



**OMEGAM**



**GRONDMECHANISCH ONDERZOEK**  
**EMK-TERREIN**  
**te Krimpen a/d IJssel**

**Bijlagenboek II**  
**Project: (12)10.692**

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Opdrachtgever : Stichting Nazorg Afvalverwijderingsinrichtingen  
en aanverwante locaties  
Datum : 14 januari 1997



**GRONDMECHANISCH ONDERZOEK EMK-TERREIN, Opdracht (12)10.692**

**Bijlagenboek II**

Doc.-nummers 155 ... 196 + boringen en sonderingen

behorende bij het rapport (12)10.692 Doc.1/V01, 14 januari 1997

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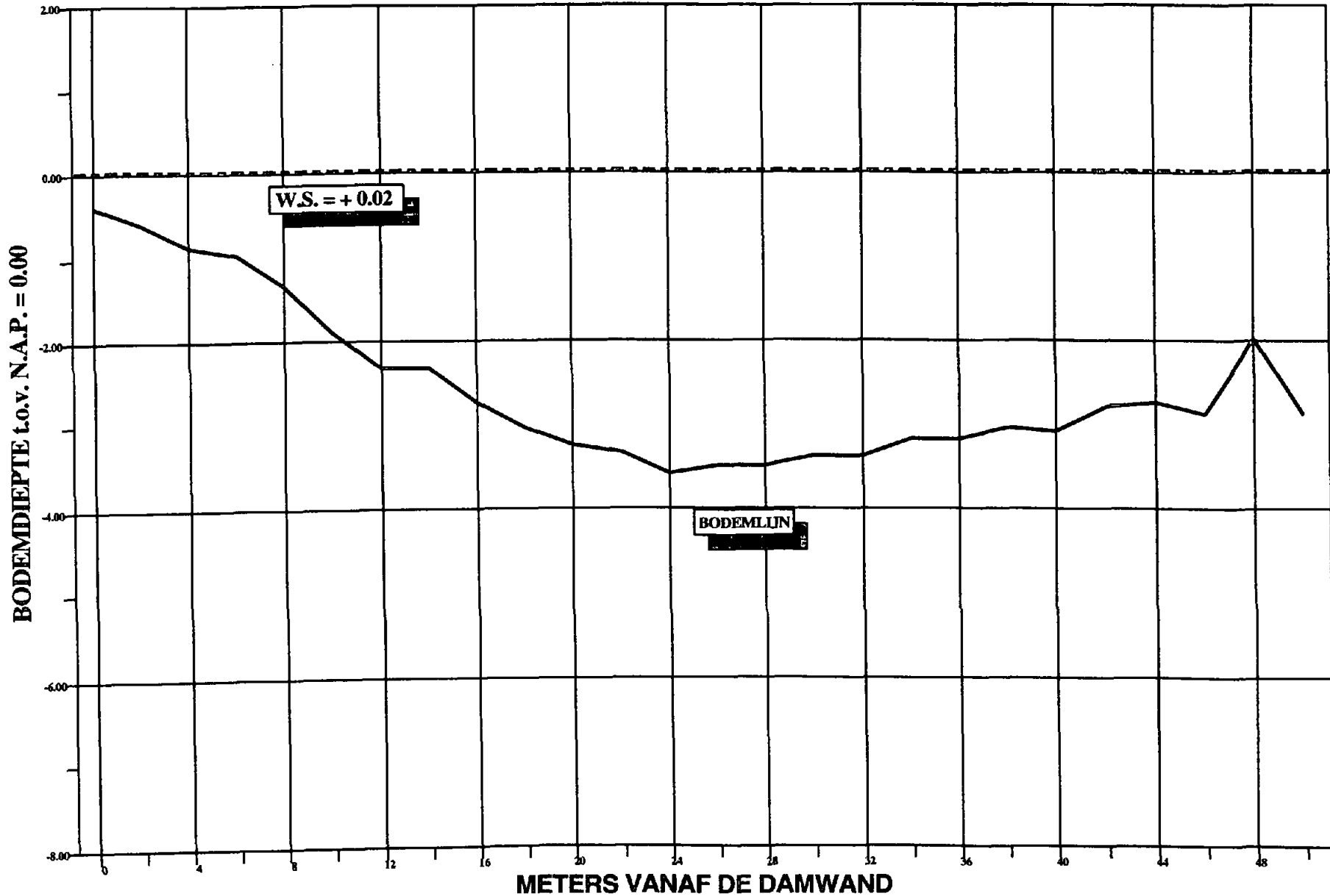
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Staten van de boringen 401 ... 406

Grafieken van sonderingen 401 ... 405

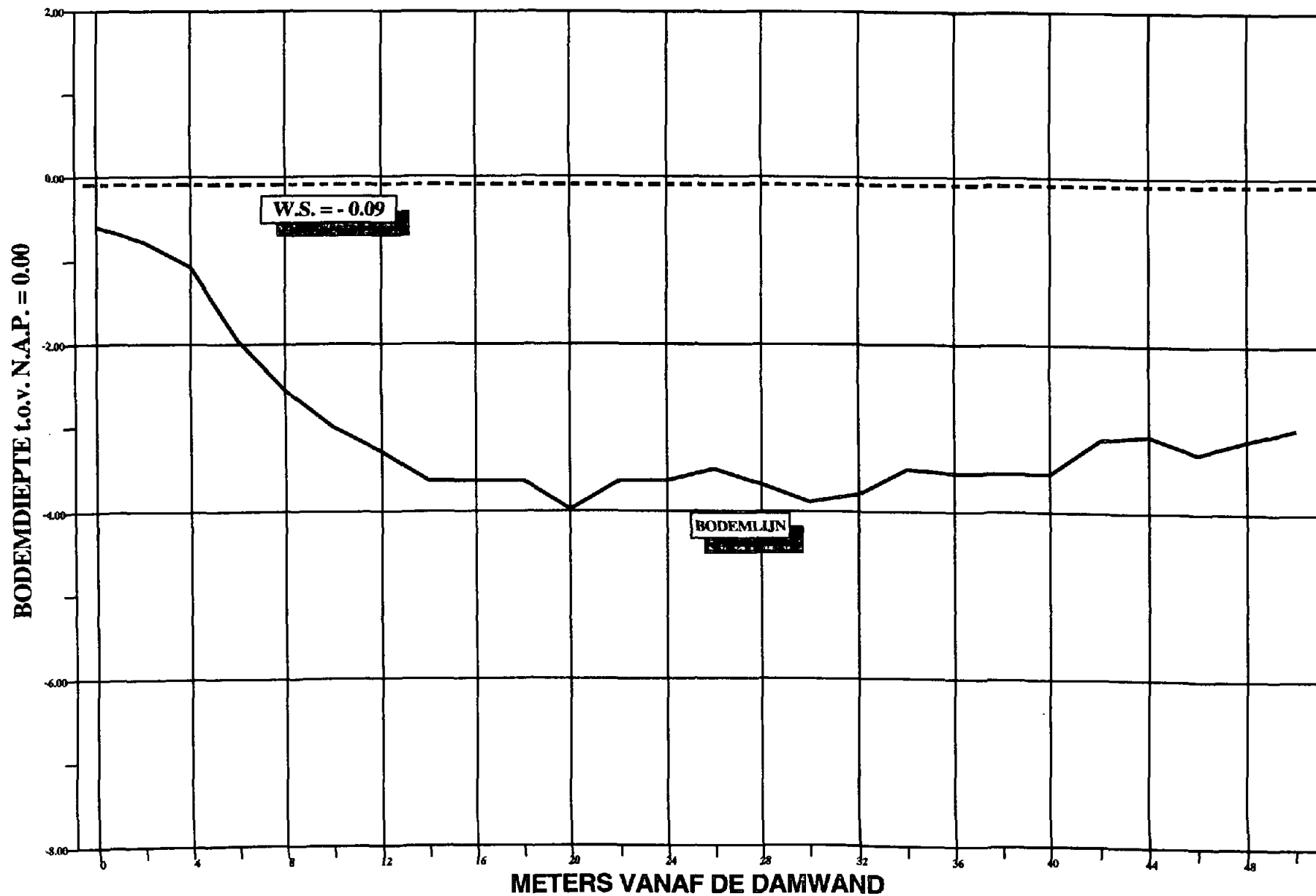
Grafieken van de waterspanningssonderingen 401 ... 405

# EMK - TERREIN TE KRIMPEN a/d IJSSEL DWARSPROFIEL RAAI - 1



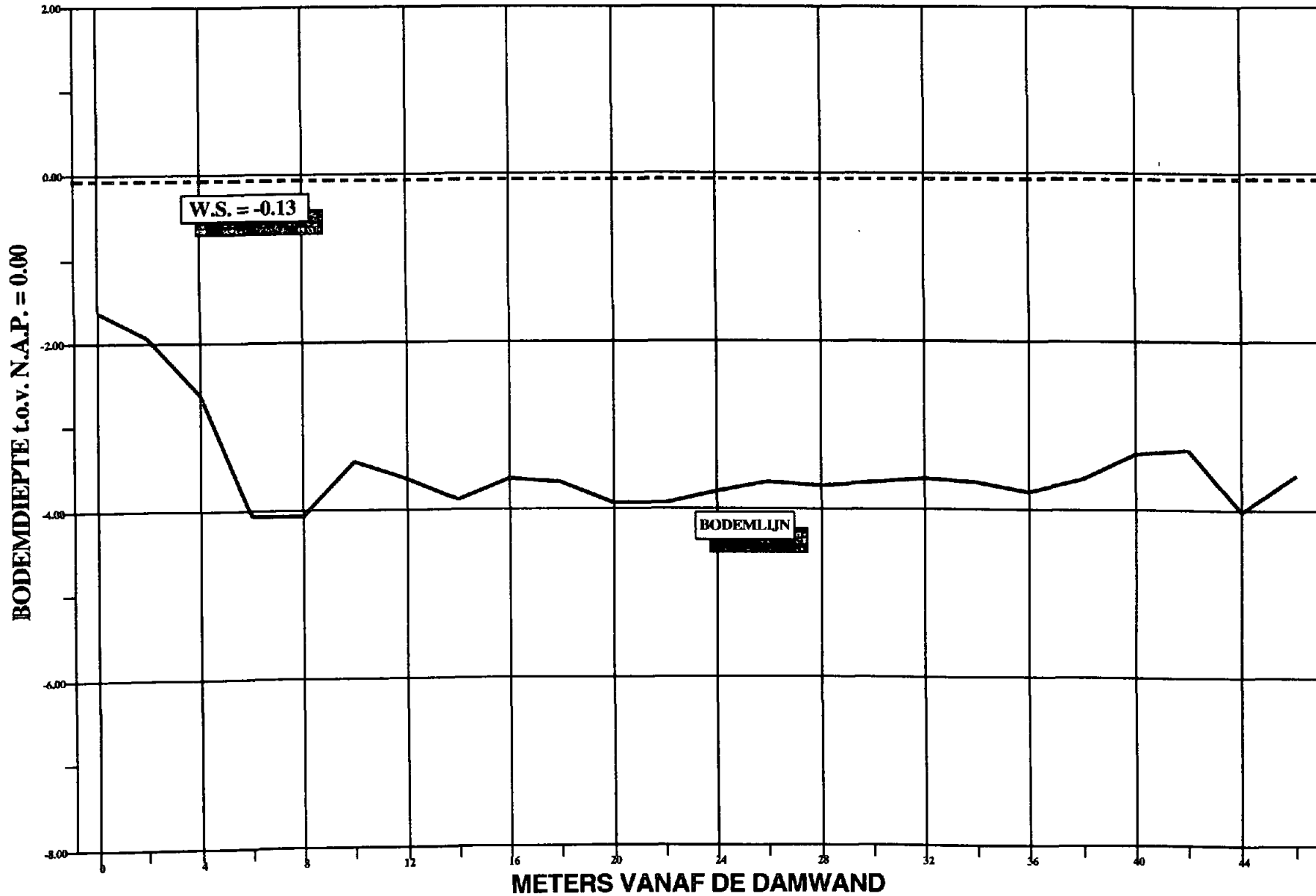
# EMK - TERREIN TE KRIMPEN a/d IJSSEL

## DWARSPROFIEL RAAI - 2

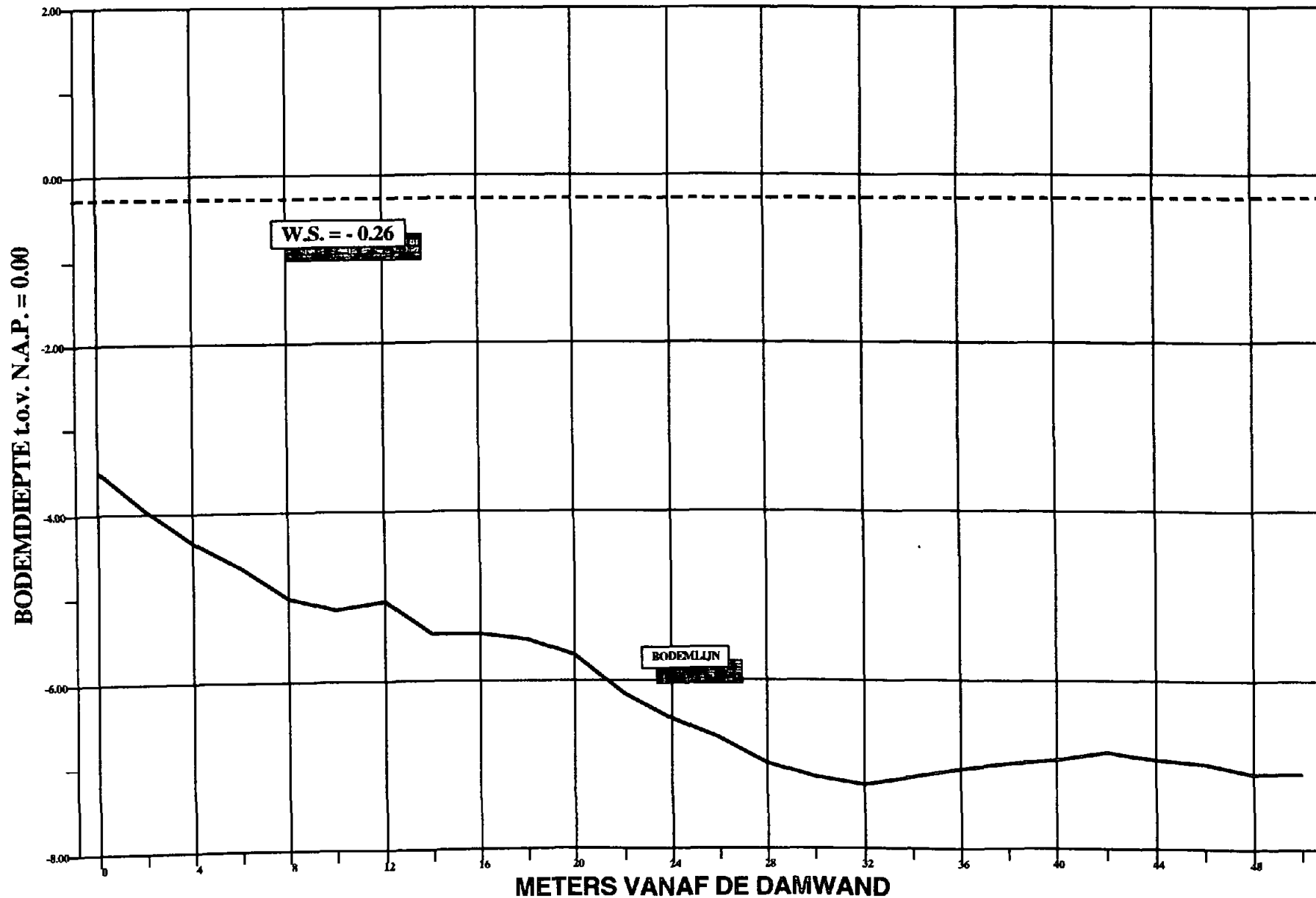


# EMK - TERREIN TE KRIMPEN a/d IJSSEL

## DWARSPROFIEL RAAI - 3

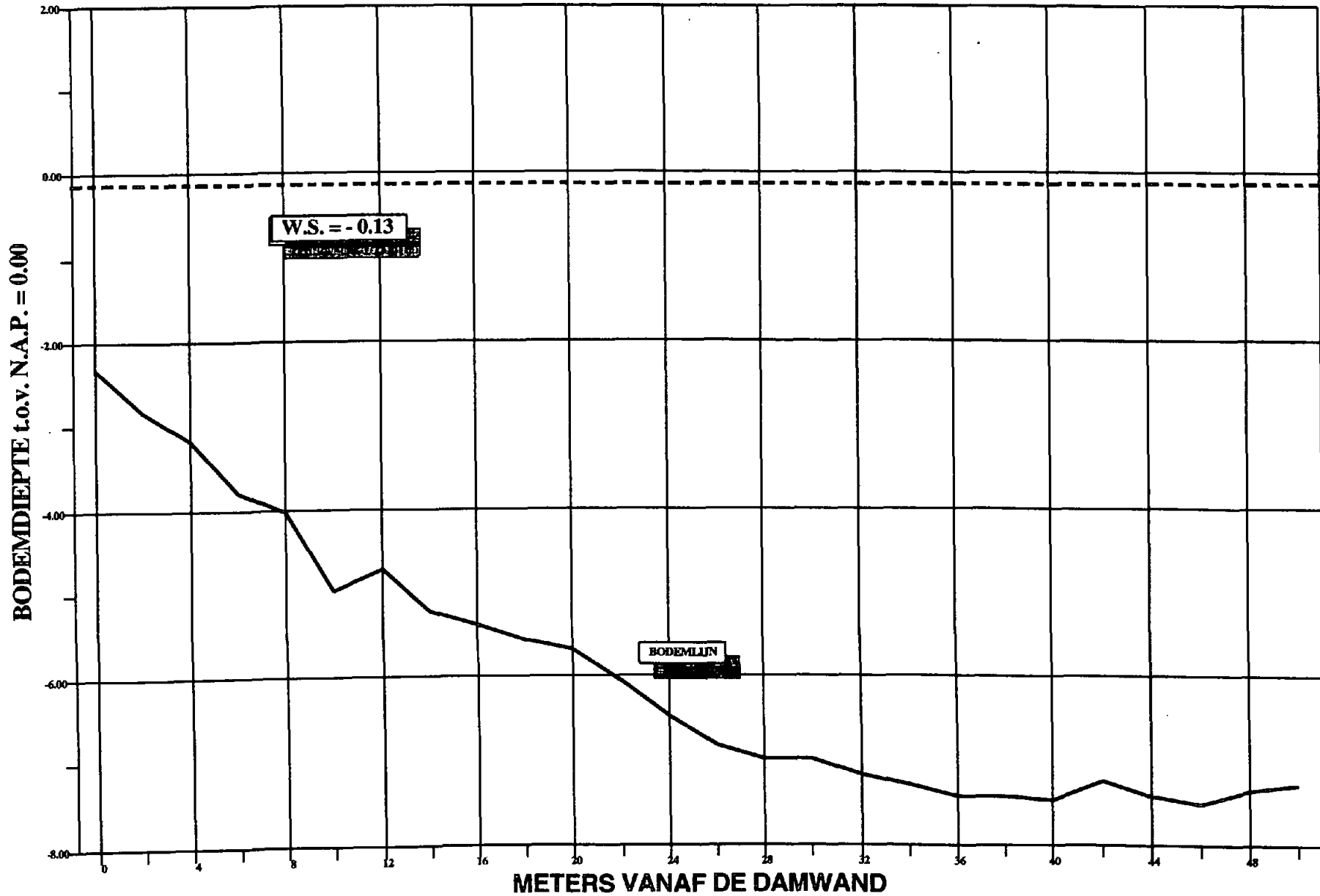


# EMK - TERREIN TE KRIMPEN a/d IJSSEL DWARSPROFIEL RAAI - 4



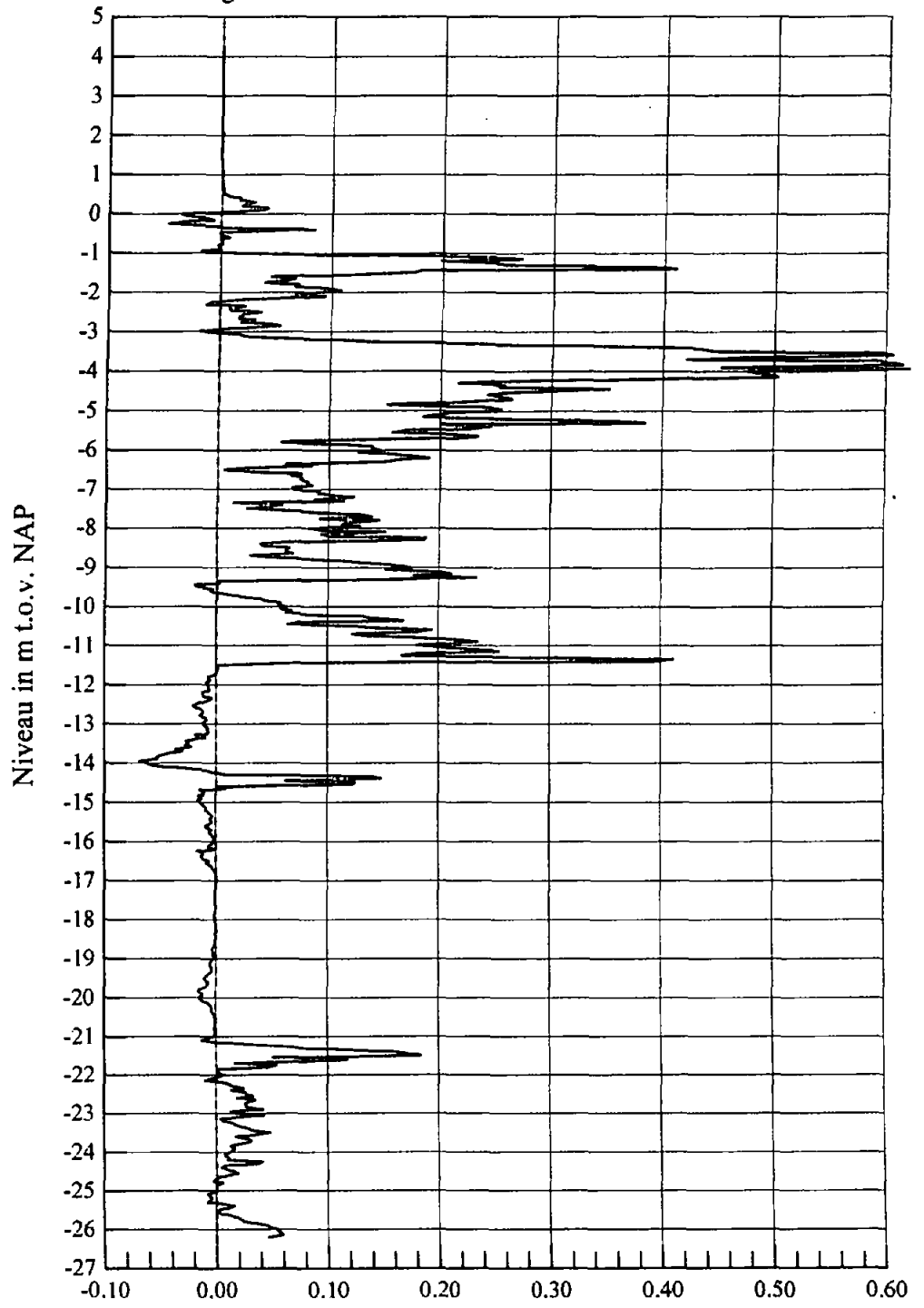
# EMK - TERREIN TE KRIMPEN a/d IJSSEL

## DWARSPROFIEL RAAI - 4a



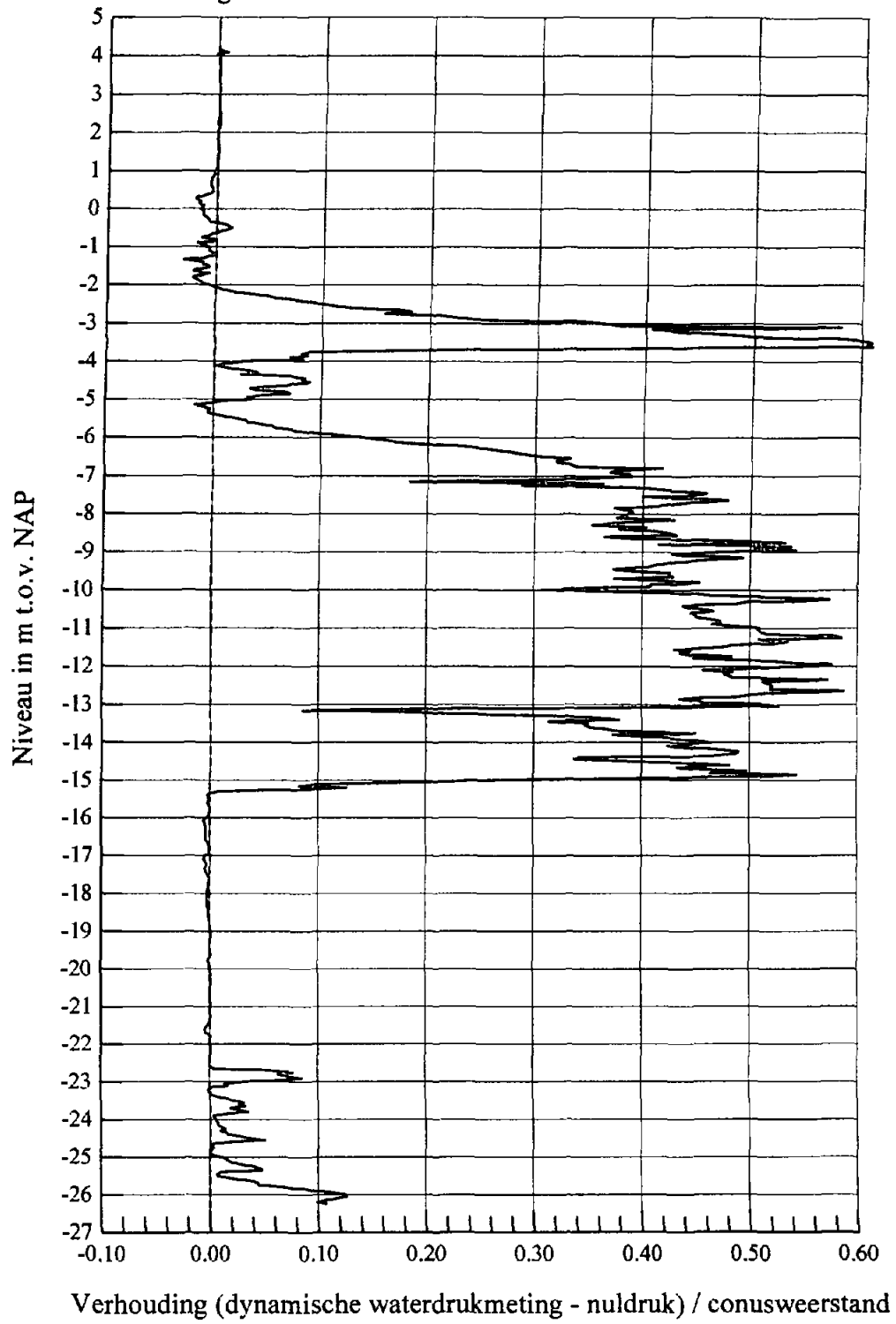


Sondering 401

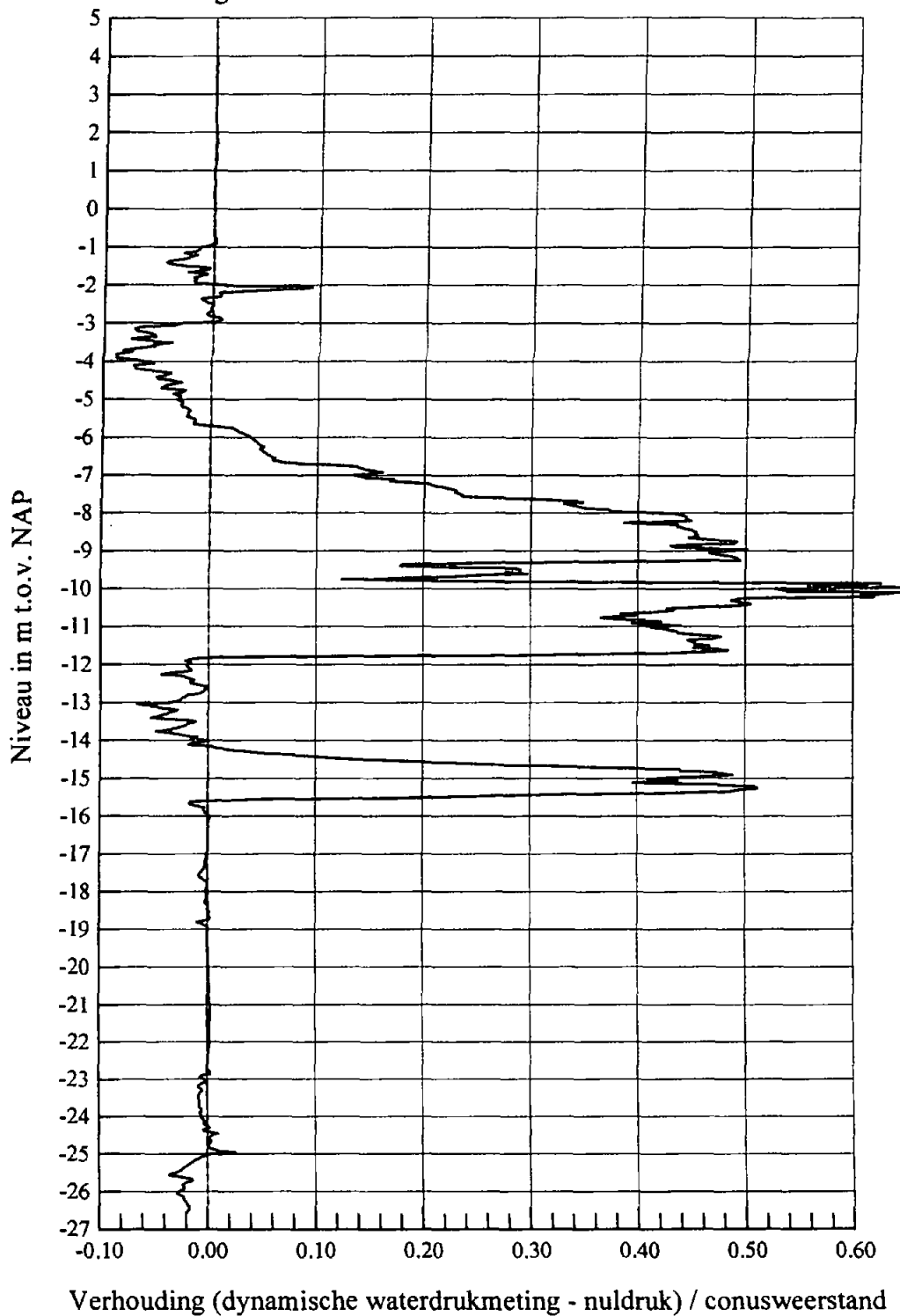


Verhouding (dynamische waterdrukmeting - nuldruk) / conusweerstand

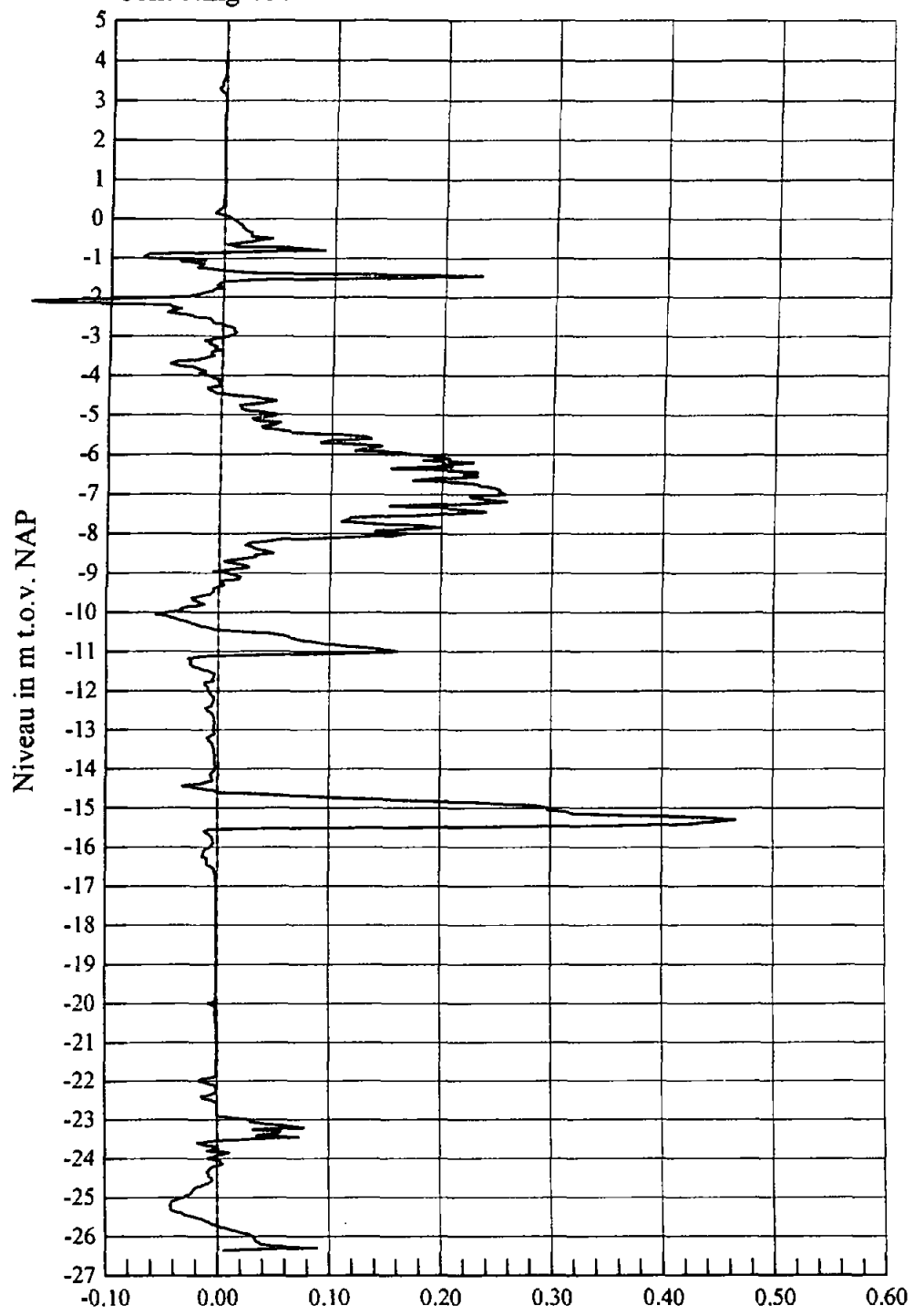
Sondering 402



Sondering 403

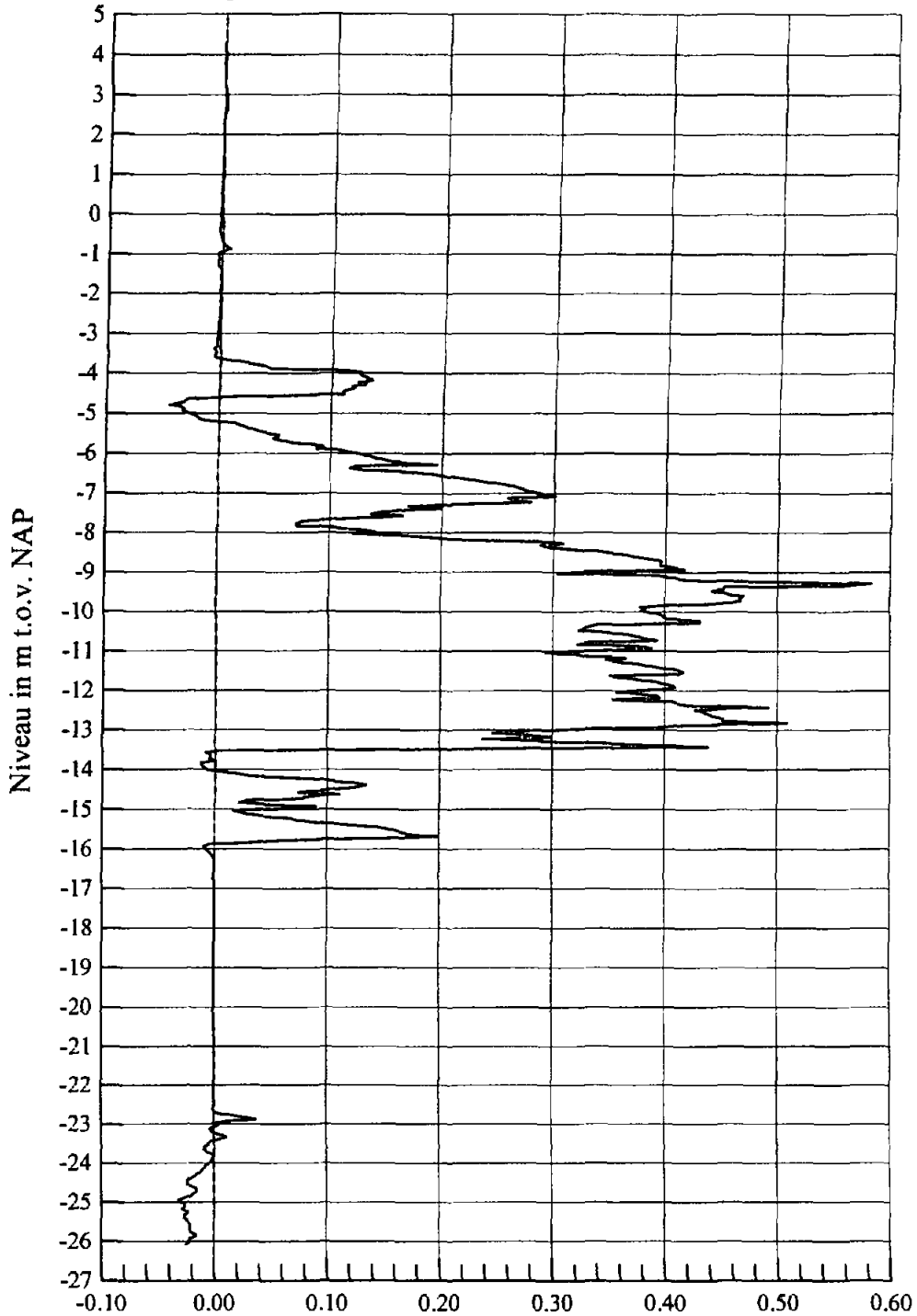


### Sondering 404

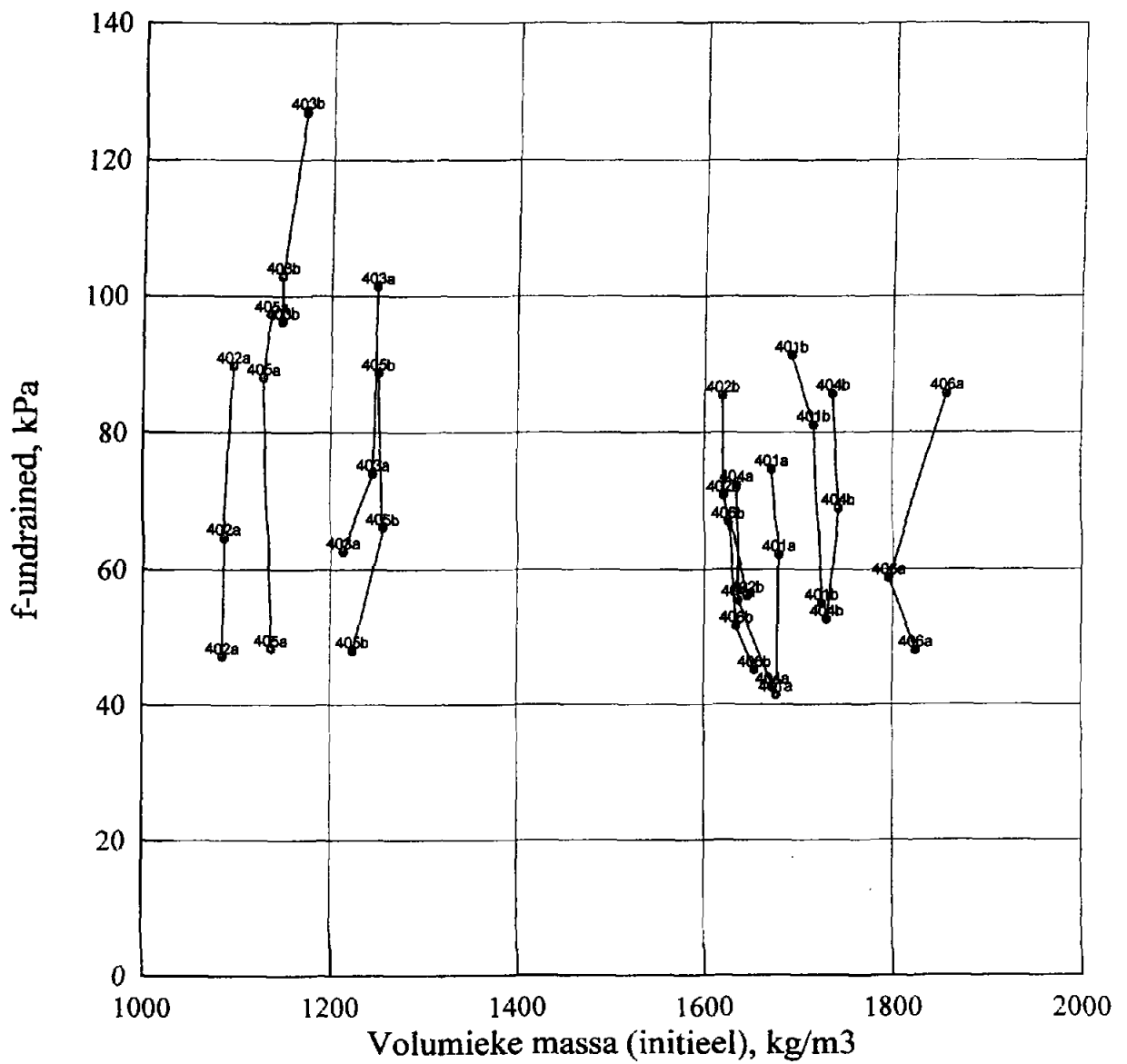


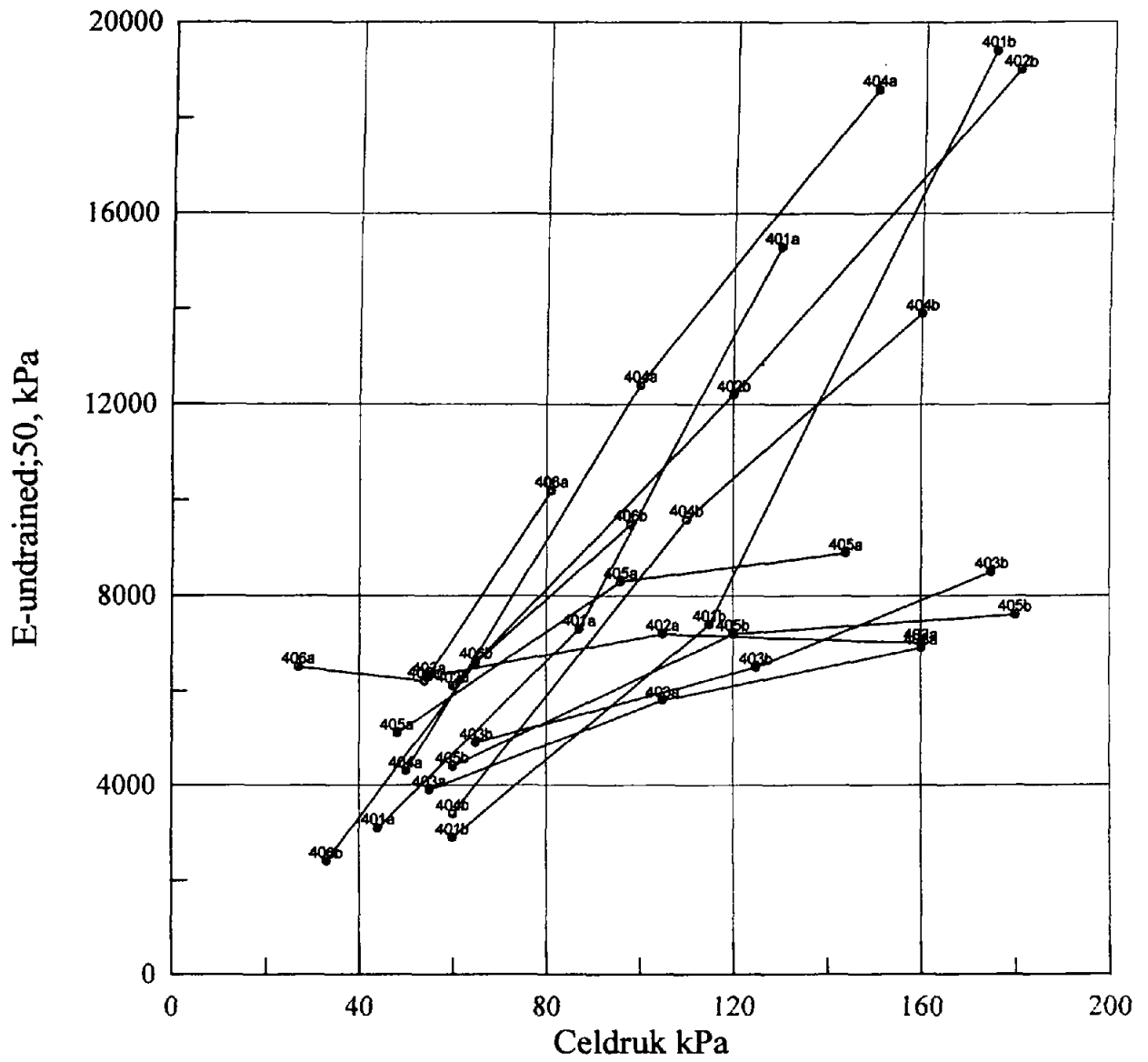
Verhouding (dynamische waterdrukmeting - nuldruk) / conusweerstand

