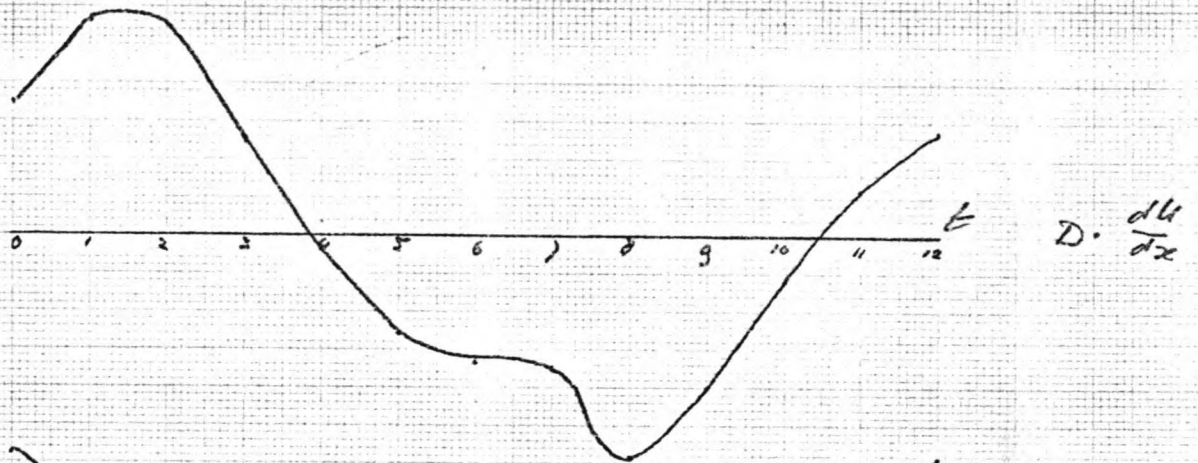
(15, 22)

Bijlage VII-19
CONTINUÏTEITSVGL.