### Sondering 405



Verhouding (dynamische waterdrukmeting - nuldruk) / conusweerstand





Tabel A - Damwandconstructie

| Boorlocatie | Profiel hoofd-damwand | Niveau anker-aansluiting hoofddamwand m t.o.v. NAP | Anker-diameter mm | Anker-lengte m | H.o.h.-anker-afstand | Niveau anker-aansluiting ankerscherm m t.o.v. NAP | Profiel anker-scherm | Niveau bovenkant ankerscherm m t.o.v. NAP | Lengte anker-scherm m |
|-------------|-----------------------|--|-------------------|----------------|----------------------|---|----------------------|---|-----------------------|
| 401         | L64/2500              | +2,0   | 58                | 20             | 2,4                  | +0,5  | L20                  | +2,0                                      | 3,0                   |
| 402         | L64/2500              | +2,0   | 58                | 20             | 2,4                  | +0,5  | L20                  | +2,0                                      | 3,0                   |
| 403         | L64/2500              | +2,0   | 52                | 20             | 2,4                  | +0,5  | L20                  | +2,0                                      | 3,0                   |
| 404         | L64/2500              | +2,0   | 52                | 20             | 2,4                  | +0,5  | L20                  | +2,0                                      | 3,0                   |
| 405         | L63                   | +2,0   | 45                | 12             | 2,4                  | +1,0  | L20                  | +2,0                                      | 2,0                   |

Tabel B - Damwandeigenschappen

| Profiel  | Traagheidsmoment $\text{cm}^4/\text{m}^1$ | Weerstandsmoment $\text{cm}^3/\text{m}^1$ | Breedte dubbele plank m | EI $\text{kN}\cdot\text{m}^2/\text{m}^1$ | Staalsoort | Aangehouden vloeispanning $\text{N}/\text{mm}^2$ | Vloeimoment <sup>1)</sup> $\text{kN}\cdot\text{m}/\text{m}^1$ |
|----------|---|---|-------------------------|--|------------|--|---|
| L64/2500 | 54370                                     | 2500                                      | 1,20                    | $11,4 \times 10^4$                       | Fe44       | 265  | 663   |
| L63      | 42500                                     | 2030                                      | 1,20                    | $9,0 \times 10^4$                        | Fe37       | 235  | 477   |
| L20      | 6600                                      | 606                                       | 1,00                    | $1,4 \times 10^4$                        | Fe37       | 235  | 142   |

1) zonder reductie door eventuele scheve buiging

Tabel C - Anker-eigenschappen

| Ankerdiameter mm | Oppervlakte $\text{mm}/\text{m}^1$ | Staalsoort | Aangehouden vloeispanning <sup>1)</sup> $\text{N}/\text{mm}^2$ | Vloei-kracht $\text{kN}/\text{m}^1$ |
|------------------|------------------------------------|------------|--|-------------------------------------|
| 58               | 1100                               | Fe52       | 347  | 381                                 |
| 52               | 885                                | Fe52       | 347  | 307                                 |
| 45               | 663                                | Fe52       | 347  | 230                                 |

1) ten behoeve van de vloeispanning is 2/3 van de nominale treksterkte aangehouden; de gegarandeerde minimale vloeigrens is  $357 \text{ N}/\text{mm}^2$  voor "diktes"  $d \leq 16 \text{ mm}$ ,  $345 \text{ N}/\text{mm}^2$  voor  $16 < d \leq 40 \text{ mm}$  en  $335 \text{ N}/\text{mm}^2$  voor  $40 < d \leq 63 \text{ mm}$



Boor- en sondeerlocatie 401

| Laag-<br>nummer | Omschrijving<br>laag       | Bron representatieve waarden<br><br>NEN6740: Tabel 1 uit NEN 6740<br>T.A.: Triaxiaalonderzoek 2% |                             | Bovenkant<br>laag<br><br>m t.o.v. NAP | Representatieve<br>waarde<br>wrijvingshoek<br>$\phi'$<br>graden | Representatieve<br>waarde<br>cohesie<br>c'<br>kN/m <sup>2</sup> | Verwachtings-<br>waarde<br>Volume-gewicht<br>boven/onder GWS<br>kN/m <sup>3</sup> | Beddingsconstante<br>"laag"<br><br>kN/m <sup>3</sup> |
|-----------------|----------------------------|--|-----------------------------|---------------------------------------|---|---|---|--|
| 1               | ophoogzand                 | NEN6740  | zand, zwak siltig           | +4,0                                  | 27,0  | 0,0   | 19/21   | 10000  |
| 2               | ophoogklei met zandlaagjes | NEN6740  | klei, sterk zandig          | +0,5                                  | 27,5  | 0,0   | 18,0  | 3000   |
| 3               | zandhoudende ophoogklei    | NEN6740  | klei, zwak zandig           | -1,0                                  | 22,5  | 10,0  | 18,8  | 3000   |
| 4               | veen                       | T.A.   | veen en humeuze klei        | -3,25                                 | 12,4  | 17,8  | 11,4  | 750  |
| 5               | zandhoudende klei          | T.A.   | klei en zandige klei        | -3,75                                 | 27,0  | 6,4   | 17,2  | 2500   |
| 6               | holocene zand              | NEN6740  | zand, los                   | -11,4                                 | 30,0  | 0,0   | 17/19   | 6000   |
| 7               | kleihoudende zand          | NEN6740  | zand, sterk siltig          | -13,5                                 | 25,0  | 0,0   | 18/20   | 4000   |
| 8               | pleistocene zand           | NEN6740  | zand, matig tot vast gepakt | -14,5                                 | 32,5  | 0,0   | 19/21   | 15000  |
| 9               | leem                       | NEN6740  | leem, zwak zandig, vast     | -21,1                                 | 27,5  | 0,0   | 21  | 5000   |

Afsluitende laag aangehouden tussen NAP - 1,0 m en NAP - 11,4 m

Boor- en sondeerlocatie 402

| Laag-<br>nummer | Omschrijving<br>laag                     | Bron representatieve waarden<br><br>NEN6740: Tabel 1 uit NEN 6740<br>T.A.: Triaxiaalonderzoek 2% |                         | Bovenkant<br>laag<br><br>m t.o.v. NAP | Representatieve<br>waarde<br>wrijvingshoek<br>$\phi'$<br>graden | Representatieve<br>waarde<br>cohesie<br>$c'$<br>kN/m <sup>2</sup> | Verwachtings-<br>waarde<br>Volume-gewicht<br>boven/onder GWS<br>kN/m <sup>3</sup> | Beddingsconstante<br>"laag"<br><br>kN/m <sup>3</sup> |
|-----------------|--|--|-------------------------|---------------------------------------|---|---|---|--|
| 1               | ophoogzand met puin                      | NEN6740  | zand, zwak siltig       | +4,0                                  | 27,0  | 0,0   | 19/21   | 10000  |
| 2               | zandhoudende ophoogklei<br>met veel puin | NEN6740  | klei, zwak zandig       | +0,15                                 | 22,5  | 10,0  | 18,3  | 2000   |
| 3               | ophoogklei                               | NEN6740  | klei, zwak zandig       | -3,95                                 | 22,5  | 10,0  | 16,4  | 2000   |
| 4               | kleihoudende veen                        | T.A.   | veen en humeuze klei    | -5,95                                 | 12,4  | 17,8  | 10,9  | 750  |
| 5               | veenhoudende klei                        | T.A.   | veen en humeuze klei    | -8,75                                 | 12,4  | 17,8  | 13,3  | 1000   |
| 6               | weinig veenhoudende klei                 | T.A.   | klei en zandige klei    | -10,5                                 | 27,0  | 6,4   | 16,2  | 2500   |
| 7               | veenhoudende klei                        | T.A.   | veen en humeuze klei    | -13,05                                | 12,4  | 17,8  | 13,0  | 1500   |
| 8               | pleistocene zand                         | NEN6740  | zand, vast              | -15,2                                 | 35,0  | 0,0   | 19/21   | 20000  |
| 9               | leem                                     | NEN6740  | leem, zwak zandig, vast | -22,75                                | 27,5  | 0,0   | 21  | 5000   |

Afsluitende laag aangehouden tussen NAP + 0,15 m en NAP - 15,2 m

Boor- en sondeerlocatie 403

| Laag-<br>nummer | Omschrijving<br>laag                  | Bron representatieve waarden<br><br>NEN6740: Tabel 1 uit NEN 6740<br>T.A.: Triaxiaalonderzoek 2% |                         | Bovenkant<br>laag<br><br>m t.o.v. NAP | Representatieve<br>waarde<br>wrijvingshoek<br>$\phi'$<br>graden | Representatieve<br>waarde<br>cohesie<br>$c'$<br>kN/m <sup>2</sup> | Verwachtings-<br>waarde<br>Volume-gewicht<br>boven/onder GWS<br>kN/m <sup>3</sup> | Beddingsconstante<br>"laag"<br><br>kN/m <sup>3</sup> |
|-----------------|---------------------------------------|--|-------------------------|---------------------------------------|---|---|---|--|
| 1               | ophoogzand                            | NEN6740  | zand, zwak siltig       | +4,0                                  | 27,0  | 0,0   | 19/21   | 10000  |
| 2               | ophoogzand met kleilaagjes<br>en puin | NEN6740  | zand, kleilig           | -0,8                                  | 25,0  | 0,0   | 18/20   | 3500   |
| 3               | zandhoudende ophoogklei               | NEN6740  | klei, zwak zandig       | -2,8                                  | 22,5  | 10,0  | 17,4  | 2500   |
| 4a              | veenhoudende klei                     | T.A.   | veen en humeuze klei    | -5,1                                  | 12,4  | 17,8  | 12,5  | 1000   |
| 4b              | veen                                  | T.A.   | veen en humeuze klei    | -6,0                                  | 12,4  | 17,8  | 12,5  | 750  |
| 5a              | klei                                  | T.A.   | klei en zandige klei    | -7,25                                 | 27,0  | 6,4   | 15,6  | 3000   |
| 5b              | veenhoudende klei                     | T.A.   | veen en humeuze klei    | -8,5                                  | 12,4  | 17,8  | 12,5  | 1000   |
| 6               | veen                                  | T.A.   | veen en humeuze klei    | -10,4                                 | 12,4  | 17,8  | 11,5  | 750  |
| 7               | zandhoudende klei                     | T.A.   | klei en zandige klei    | -11,7                                 | 27,0  | 6,4   | 17  | 3000   |
| 8               | pleistocene zand                      | NEN6740  | zand, los               | -15,5                                 | 30,0  | 0,0   | 17/19   | 6000   |
| 9               | leem                                  | NEN6740  | leem, zwak zandig, vast | -22,7                                 | 27,5  | 0,0   | 21  | 5000   |

Afsluitende laag aangehouden tussen NAP - 2,8 m en NAP - 15,5 m

Boor- en sondeerlocatie 404

| Laag-<br>nummer | Omschrijving<br>laag | Bron representatieve waarden<br><br>NEN6740: Tabel I uit NEN 6740<br>T.A.: Triaxiaalonderzoek 2% |                           | Bovenkant<br>laag<br><br>m t.o.v. NAP | Representatieve<br>waarde<br>wrijvingshoek<br>$\phi'$<br>graden | Representatieve<br>waarde<br>cohesie<br>c'<br>kN/m <sup>2</sup> | Verwachtings-<br>waarde<br>Volume-gewicht<br>boven/onder GWS<br>kN/m <sup>3</sup> | Beddingsconstante<br>"laag"<br><br>kN/m <sup>3</sup> |
|-----------------|----------------------|--|---------------------------|---------------------------------------|---|---|---|--|
| 1               | ophoogzand           | NEN6740  | zand, zwak siltig         | +4,0                                  | 27,0  | 0,0   | 19/21   | 10000  |
| 2               | ophoogklei           | NEN6740  | klei, zwak zandig, siltig | +0,2                                  | 22,5  | 10,0  | 17  | 2000   |
| 3               | ophoogzand           | NEN6740  | zand, zwak siltig         | -1,0                                  | 27,0  | 0,0   | 19/21   | 6000   |
| 4               | klei met zandlaagjes | T.A.   | klei en zandige klei      | -2,0                                  | 27,0  | 6,4   | 17,3  | 2500   |
| 5               | veen                 | T.A.   | veen en humeuze klei      | -10,0                                 | 12,4  | 17,8  | 12,0  | 1000   |
| 6               | holocene zand        | NEN6740  | zand, matig vast          | -11,0                                 | 32,5  | 0,0   | 18/20   | 10000  |
| 7               | klei                 | T.A.   | klei en zandige klei      | -14,4                                 | 27,0  | 6,4   | 17,5  | 3000   |
| 8               | pleistocene zand     | NEN6740  | zand, matig vast          | -15,5                                 | 32,5  | 0,0   | 18/20   | 10000  |
| 9               | leem                 | NEN6740  | leem, zwak zandig, vast   | -22,8                                 | 27,5  | 0,0   | 21  | 5000   |

Afsluitende laag aangehouden tussen NAP - 2,0 m en NAP - 15,5 m

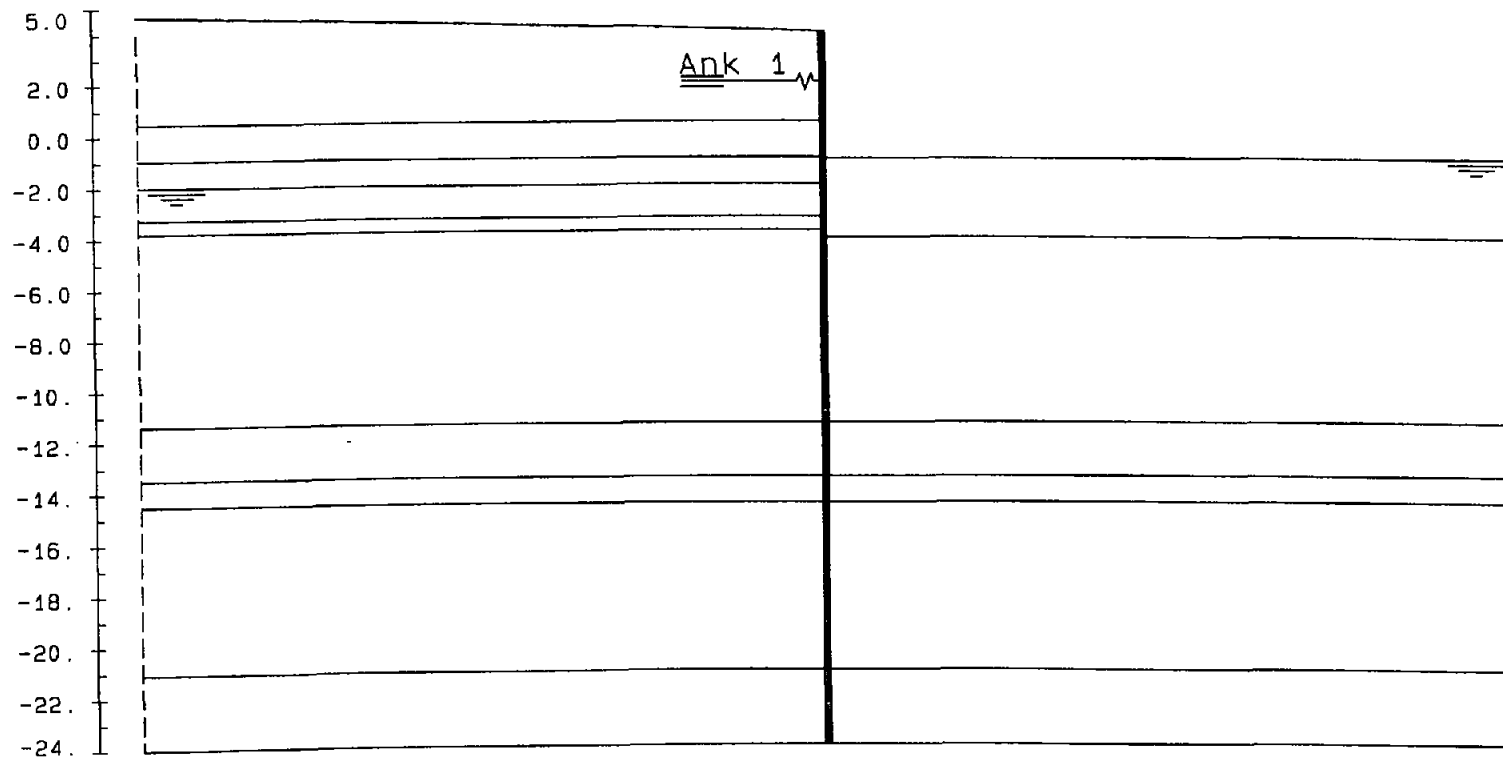
Boor- en sondeerlocatie 405

| Laag-<br>nummer | Omschrijving<br>laag | Bron representatieve waarden                                 |                         | Bovenkant<br>laag | Representatieve<br>waarde<br>wrijvingshoek<br>$\phi'$<br>graden | Representatieve<br>waarde<br>cohesie<br>$c'$<br>kN/m <sup>2</sup> | Verwachtings-<br>waarde<br>Volume-gewicht<br>boven/onder GWS<br>kN/m <sup>3</sup> | Beddingsconstante<br>"laag"<br>kN/m <sup>3</sup> |
|-----------------|----------------------|--|-------------------------|-------------------|---|---|---|--|
|                 |                      | NEN6740: Tabel 1 uit NEN 6740<br>T.A.: Triaxiaalonderzoek 2% |                         | m L.o.v. NAP      |   |   |   |  |
| 1               | ophoogzand           | NEN6740  | zand, zwak siltig       | +4,0              | 27,0  | 0,0   | 19/21   | 10000  |
| 2               | veenhoudende klei    | T.A.   | veen en humeuze klei    | -3,5              | 12,4  | 17,8  | 12,5  | 1000   |
| 3               | veen                 | T.A.   | veen en humeuze klei    | -5,5              | 12,4  | 17,8  | 11,3  | 750  |
| 4               | veenhoudende klei    | T.A.   | veen en humeuze klei    | -6,2              | 12,4  | 17,8  | 12,5  | 1000   |
| 5               | zandhoudende klei    | T.A.   | klei en zandige klei    | -6,8              | 27,0  | 6,4   | 16,0  | 2500   |
| 6               | veenhoudende klei    | T.A.   | veen en humeuze klei    | -7,8              | 12,4  | 17,8  | 13,0  | 1000   |
| 7               | zandhoudende klei    | T.A.   | klei en zandige klei    | -13,0             | 27,0  | 6,4   | 18,0  | 2500   |
| 8               | pleistocene zand     | NEN6740  | zand, matig vast        | -15,7             | 32,5  | 0,0   | 18/20   | 10000  |
| 9               | pleistocene zand     | NEN6740  | zand, vast              | -20,4             | 35,0  | 0,0   | 19/21   | 15000  |
| 10              | leem                 | NEN6740  | leem, zwak zandig, vast | -21,1             | 27,5  | 0,0   | 21  | 5000   |

Afsluitende laag aangehouden tussen NAP - 3,5 m en NAP - 15,7 m

OVERZICHT INVOER BOUWFASE : 1

Peil  
[m]



OMEGAM

Lic: 0086 Cop: S1

GD MSHEET [4.0.2]

File : EMK401TK

Maaiveld L/R : 1 / 2      Lengte : 28.00

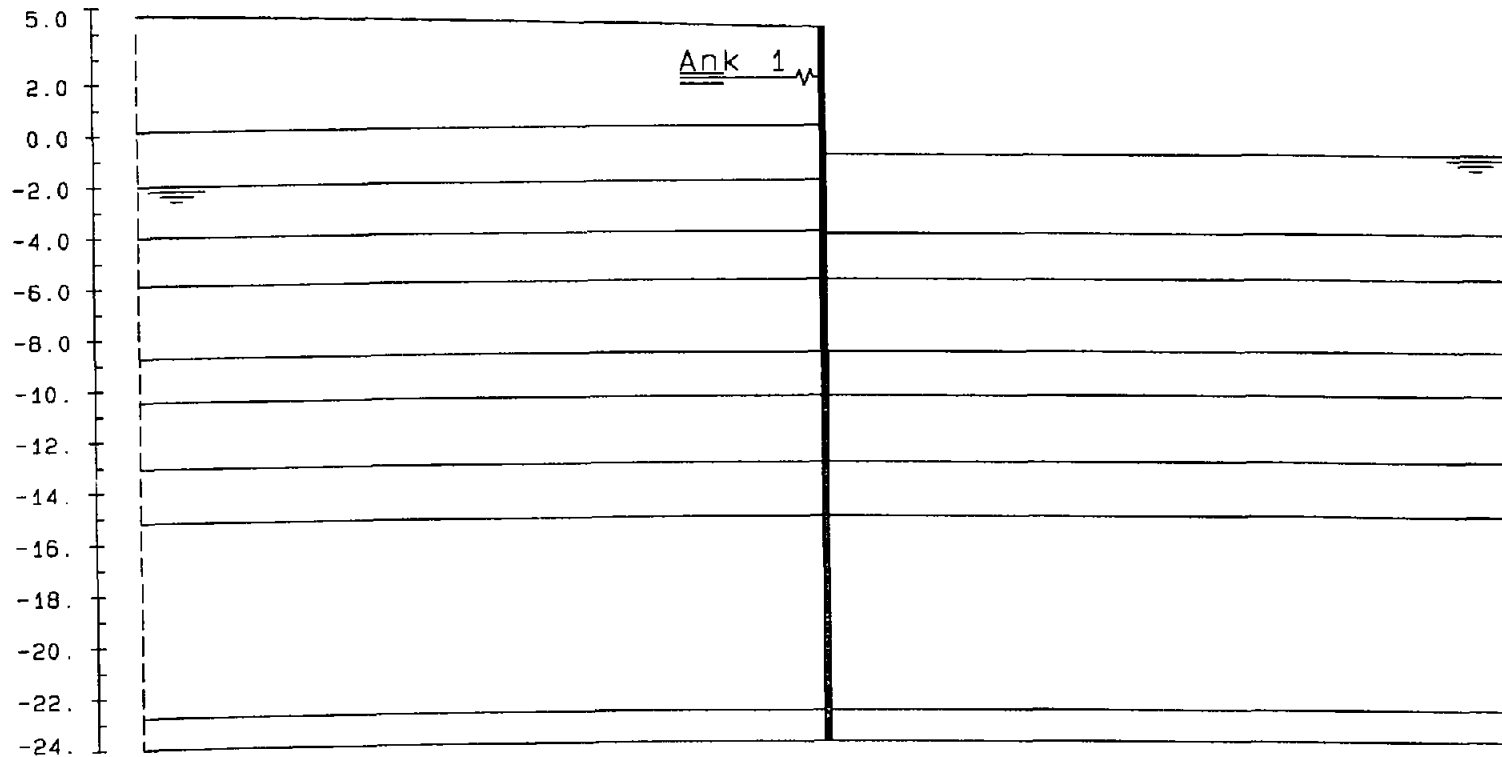
Water      L/R : -2.00 / -1.00

EMK-terrein, 2% sterkte-waarden

Boring 401, eff. ankerlengte 30m

OVERZICHT INVOER BOUWFASE : 1

Peil  
[m]



OMEGAM

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GD MSHEET [4.0.2]

File : EMK402TK

Maaiveld L/R : 1 / 2      Lengte : 28.00

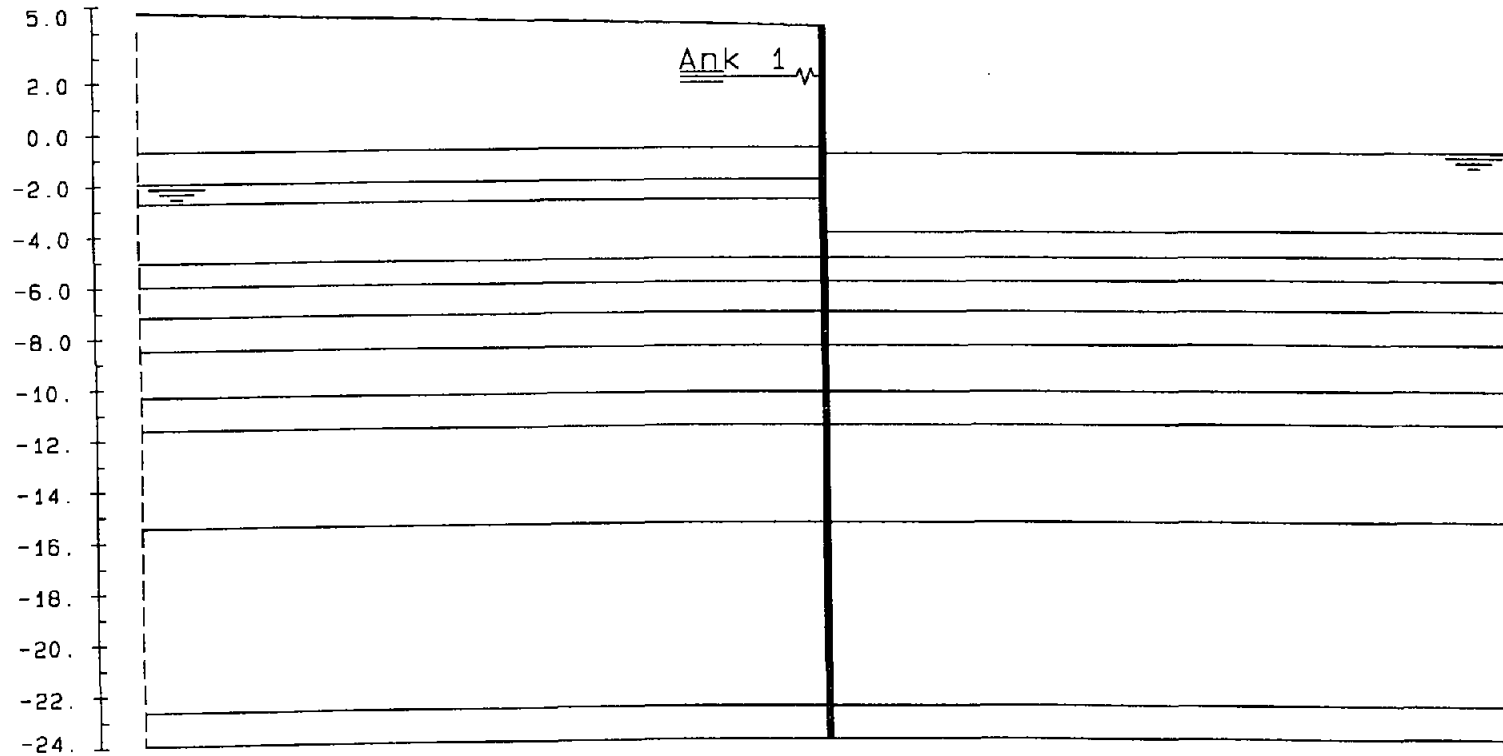
Water      L/R : -2.00 / -1.00

EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

OVERZICHT INVOER BOUWFASE : 1

Peil  
[m]



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GD MSHEET [4.0.2]

File : EMK403TK

Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : -2.00 / -1.00

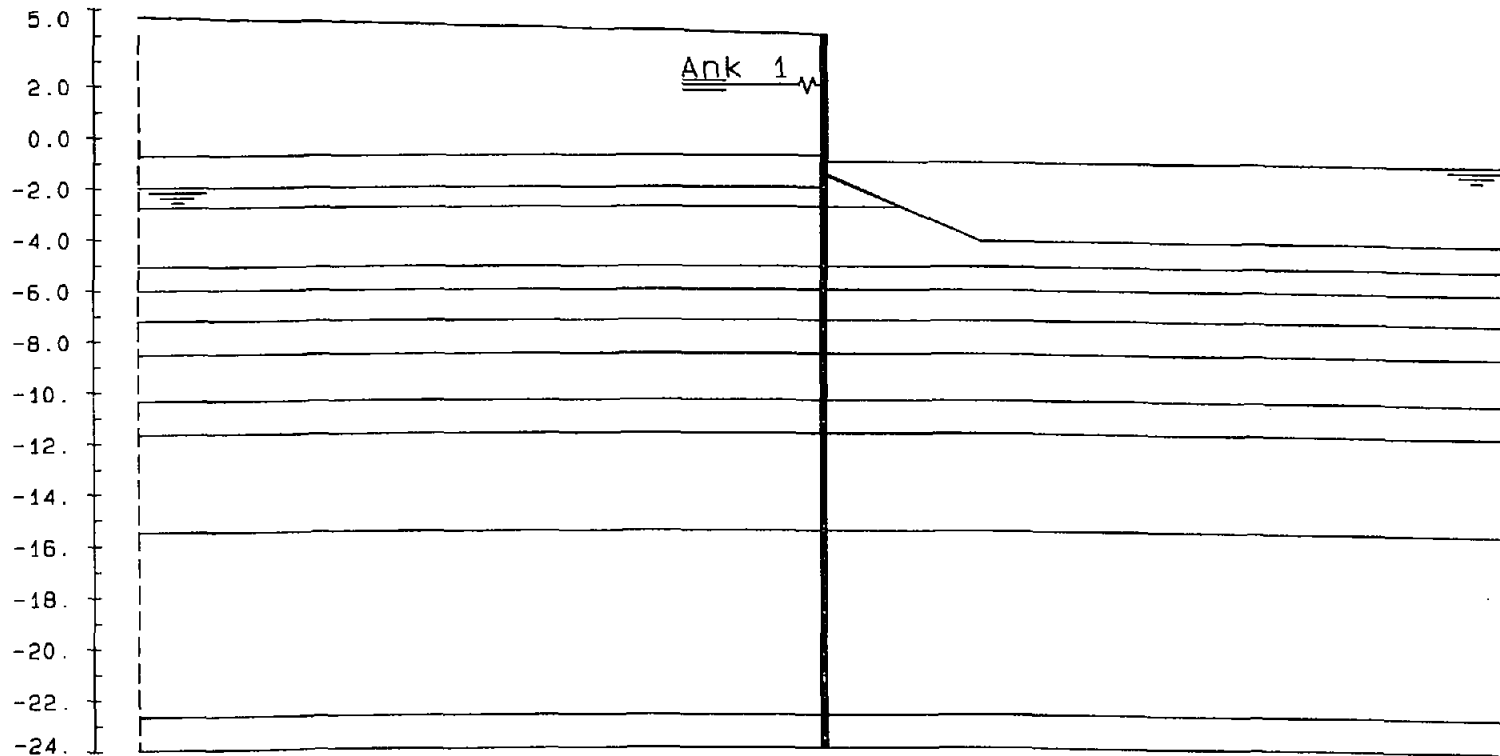
EMK-terrein, 2% sterkte-waarden

Boring 403, eff. ankerlengte 30m



OVERZICHT INVOER BOUWFASE : 1

Peil  
[m]



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GD MSHEET [4.0.2]

File : BERM403K

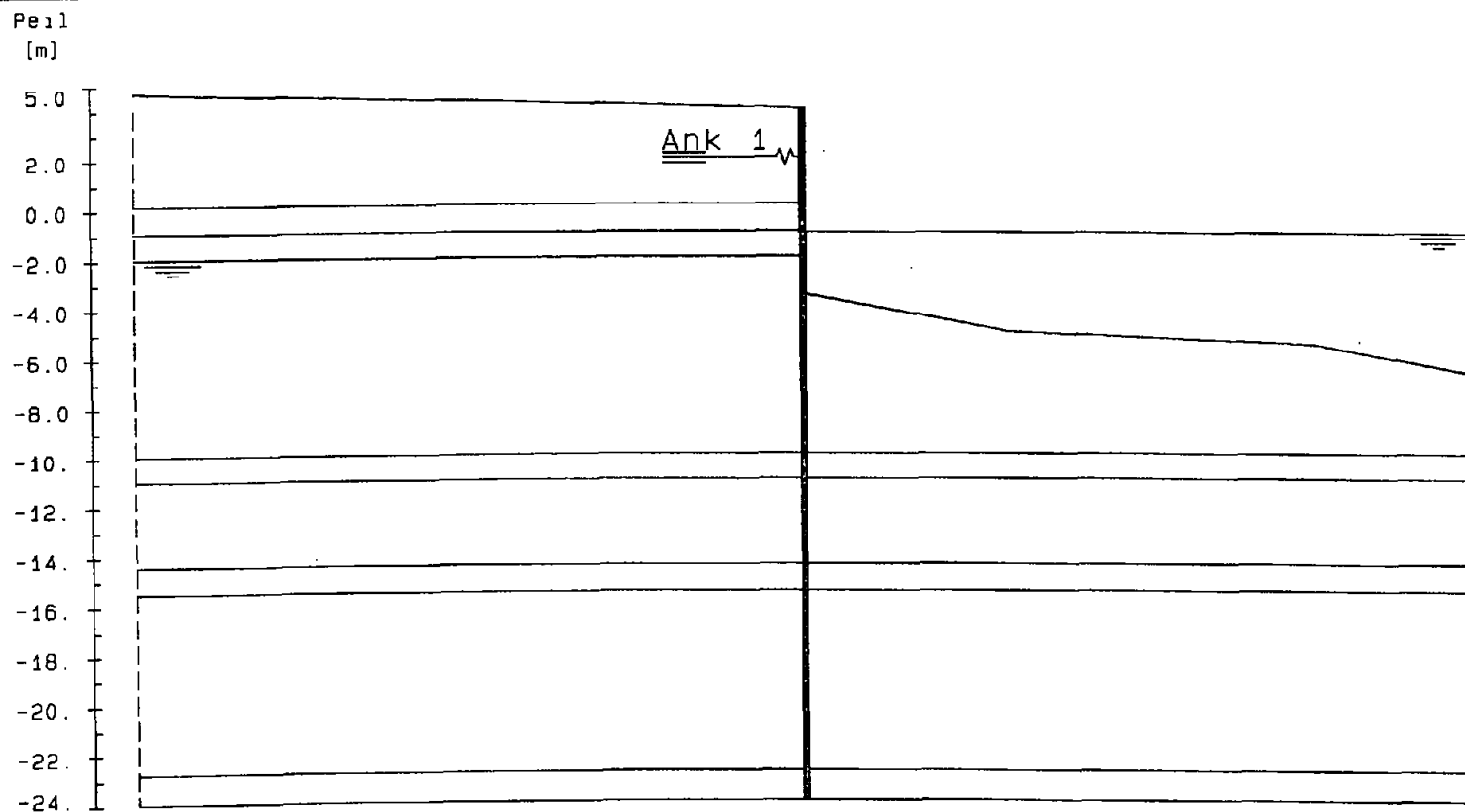
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : -2.00 / -1.00

EMK-terrein, 2% sterkte-waarden

Boring 403 met berm, eff.ankerleng. 30m

OVERZICHT INVOER BOUWFASE : 1



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GD MSHEET [4.0.2]

File : EMK404TK

Maaiveld L/R : 1 / 2      Lengte : 28.00

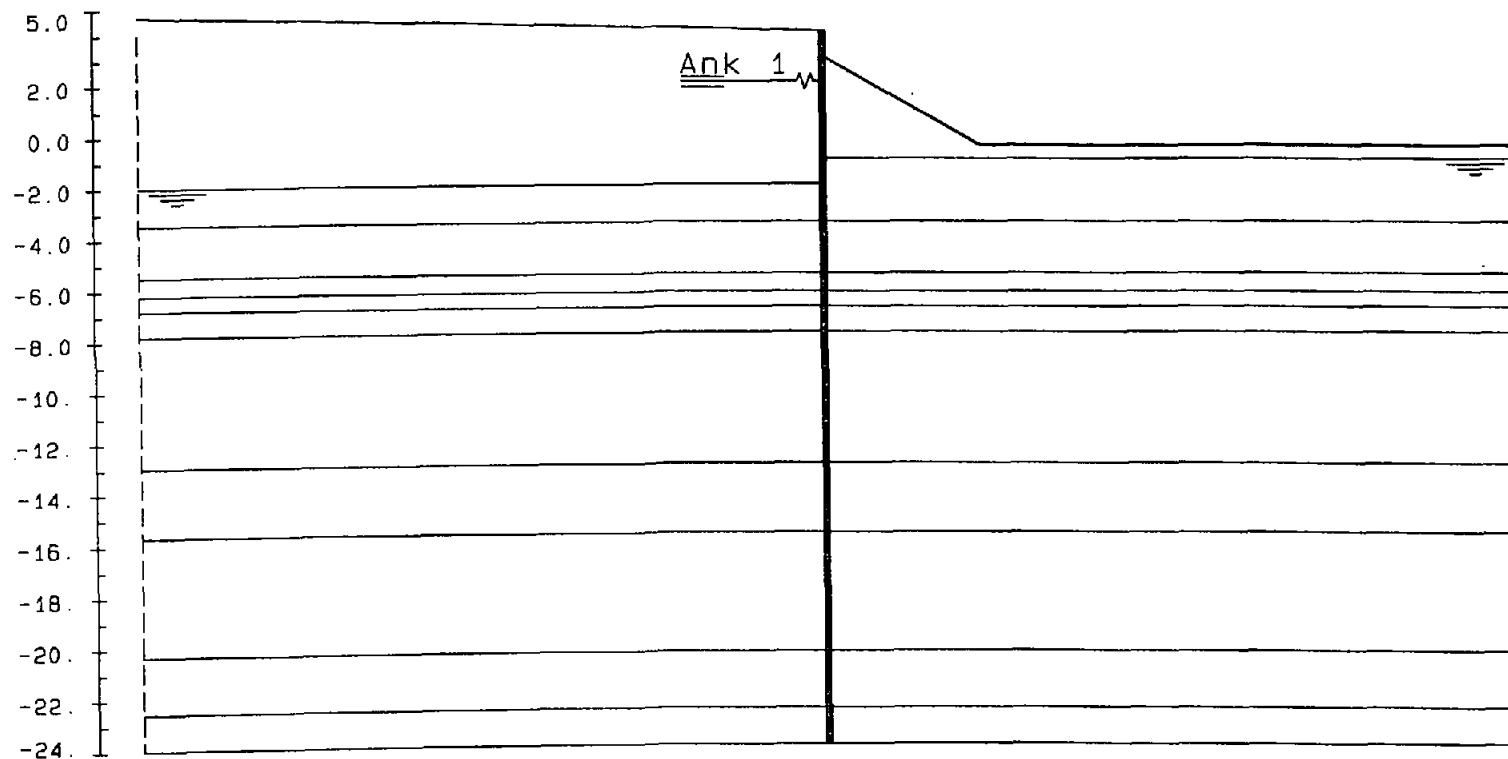
Water      L/R : -2.00 / -1.00

EMK-terrein, 2% sterkte-waarden

Boring 404, eff. ankerlengte 30m

OVERZICHT INVOER BOUWFASE : 1

Peil  
[m]



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GD MSHEET [4.0.2]

File : EMK405TK

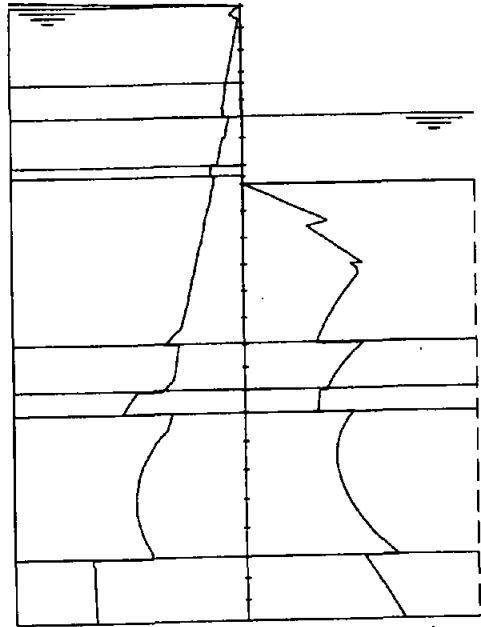
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : -2.00 / -1.00

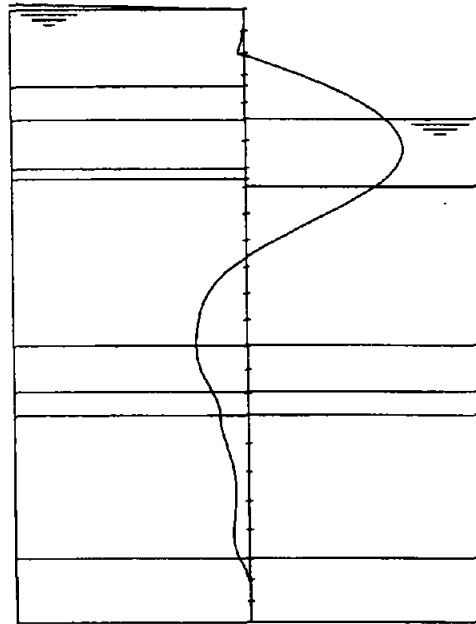
EMK-terrein, 2% sterkte-waarden

Boring 405, eff. ankerlengte 18m

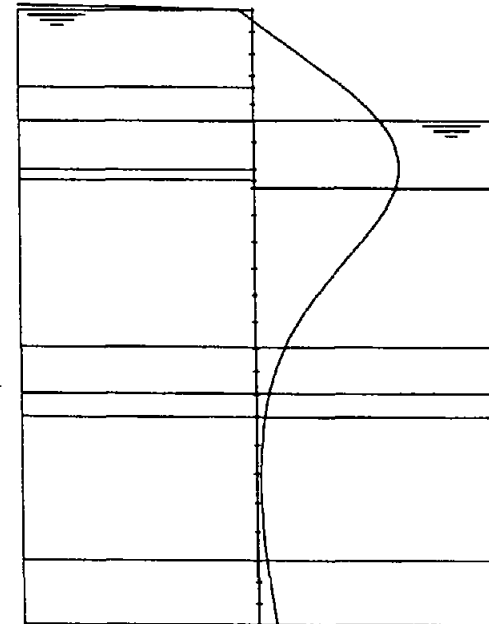
OVERZICHT RESULTATEN BOUWFASE : 3



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 156.3  
 Rechts Max : 161.0



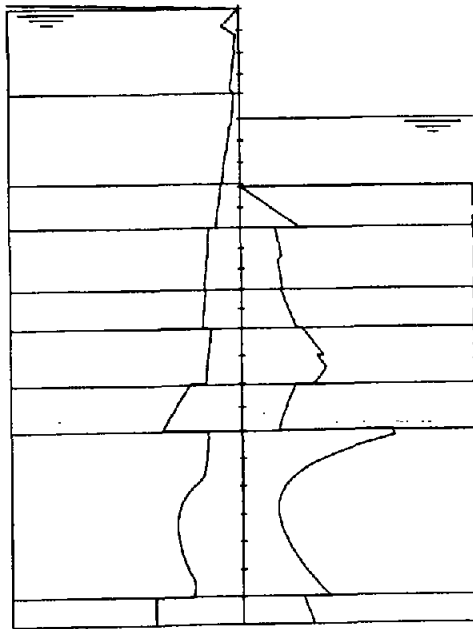
Momenten [kNm/Bm]  
 Maximum : 553.7  
 Minimum : -182.9



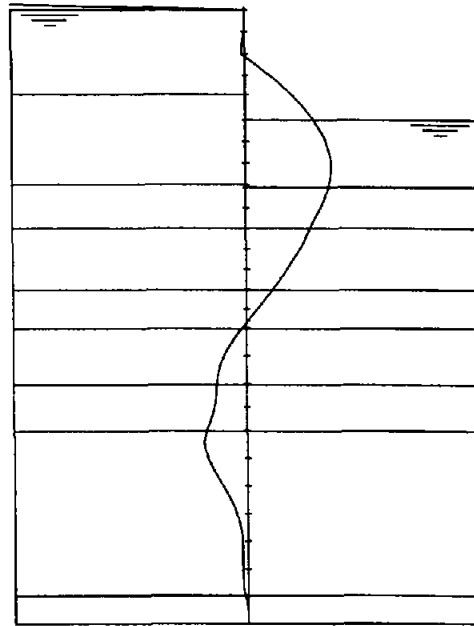
Verplaatsingen [mm]  
 Maximum : 108.5

|   |  |
|---|--|
| <p>OMEGAM<br/>                 Lic: 0086 Cop: S1</p>          | <p>Maaiveld L/R : 1 / 2    Lengte : 28.00<br/>                 Water L/R : 4.00 / -1.00</p>  |
| <p>GD MSHEET [4.0.2]<br/>                 File : EMK401TK</p> | <p>EMK-terrein, 2% sterkte-waarden<br/>                 Boring 401, eff. ankerlengte 30m</p> |

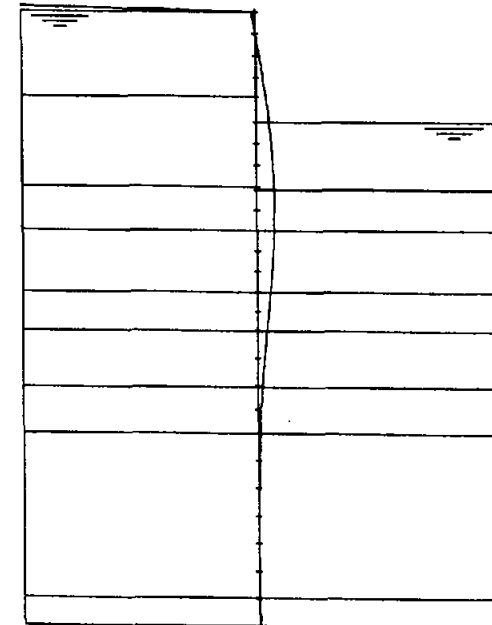
OVERZICHT RESULTATEN BOUWFASE : 3



Hor. Kornrelsp. [kN/m<sup>2</sup>]  
 Links Max : 144.9  
 Rechts Max : 250.5



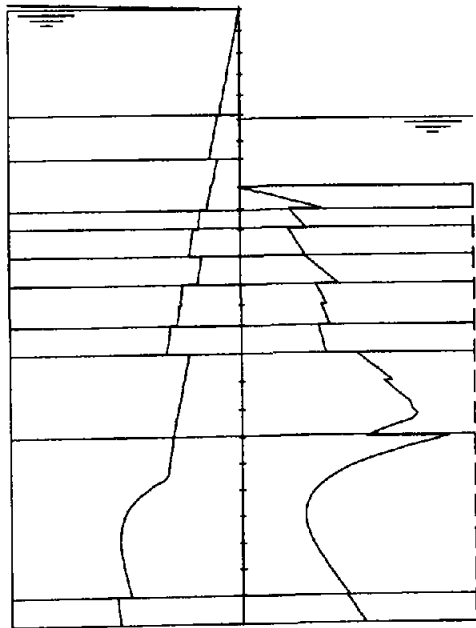
Momenten [kNm/Bm]  
 Maximum : 771.7  
 Minimum : -390.8



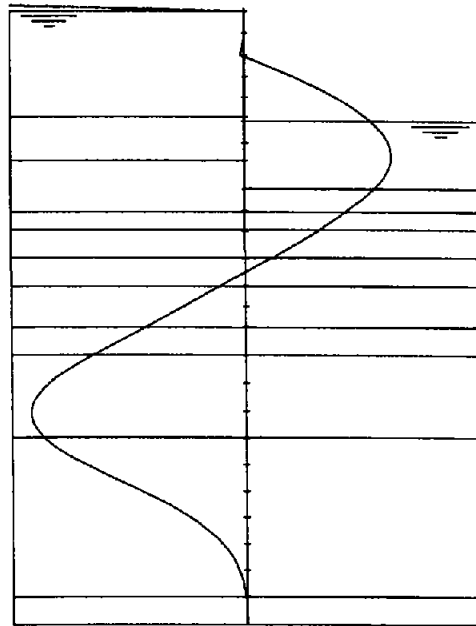
Verplaatsingen [mm]  
 Maximum : 214.3

|   |  |
|---|--|
| <p>OMEGAM<br/>                 Lic: 0086 Cop: S1</p>          | <p>Maaiveld L/R : 1 / 2    Lengte : 28.00<br/>                 Water    L/R : 4.00 / -1.00</p> |
| <p>GD MSHEET [4.0.2]<br/>                 File : EMK402TK</p> | <p>EMK-terrein, 2% sterkte-waarden<br/>                 Boring 402, eff. ankerlengte 30m</p>   |

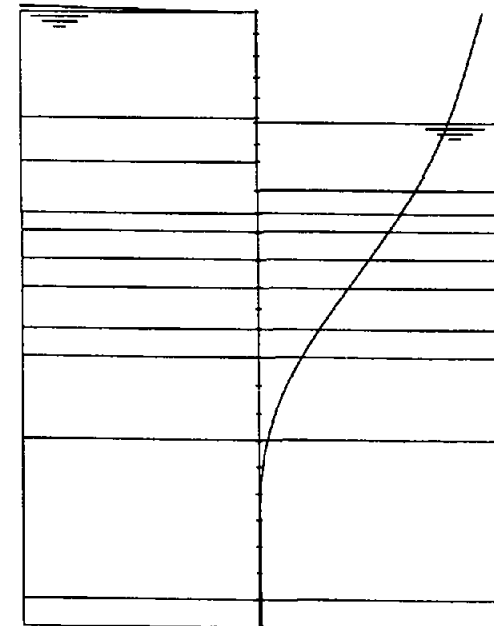
OVERZICHT RESULTATEN BOUWFASE : 3



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 130.7  
 Rechts Max : 214.9



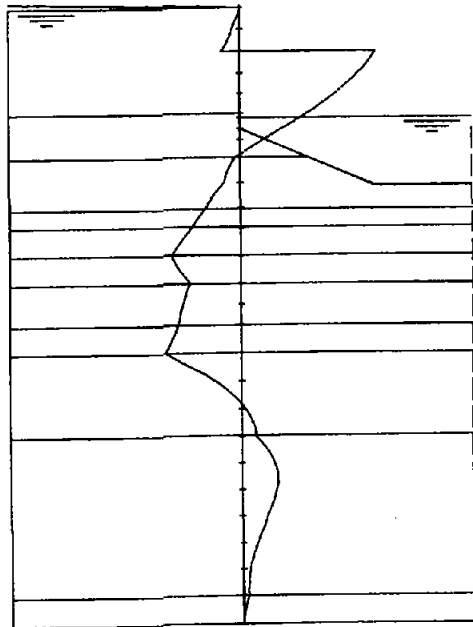
Momenten [kNm/Bm]  
 Maximum : 717.1  
 Minimum : -1061.2



Verplaatsingen [mm]  
 Maximum : 1253.9

|   |  |
|---|--|
| <p>OMEGAM<br/>                 Lic: 0086 Cop: S1</p>          | <p>Maaiveld L/R : 1 / 2      Lengte : 28.00<br/>                 Water      L/R : 4.00 / -1.00</p> |
| <p>GD MSHEET [4.0.2]<br/>                 File : EMK403TK</p> | <p>EMK-terrein, 2% sterkte-waarden<br/>                 Boring 403, eff. ankerlengte 30m</p>       |

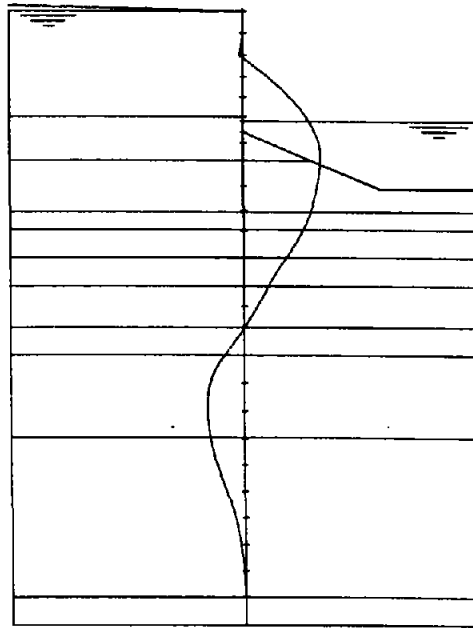
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 3



Dwarskrachten [kN/Bm]

Maximum : 275.7

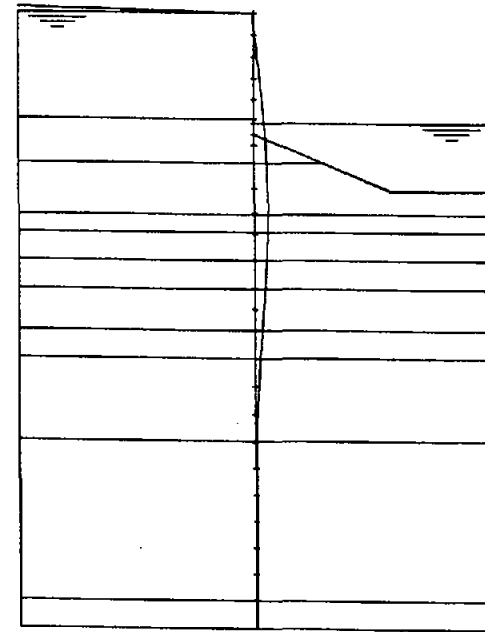
Minimum : -155.4



Momenten [kNm/Bm]

Maximum : 699.9

Minimum : -339.0



Verplaatsingen [mm]

Maximum : 205.2

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GD MSHEET [4.0.2]

File : BERM403K

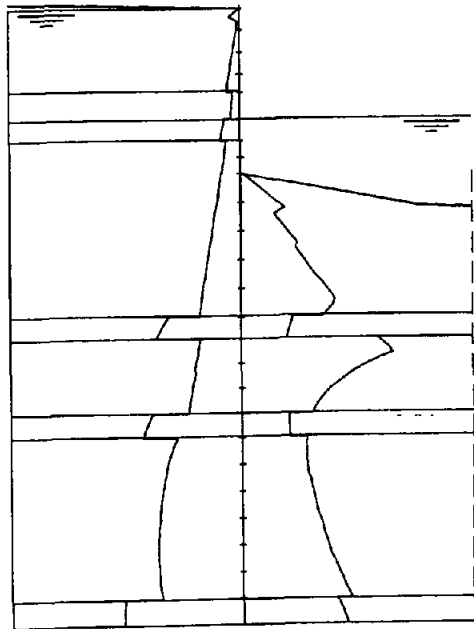
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : 4.00 / -1.00

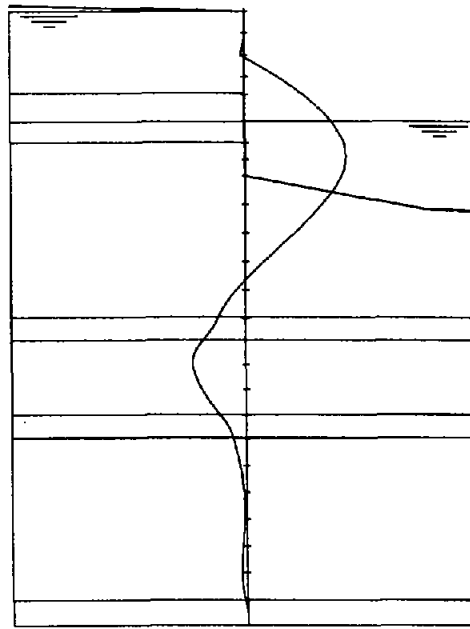
EMK-terrein, 2% sterkte-waarden

Boring 403 met berm, eff.ankerleng. 30m

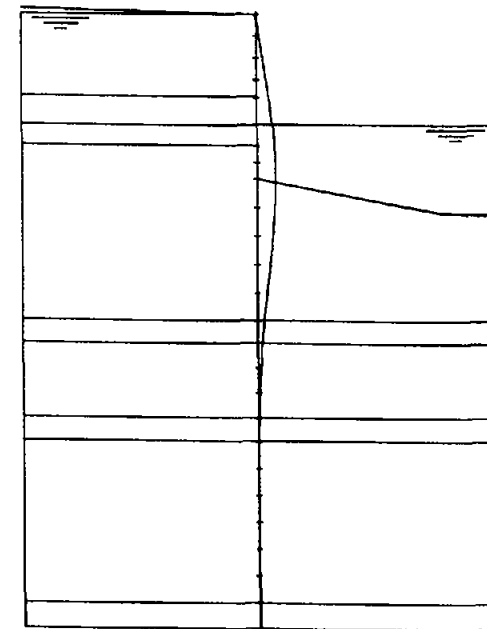
OVERZICHT RESULTATEN BOUWFASE : 3



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 156.9  
 Rechts Max : 199.5



Momenten [kNm/Bm]  
 Maximum : 637.7  
 Minimum : -337.2



Verplaatsingen [mm]  
 Maximum : 141.0

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GD MSHEET [4.0.2]

File : EMK404TK

Maaiveld L/R : 1 / 2      Lengte : 28.00

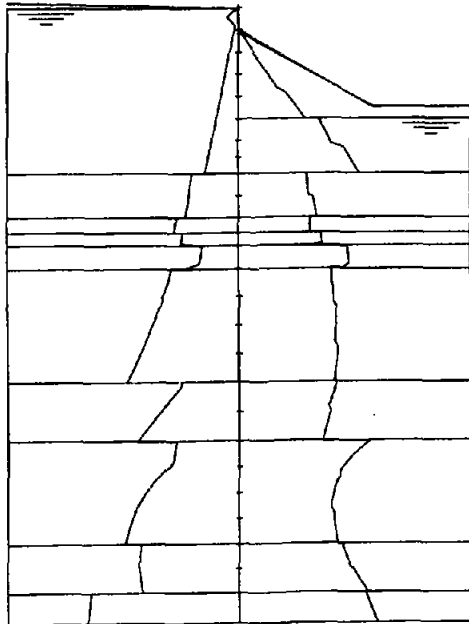
Water      L/R : 4.00 / -1.00

EMK-terrein, 2% sterkte-waarden

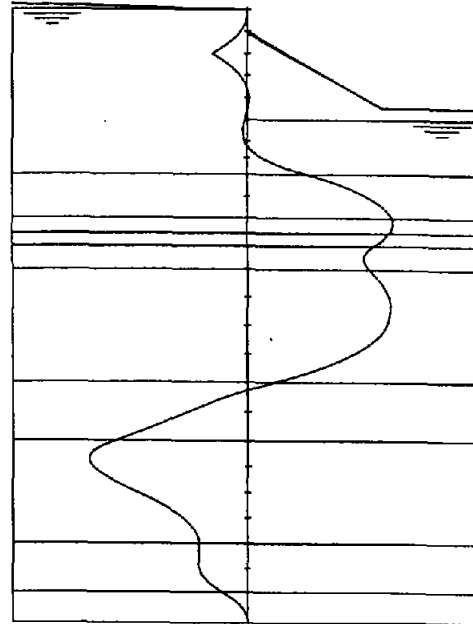
Boring 404, eff. ankerlengte 30m



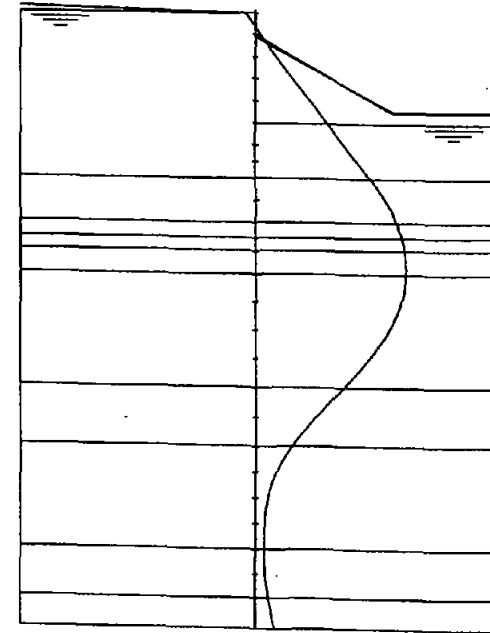
OVERZICHT RESULTATEN BOUWFASE : 3



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 155.0  
 Rechts Max : 141.0



Momenten [kNm/Bm]  
 Maximum : 97.9  
 Minimum : -105.7



Verplaatsingen [mm]  
 Maximum : 46.4

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GD MSHEET [4.0.2]

File : EMK405TK

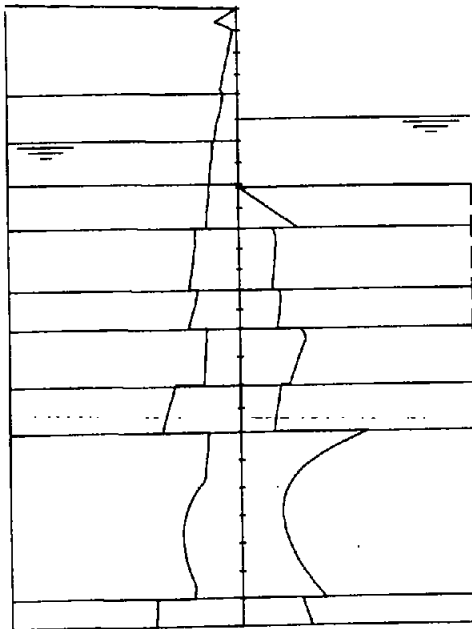
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : 4.00 / -1.00

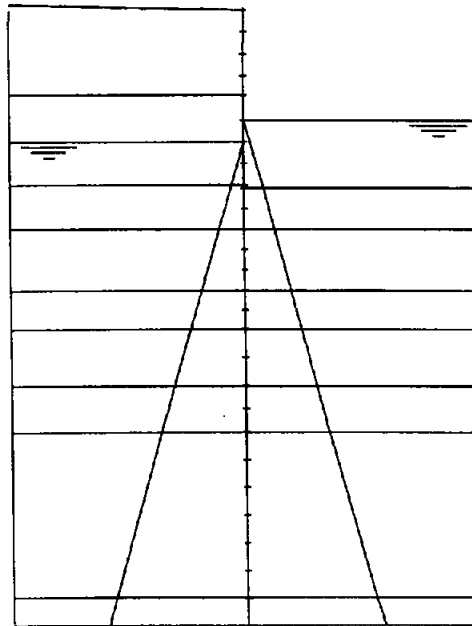
EMK-terrein, 2% sterkte-waarden

Boring 405, eff. ankerlengte 18m

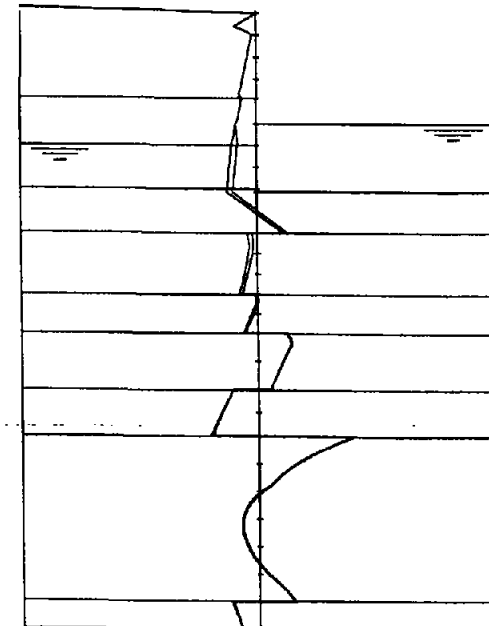
SPANNINGEN BOUWFASE : 1



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 141.8  
 Rechts Max : 209.5



Waterspanning [kN/m<sup>2</sup>]  
 Links Max : 225.0  
 Rechts Max : 225.0



Result. Span. [kN/m<sup>2</sup>]  
 Max KorrelSp : 156.9  
 Max GrondSp : 154.4

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GD MSHEET [4.0.2]

File : EMK402TK

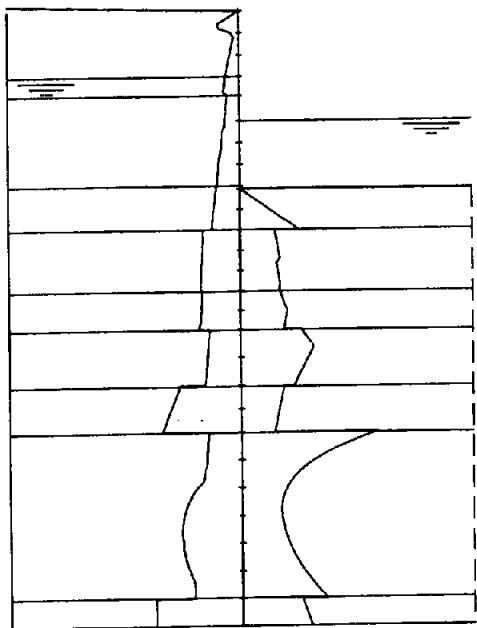
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : -2.00 / -1.00

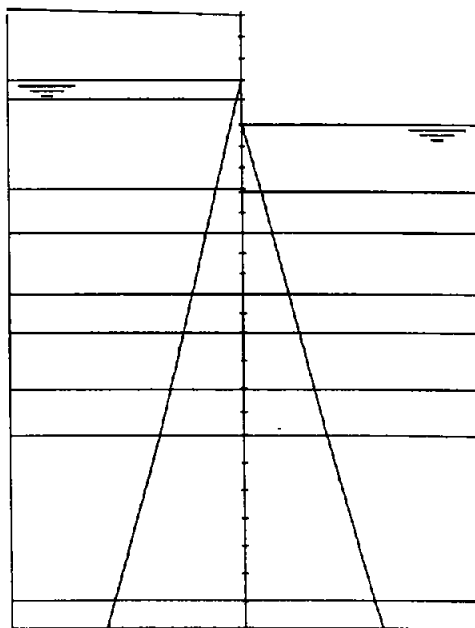
EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

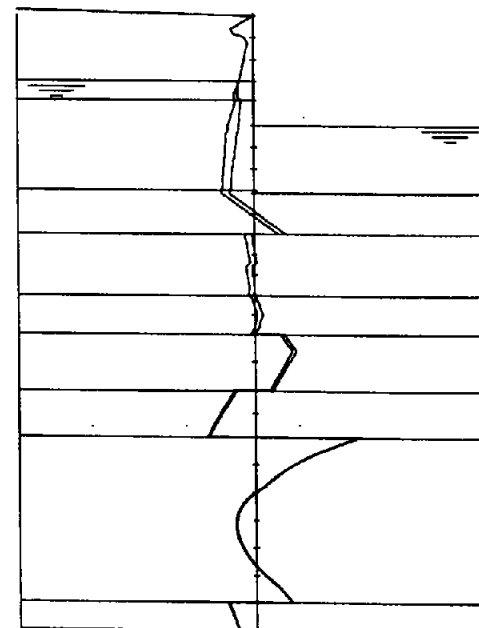
SPANNINGEN BOUWFASE : 2



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 142.4  
 Rechts Max : 223.2



Waterspanning [kN/m<sup>2</sup>]  
 Links Max : 225.0  
 Rechts Max : 225.0



Result. Span. [kN/m<sup>2</sup>]  
 Max KorrelSp : 170.1  
 Max GrondSp : 167.6

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GD MSHEET [4.0.2]

File : EMK402TK

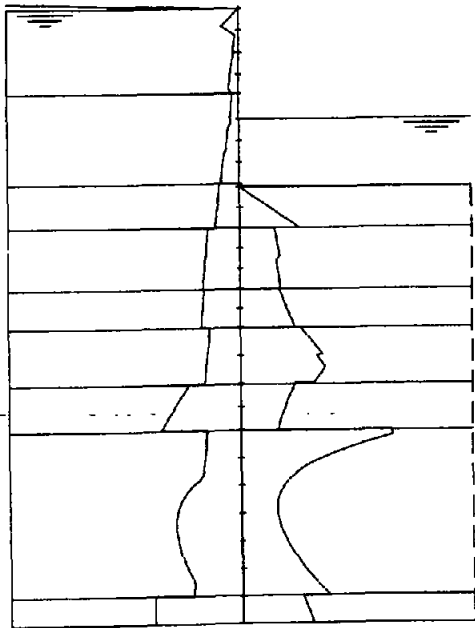
Maaiveld L/R : 1 / 2 Lengte : 28.00

Water L/R : 1.00 / -1.00

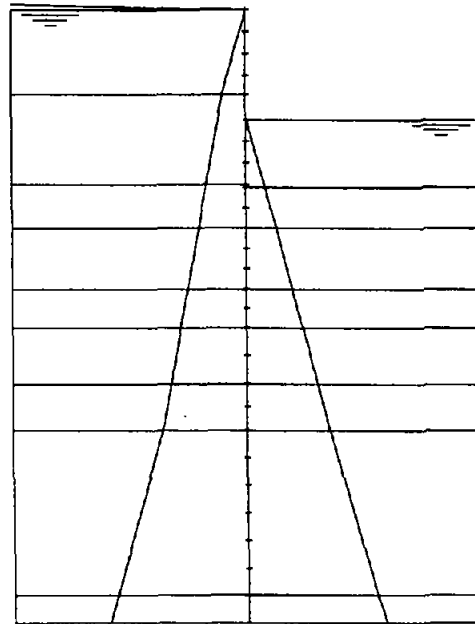
EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

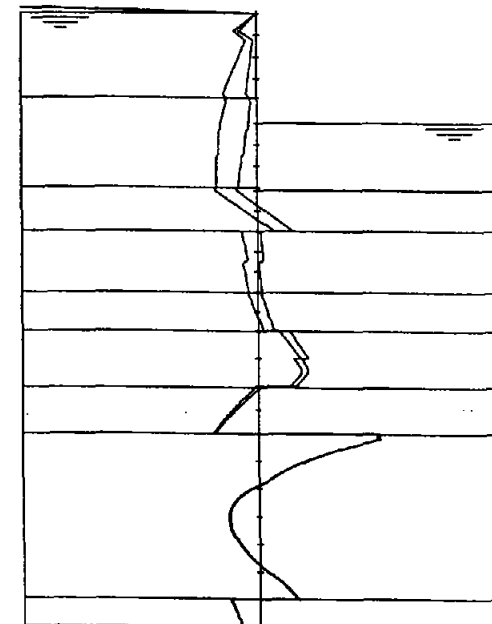
SPANNINGEN BOUWFASE : 3



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 144.9  
 Rechts Max : 250.5



Waterspanning [kN/m<sup>2</sup>]  
 Links Max : 225.0  
 Rechts Max : 225.0



Result. Span. [kN/m<sup>2</sup>]  
 Max KorrelSp : 194.9  
 Max GrondSp : 192.4

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GD MSHEET [4.0.2]

File : EMK402TK

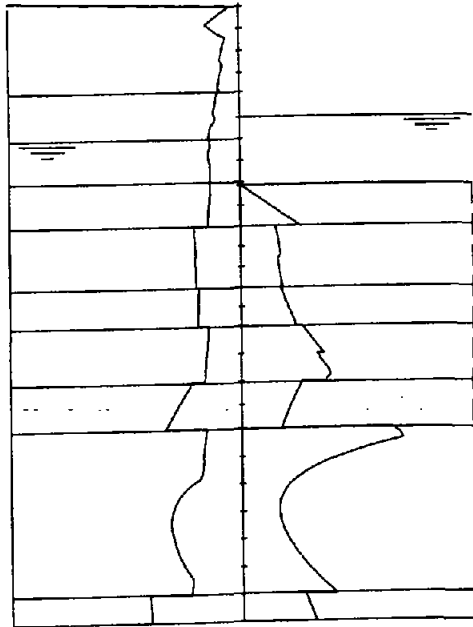
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : 4.00 / -1.00

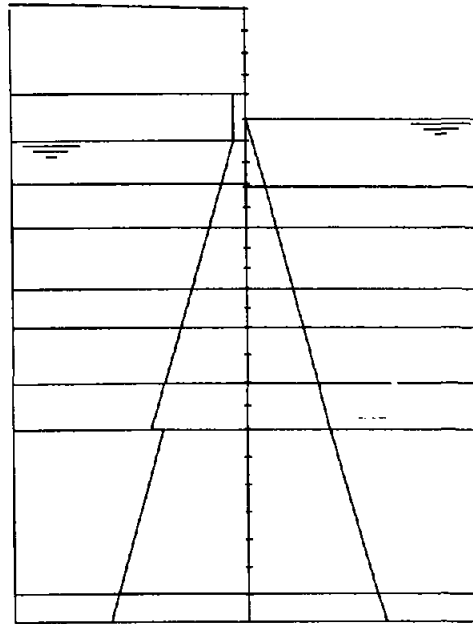
EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

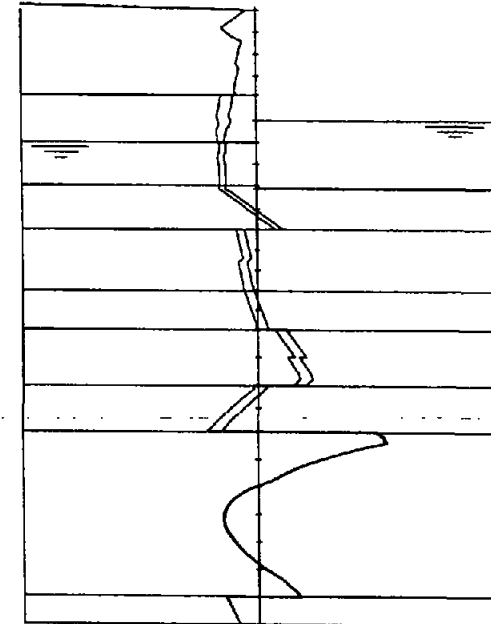
SPANNINGEN BOUWFASE : 4



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 153.6  
 Rechts Max : 265.5



Waterspanning [kN/m<sup>2</sup>]  
 Links Max : 225.0  
 Rechts Max : 225.0



Result. Span. [kN/m<sup>2</sup>]  
 Max KorrelSp : 205.2  
 Max GrondSp : 202.7

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GD MSHEET [4.0.2]

File : EMK402TK

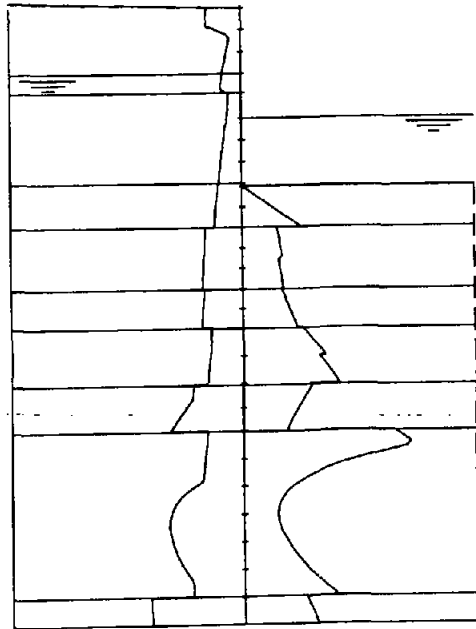
Maaiveld L/R : 1 / 2 Lengte : 28.00

Water L/R : -2.00 / -1.00

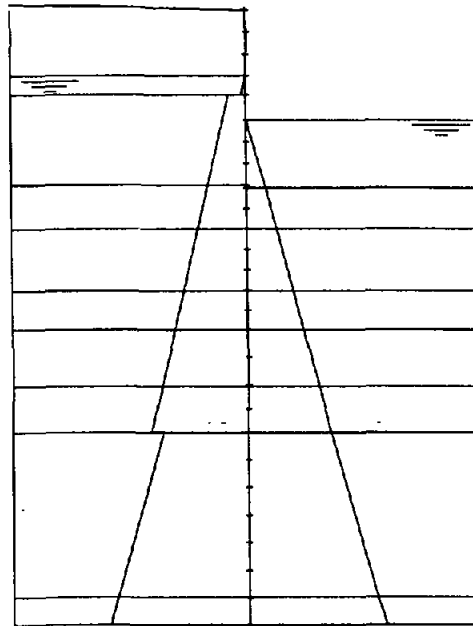
EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

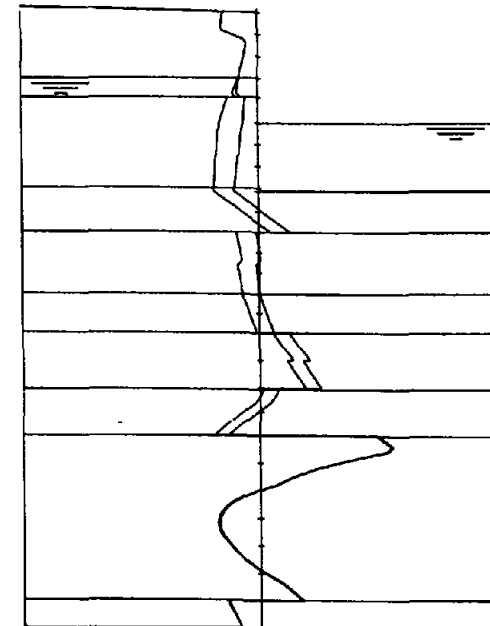
SPANNINGEN BOUWFASE : 5



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 154.4  
 Rechts Max : 274.3



Waterspanning [kN/m<sup>2</sup>]  
 Links Max : 225.0  
 Rechts Max : 225.0



Result. Span. [kN/m<sup>2</sup>]  
 Max KorrelSp : 213.5  
 Max GrondSp : 211.0

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GD MSHEET [4.0.2]

File : EMK402TK

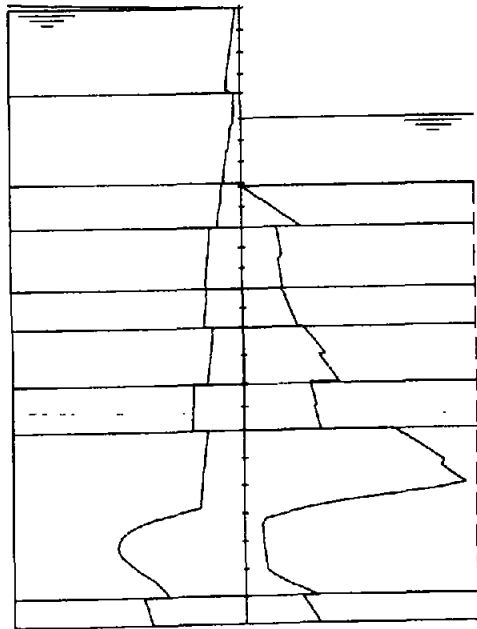
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : 1.00 / -1.00

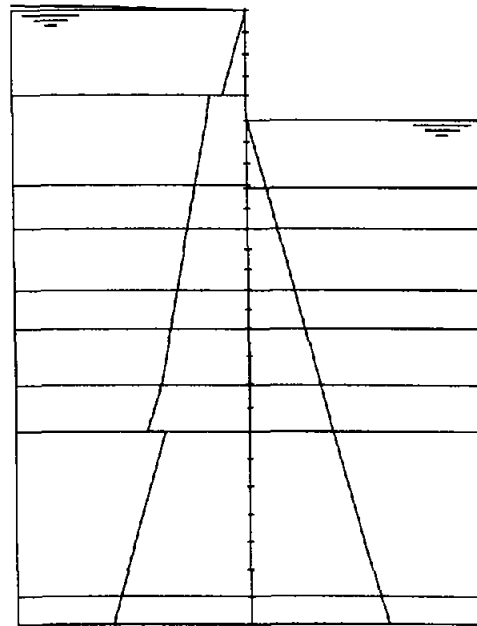
EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

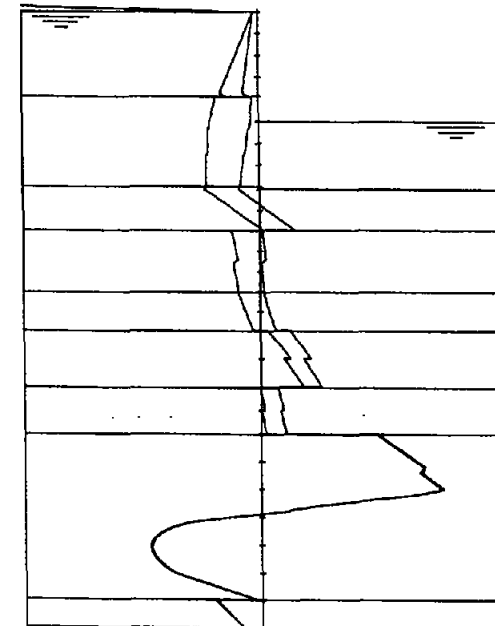
SPANNINGEN BOUWFASE : 6



Hor. Korrelsp. [kN/m<sup>2</sup>]  
 Links Max : 208.3  
 Rechts Max : 363.2



Waterspanning [kN/m<sup>2</sup>]  
 Links Max : 225.0  
 Rechts Max : 225.0



Result. Span. [kN/m<sup>2</sup>]  
 Max KorrelSp : 293.4  
 Max GrondSp : 290.9

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GD MSHEET [4.0.2]

File : EMK402TK

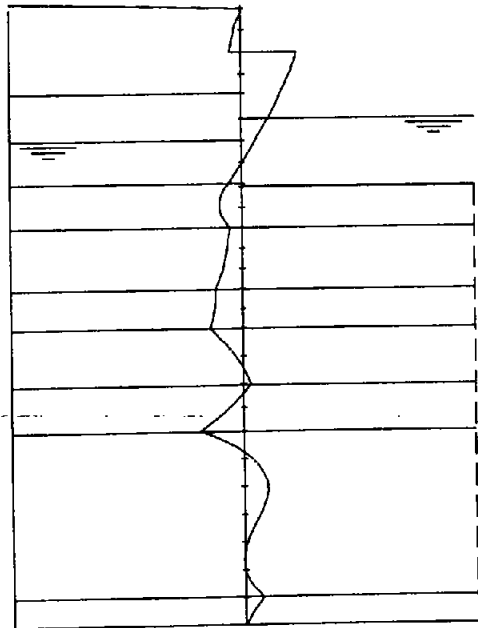
Maaiveld L/R : 1 / 2 Lengte : 28.00

Water L/R : 4.00 / -1.00

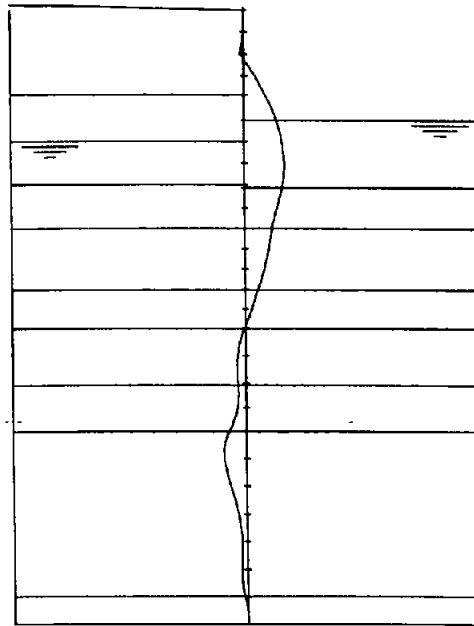
EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

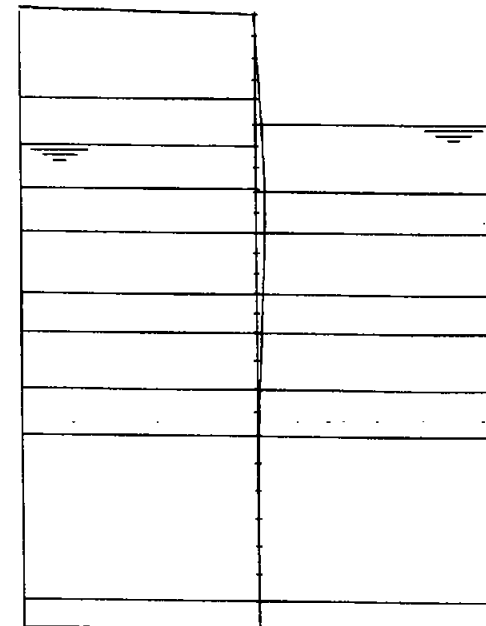
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 1



Dwarskrachten [kN/Bm]  
 Maximum : 139.5  
 Minimum : -109.8



Momenten [kNm/Bm]  
 Maximum : 355.6  
 Minimum : -203.0



Verplaatsingen [mm]  
 Maximum : 101.9

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GD MSHEET [4.0.2]