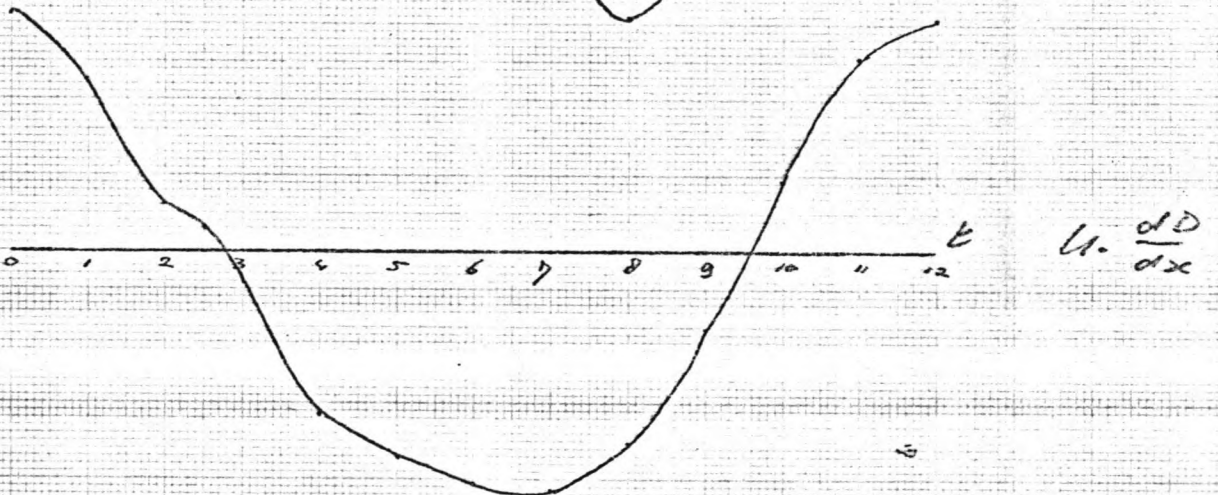
①



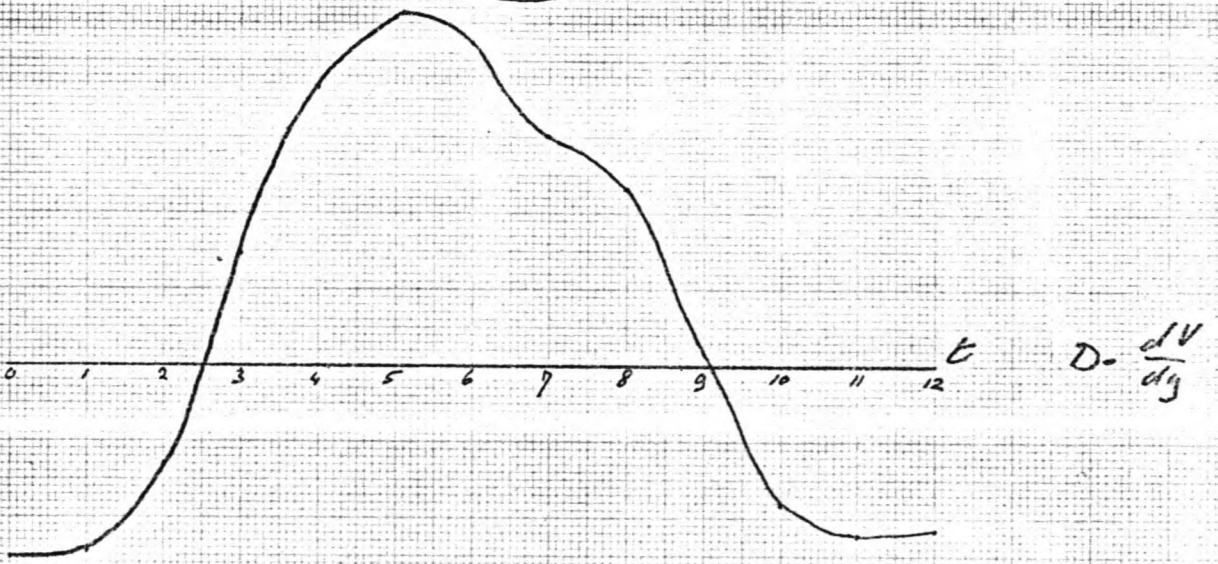
②



③



④



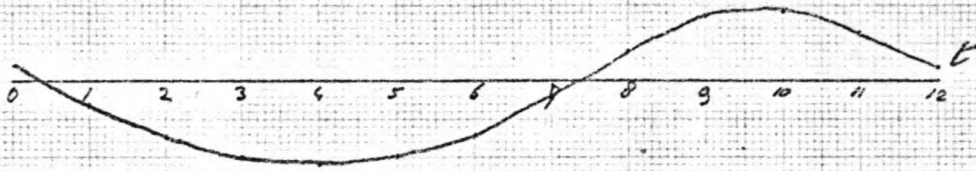
$\left| \right. = 5 \cdot 10^{-5} \text{ 1/s}$
Tijd in UREN

(15,22)

Bijlage VII-20

CONTINUITATEISVERGELIJKING

(5)



$$V = \frac{dD}{dy}$$

$5 \cdot 10^{-5} \text{ m}^2/\text{s}^2$
Tijd in UREN

Verantwoord voor punt (15, 22)