File : EMK402TK

Maaiveld L/R : 1 / 2      Lengte : 28.00

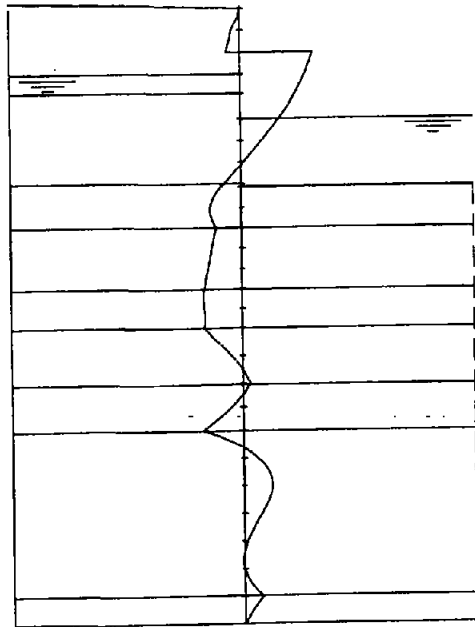
Water      L/R : -2.00 / -1.00

EMK-terrein, 2% sterkte-waarden

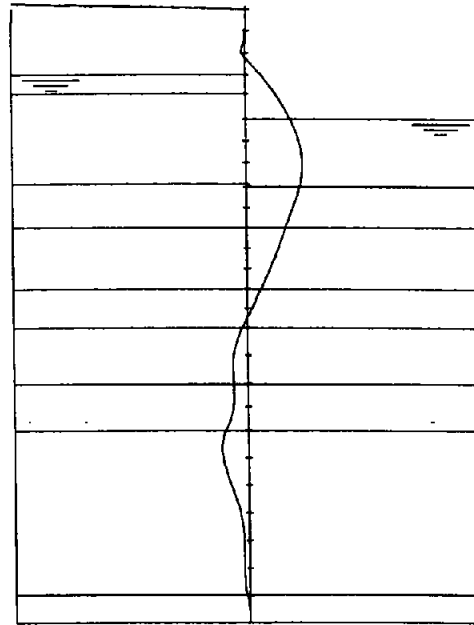
Boring 402, eff. ankerlengte 30m



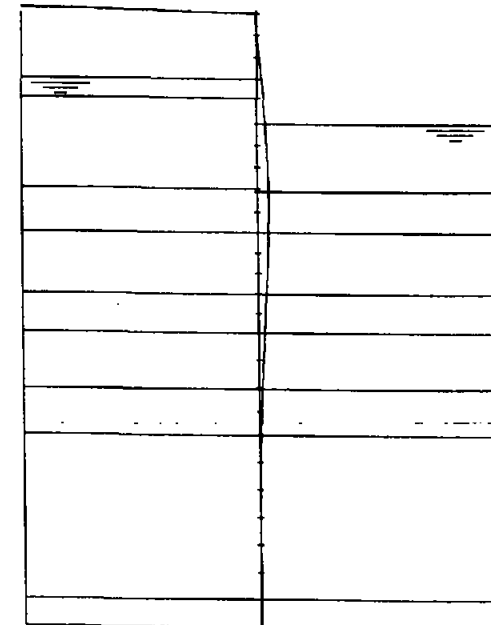
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 2



Dwarskrachten [kN/Bm]  
 Maximum : 181.5  
 Minimum : -102.5



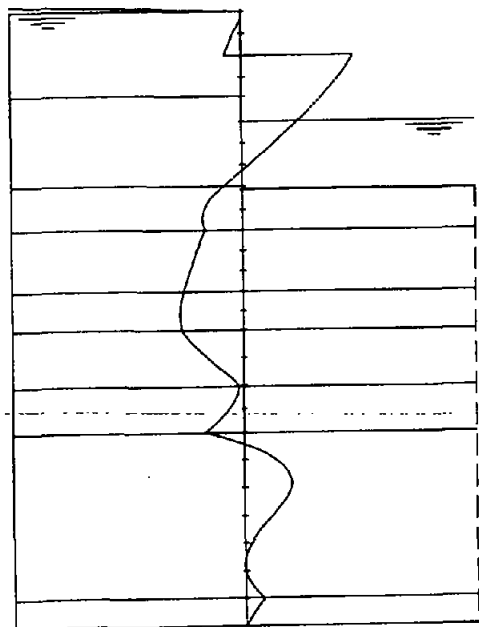
Momenten [kNm/Bm]  
 Maximum : 503.9  
 Minimum : -242.2



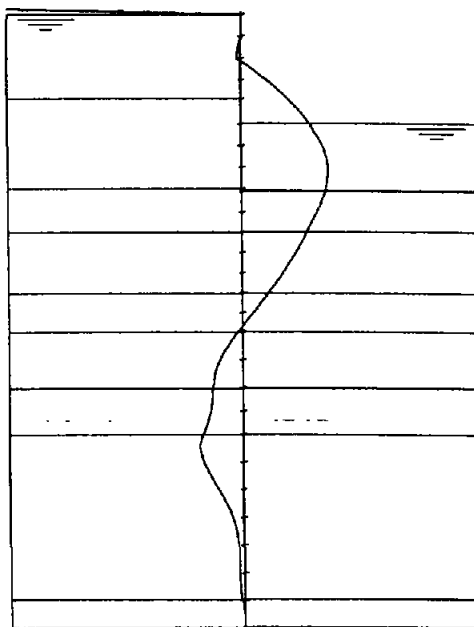
Verplaatsingen [mm]  
 Maximum : 135.3

|   |  |
|---|--|
| <p>OMEGAM<br/>                 Lic: 0086 Cop: S1</p>          | <p>Maaiveld L/R : 1 / 2    Lengte : 28.00<br/>                 Water    L/R : 1.00 / -1.00</p> |
| <p>GD MSHEET [4.0.2]<br/>                 File : EMK402TK</p> | <p>EMK-terrein, 2% sterkte-waarden<br/>                 Boring 402, eff. ankerlengte 30m</p>   |

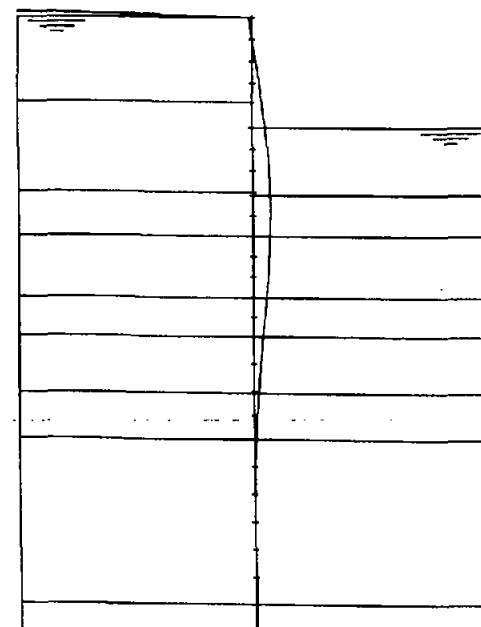
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 3



Dwarskrachten [kN/Bm]  
 Maximum : 280.7  
 Minimum : -159.0



Momenten [kNm/Bm]  
 Maximum : 771.7  
 Minimum : -390.8



Verplaatsingen [mm]  
 Maximum : 214.3

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GD MSHEET [4.0.2]

File : EMK402TK

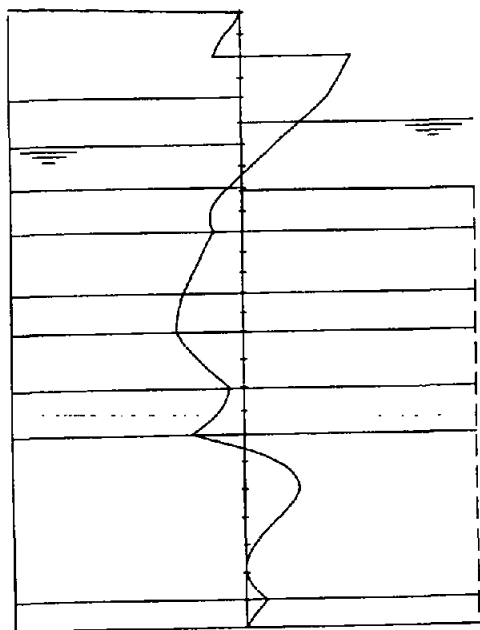
Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : 4.00 / -1.00

EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

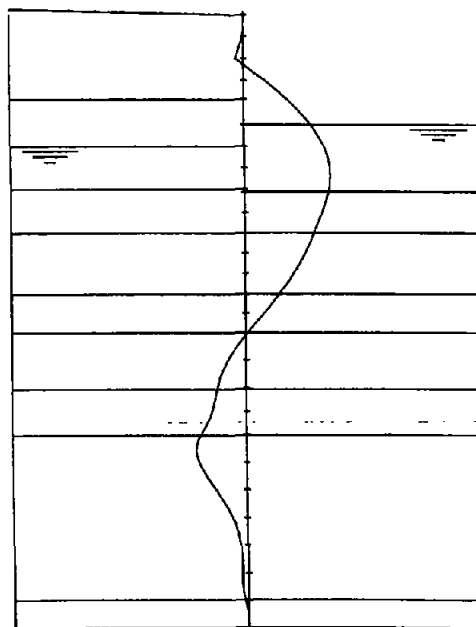
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 4



Dwarskrachten [kN/Bm]

Maximum : 276.4

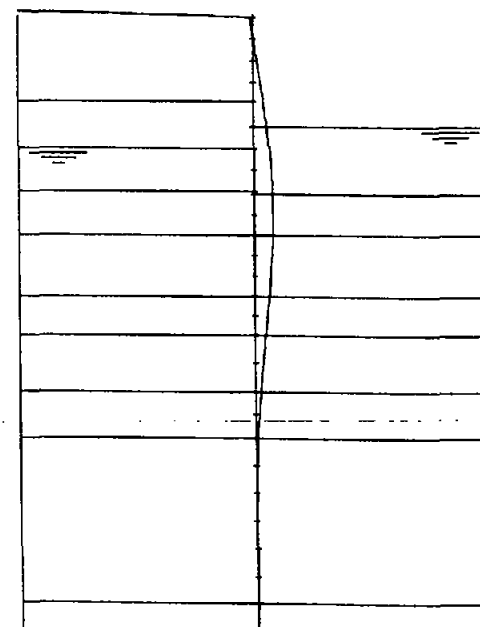
Minimum : -168.3



Momenten [kNm/Bm]

Maximum : 769.4

Minimum : -454.2



Verplaatsingen [mm]

Maximum : 229.3

OMEGAM

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Maaiveld L/R : 1 / 2      Lengte : 28.00

Water      L/R : -2.00 / -1.00

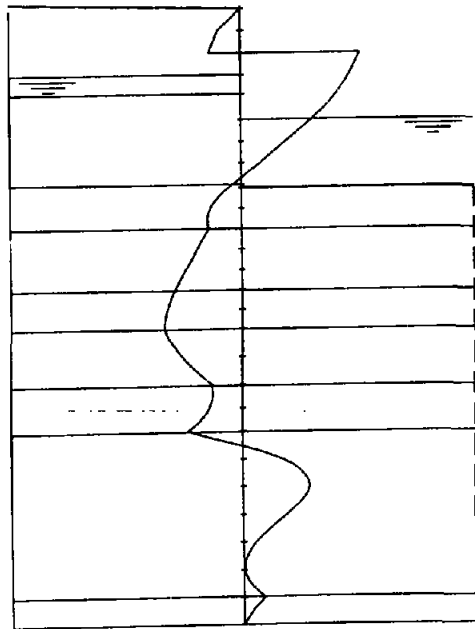
GD MSHEET [4.0.2]

File : EMK402TK

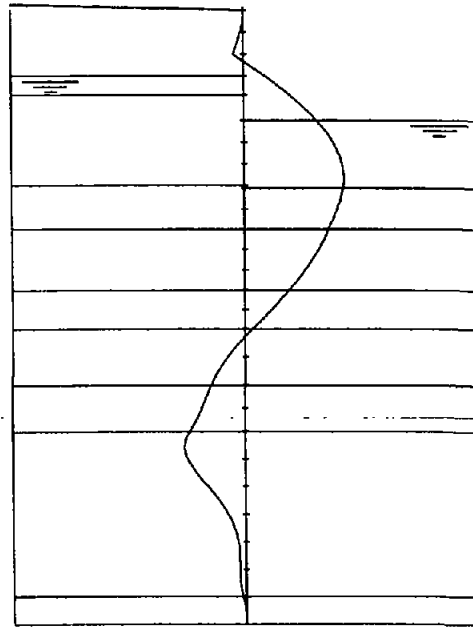
EMK-terrein, 2% sterkte-waarden

Boring 402, eff. ankerlengte 30m

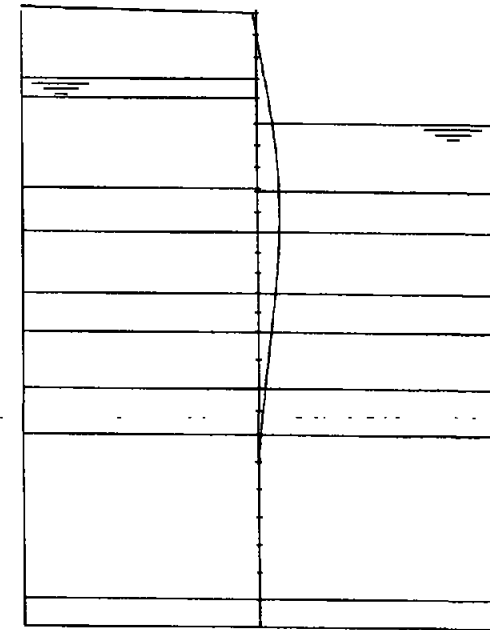
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 5



Dwarskrachten [kN/Bm]  
 Maximum : 300.4  
 Minimum : -197.6



Momenten [kNm/Bm]  
 Maximum : 891.3  
 Minimum : -554.0



Verplaatsingen [mm]  
 Maximum : 272.2

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GD MSHEET [4.0.2]

File : EMK402TK

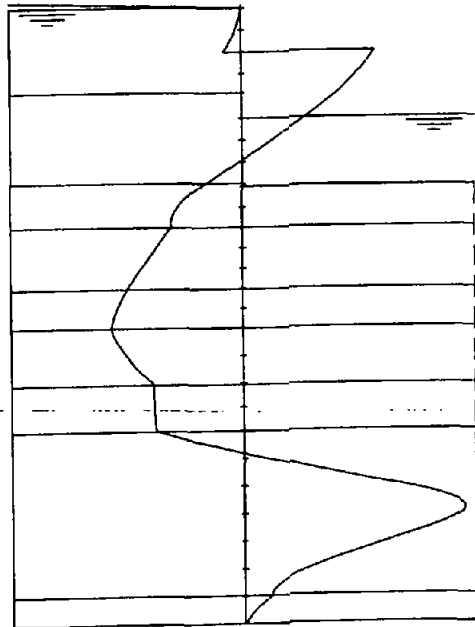
Maaiveld L/R : 1 / 2 Lengte : 28.00

Water L/R : 1.00 / -1.00

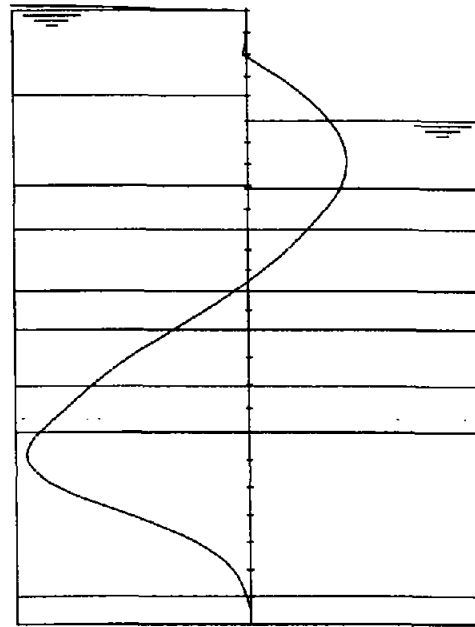
EMK-terrein. 2% sterkte-waarden

Boring 402. eff. ankerlengte 30m

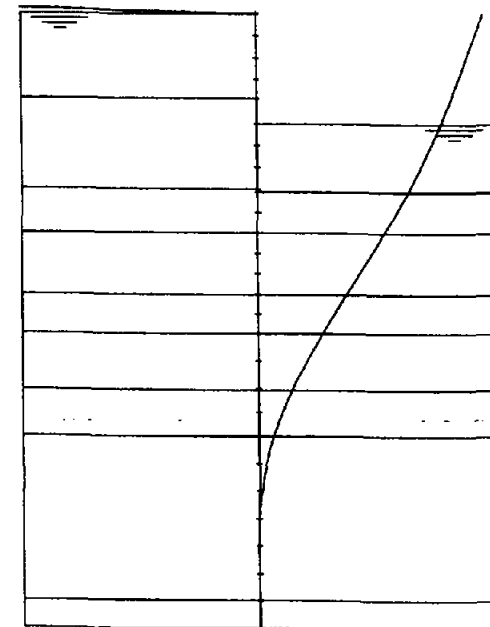
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 6



Dwarskrachten [kN/Bm]  
 Maximum : 556.4  
 Minimum : -331.2



Momenten [kNm/Bm]  
 Maximum : 886.6  
 Minimum : -2009.5

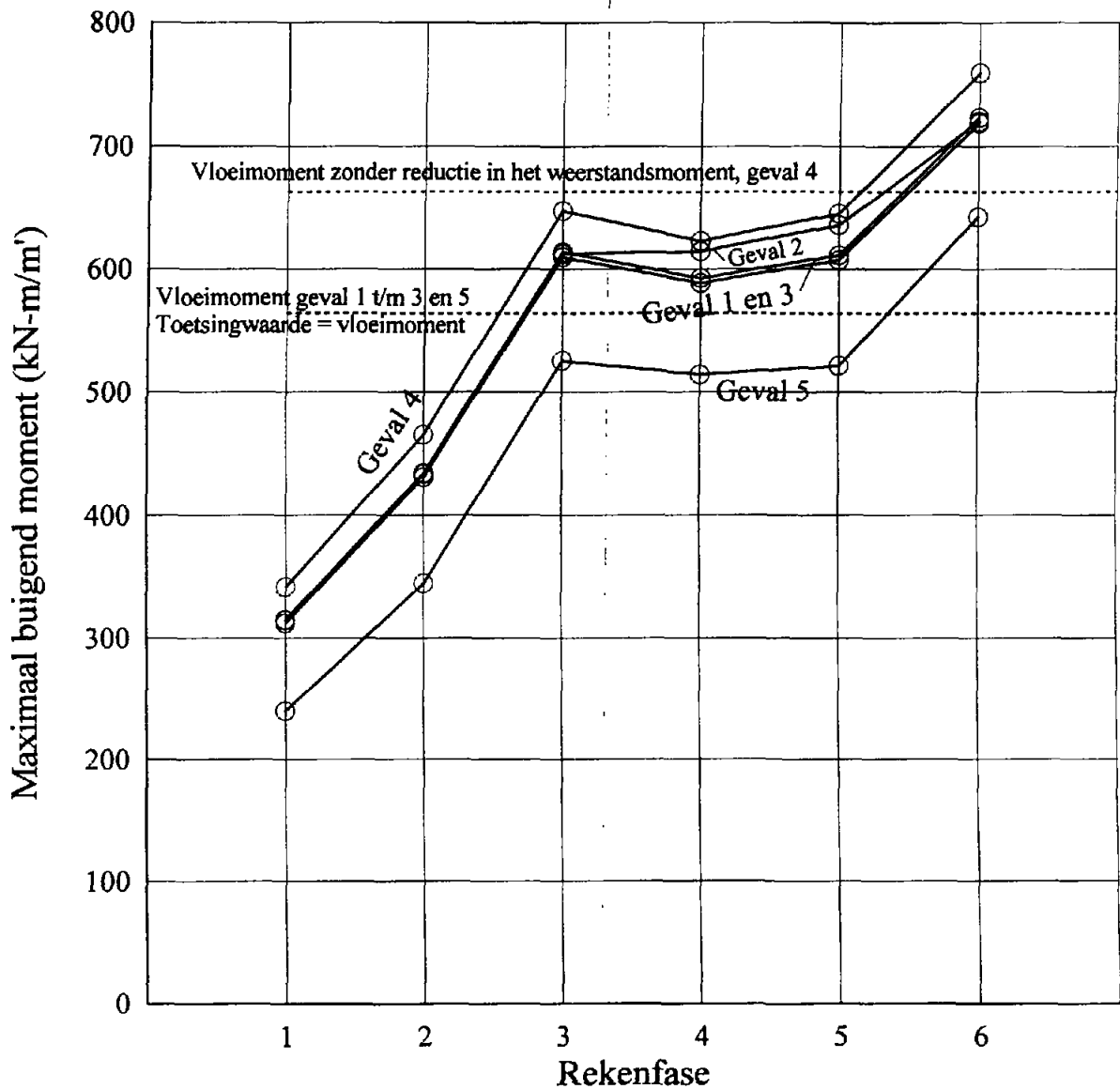


Verplaatsingen [mm]  
 Maximum : 2788.3

|                   |  |
|-------------------|--|
| OMEGAM            | Maaiveld L/R : 1 / 2    Lengte : 28.00 |
| Lic: 0086 Cop: S1 | Water    L/R : 4.00 / -1.00            |
| GD MSHEET [4.0.2] | EMK-terrein, 2% sterkte-waarden        |
| File : EMK402TK   | Boring 402, eff. ankerlengte 30m       |

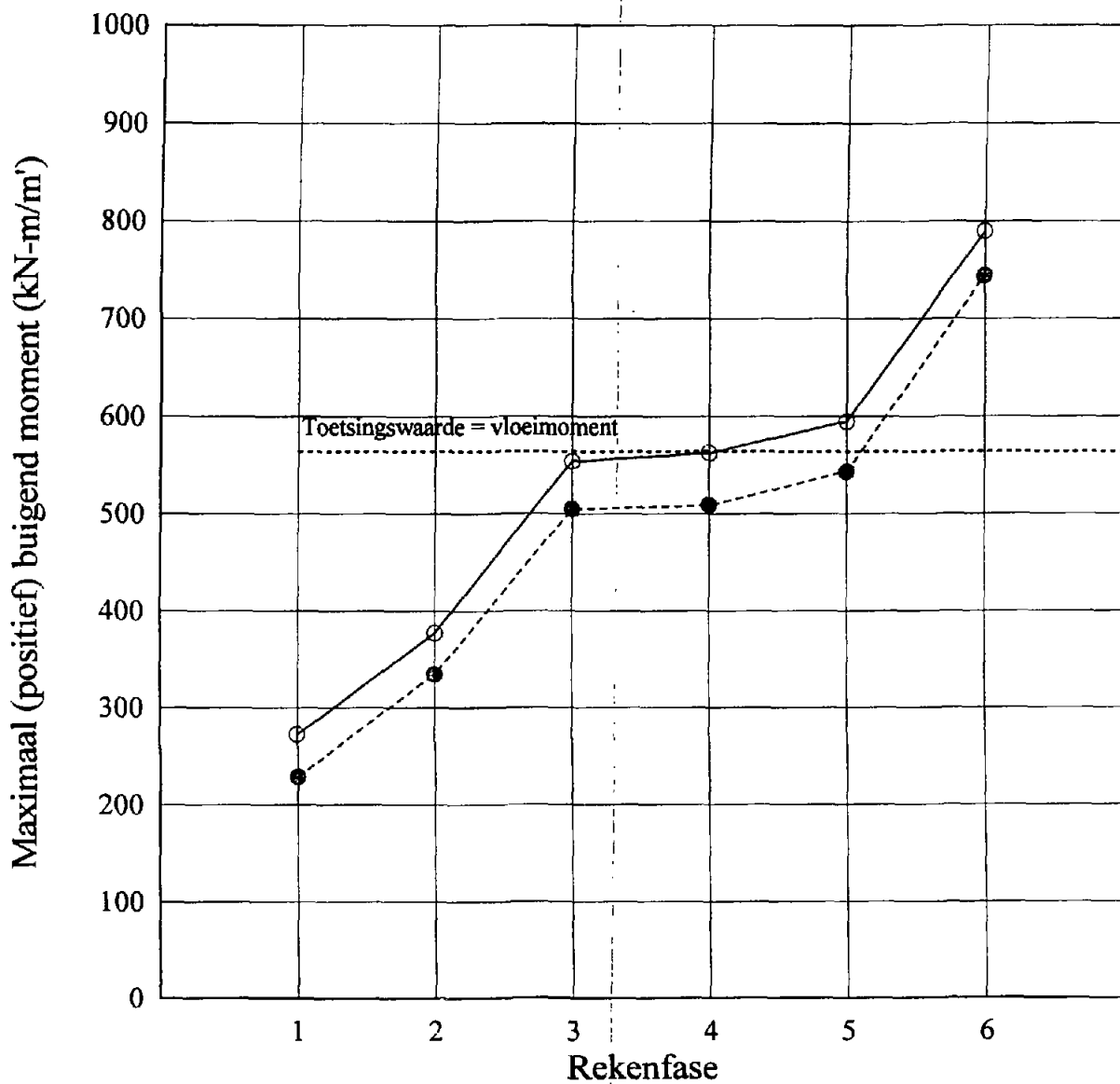
## Orienterende berekeningen t.p.v. boorlocatie 402

- Geval 1 - Lamda-methode, rechte glijvlakken
- Geval 2 - Phi'-c'-delta-methode, rechte glijvlakken
- Geval 3 - Lamda-methode, gekromde glijvlakken
- Geval 4 - Lamda-methode, rechte glijvlakken, geen reductie traagheidsmoment
- Geval 5 - Lamda-methode, rechte glijvlakken, beddingsconstante hoog



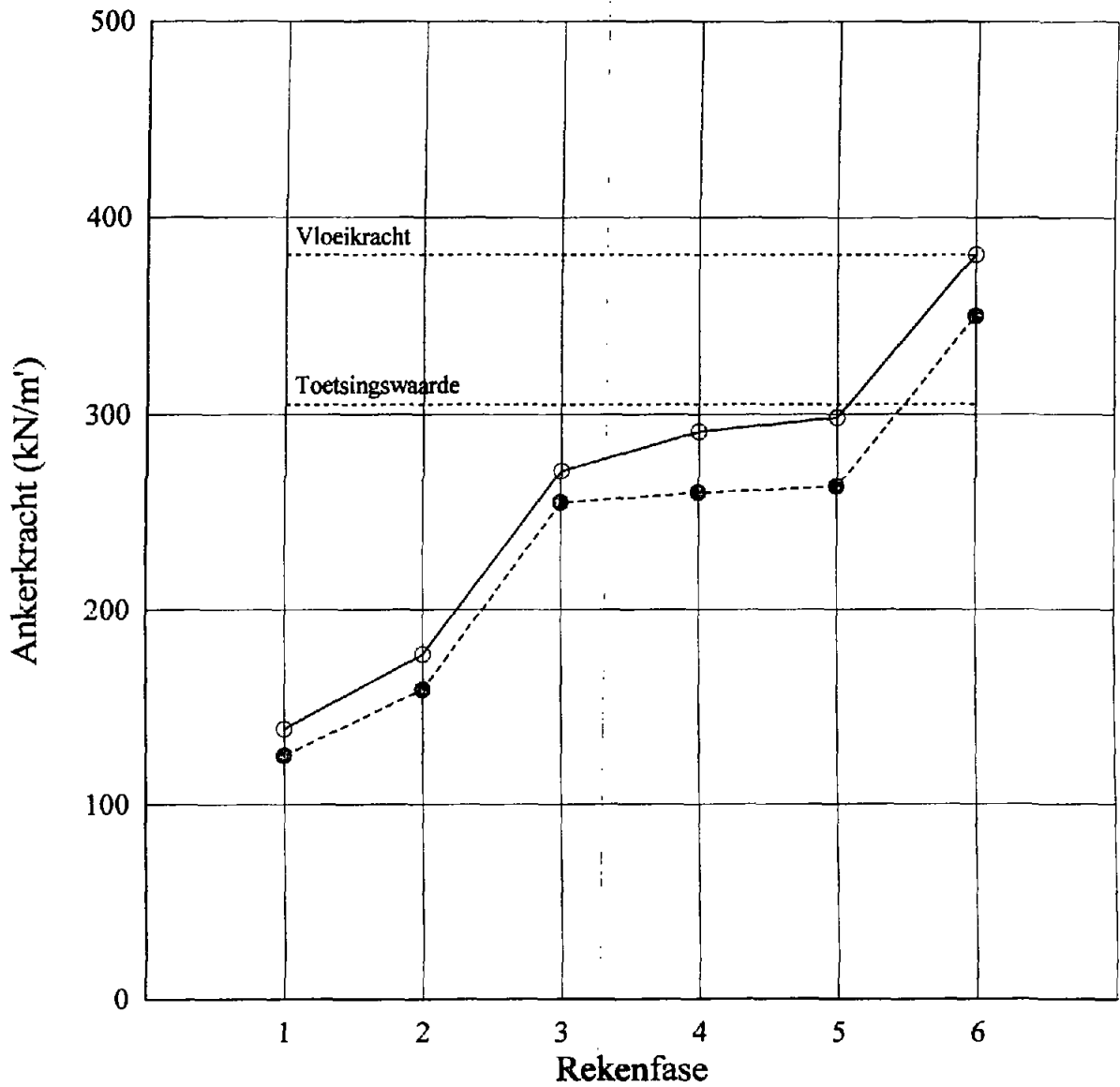
### Boorlocatie 401

- Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- --- Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m



### Boorlocatie 401

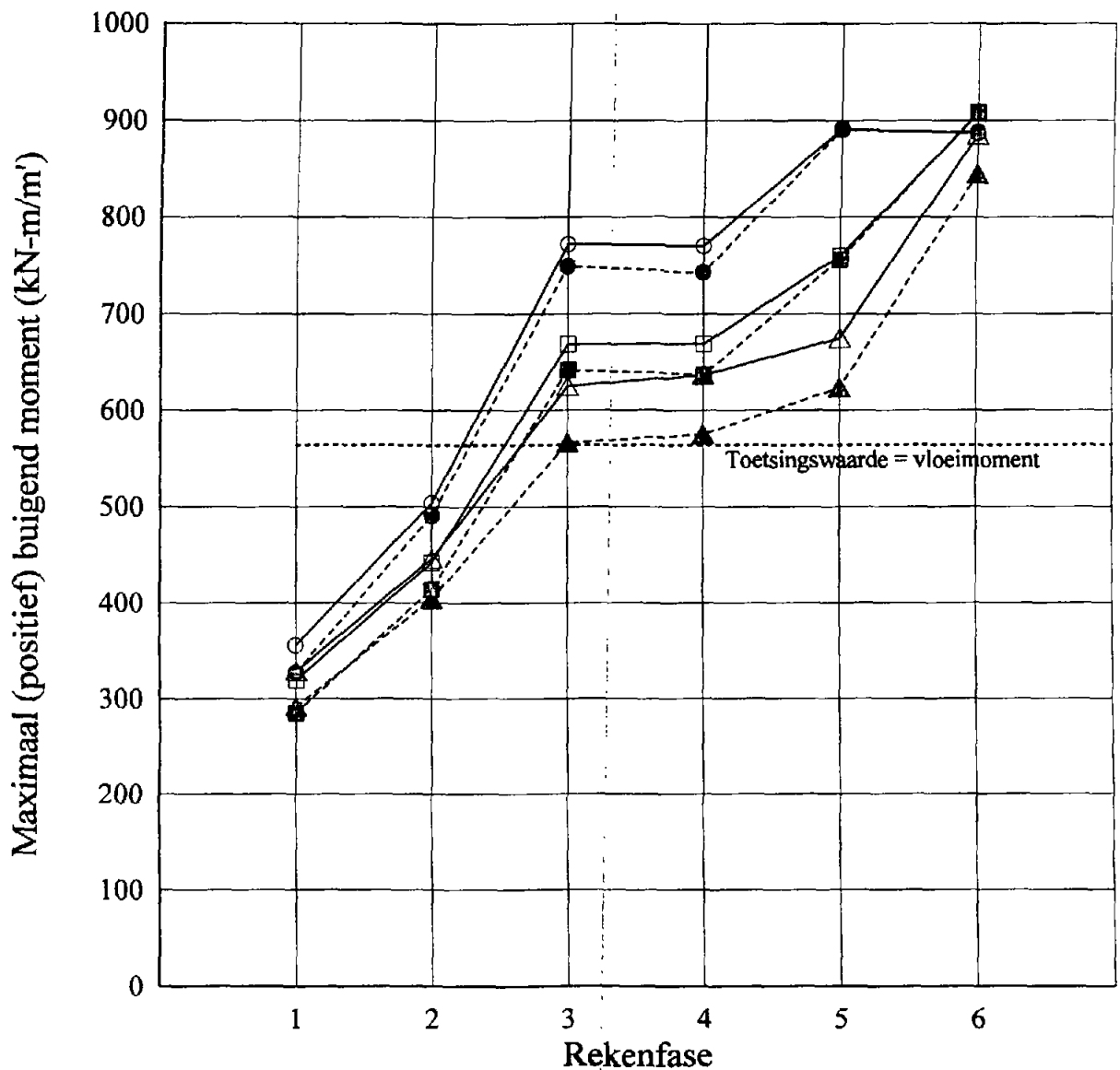
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m





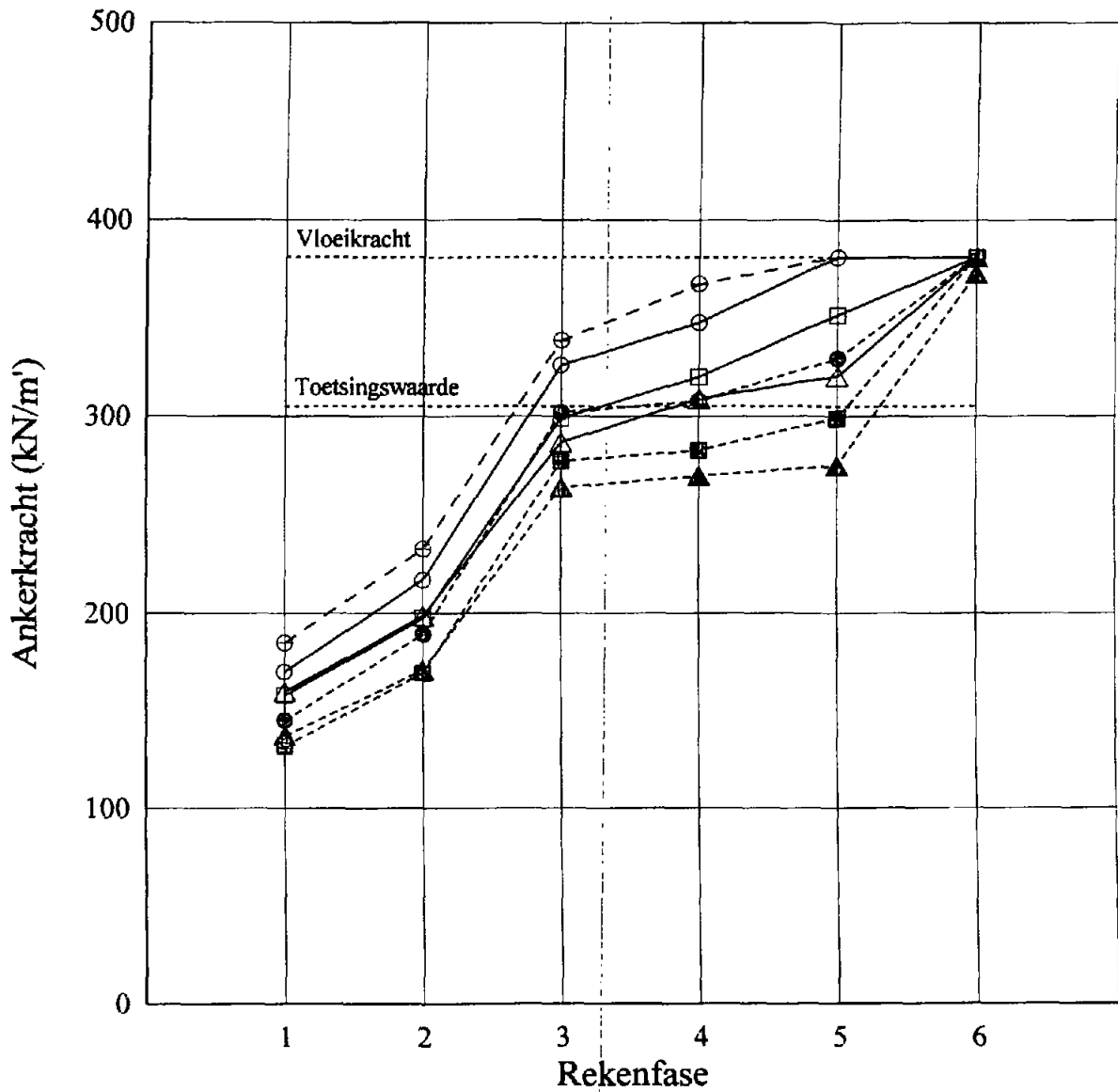
### Boorlocatie 402

- — Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- - - Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m
- — Klasse II, 2% sterkte-waarden, eff.ankerlengte=30m
- - - Klasse II, 2% sterkte-waarden, eff.ankerlengte=150m
- △ — Klasse III, 5% sterkte-waarden, eff.ankerlengte=30m
- ▲ - - Klasse III, 5% sterkte-waarden, eff.ankerlengte=150m



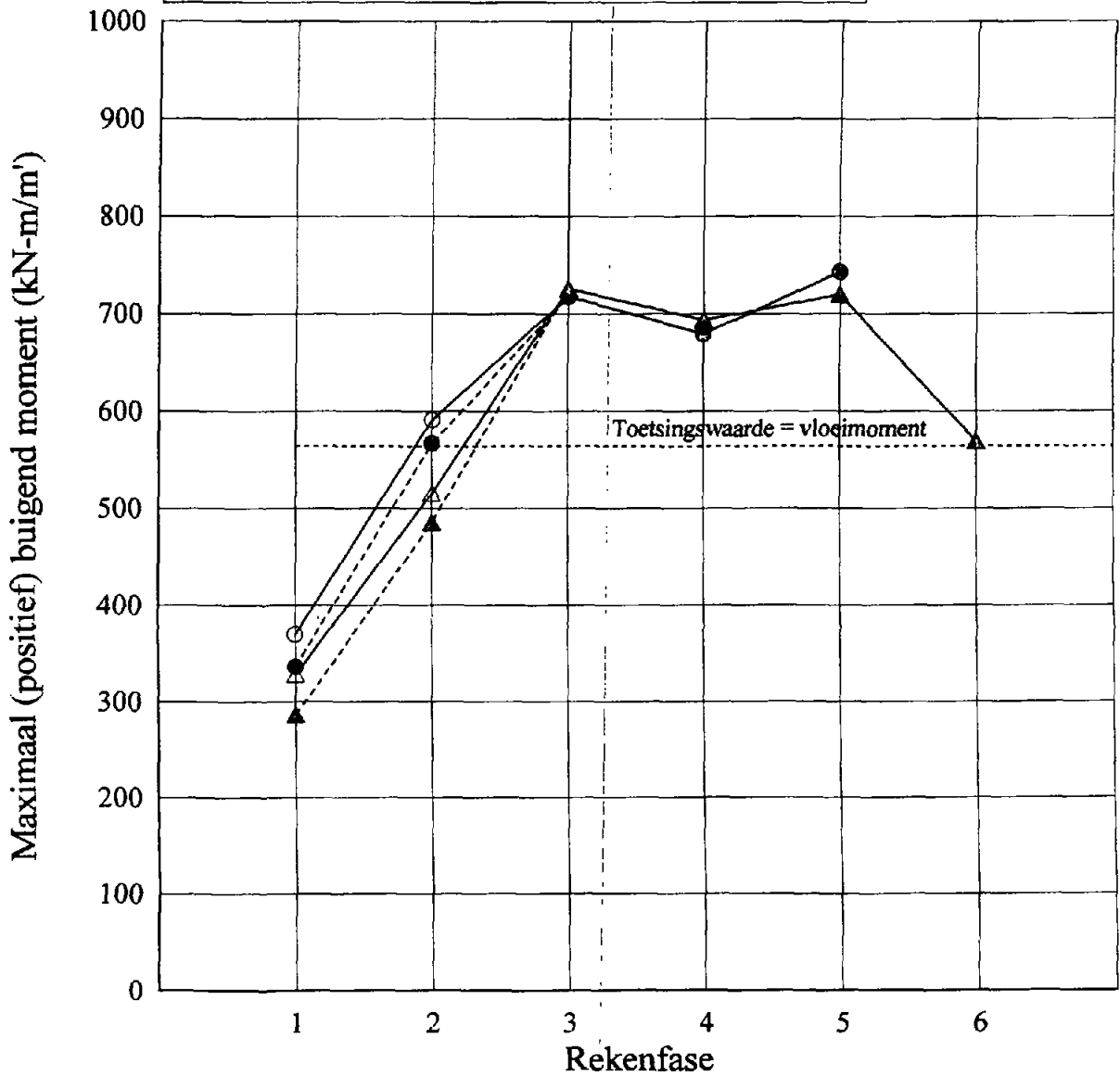
### Boorlocatie 402

- ⊕ - Klasse III, 2% sterkte-waarden, ankerlengte=20m
- ○ - Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- ⊗ - Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m
- □ - Klasse II, 2% sterkte-waarden, eff.ankerlengte=30m
- ■ - Klasse II, 2% sterkte-waarden, eff.ankerlengte=150m
- △ - Klasse III, 5% sterkte-waarden, eff.ankerlengte=30m
- ▲ - Klasse III, 5% sterkte-waarden, eff.ankerlengte=150m



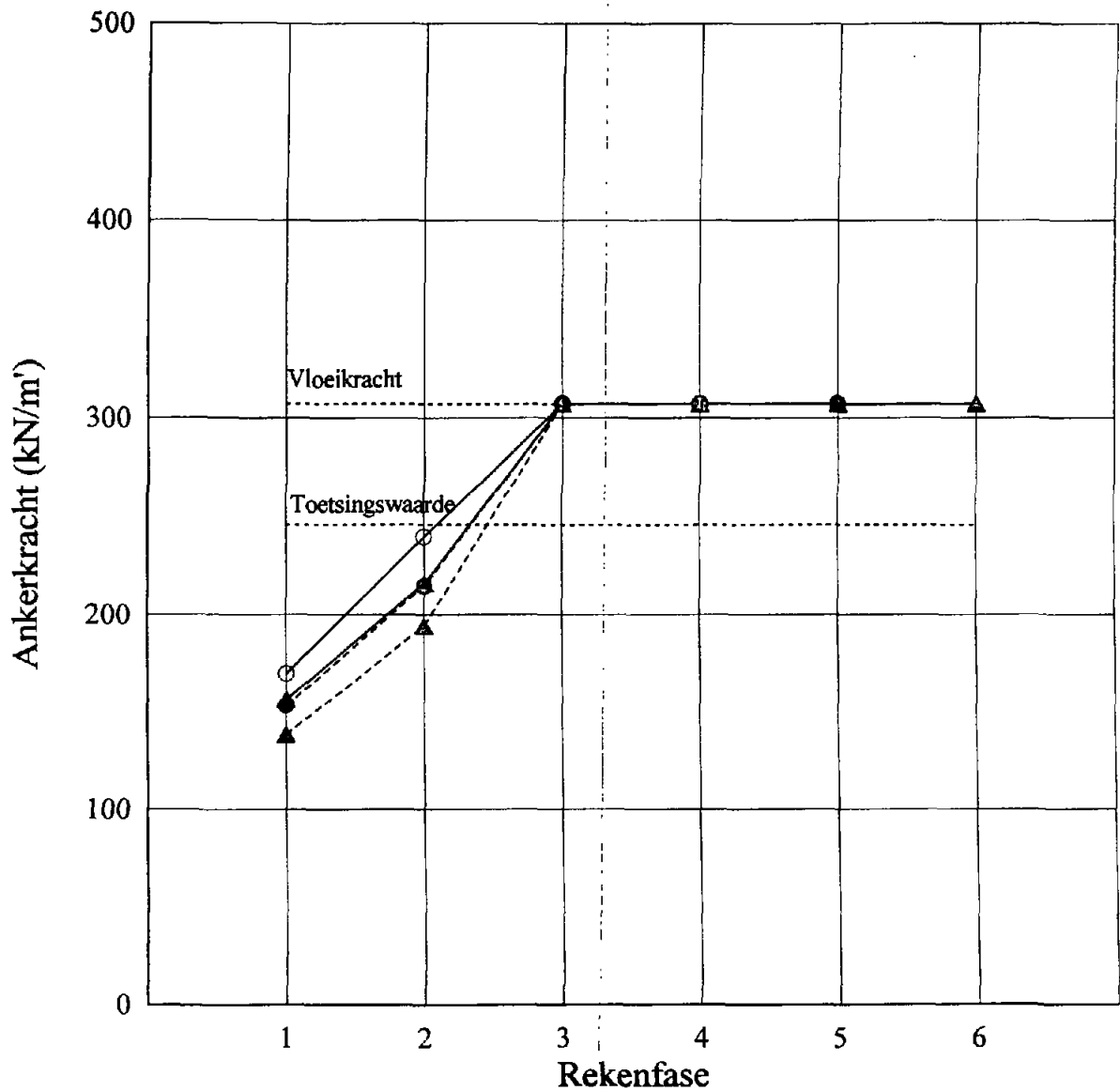
### Boorlocatie 403

- Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m
- △ Klasse II, 2% sterkte-waarden, eff.ankerlengte=30m
- ▲ Klasse II, 2% sterkte-waarden, eff.ankerlengte=150m



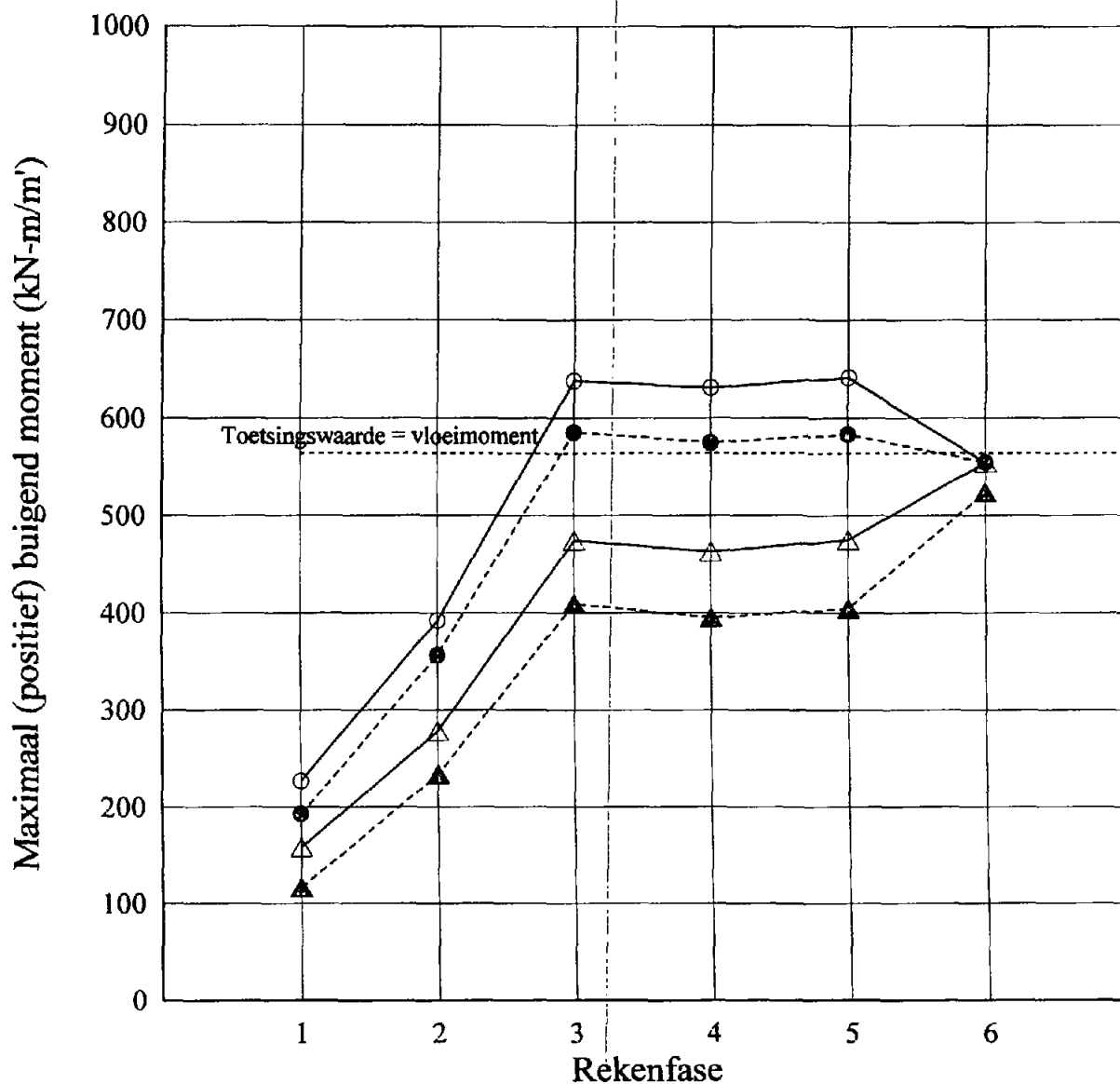
### Boorlocatie 403

- Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m
- △ Klasse II, 2% sterkte-waarden, eff.ankerlengte=30m
- ▲ Klasse II, 2% sterkte-waarden, eff.ankerlengte=150m



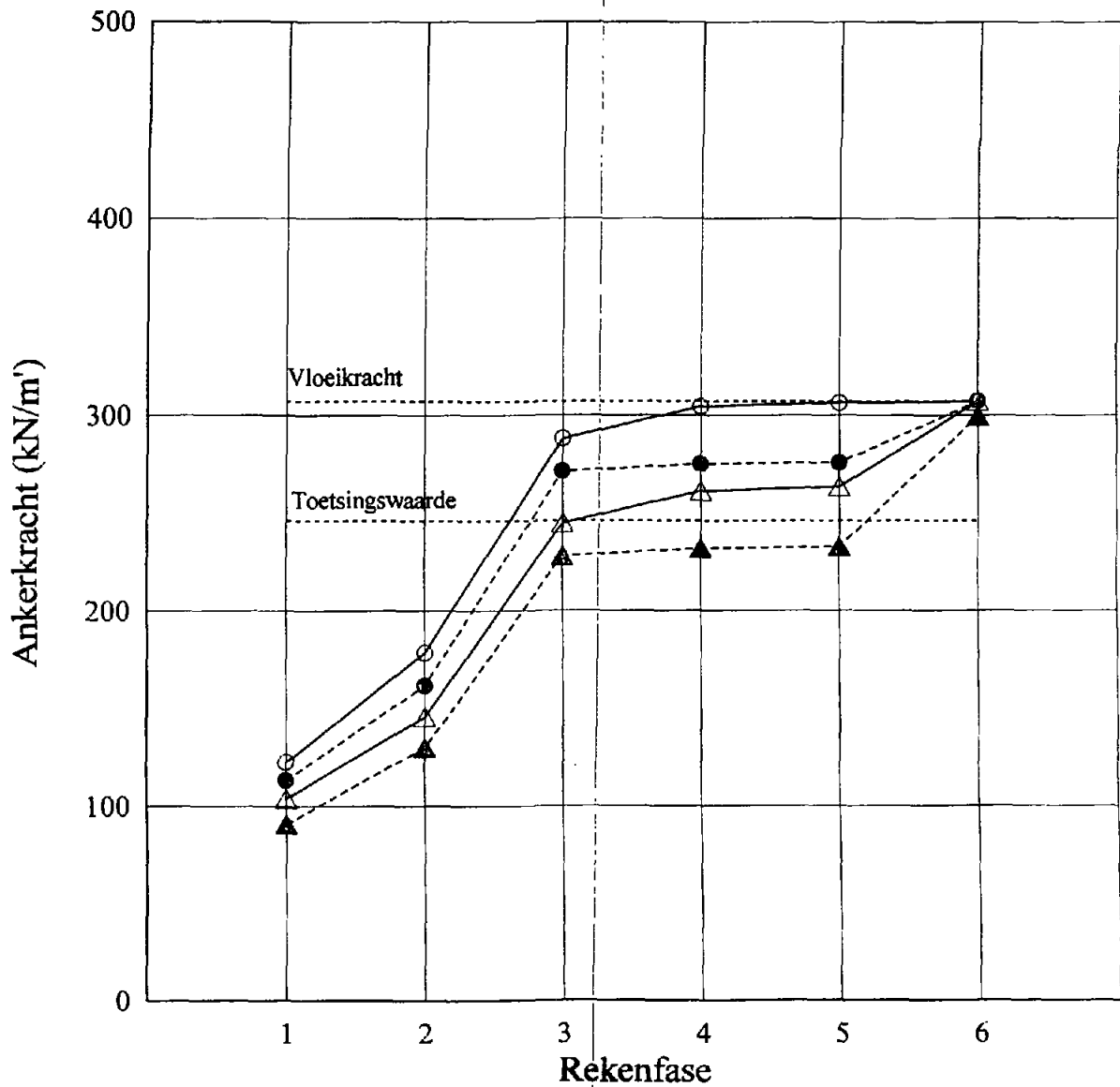
### Boorlocatie 404

- — Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- - - Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m
- △ — Klasse III, 5% sterkte-waarden, eff.ankerlengte=30m
- ▲ - - Klasse III, 5% sterkte-waarden, eff.ankerlengte=150m



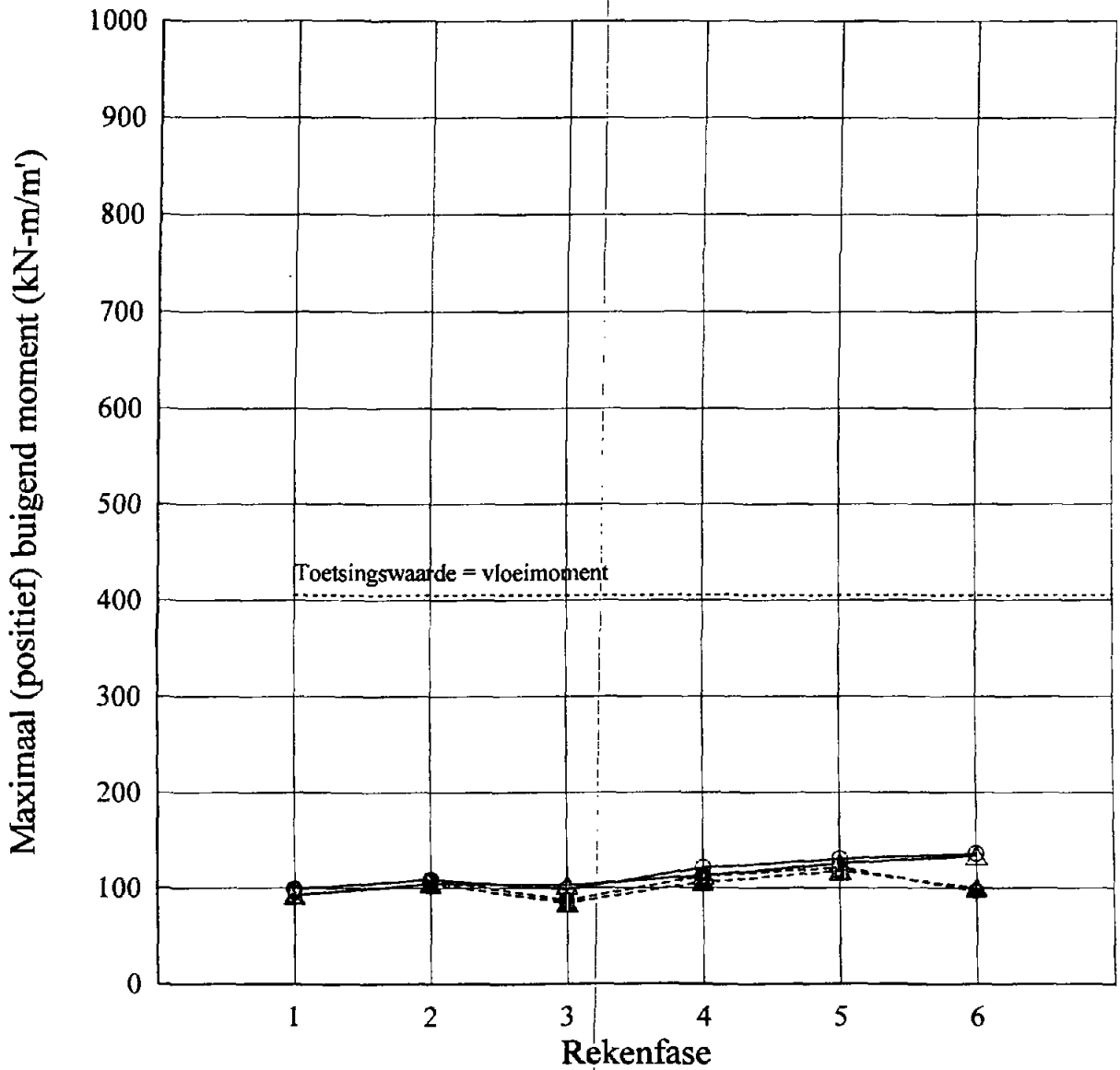
### Boorlocatie 404

- Klasse III, 2% sterkte-waarden, eff.ankerlengte=30m
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=150m
- △ Klasse III, 5% sterkte-waarden, eff.ankerlengte=30m
- ▲ Klasse III, 5% sterkte-waarden, eff.ankerlengte=150m



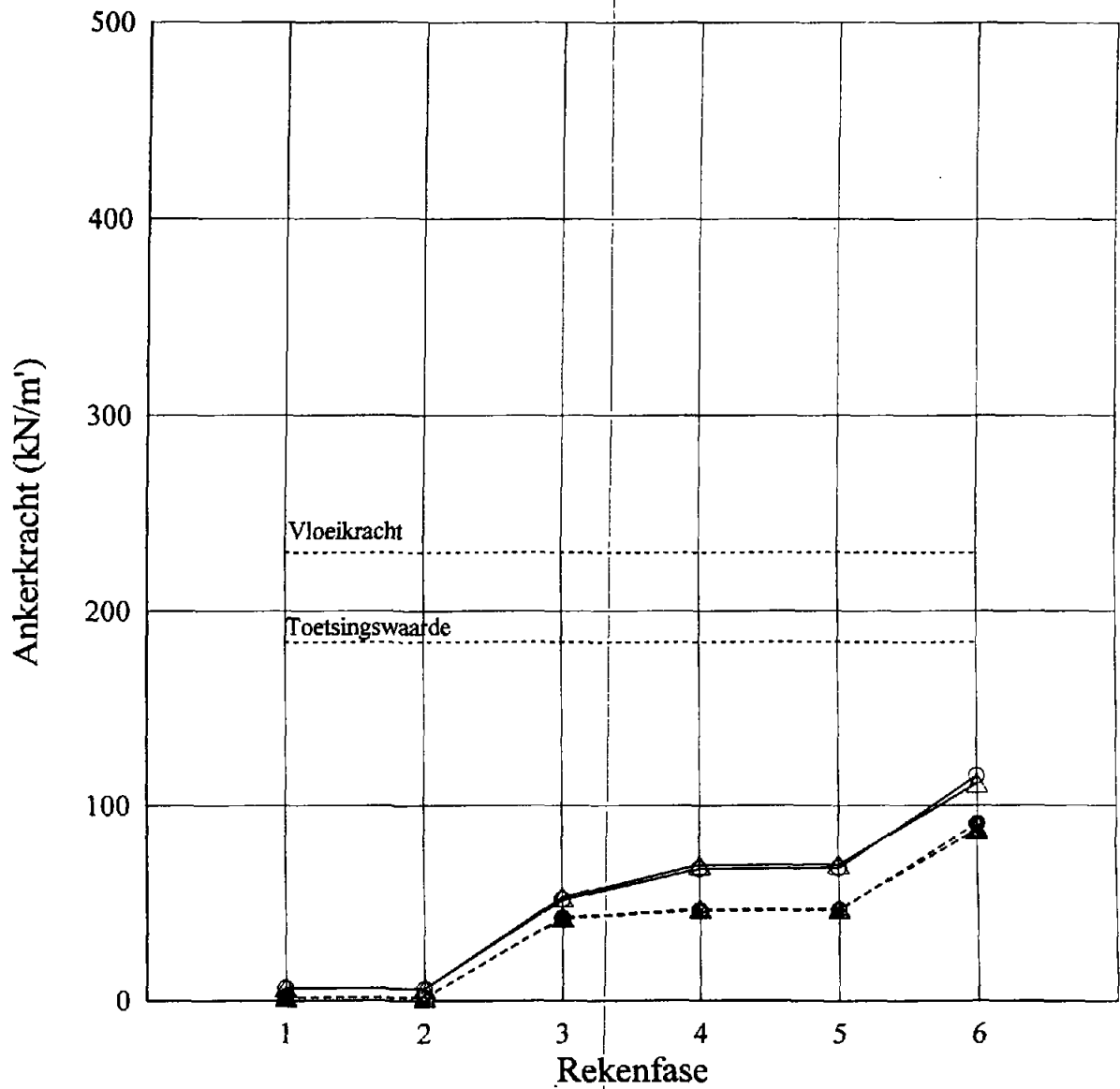
### Boorlocatie 405

- Klasse III, 2% sterkte-waarden, eff.ankerlengte=18m
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=90m
- △ Klasse III, 5% sterkte-waarden, eff.ankerlengte=18m
- ▲ Klasse III, 5% sterkte-waarden, eff.ankerlengte=90m



### Boorlocatie 405

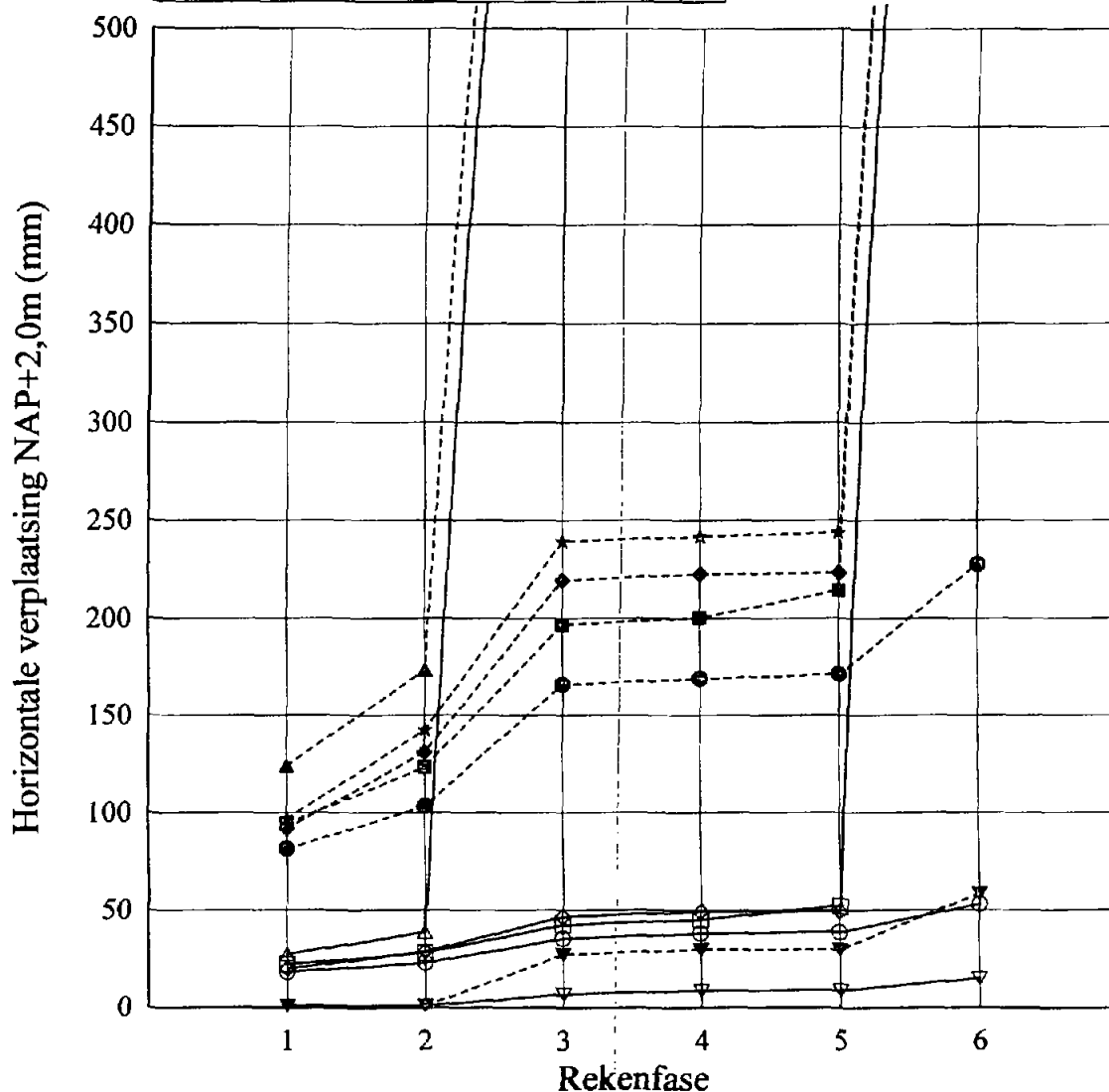
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=18m
- Klasse III, 2% sterkte-waarden, eff.ankerlengte=90m
- △ Klasse III, 5% sterkte-waarden, eff.ankerlengte=18m
- ▲--- Klasse III, 5% sterkte-waarden, eff.ankerlengte=90m



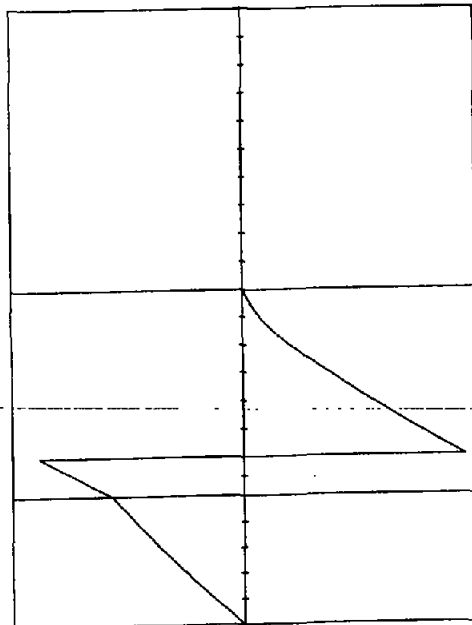


### Hor. verplaatsing damwand t.p.v. ankeraansluiting

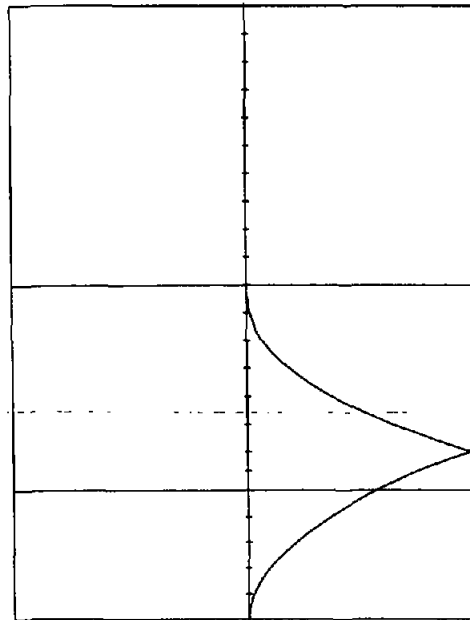
- Boorlocatie 401, eff. ankerlengte=150m
- Boorlocatie 401, eff. ankerlengte=30m
- Boorlocatie 402, eff. ankerlengte=150m
- Boorlocatie 402, eff. ankerlengte=30m
- ▲--- Boorlocatie 403, eff. ankerlengte=150m
- △--- Boorlocatie 403, eff. ankerlengte=30m
- ◆--- Boorlocatie 404, eff. ankerlengte=150m
- ◇--- Boorlocatie 404, eff. ankerlengte=30m
- ▼--- Boorlocatie 405, eff. ankerlengte=90m
- ▽--- Boorlocatie 405, eff. ankerlengte=18m
- ★--- Boorlocatie 403, berm + eff. ank. 150m



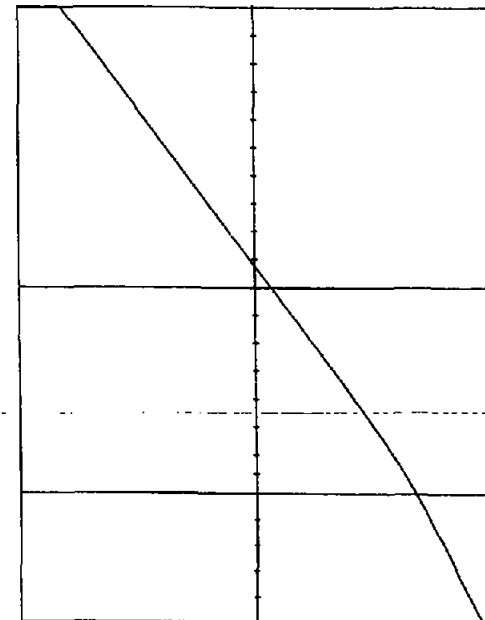
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 1



Dwarskrachten [kN/Bm]  
 Maximum : 217.2  
 Minimum : -201.8



Momenten [kNm/Bm]  
 Maximum : 136.3  
 Minimum : -0.0



Verplaatsingen [mm]  
 Maximum : 72.6

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GD MSHEET [4.0.2]

File : ANK402

Maaiveld L/R : 1 / 2      Lengte : 5.50

Water      L/R : -2.00 / -2.00

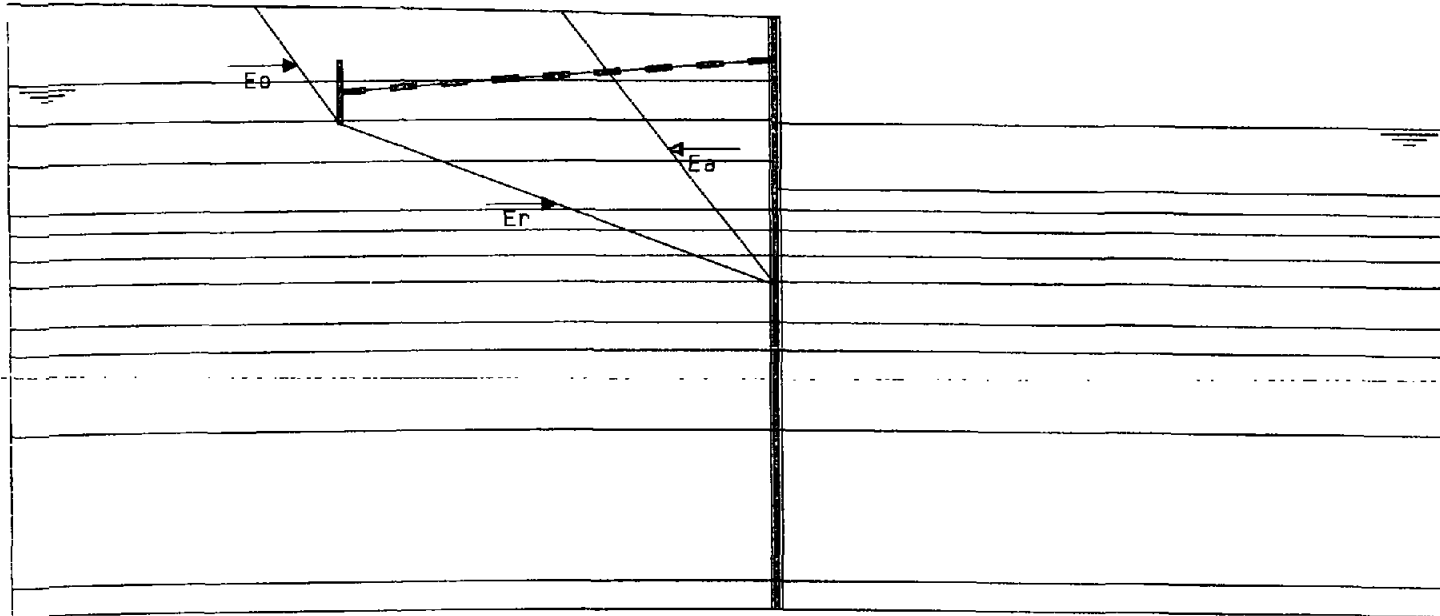
EMK-terrein, ankerscherp, trekkr=419kN/m

Boring 402

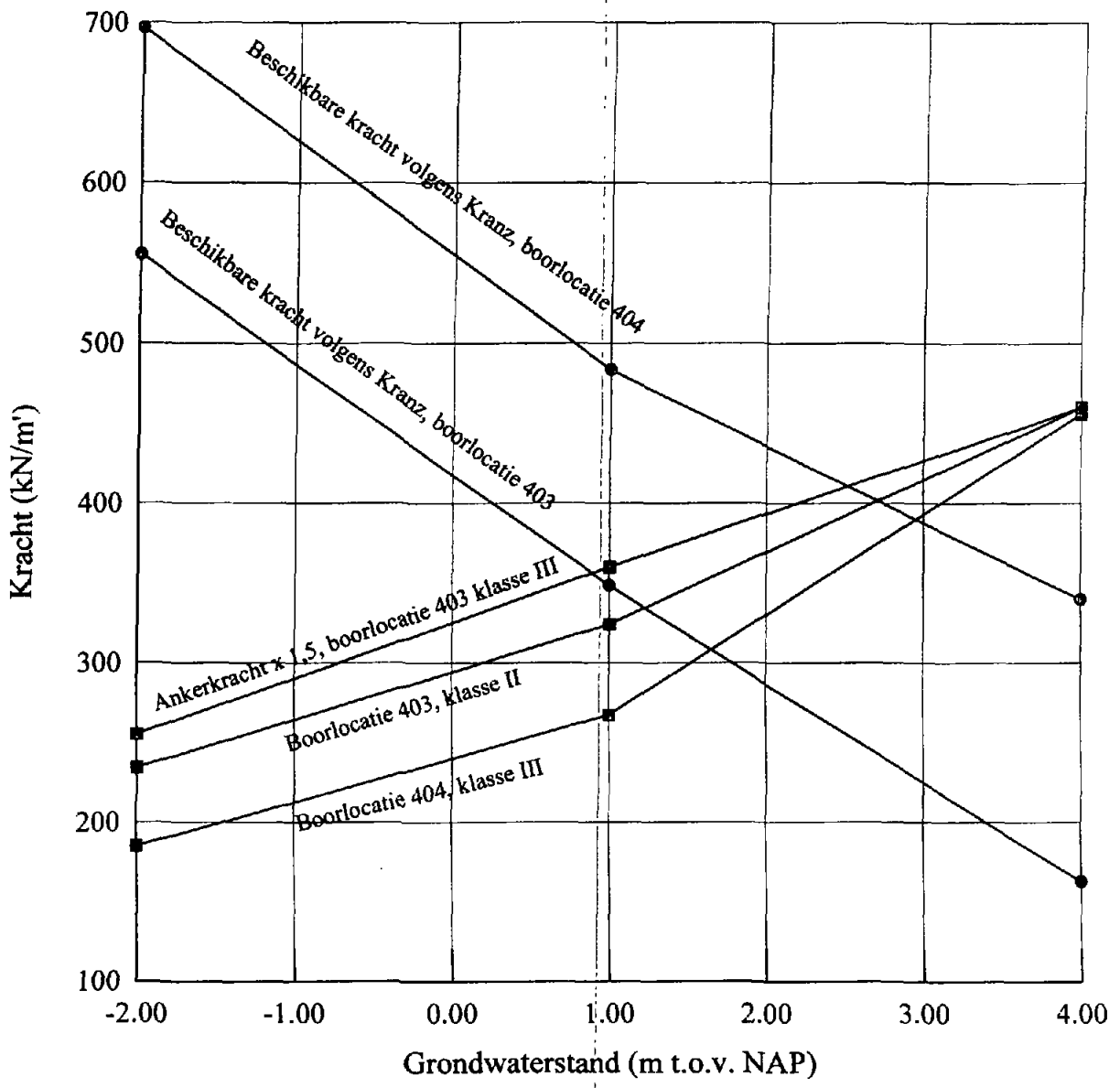
STABILITEIT METHODE KRANZ bouwfase: 2

Peil  
[m]

7.8  
4.0  
2.0  
0.0  
-2.0  
-4.0  
-6.0  
-8.0  
-10.  
-12.  
-14.  
-16.  
-18.  
-20.  
-22.  
-24.  
-26.



|  |   |  |   |  |
|--|---|--|---|--|
| <p>OMEGAM<br/>Lic: 0086 Cop: S1</p>          | <p>Ea= 370.4 [kN/m]<br/>Er= 173.6 [kN/m]<br/>Eo= 91.7 [kN/m]</p>        | <p>Ec= 241.6 [kN/m]<br/>Es= 1.0 [-]<br/>Ep= 992.8 [kN/m]</p> | <p>H= 3.0 [m]<br/>L= 20.0 [m]<br/>A= 885.0 [mm<sup>2</sup>]</p> | <p>KORTE VERANKERING<br/>(Fmax= 348.49 [kN])<br/>(Fact= 190.41 [kN])</p> |
| <p>GD MSHEET [4.0.2]<br/>File : KRANZ403</p> | <p>EMK-terrein, 2% sterkte-waarden<br/>Boring 403, Kranz-berekening</p> |  |   |  |



Y (m)

Boorprofiel 402, EMK-terrein, 2% T.A.-waarden

| Grondeigenschappen |                  |                              |                                  |                                  |                |      |     |
|--------------------|------------------|------------------------------|----------------------------------|----------------------------------|----------------|------|-----|
| Laag               | Wr. hoek<br>grad | Cohesie<br>kN/m <sup>2</sup> | V. massa<br>Nat t/m <sup>3</sup> | V. massa<br>Drg t/m <sup>3</sup> | Piezo-<br>lijn | WOS  | OPH |
| 1                  | 22,5             | 0,0                          | 2,10                             | 1,90                             | 1              | 0,00 | 0   |
| 2                  | 18,8             | 9,1                          | 1,83                             | 1,83                             | 2              | 0,00 | 0   |
| 3                  | 18,8             | 9,1                          | 1,64                             | 1,64                             | 2              | 1,00 | 0   |
| 4                  | 10,3             | 16,2                         | 1,09                             | 1,09                             | 3              | 1,00 | 0   |
| 5                  | 10,3             | 16,2                         | 1,33                             | 1,33                             | 4              | 1,00 | 0   |
| 6                  | 22,5             | 5,8                          | 1,62                             | 1,62                             | 5              | 1,00 | 0   |
| 7                  | 10,3             | 16,2                         | 1,30                             | 1,30                             | 5              | 1,00 | 0   |
| 8                  | 29,2             | 0,0                          | 2,10                             | 1,90                             | 6              | 0,00 | 0   |
| 9                  | 22,9             | 0,0                          | 2,10                             | 2,10                             | 6              | 1,00 | 0   |
| 10                 | 0,0              | 0,0                          | 1,00                             | 1,00                             | 1              | 0,00 | 0   |
| 11                 | 0,1              | 0,1                          | 2,00                             | 2,00                             | 1              | 0,00 | 1   |

Aantekeningen  
 Schaal 1: 400  
 ① Geeft laagnummer aan  
 P1  
 ----- Geeft piezolin  
 met nummer aan

30

20

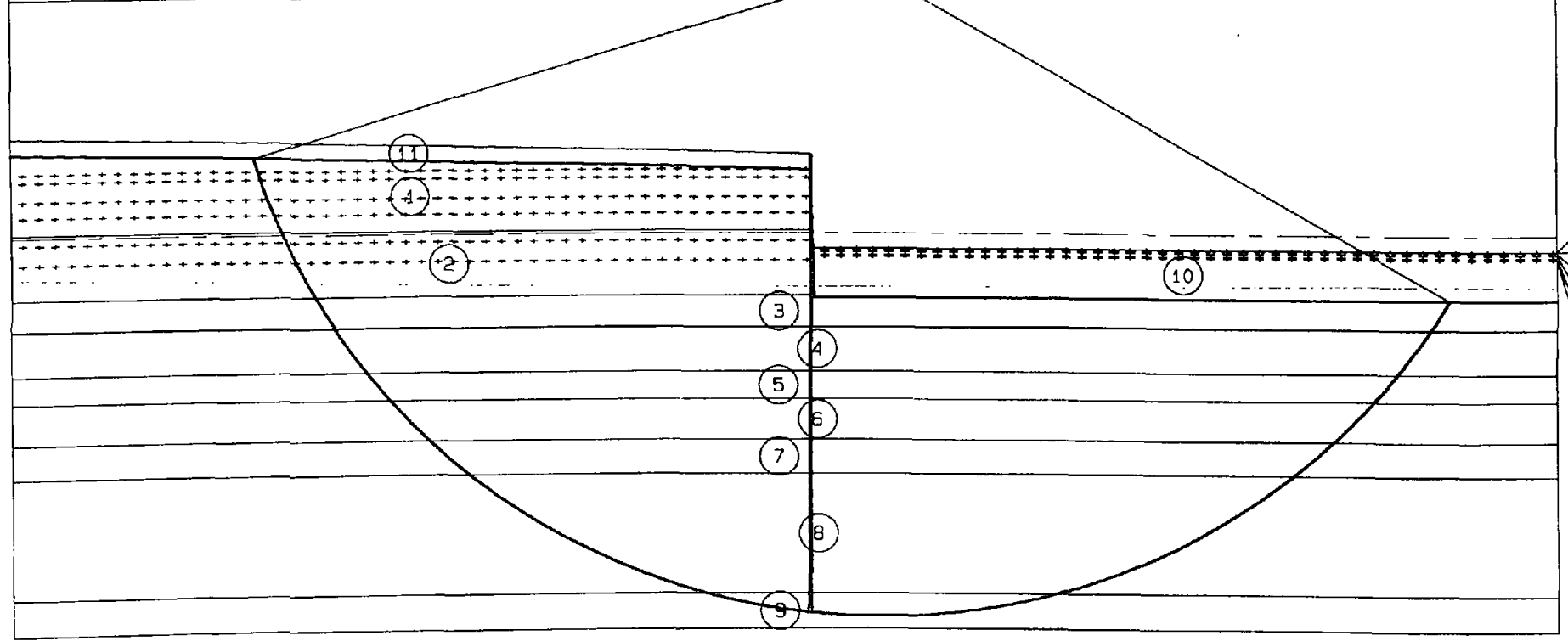
10

0

-10

-20

Stab. fact. = 2,17



-50 -40 -30 -20 -10 0 10 20 30 40

X (m)



OMEGAM

1996-10-29

HG *H6*

Stabiliteitsberekening

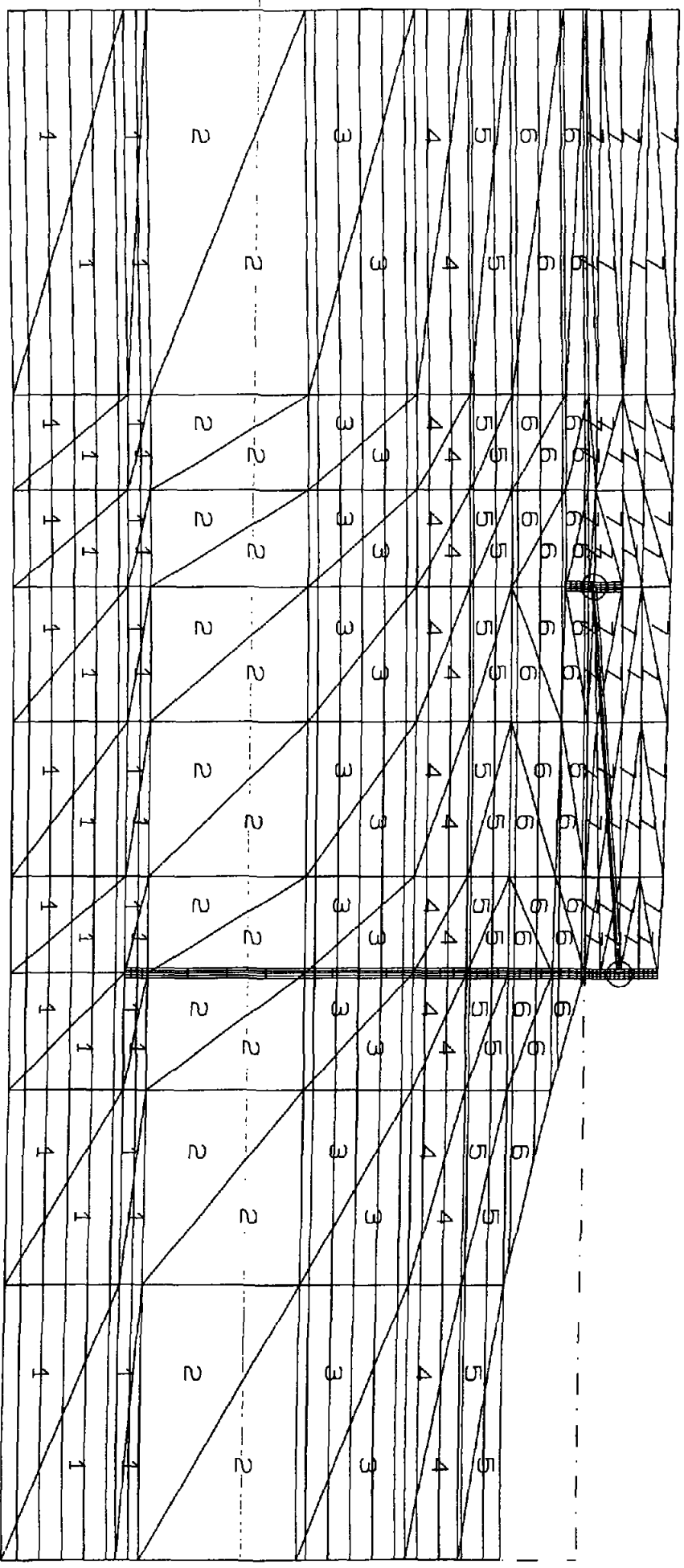
Afdeling Geotechniek

Pr. nr. 1210.692

Doc. Pg. 1 van 1

Mesh Scale [m]  
0 7 14 21

Plane Strain



Mesh with material sets

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Version 8.30

EMK402, bestaande berm

EMK402-1 Step 129

9-1-97

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| -C | No. | Typ. | Wdry | Wwet    | Permx   | Permy | Nu    | G  | C  | phi | psi | KO | TC    | Rint |
|----|-----|------|------|---------|---------|-------|-------|----|----|-----|-----|----|-------|------|
| 8  | UN  | 11.0 | 11.0 | 2.5E-04 | 5.0E-05 | 0.35  | 370   | 1  | 1  | 0   | -   | Y  | 1.000 |      |
| 7  | DR  | 18.0 | 20.0 | 5.0E+00 | 5.0E+00 | 0.35  | 9259  | 1  | 35 | 5   | -   | Y  | 0.500 |      |
| 6  | UN  | 17.5 | 17.5 | 1.0E-03 | 5.0E-04 | 0.35  | 1111  | 15 | 23 | 0   | -   | Y  | 0.500 |      |
| 5  | UN  | 17.5 | 17.5 | 2.0E-04 | 1.0E-04 | 0.35  | 1111  | 15 | 23 | 0   | -   | Y  | 0.500 |      |
| 4  | UN  | 11.0 | 11.0 | 2.5E-04 | 5.0E-05 | 0.35  | 370   | 20 | 17 | 0   | -   | Y  | 0.100 |      |
| 3  | UN  | 14.5 | 14.5 | 5.0E-05 | 2.5E-05 | 0.35  | 1111  | 15 | 23 | 0   | -   | Y  | 0.500 |      |
| 2  | DR  | 18.0 | 21.0 | 2.0E+01 | 2.0E+01 | 0.35  | 27778 | 1  | 35 | 5   | -   | Y  | 0.500 |      |
| 1  | UN  | 21.0 | 21.0 | 1.0E-03 | 1.0E-03 | 0.35  | 2778  | 1  | 35 | 5   | -   | Y  | 0.500 |      |