Tijdstip	Bewerkingen in X-richting 1*						Bewerkingen in Y-richting 1*						Continuïteitsverwijzing 2*							
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳
0	+ 1,00	- 0,10	- 0,14	- 1,09	- 1,50	- 1,73	+ 6,30	- 1,19	+ 0,00	+ 3,75	- 0,50	- 13,64	+ 0,72	+ 15,72	+ 0,95	+ 0,00	- 13,64	+ 0,72	+ 15,72	+ 0,95
1	+ 5,17	- 0,22	+ 0,09	+ 1,73	- 11,50	- 103	+ 6,93	+ 0,20	- 0,12	+ 3,66	- 0,50	- 10,42	+ 1,11	+ 11,24	- 1,51	- 12,59	- 10,42	+ 1,11	+ 11,24	- 1,51
2	+ 5,12	- 0,06	- 0,23	+ 5,23	- 16,50	- 93,9	+ 5,03	+ 0,51	- 0,16	+ 0,74	- 0,00	- 6,26	+ 1,02	+ 3,13	- 2,60	- 6,50	- 6,26	+ 1,02	+ 3,13	- 2,60
3	+ 3,90	+ 0,05	- 1,01	+ 5,79	- 16,50	+ 0,88	+ 3,08	- 0,99	+ 0,25	- 1,19	- 3,50	- 1,94	+ 6,10	- 2,03	- 4,93	- 1,94	+ 6,10	- 2,03	- 4,93	- 1,94
4	+ 2,27	- 0,01	- 1,67	+ 6,39	- 13,50	+ 2,22	+ 0,12	- 2,32	+ 0,70	- 2,57	- 3,50	+ 0,63	- 0,91	- 10,08	- 5,08	+ 0,63	- 0,91	- 10,08	- 5,08	+ 0,63
5	+ 1,04	- 0,12	- 1,52	+ 5,96	- 0,50	+ 2,72	- 3,59	- 2,58	+ 0,81	- 3,23	+ 2,00	+ 1,05	- 6,11	- 10,57	- 5,92	+ 1,05	- 6,11	- 10,57	- 5,92	- 5,92
6	+ 0,72	- 0,10	- 0,90	+ 3,29	- 3,00	+ 2,53	- 5,98	- 2,02	+ 0,54	- 3,63	+ 2,00	+ 0,70	- 0,52	- 10,23	- 3,59	+ 0,70	- 0,52	- 10,23	- 3,59	- 3,59
7	- 0,68	- 0,10	- 0,10	+ 1,03	+ 3,50	+ 1,03	- 0,74	- 0,69	+ 0,12	- 3,77	+ 11,50	+ 0,19	- 0,19	- 15,69	- 1,06	+ 11,50	- 0,19	- 0,19	- 15,69	- 1,06
8	- 3,17	- 0,25	+ 0,12	- 2,73	+ 11,50	+ 1,60	- 0,57	+ 1,04	- 0,18	- 3,06	+ 13,00	+ 0,16	- 1,16	- 12,63	+ 2,16	+ 13,00	- 1,16	- 1,16	- 12,63	+ 2,16
9	- 6,48	- 0,07	- 0,19	- 5,37	+ 20,00	+ 0,70	- 3,35	+ 0,95	- 0,03	- 1,23	+ 2,50	+ 0,77	- 3,97	- 5,07	+ 4,36	+ 2,50	- 3,97	- 3,97	- 5,07	+ 4,36
10	- 5,66	+ 0,02	- 0,56	- 5,50	+ 19,50	- 0,92	+ 1,68	- 1,00	+ 0,27	+ 1,13	+ 1,50	+ 0,66	- 3,02	+ 4,65	+ 4,36	+ 1,50	- 3,02	- 3,02	+ 4,65	+ 4,36
11	- 3,53	- 0,05	- 0,56	- 5,03	+ 10,00	- 1,70	+ 1,67	- 2,27	+ 0,24	+ 3,05	- 3,00	- 0,66	+ 2,99	+ 13,82	+ 3,11	- 0,66	+ 2,99	+ 2,99	+ 13,82	+ 3,11
12	- 0,10	- 0,14	- 0,22	- 1,77	+ 1,00	- 1,67	+ 6,39	- 1,57	+ 0,11	+ 3,69	- 2,50	- 0,17	+ 6,00	+ 15,16	+ 1,52	- 0,17	+ 6,00	+ 6,00	+ 15,16	+ 1,52

1* Door vermenigvuldiging 1/6 waarden uit de grafieken met $\frac{8}{100} \cdot 10^3$ zijn alle waarden opgegeven in 10^3 verml over 1600 meter.

2* Alle waarden in 10^3 1/6.

3* De restten is de som van de termen ① 1/6.

Boerenligging

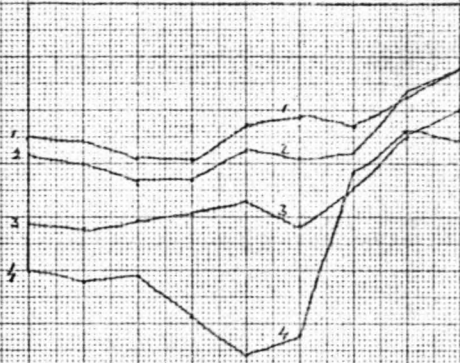
10 meter

1500 meter

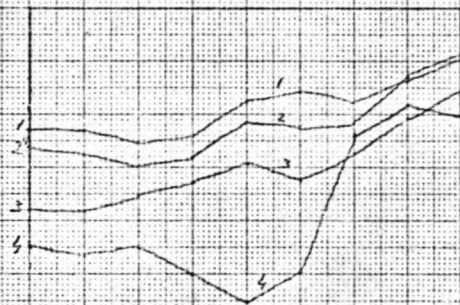
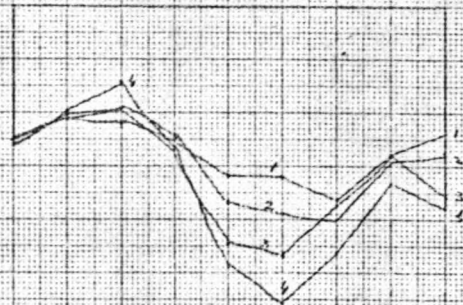
10 meter

II

V



T=0



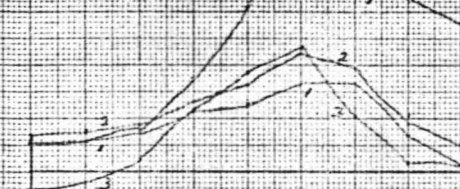
T=1



T=2



T=3

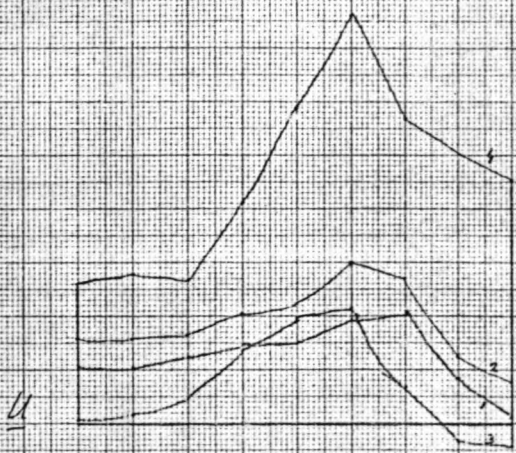


T=4

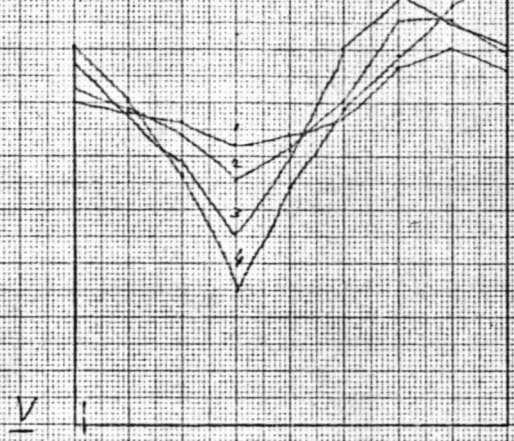


$10 \cdot 10^{-2} \frac{m}{s}$

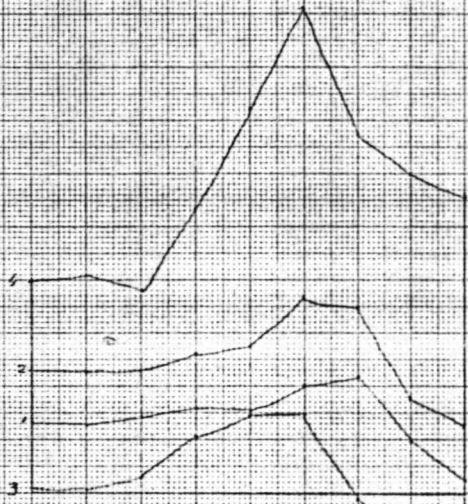
T in uren



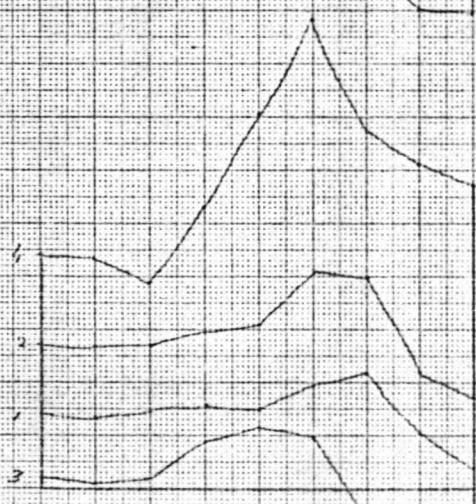
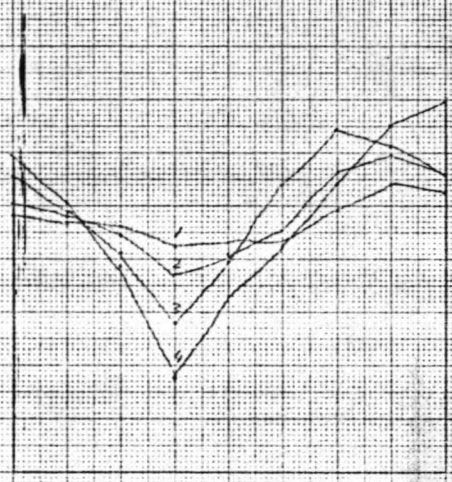
T=5