Material data sets

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EMK402, bestaande berm

EMK402-1 Step 129

9-1-97

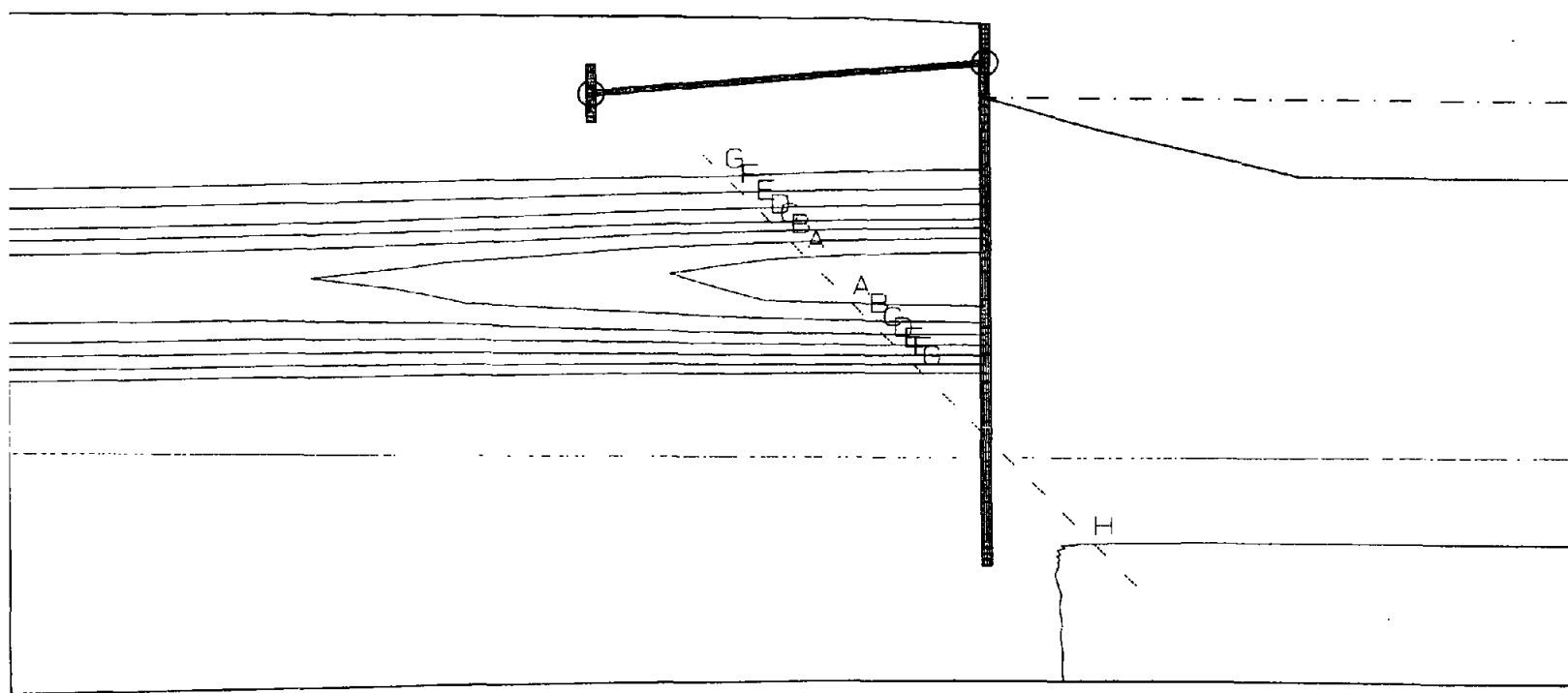
OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21

- A: -1.40E+01
- B: -1.20E+01
- C: -1.00E+01
- D: -8.00E+00
- E: -6.00E+00
- F: -4.00E+00
- G: -2.00E+00
- H: 0.00E+00



Contour plot of excess pore pressures

Minimum value -1.54E+01, maximum value 1.03E-02 kN/m2

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EMK402, bestaande berm

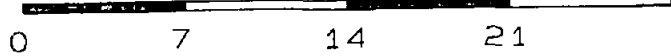
EMK402-1 Step 116

9-1-97

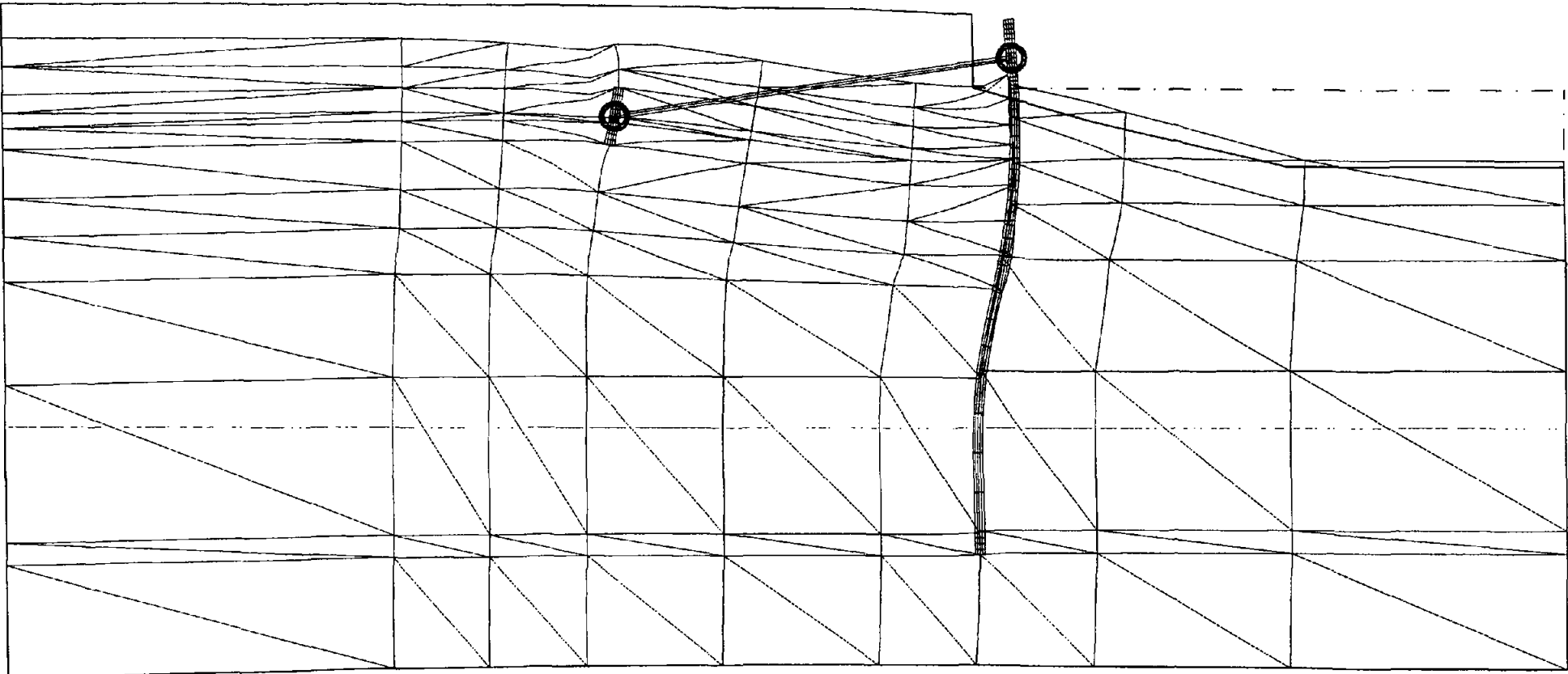
OMEGAM



Mesh Scale [m]



Displacements [m]



Deformed mesh, scaled up (down)

Extreme displacement 3.13E-01 m

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EMK402, bestaande berm

Professional  
Version 6.30

EMK402-1 Step 129

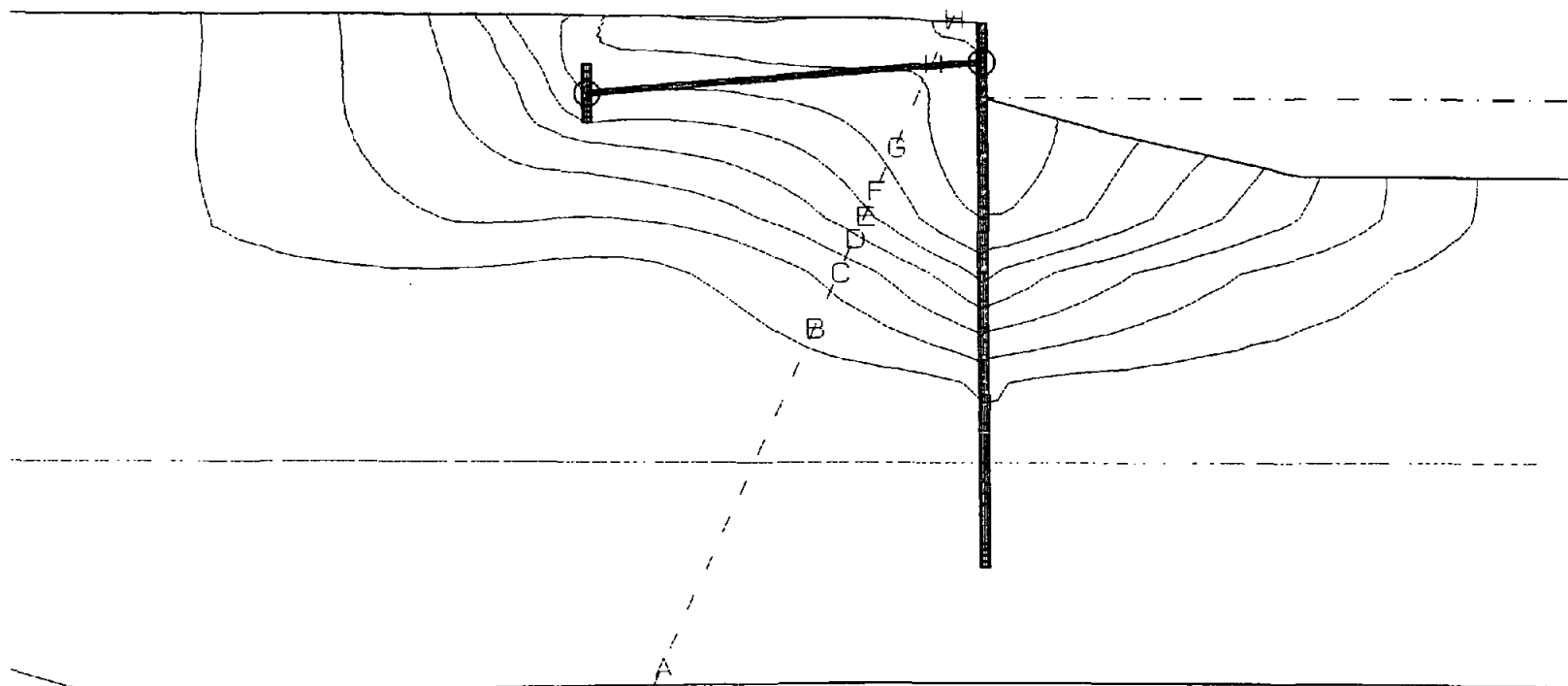
9-1-97

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Mesh Scale [m]

Plane Strain

0 7 14 21



A: -7.89E-16  
B: 2.00E-02  
C: 4.00E-02  
D: 6.00E-02  
E: 8.00E-02  
F: 1.00E-01  
G: 1.20E-01  
H: 1.40E-01  
I: 1.60E-01

Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.62E-01 m

PLAXIS

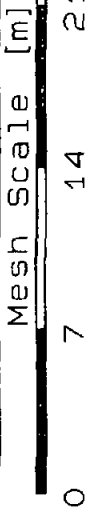
Professional  
Version 6.30

EMK402, bestaande berm

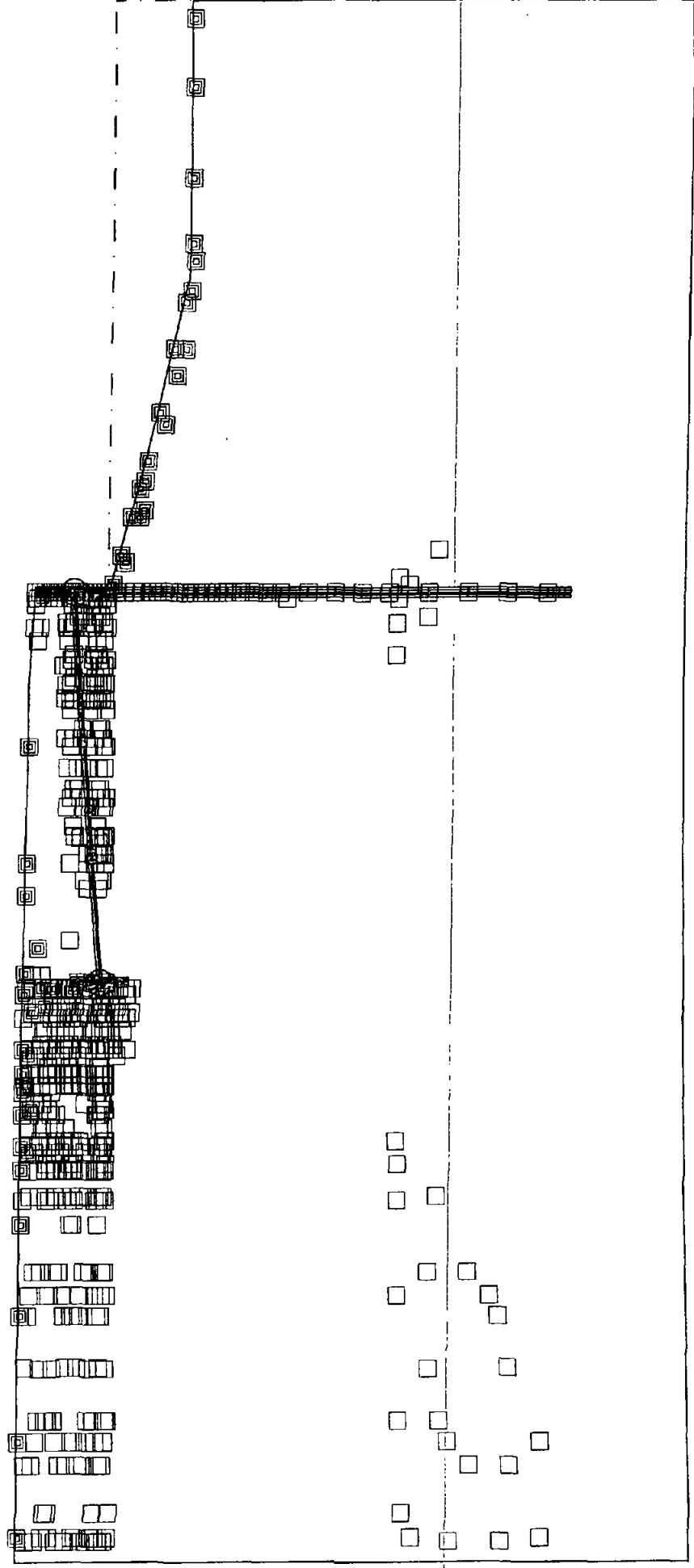
EMK402-1 Step 129

9-1-97

OMEGAM



Plane Strain



□ Plastic Mohr-Coulomb point      □ Tension cut off point

**PLAXIS**  
Professional  
version 6.30

EMK402, bestaande berm

EMK402-1 Step 129      7-1-97

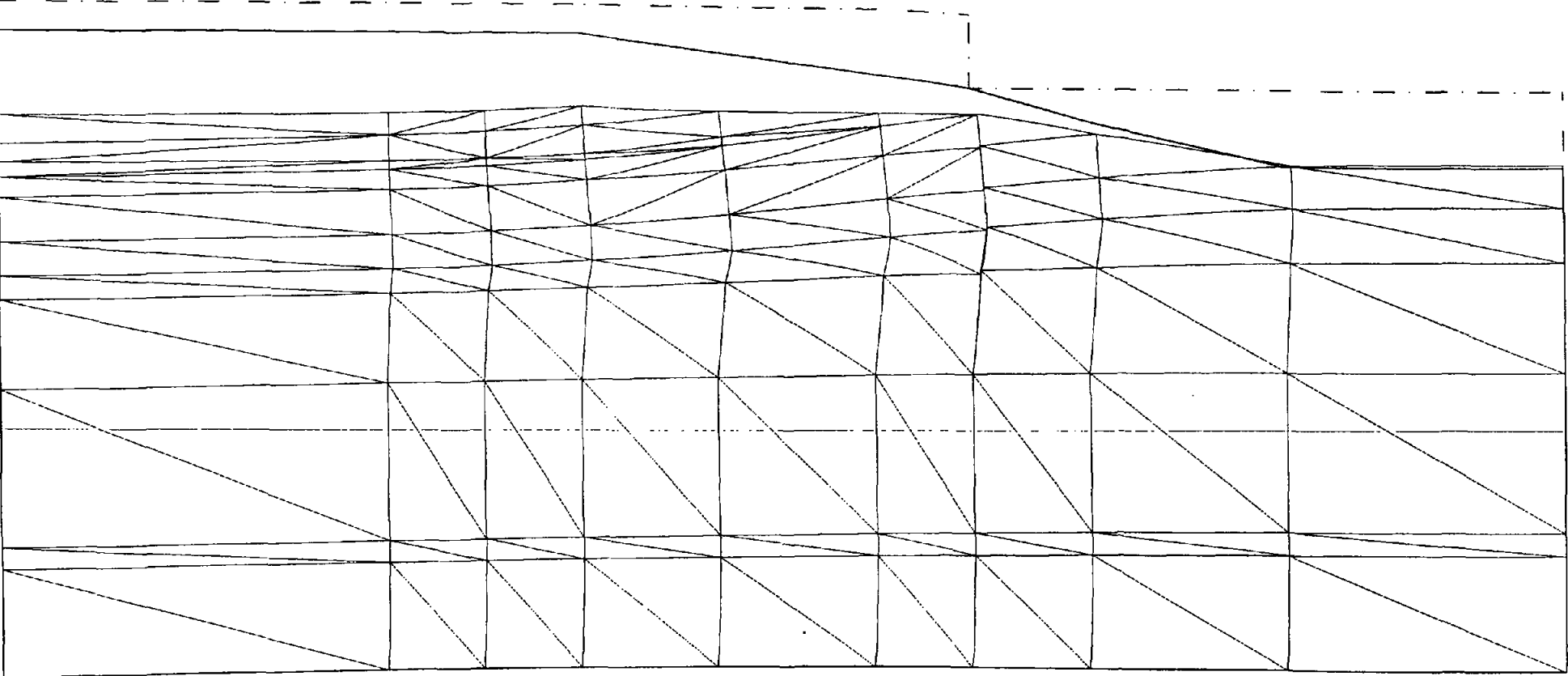
OMEGAM

Mesh Scale [m]

0 7 14 21

Displacements [m]

0 7 14 21 [ $\times 10^{-1}$ ]



Deformed mesh, scaled up (down)

Extreme displacement 4.29E-01 m

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Version 6.30

EMK402, bestaande berm

EMK402-1 Step 7

9-1-97

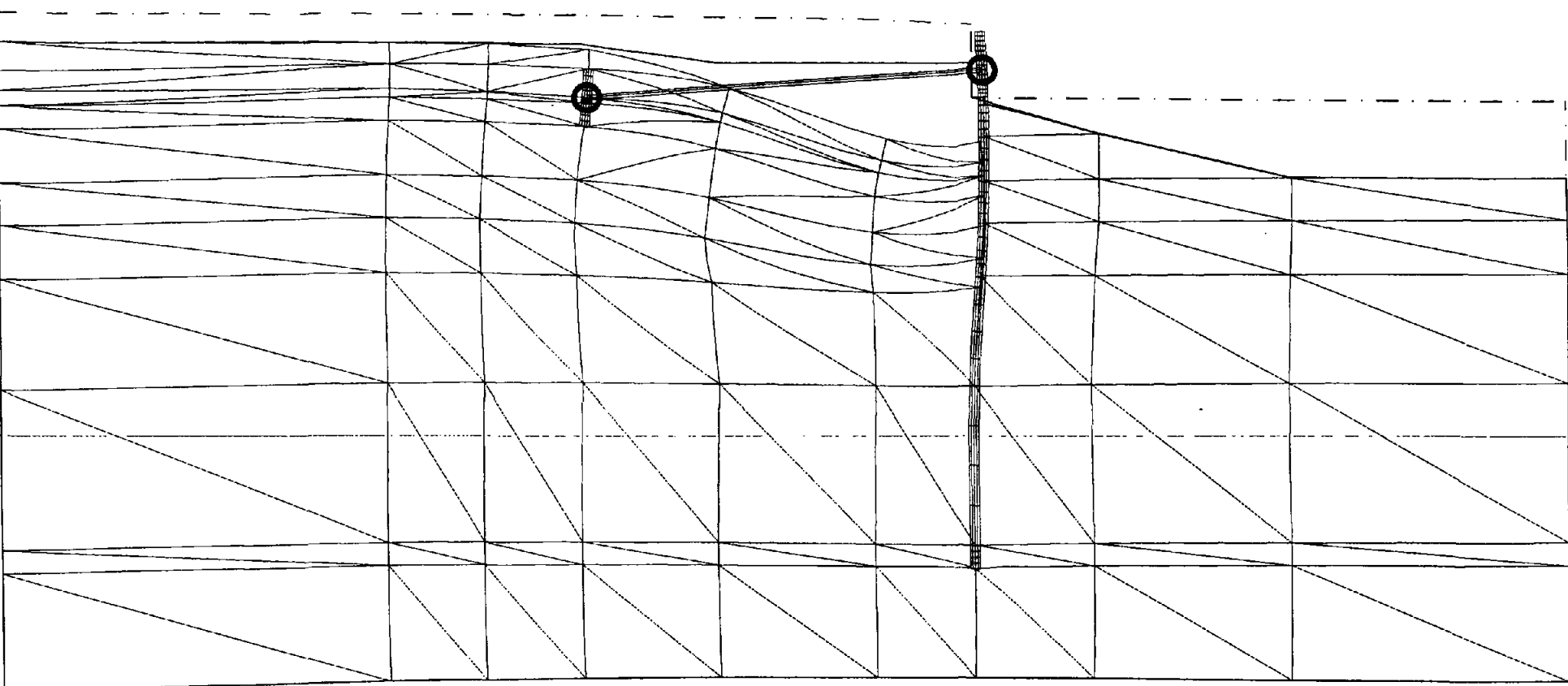
OMEGAM

Mesh Scale [m]

0 7 14 21

Displacements [m]

0 1 2 3 [ $\times 10^{-1}$ ]

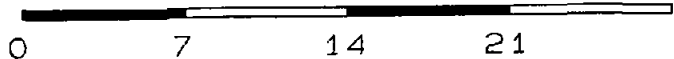


Deformed mesh, scaled up (down)  
Extreme displacement 8.49E-02 m

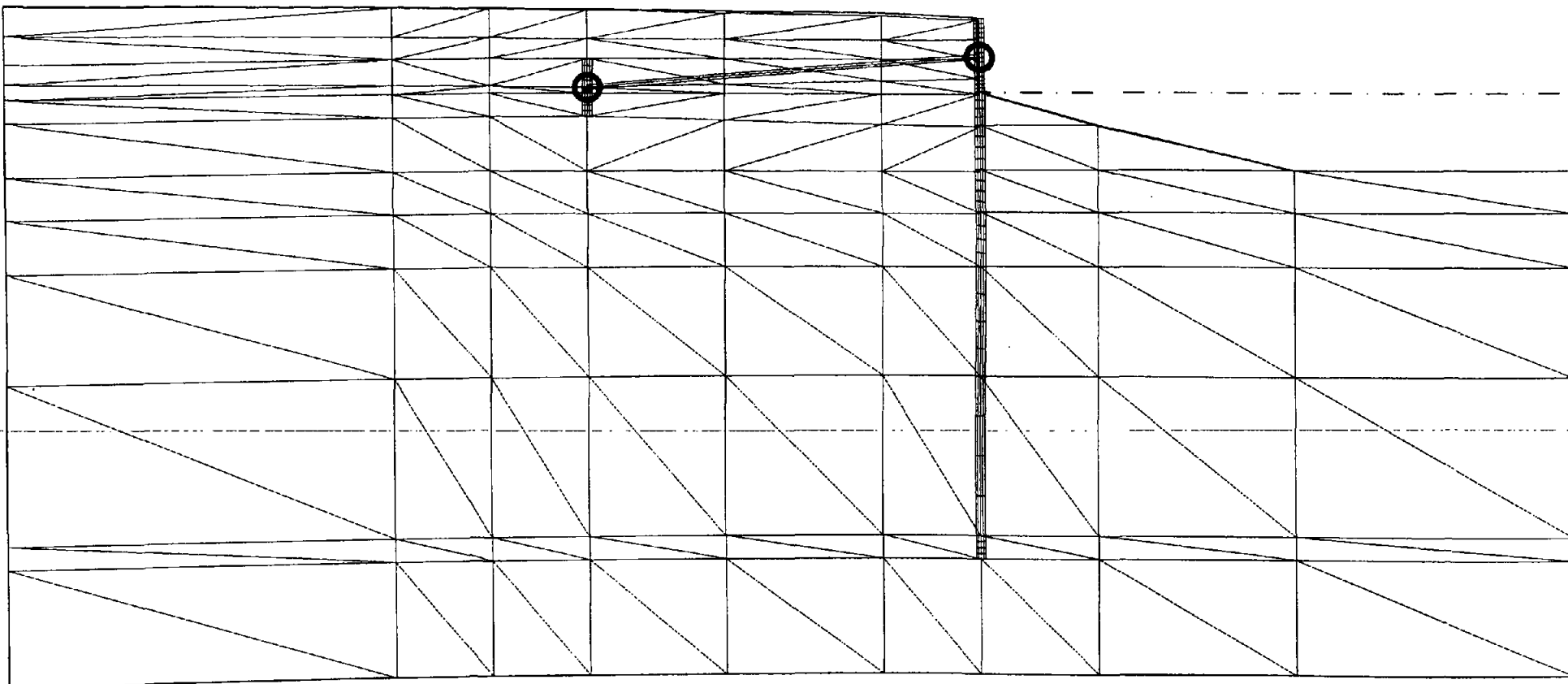
**PLAXIS**  
Professional  
Version 6.30

|                        |        |        |  |
|------------------------|--------|--------|--|
| EMK402, bestaande berm |        |        |  |
| EMK402-1 Step 53       | 9-1-97 | OMEGAM |  |

Mesh Scale [m]



Plane Strain



Deformed mesh, truly scaled  
Extreme displacement 1.71E-01 m

PLAXIS

Professional  
Version 6.30

EMK402, bestaande berm

EMK402-1 Step 70

10-1-97

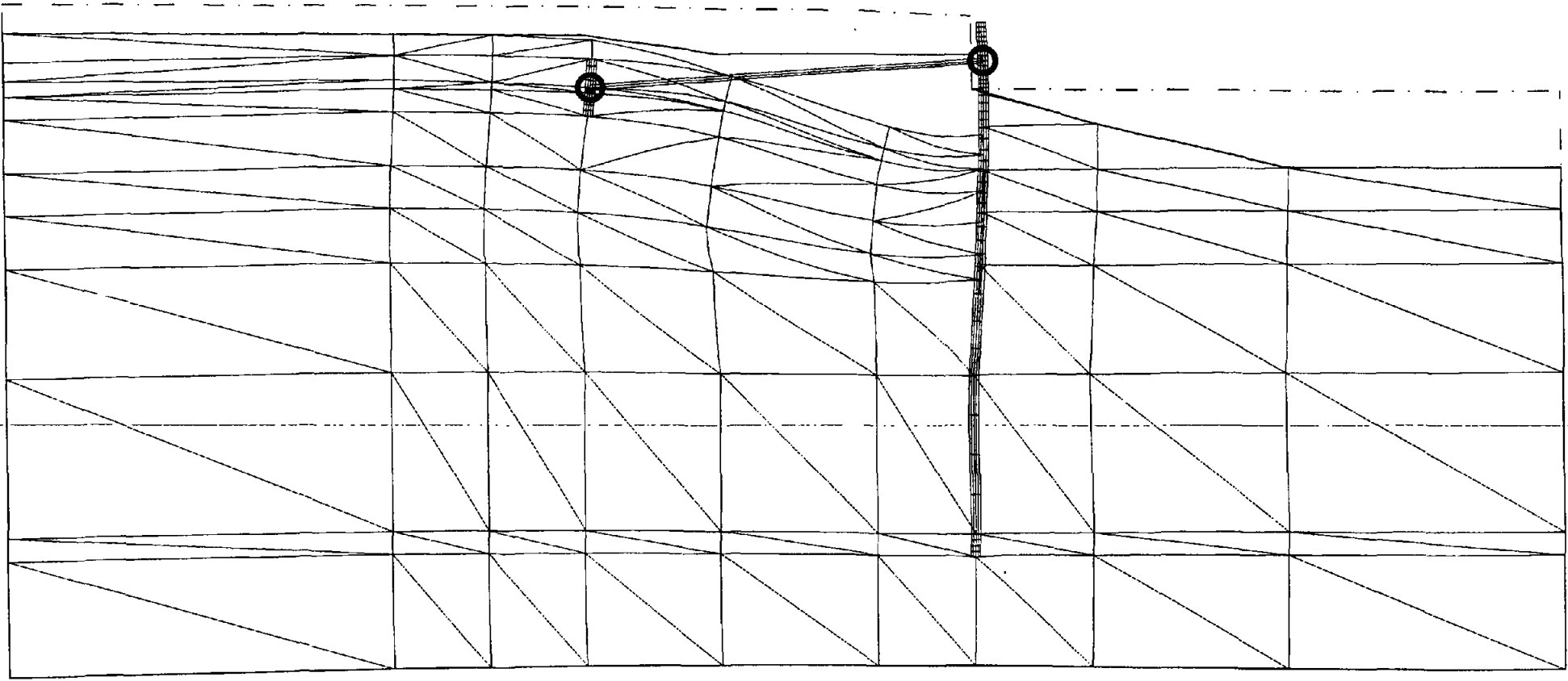
OMEGAM

Mesh Scale [m]

0 7 14 21

Displacements [m]

0 2 4 6 [ $\times 10^{-1}$ ]



Deformed mesh, scaled up (down)  
Extreme displacement 9.49E-02 m

**PLAXIS**  
Professional  
Version 6.30

EMK402, bestaande berm, c-max=10 kPa

EMK402-2 Step 45

9-1-97

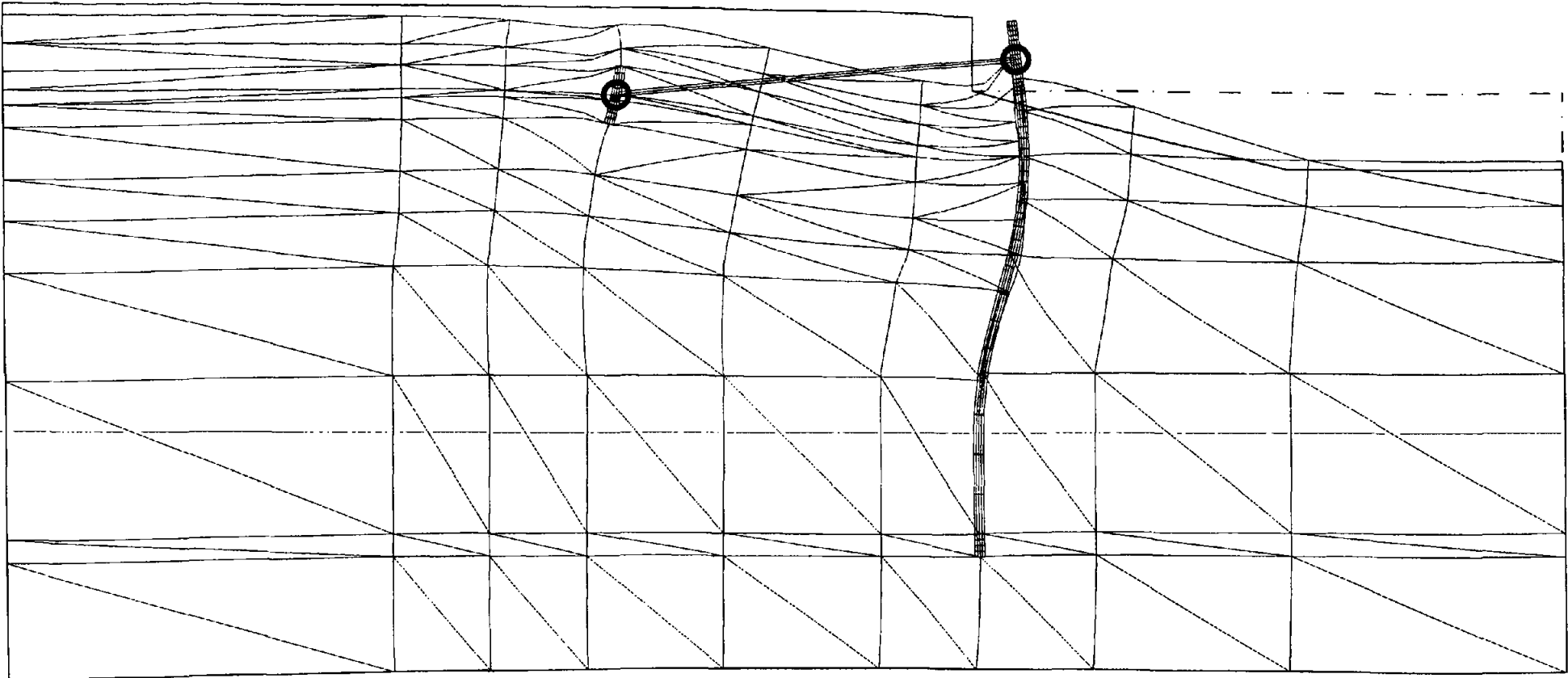
OMEGAM

Mesh Scale [m]

0 7 14 21

Displacements [m]

0 3 6 9 [ $\times 10^{-1}$ ]



Deformed mesh, scaled up (down)

Extreme displacement 1.88E-01 m

**PLAXIS**

Professional  
Version 6.30

EMK402, bestaande berm, c-max=10 kPa

EMK402-2 Step 67

9-1-97

OMEGAM

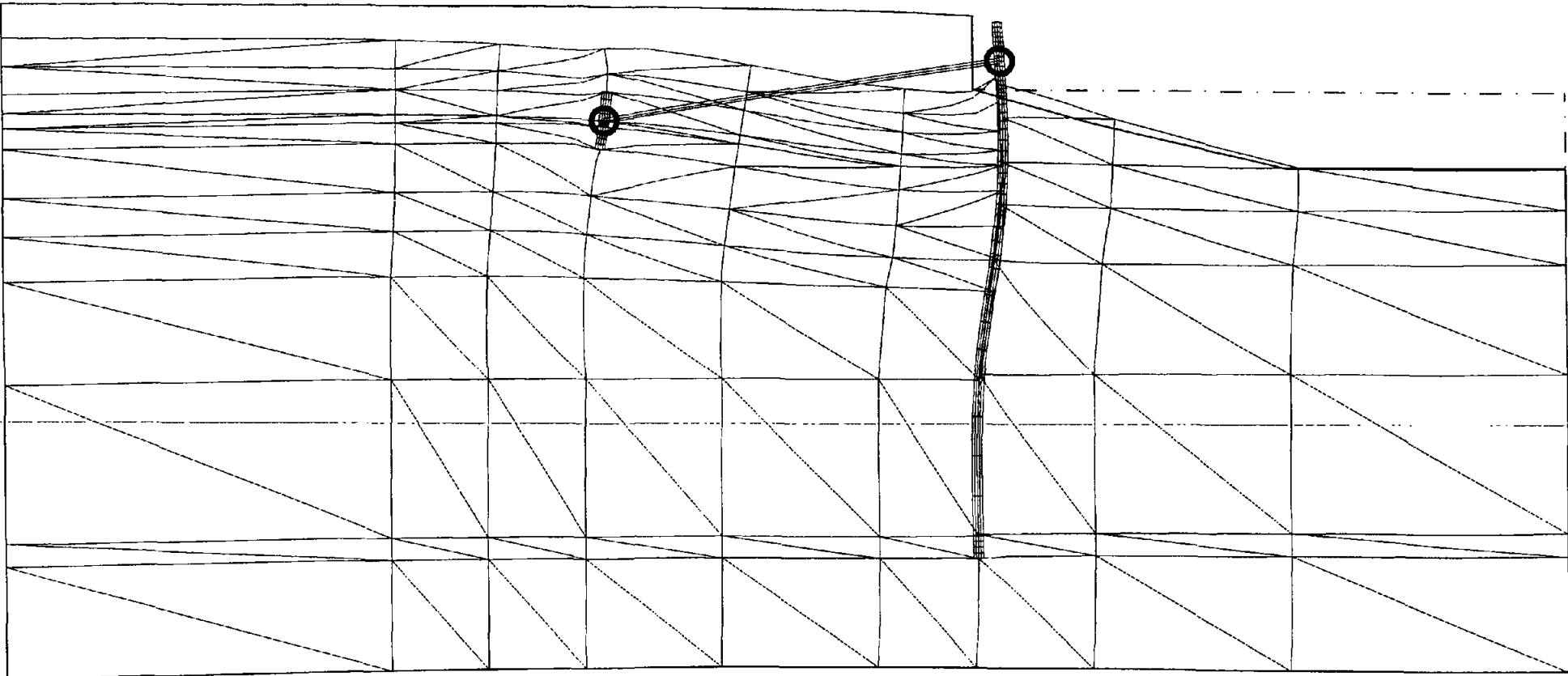


Mesh Scale [m]

0 7 14 21

Displacements [m]

0 5 10 15 [ $\times 10^{-1}$ ]



Deformed mesh, scaled up (down)

Extreme displacement 2.78E-01 m

PLAXIS

EMK402, bestaande berm, c-max=10 kPa

Professional  
Version 6.30

EMK402-2 Step 113

9-1-97

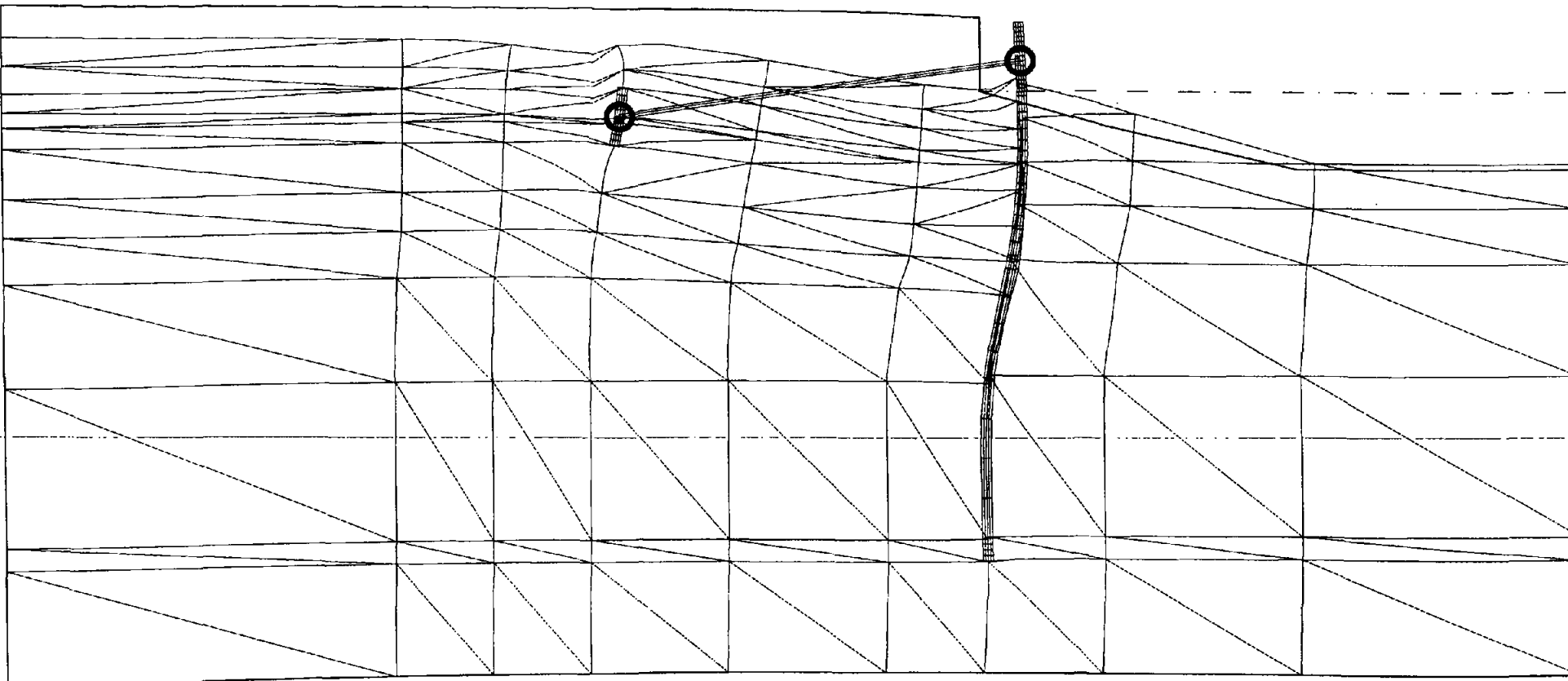
OMEGAM

Mesh Scale [m]

0 7 14 21

Displacements [m]

0 6 12 18 [ $\times 10^{-1}$ ]



Deformed mesh, scaled up (down)