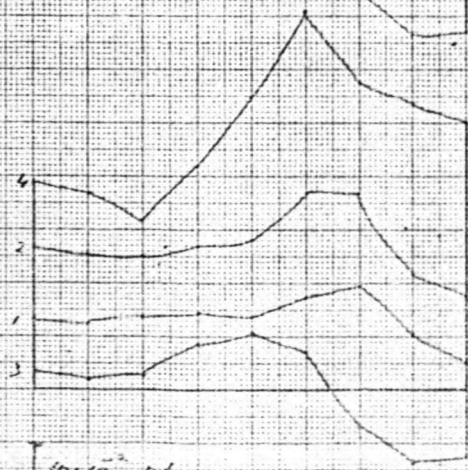
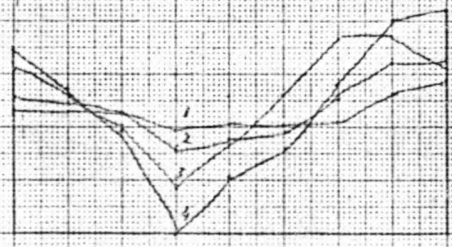
V



T=6



T=7

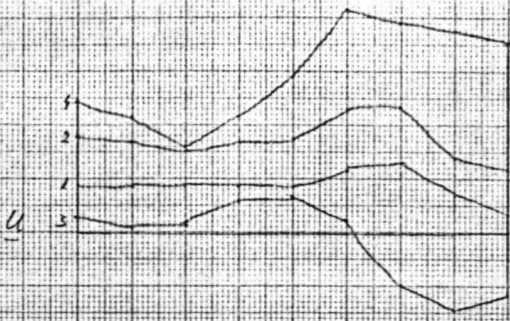


T=8

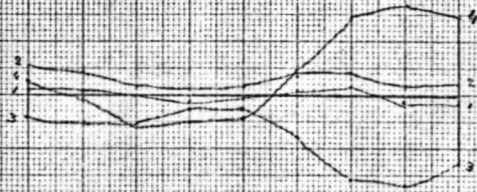
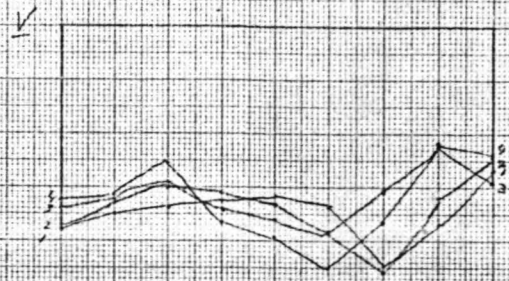


$10 \cdot 10^{-2} \text{ 1/s}$

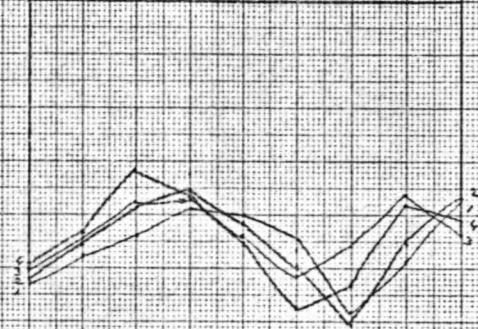
T W UREN



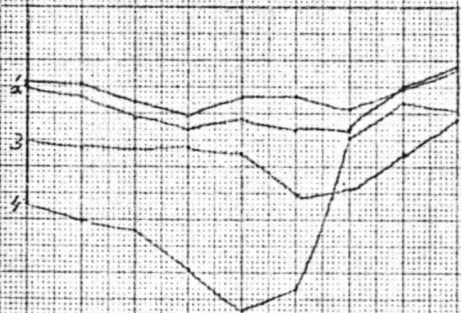
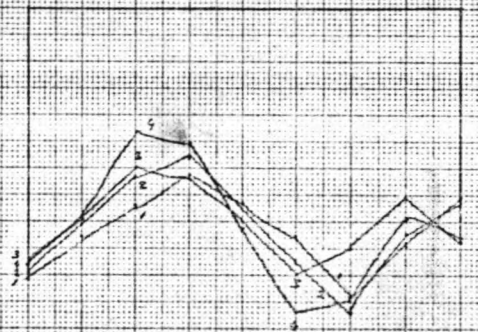
T=9



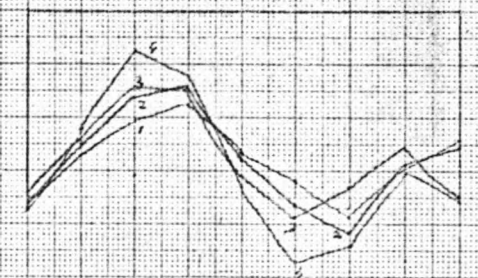
T=10



T=11



T=12



$10 = 10^{-2} \frac{1}{6}$

T IN UREN.