Extreme displacement 3.38E-01 m

PLAXIS

EMK402, bestaande berm, c-max=10 kPa

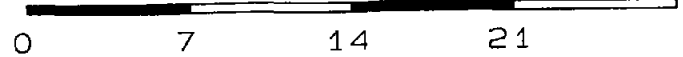
Professional  
Version 6.30

EMK402-2 Step 130

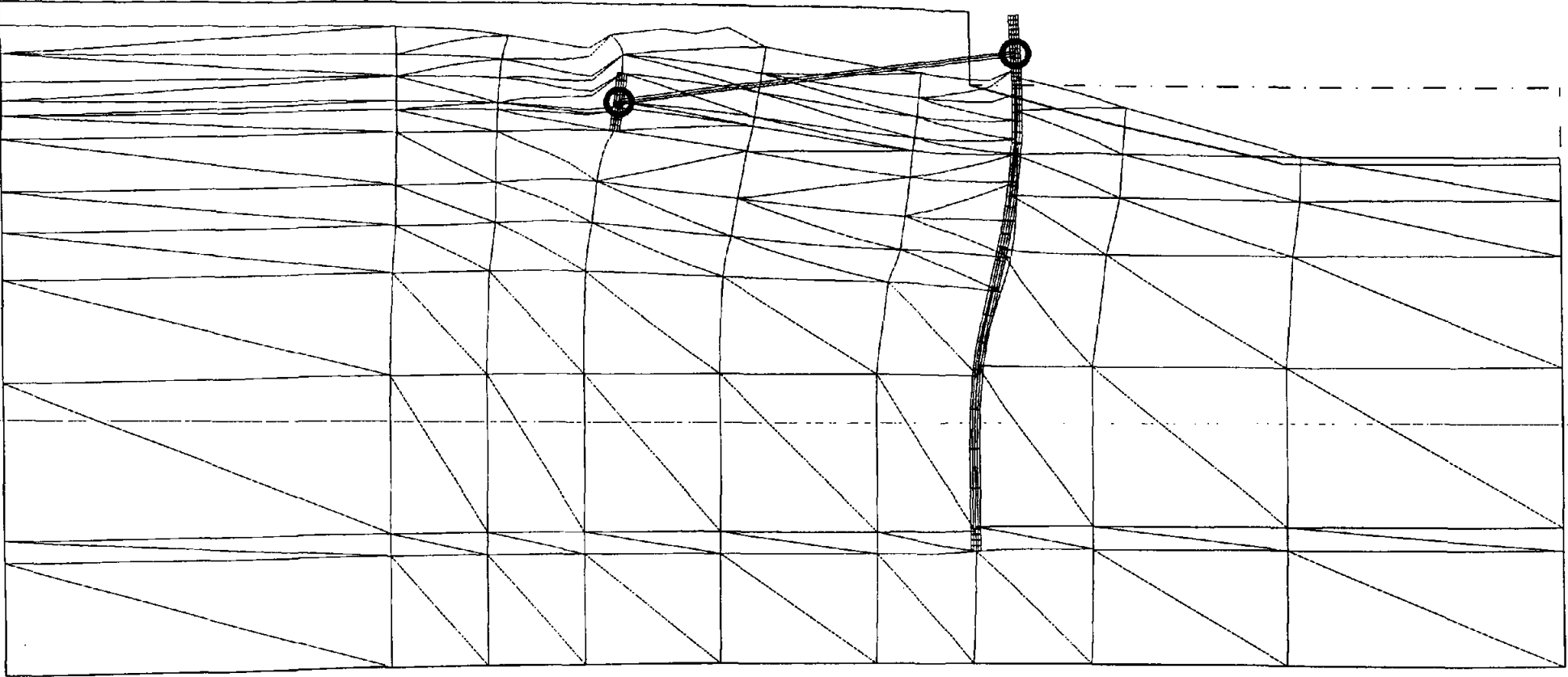
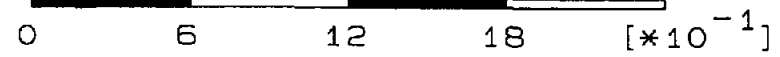
9-1-97

OMEGAM

Mesh Scale [m]



Displacements [m]



Deformed mesh, scaled up (down)  
Extreme displacement 3.89E-01 m

**PLAXIS**  
Professional  
Version 6.30

EMK402, bestaande berm, c-max=10 kPa

EMK402-2 Step 201

7-1-97

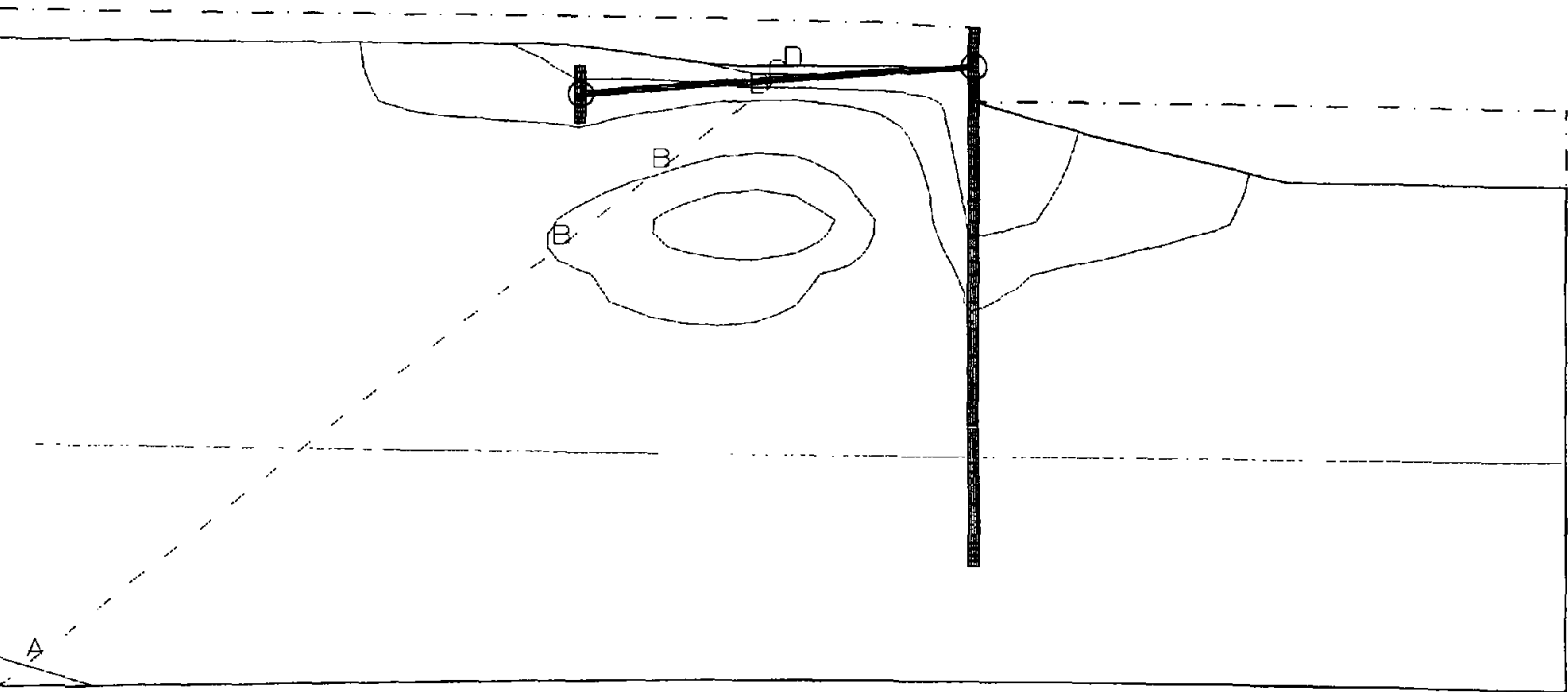
OMEGAM

Plane Strain

Mesh Scale [m]

0 7 14 21

- A: -8.88E-16
- B: 5.00E-03
- C: 1.00E-02
- D: 1.50E-02
- E: 2.00E-02
- F: 2.50E-02



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.87E-02 m

PLAXIS

EMK402, bestaande berm, c-max=10 kPa

Professional  
Version 6.30

EMK402-2 Step 45

9-1-97

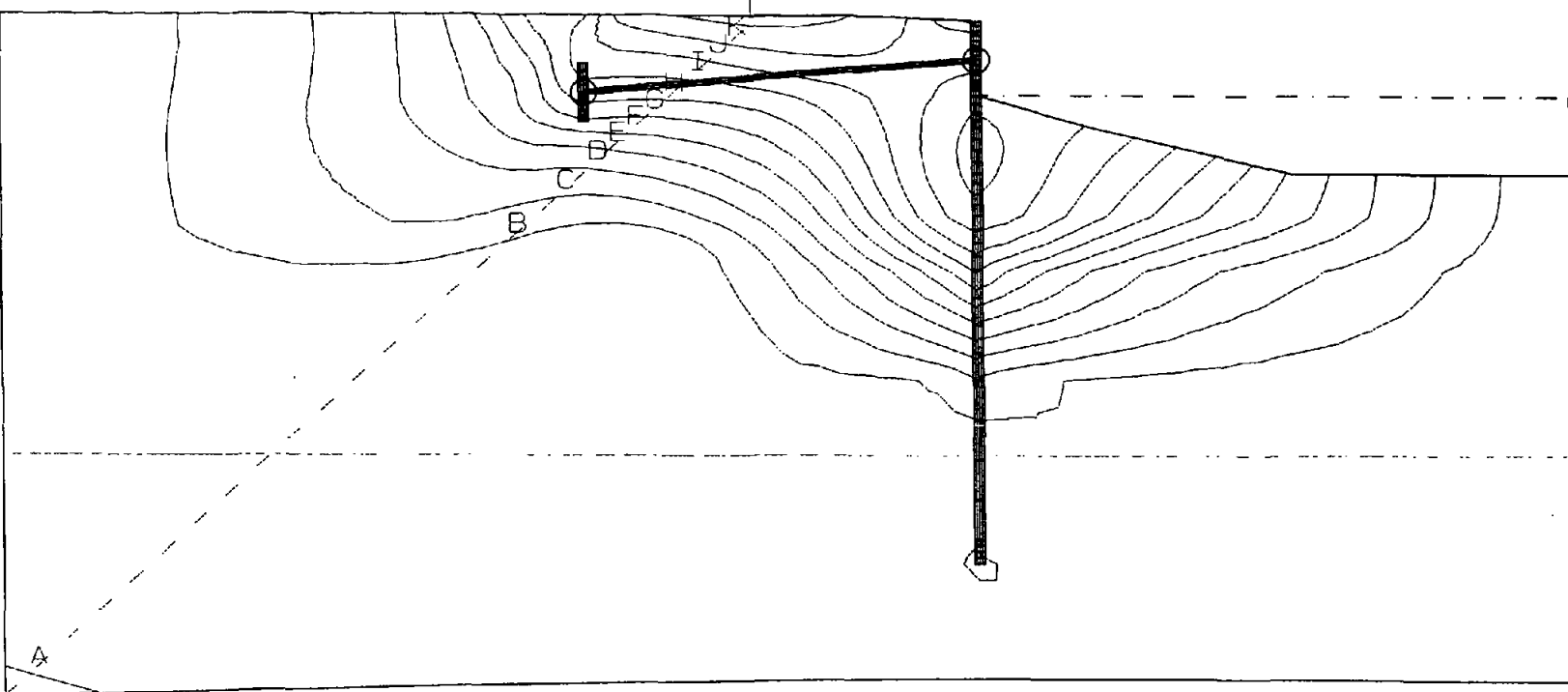
OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21

- A: -2.07E-15
- B: 1.00E-02
- C: 2.00E-02
- D: 3.00E-02
- E: 4.00E-02
- F: 5.00E-02
- G: 6.00E-02
- H: 7.00E-02
- I: 8.00E-02
- J: 9.00E-02
- K: 1.00E-01
- L: 1.10E-01



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.15E-01 m

PLAXIS

EMK402, bestaande berm, c-max=10 kPa

Professional  
Version 6.30

EMK402-2 Step 67

9-1-97

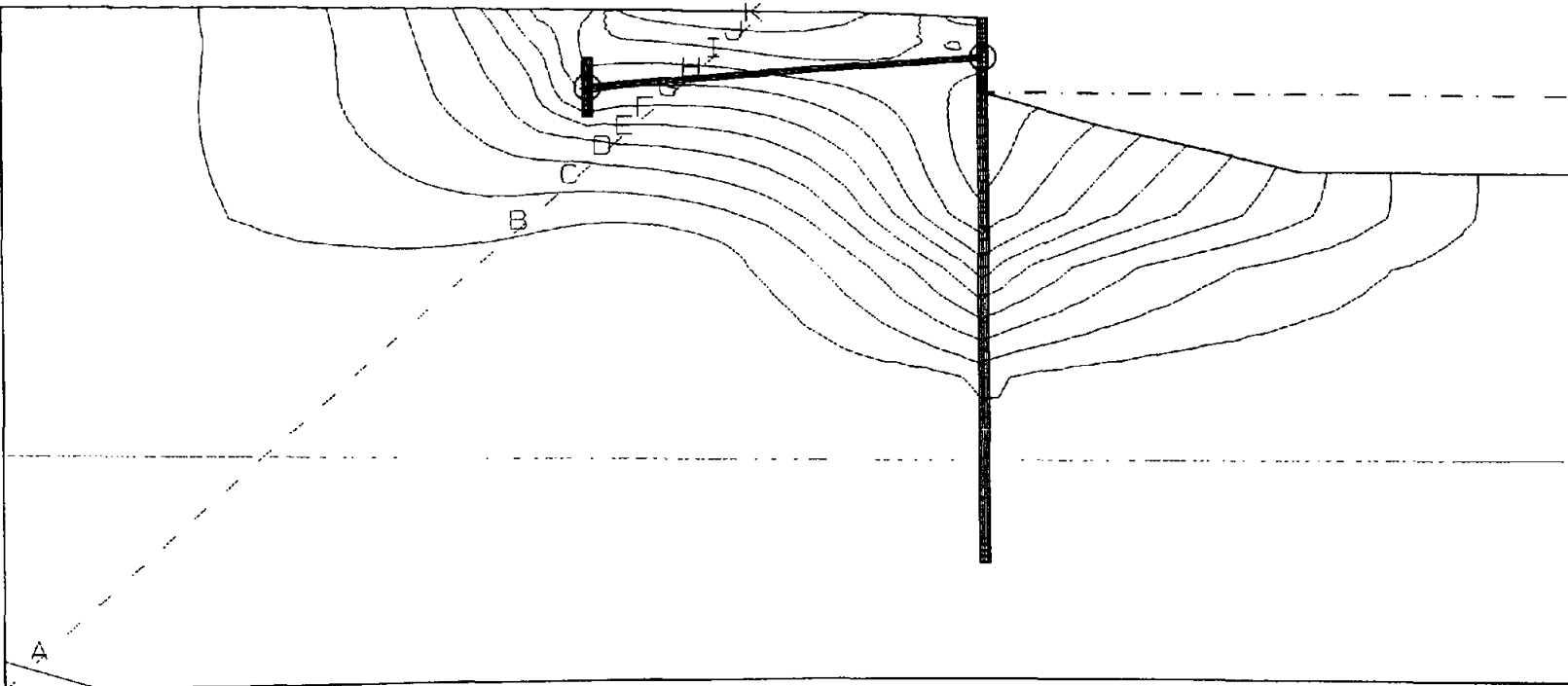
OMEGAM

Mesh Scale [m]

0 7 14 21

Plane Strain

A: -2.07E-15  
B: 1.00E-02  
C: 2.00E-02  
D: 3.00E-02  
E: 4.00E-02  
F: 5.00E-02  
G: 6.00E-02  
H: 7.00E-02  
I: 8.00E-02  
J: 9.00E-02  
K: 1.00E-01  
L: 1.10E-01



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.10E-01 m

PLAXIS

EMK402, bestaande berm, c-max=10 kPa

Professional  
Version 6.30

EMK402-2 Step 113

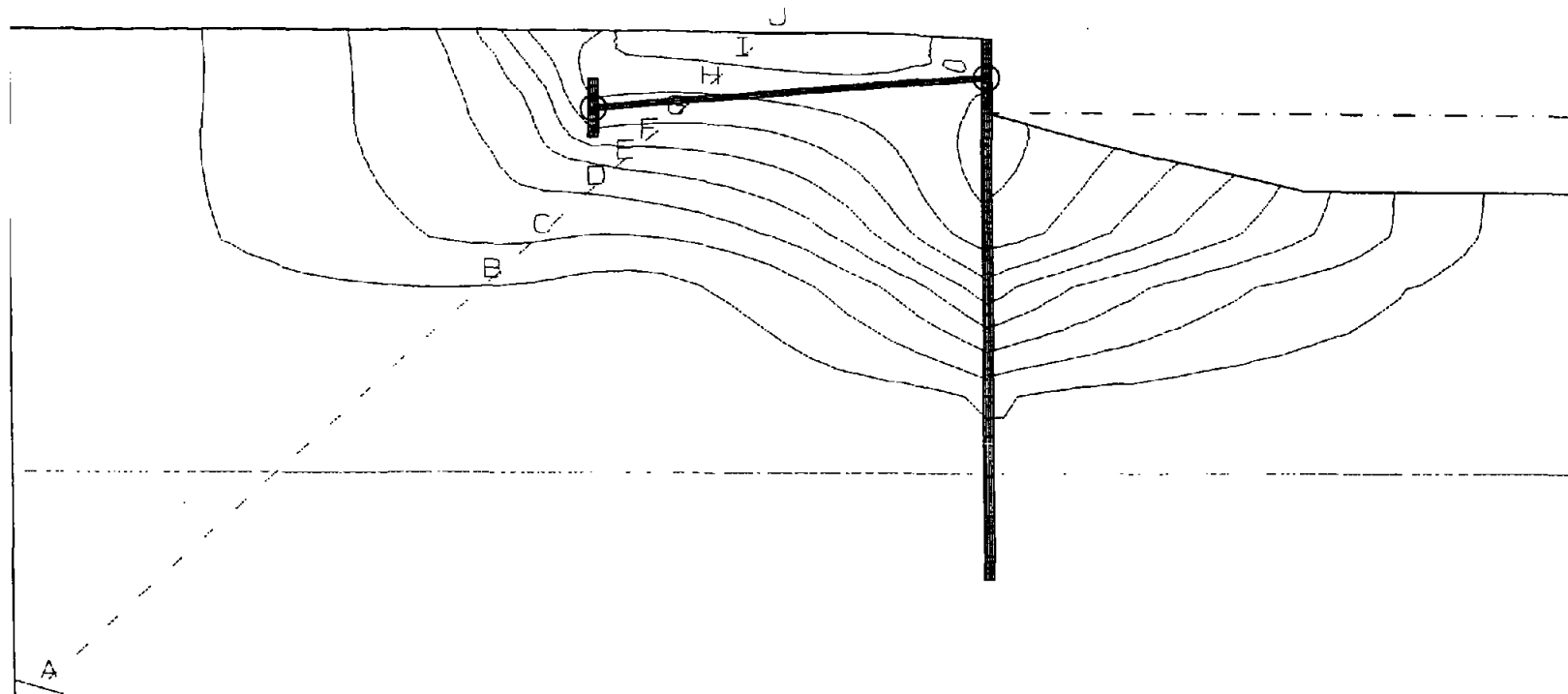
9-1-97

OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21



- A: -2.13E-15
- B: 2.00E-02
- C: 4.00E-02
- D: 6.00E-02
- E: 8.00E-02
- F: 1.00E-01
- G: 1.20E-01
- H: 1.40E-01
- I: 1.60E-01
- J: 1.80E-01

Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.81E-01 m

PLAXIS

EMK402, bestaande berm, c-max=10 kPa

Professional  
Version 6.30

EMK402-2 Step 130

9-1-97

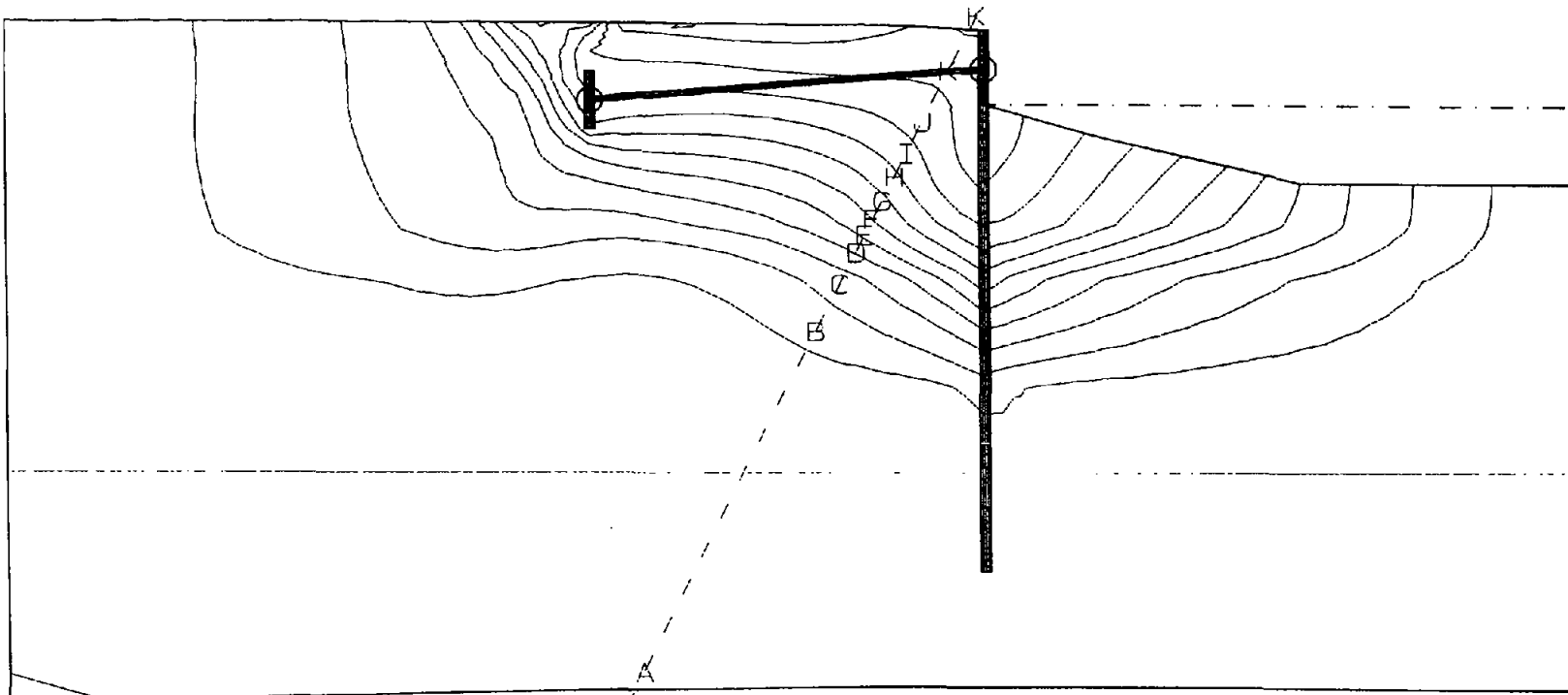
OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21

A: -4.14E-15  
B: 2.00E-02  
C: 4.00E-02  
D: 6.00E-02  
E: 8.00E-02  
F: 1.00E-01  
G: 1.20E-01  
H: 1.40E-01  
I: 1.60E-01  
J: 1.80E-01  
K: 2.00E-01  
L: 2.20E-01



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 2.34E-01 m

PLAXIS

EMK402, bestaande berm, c-max=10 kPa

Professional  
Version 6.30

EMK402-2 Step 201

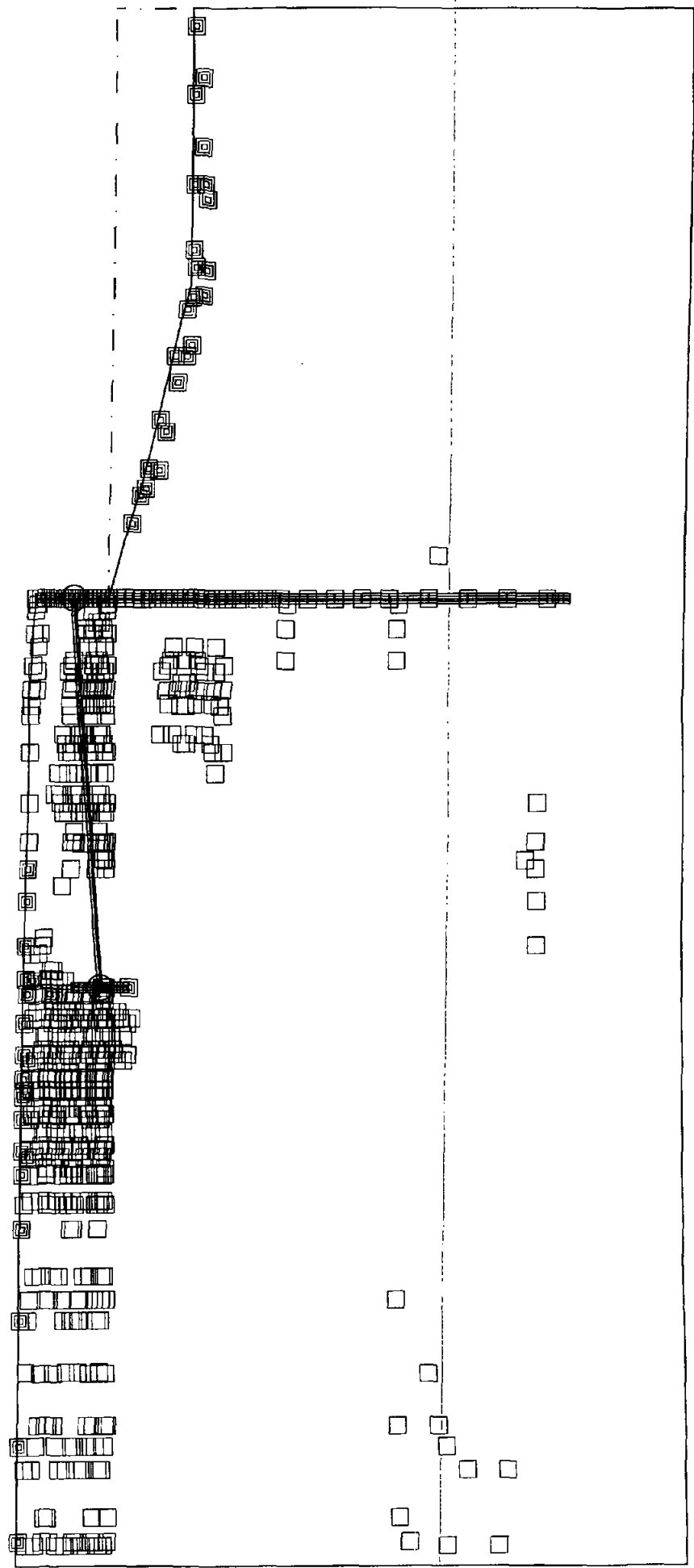
7-1-97

OMEGAM



Plane Strain

Mesh Scale [m]  
0 7 14 21



□ Plastic Mohr-Coulomb point      □ Tension cut off point

□ Plastic Mohr-Coulomb point      □ Tension cut off point

**PLAXIS**

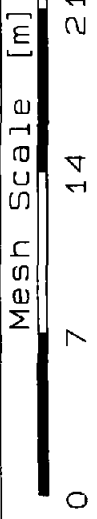
Professional  
Version 6.30

EMK402, bestaande berm, c-max=10 kPa

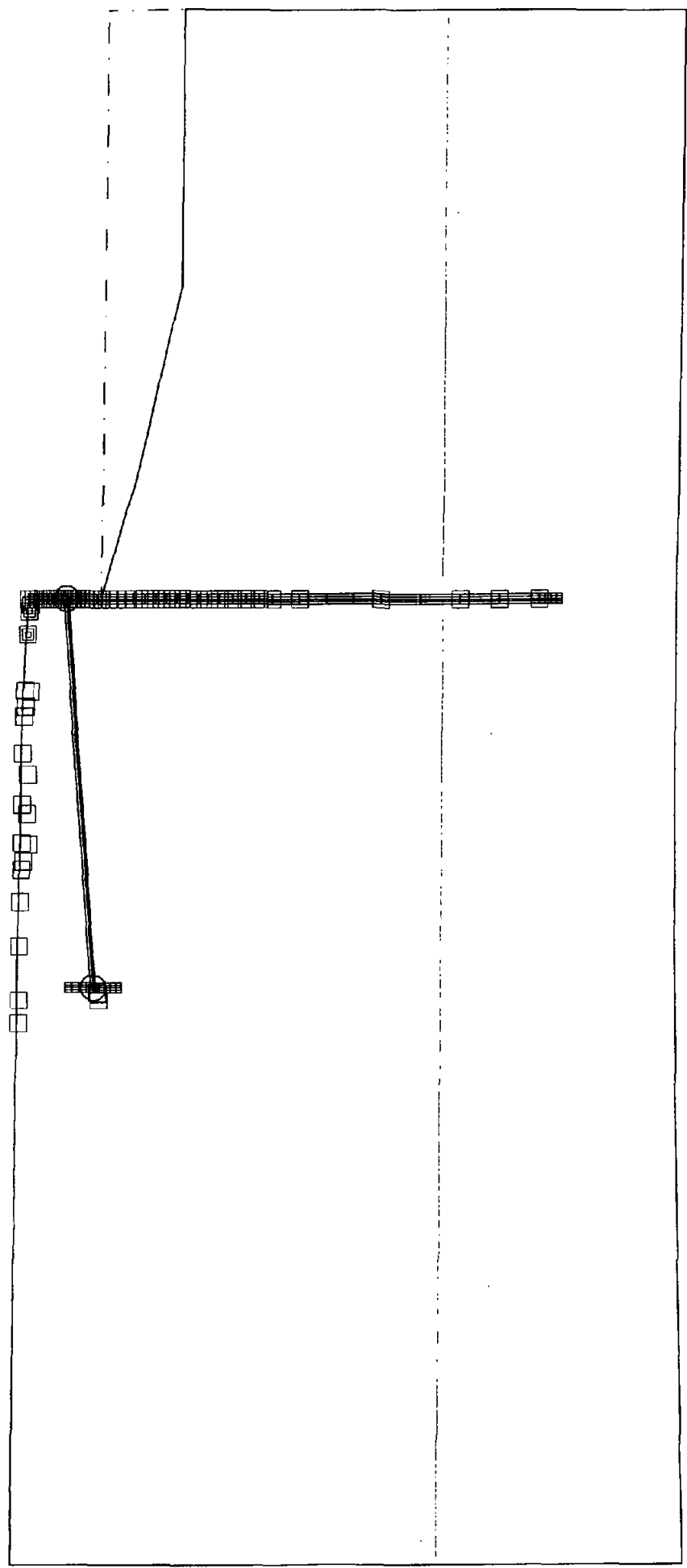
EMK402-2 Step 67

9-1-97

OMEGAM



Plane Strain



- Plastic Mohr-Coulomb point
- Tension cut off point

**PLAXIS**  
Professional  
Version 6.30

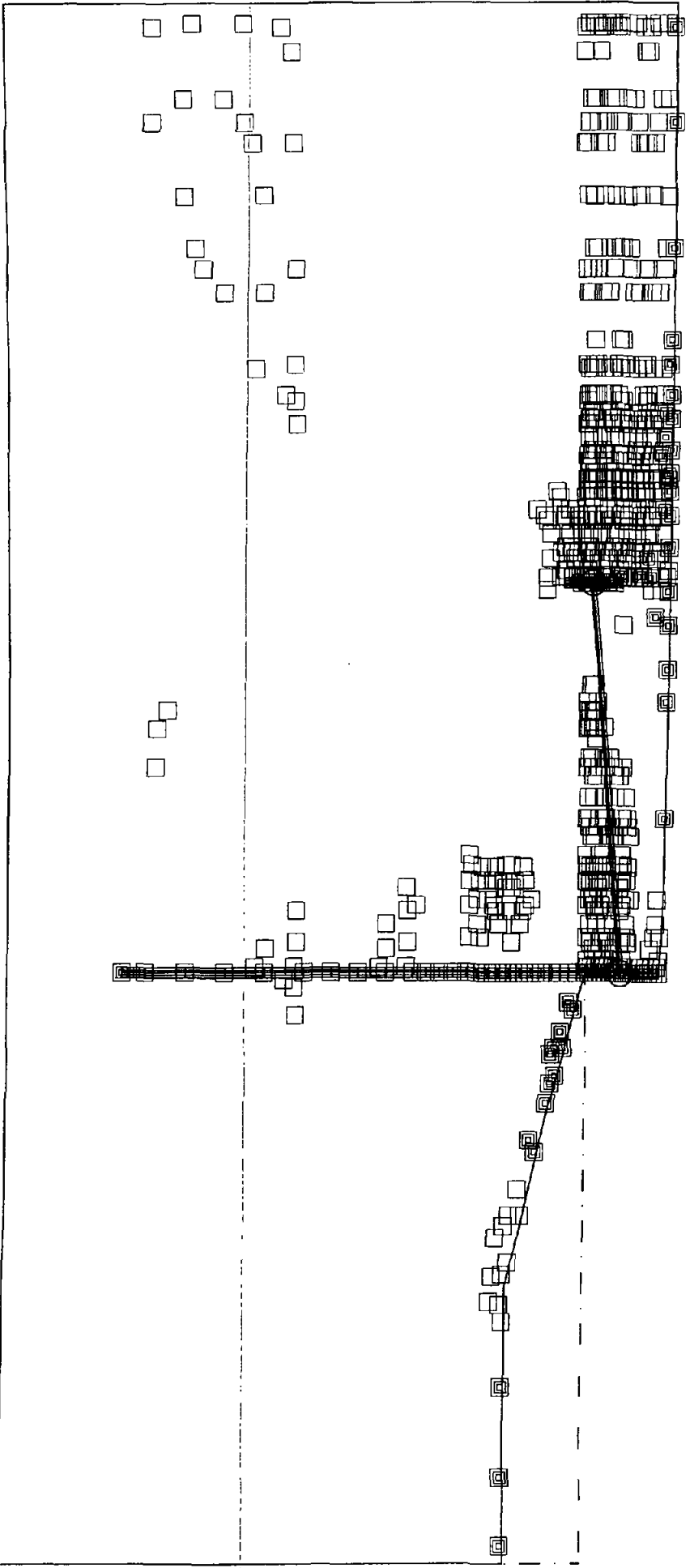
EMK402, bestaande berm, c-max=10 kPa

EMK402-2 Step 113 9-1-97

OMEGAM

Mesh Scale [m]  
0 7 14 21

Plane Strain



Plastic Mohr-Coulomb point

Tension cut off point

# PLAXIS

Professional  
Version 6.30

EMK402, bestaande berm, c-max=10 kPa

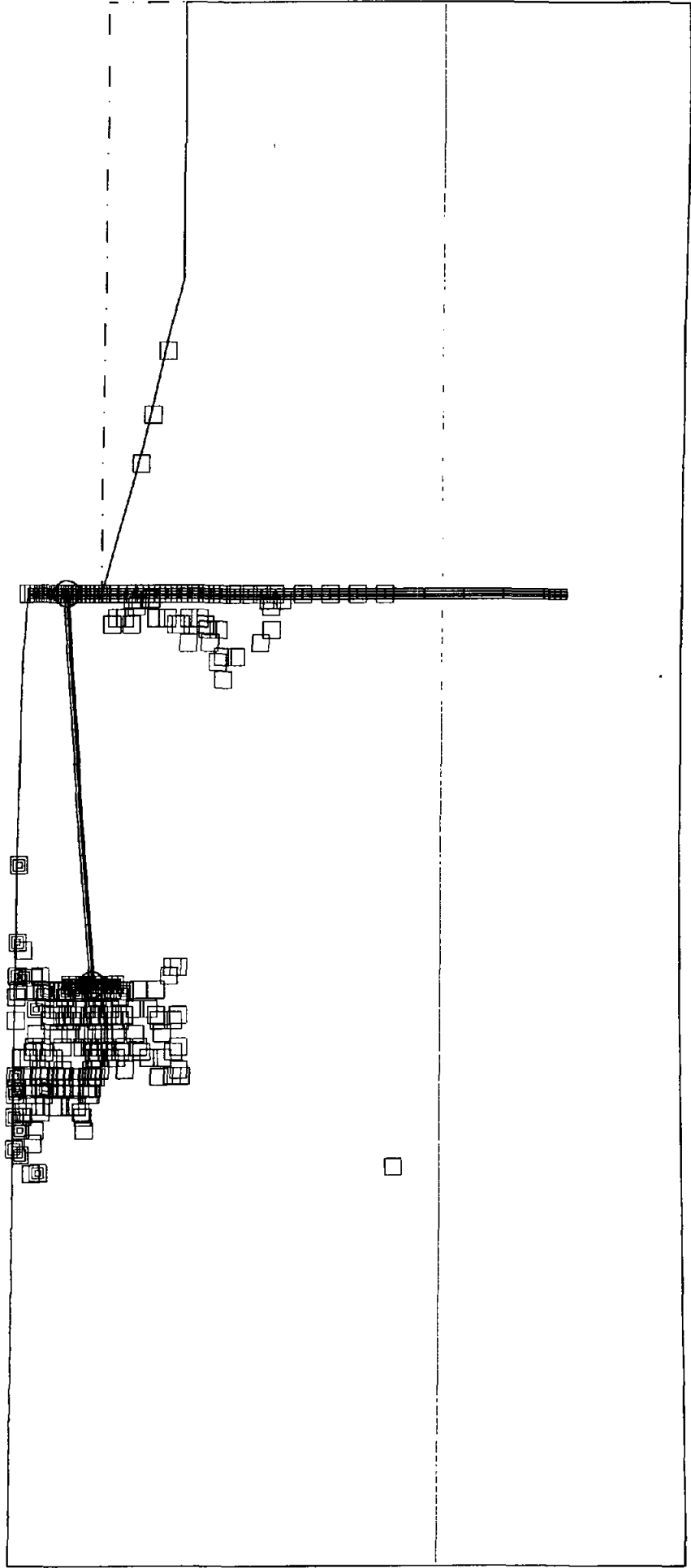
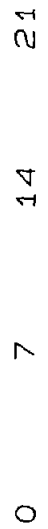
EMK402-2 Step 130

7-1-97

OMEGAM

Plane Strain

Mesh Scale [m]



□ Plastic Mohr-Coulomb point      ⊠ Tension cut off point

□ Plastic Mohr-Coulomb point      ⊠ Tension cut off point

EMK402, bestaande berm, c-max=10 kPa

PLAXIS

Professional  
Version 6.30

7-1-97

EMK402-2 Step 201

OMEGAM

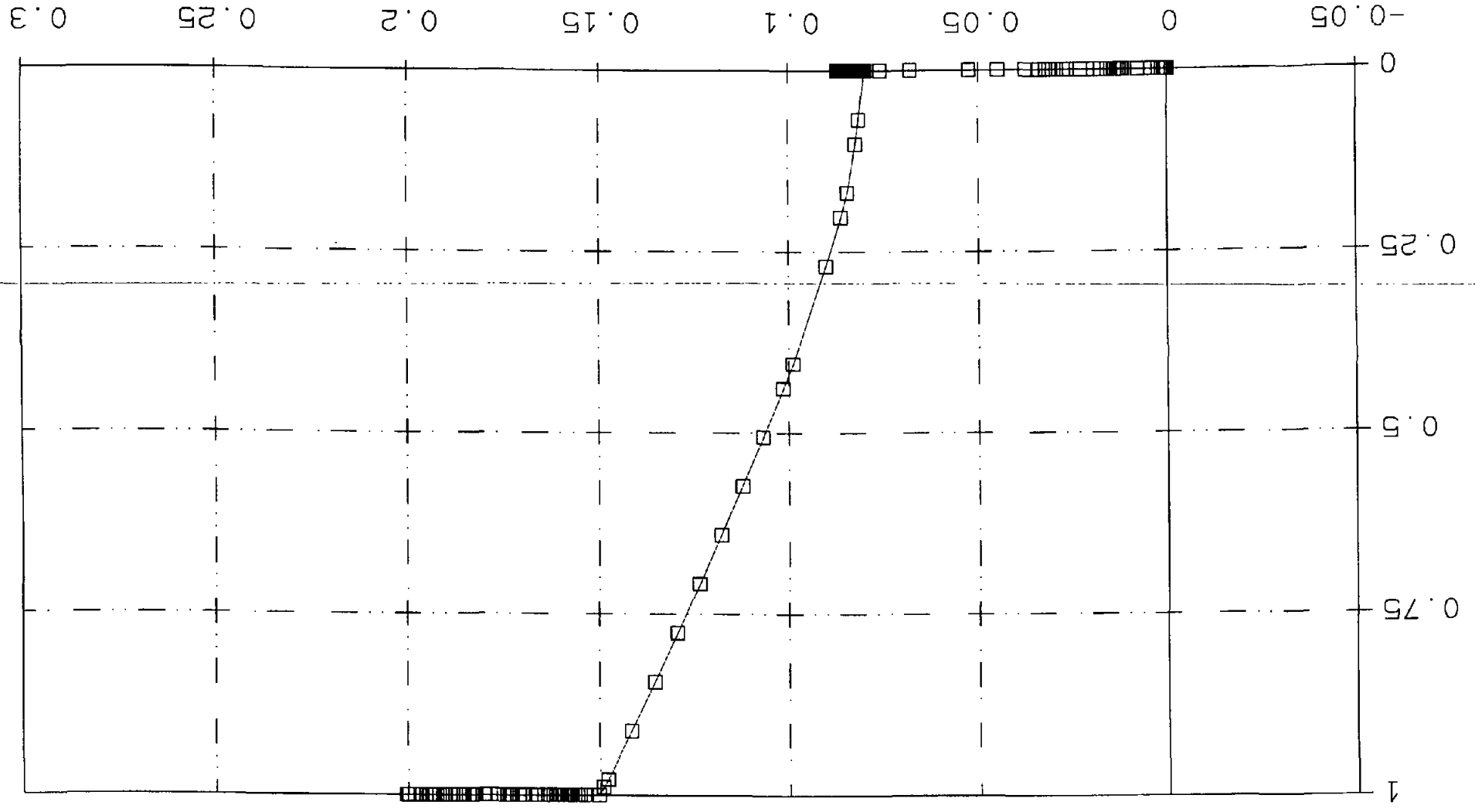
EMK402-2

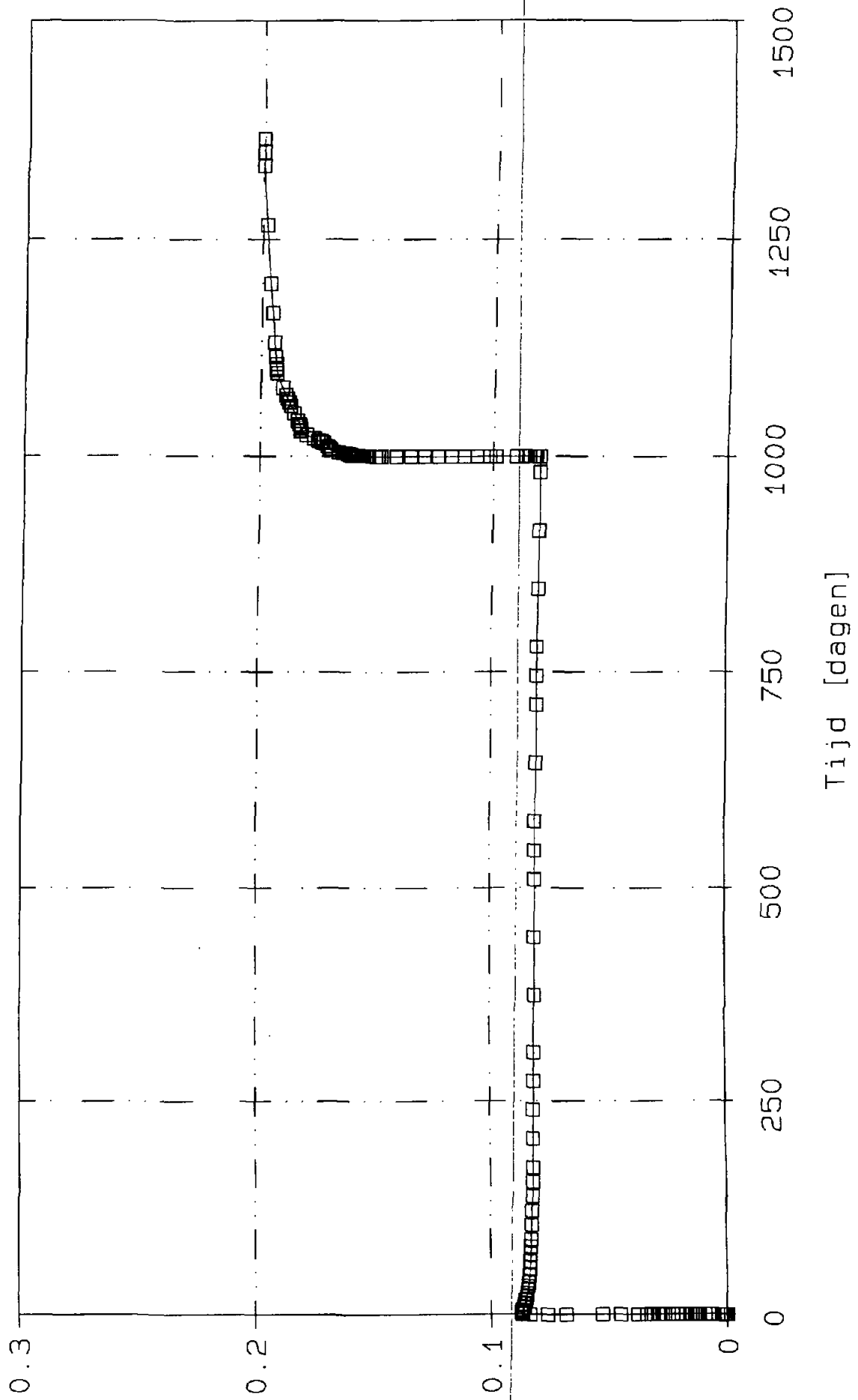
9-1-97

OMEGAM

EMK402, bestaande berm, c-max=10 kPa

Hor. verpl. bovenkant damwand [m]





HOP. VERPT. DOVERKANT DE WINDING (III)

**PLAXIS**  
Professional  
Version 6.30

EMK402, bestaande berm, c-max=10 kPa

9-1-97

EMK402-2

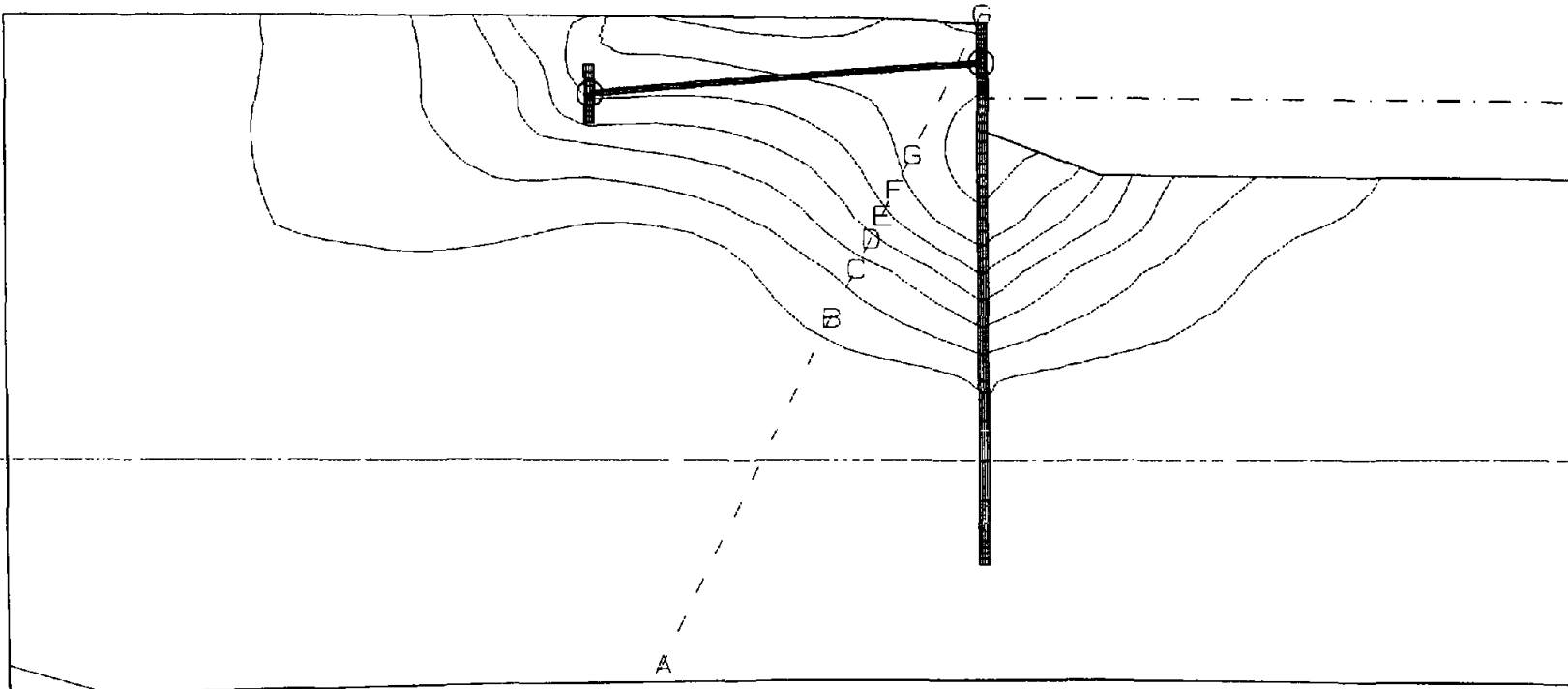
OMEGAM

Plane Strain

Mesh Scale [m]

0 7 14 21

- A: 8.88E-16
- B: 2.00E-02
- C: 4.00E-02
- D: 6.00E-02
- E: 8.00E-02
- F: 1.00E-01
- G: 1.20E-01
- H: 1.40E-01



Contours of total horizontal displacements  
Minimum value 0.00E+00, maximum value 1.50E-01 m

**PLAXIS**  
Professional  
Version 6.30

EMK402, kleine berm, c-max=10kPa

EMK402-3 Step 69

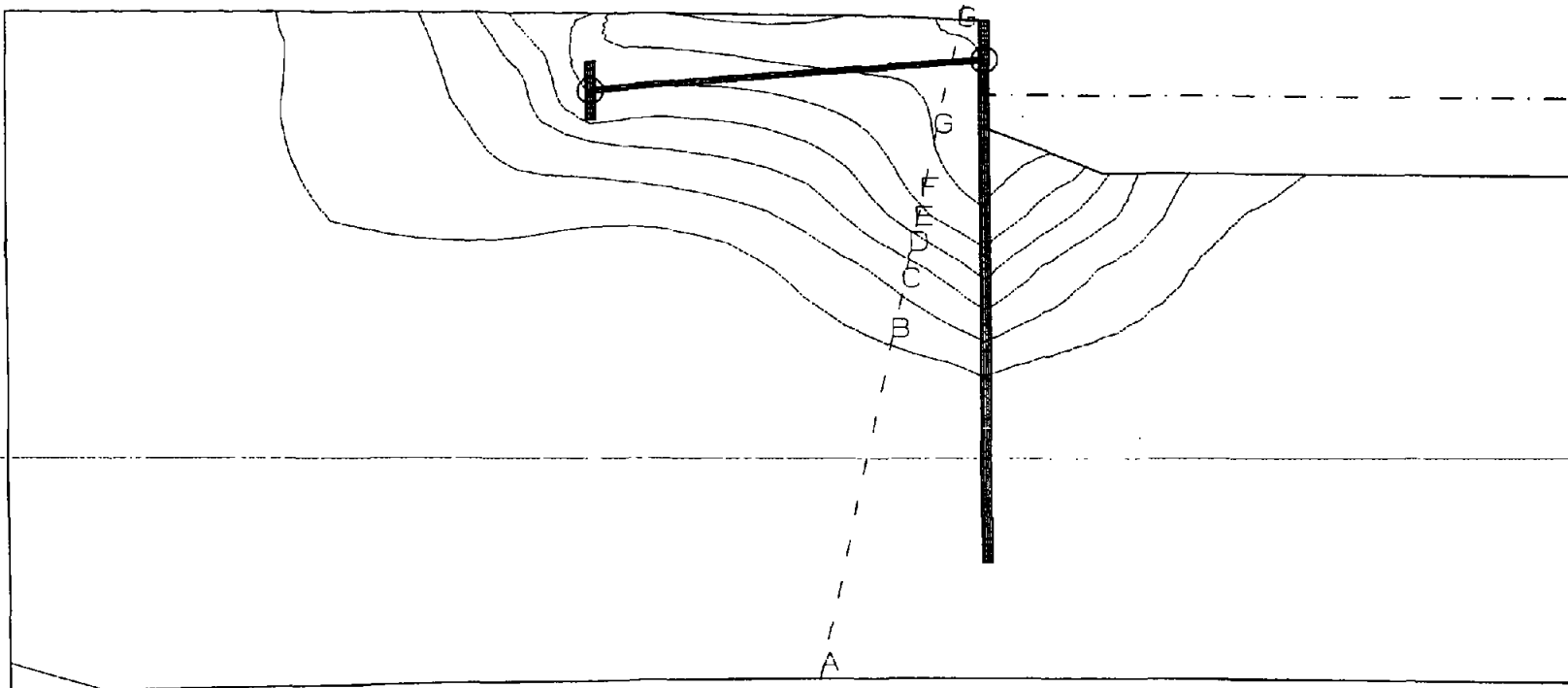
10-1-97

OMEGAM

Mesh Scale [m]

0 7 14 21

Plane Strain



- A: 8.88E-16
- B: 2.00E-02
- C: 4.00E-02
- D: 6.00E-02
- E: 8.00E-02
- F: 1.00E-01
- G: 1.20E-01
- H: 1.40E-01

Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.46E-01 m

**PLAXIS**  
Professional  
Version 6.30

EMK402, kleine berm, c-max=10kPa

EMK402-3 Step 112

10-1-97

OMEGAM



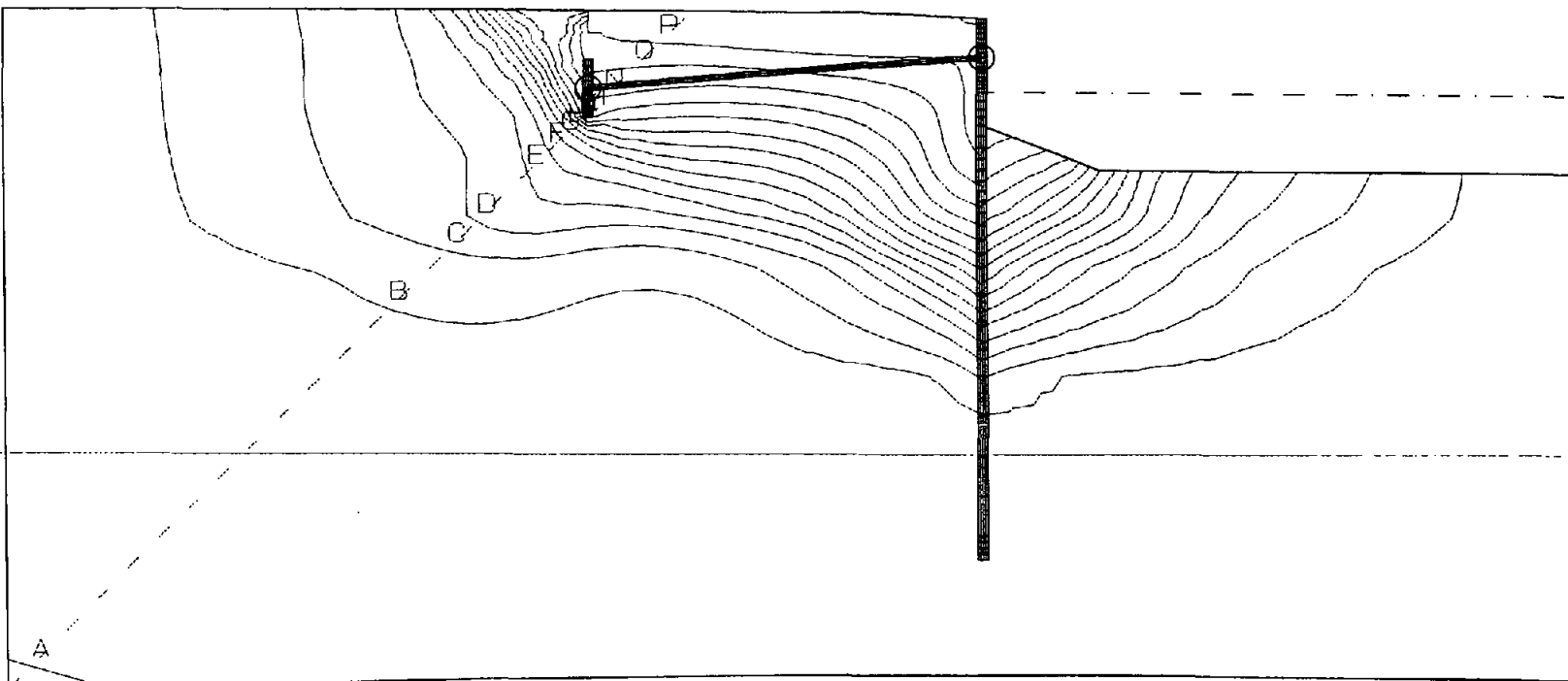


Mesh Scale [m]

0 7 14 21

Plane Strain

- A: 7.55E-15
- B: 2.00E-02
- C: 4.00E-02
- D: 6.00E-02
- E: 8.00E-02
- F: 1.00E-01
- G: 1.20E-01
- H: 1.40E-01
- I: 1.60E-01
- J: 1.80E-01
- K: 2.00E-01
- L: 2.20E-01
- M: 2.40E-01
- N: 2.60E-01
- O: 2.80E-01
- P: 3.00E-01



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.39E+01 m

PLAXIS

Professional  
Version 6.30

EMK402, kleine berm, c-max=10kPa

EMK402-3 Step 233

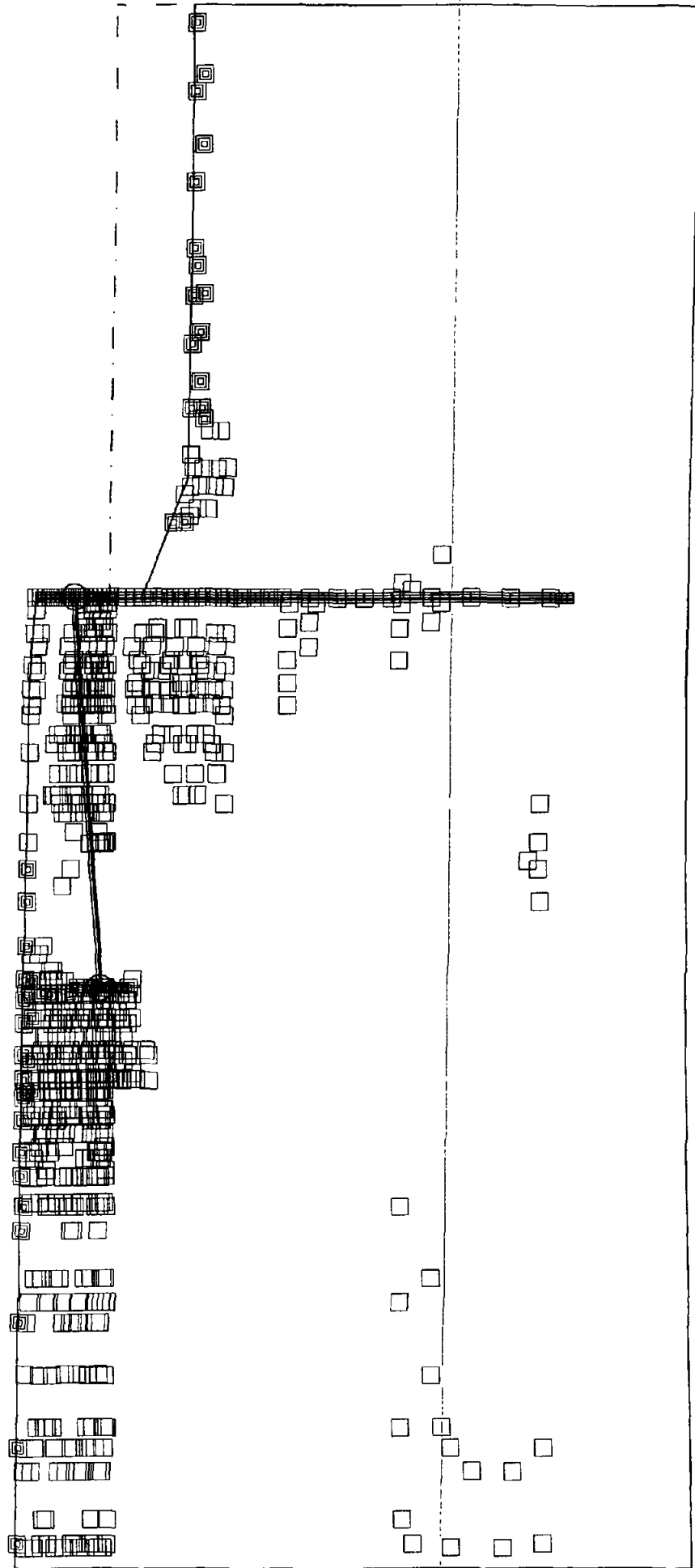
10-1-97

OMEGAM

Mesh Scale [m]



Plane Strain



□ Plastic Mohr-Coulomb point

□ Tension cut off point

PLAXIS

Professional  
Version 6.30

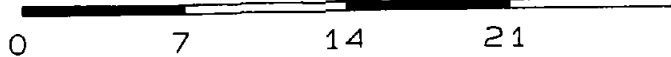
EMK402, kleine berm, c-max=10kPa

EMK402-3 Step 69

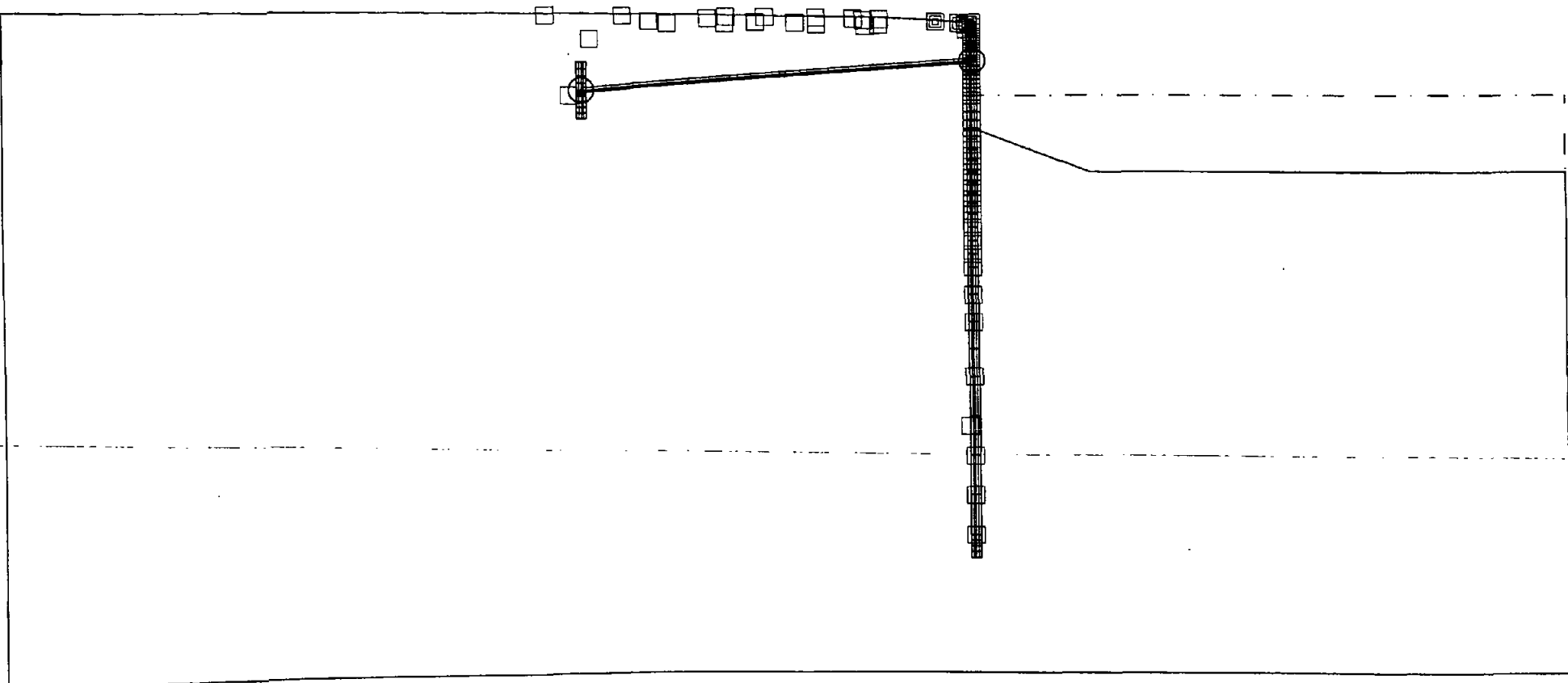
10-1-97

OMEGAM

Mesh Scale [m]



Plane Strain



□ Plastic Mohr-Coulomb point

⊙ Tension cut off point

PLAXIS

EMK402, kleine berm, c-max=10kPa

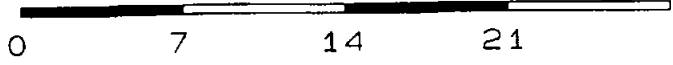
Professional  
Version 6.30

EMK402-3 Step 112

10-1-97

OMEGAM

Mesh Scale [m]



Plane Strain



□ Plastic Mohr-Coulomb point

⊗ Tension cut off point

**PLAXIS**

Professional  
Version 6.30

EMK402, kleine berm, c-max=10kPa

EMK402-3 Step 137

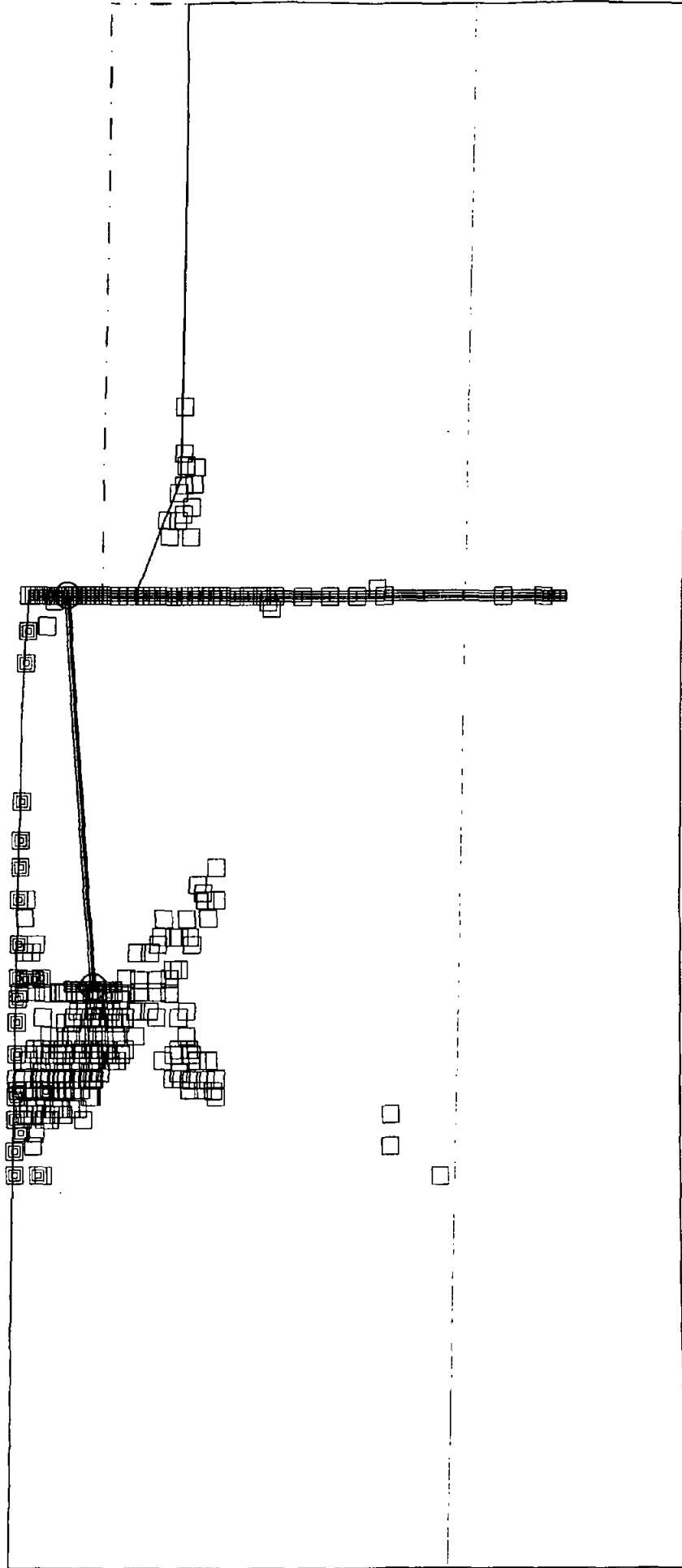
10-1-97

OMEGAM

Plane Strain

Mesh Scale [m]

0 7 14 21



□ Plastic Mohr-Coulomb point

▣ Tension cut off point

**PLAXIS**

Professional  
Version 6.30

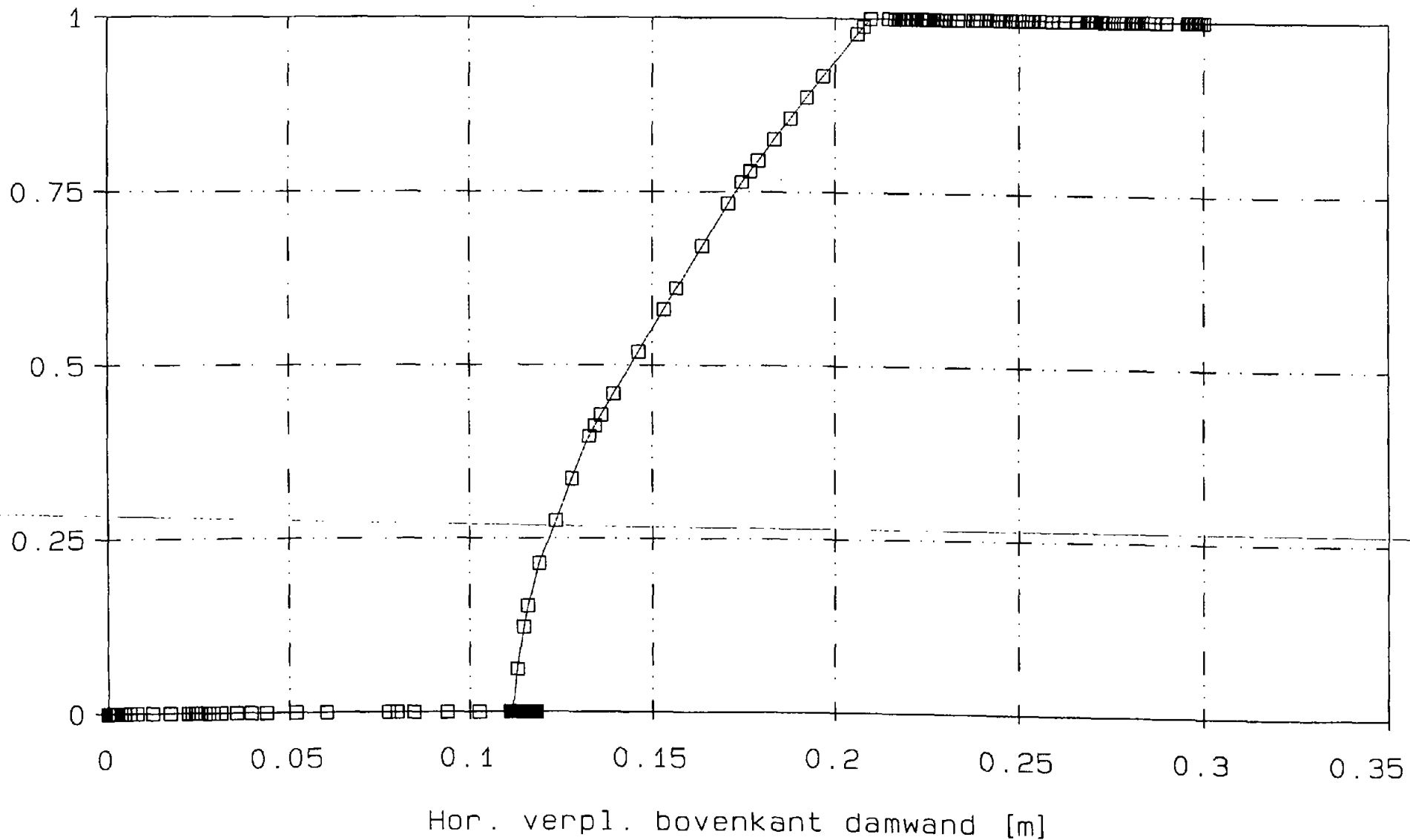
EMK402, kleine berm, c-max=10kPa

EMK402-3 Step 233

10-1-97

OMEGAM

GWS van NAP+0, 5m naar NAP+4, 0m



PLAXIS

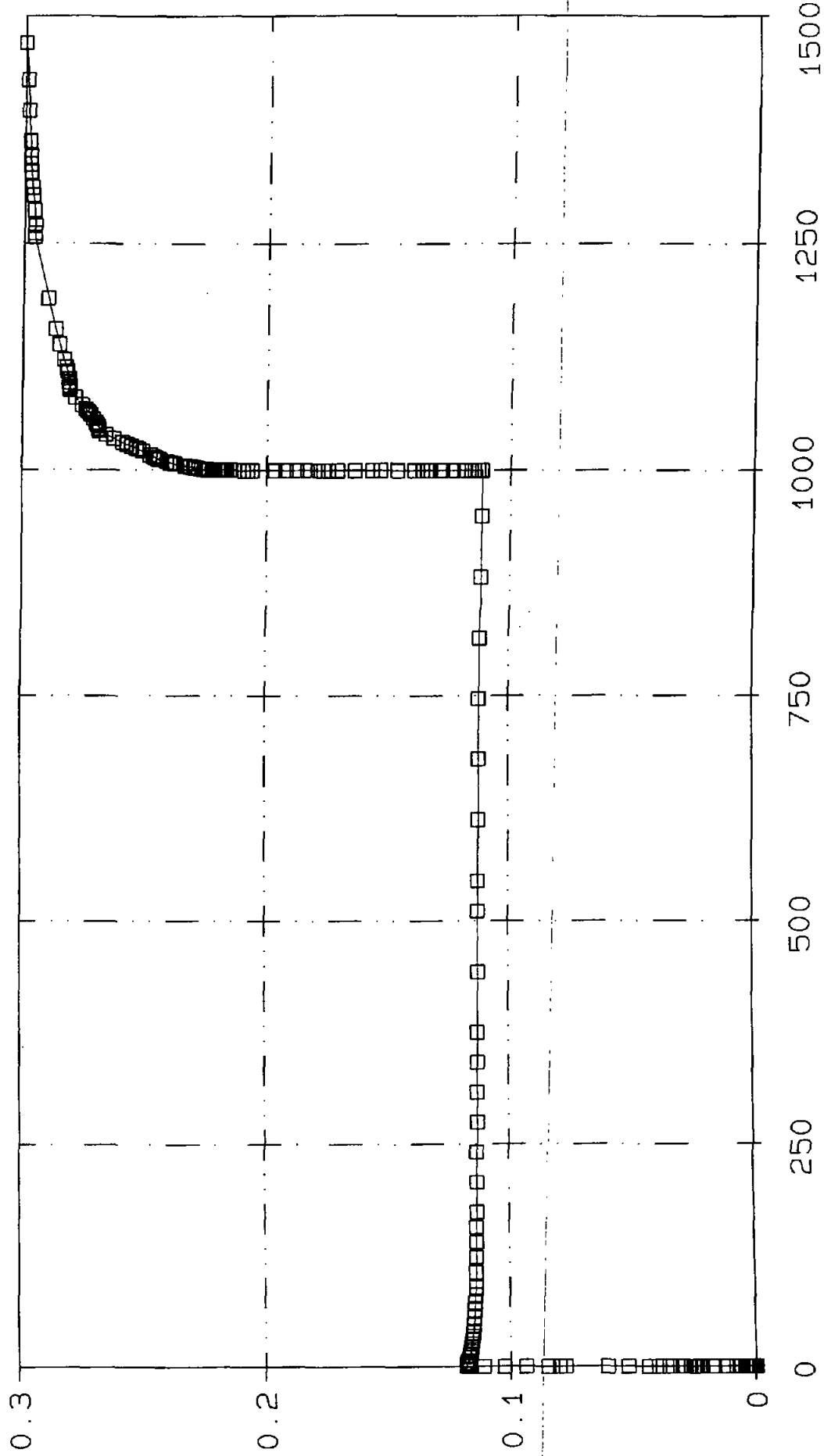
EMK402, kleine berm, c-max=10kPa

Professional  
Version 6.30

EMK402-3

10-1-97

OMEGAM



Hor. verp. bovenkant damwand [m]

Tijd [dagen]

**PLAXIS**  
Professional  
Version 6.30

EMK402. kleine berm, c-max=10kPa

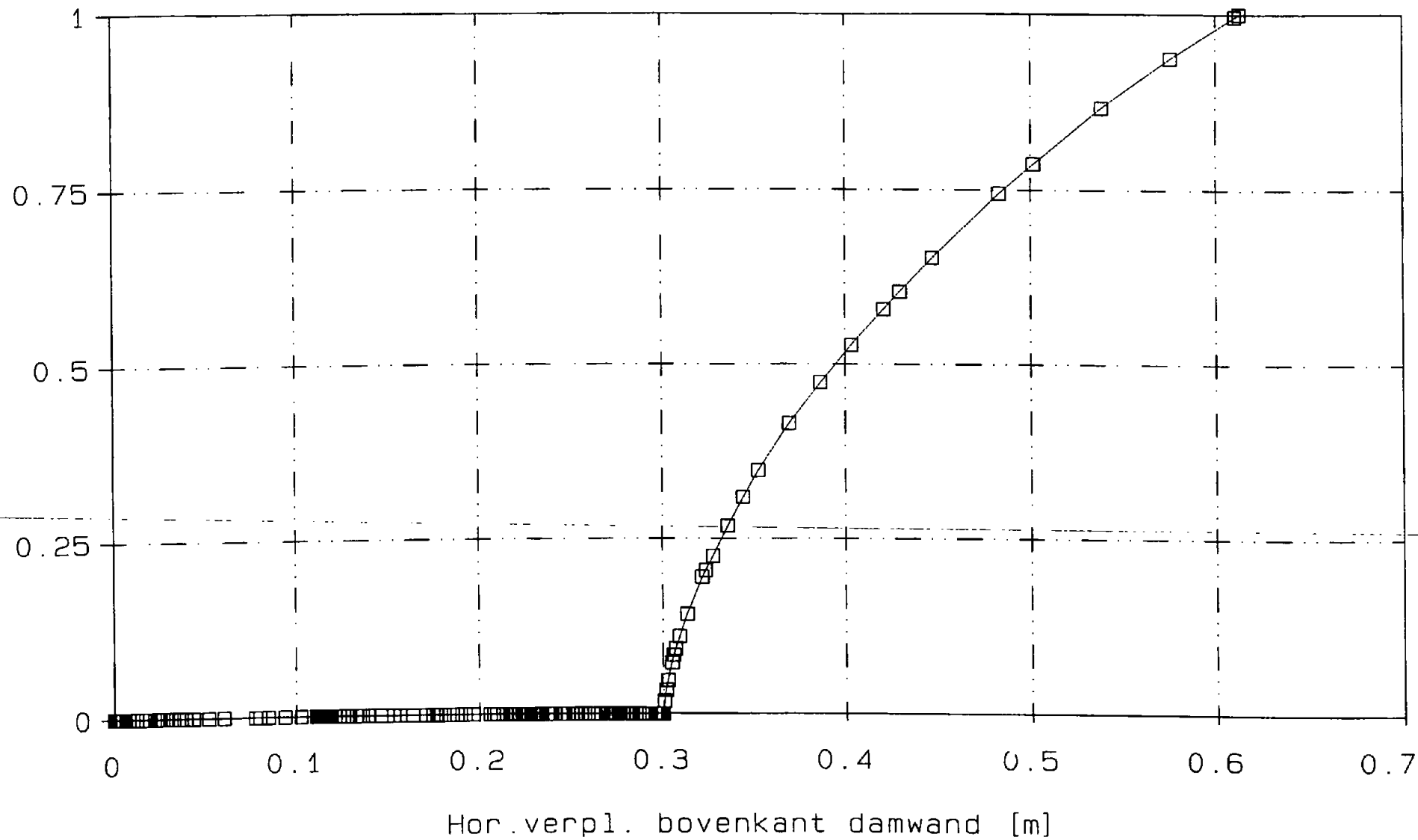
7-1-97

EMK402-3

OMEGAM



Aanbrengen van 20 kN/m<sup>2</sup>



**PLAXIS**

Professional  
Version 6.30

EMK402, kleine berm, c-max=10kPa

EMK402-3

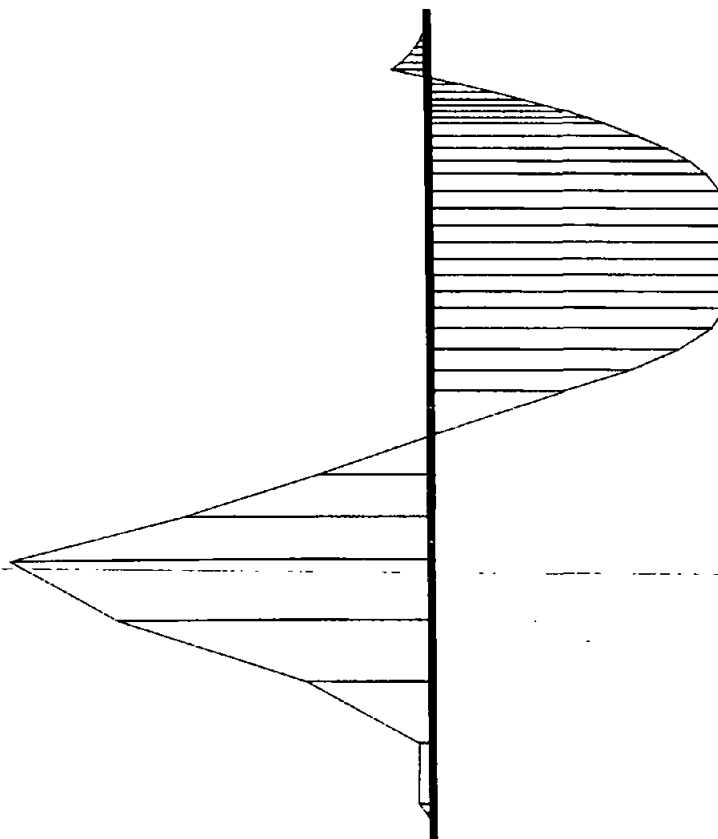
8-1-97

OMEGAM

Mesh Scale [m]

Plane Strain

0 3 6 9



Moments in beam chain 2

Extreme moment 4.12E+02 kNm/m

**PLAXIS**

Professional  
Version 6.30

EMK402, kleine berm, c-max=10kPa

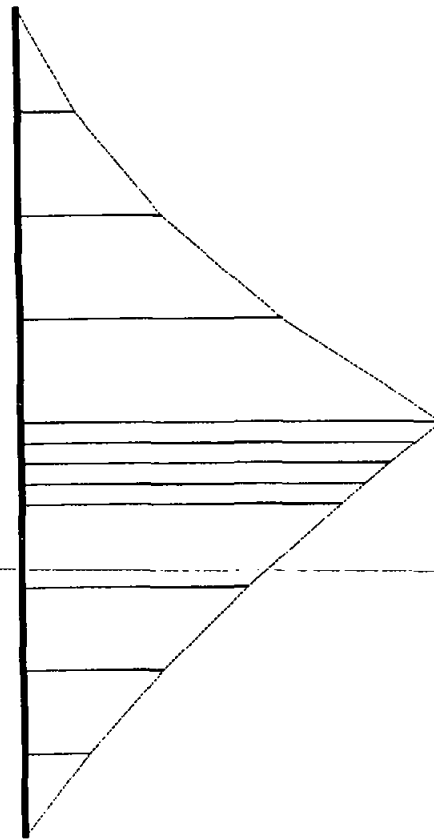
EMK402-3 Step 137

7-1-97

OMEGAM

Plane Strain

Mesh Scale [m]  
0 3 6 9 [ $\times 10^{-1}$ ]



Moments in beam chain 1  
Extreme moment  $-9.36E+01$  kNm/m

PLAXIS

Professional  
Version 6.30

EMK402, kleine berm, c-max=10kPa

EMK402-3 Step 137

7-1-97

OMEGAM



| M-C | No. | Typ. | Wdry | Wwet    | PerMX   | PerMY | Nu    | G | C  | ph1 | ps1 | KO | TC | Rint  |
|-----|-----|------|------|---------|---------|-------|-------|---|----|-----|-----|----|----|-------|
| 10  | DR  | 18.0 | 20.0 | 5.0E+00 | 5.0E+00 | 0.35  | 7407  |   | 1  | 32  | 3   | -  | Y  | 0.500 |
| 9   | UN  | 17.0 | 17.0 | 2.0E-04 | 1.0E-04 | 0.35  | 1111  |   | 10 | 23  | 0   | -  | Y  | 0.500 |
| 8   | DR  | 17.0 | 20.0 | 5.0E+00 | 5.0E+00 | 0.35  | 2778  |   | 1  | 28  | 0   | -  | Y  | 0.500 |
| 7   | UN  | 17.3 | 17.3 | 2.0E-04 | 1.0E-04 | 0.35  | 1111  |   | 10 | 23  | 0   | -  | Y  | 0.500 |
| 6   | UN  | 17.3 | 17.3 | 2.0E-04 | 1.0E-04 | 0.35  | 1111  |   | 10 | 23  | 0   | -  | Y  | 0.500 |
| 5   | UN  | 12.0 | 12.0 | 5.0E-05 | 2.5E-05 | 0.35  | 370   |   | 10 | 17  | 0   | -  | Y  | 0.100 |
| 4   | DR  | 17.0 | 20.0 | 5.0E+00 | 5.0E+00 | 0.35  | 9259  |   | 1  | 32  | 3   | -  | Y  | 0.500 |
| 3   | UN  | 17.5 | 17.5 | 2.0E-04 | 1.0E-04 | 0.35  | 1111  |   | 10 | 23  | 0   | -  | Y  | 0.500 |
| 2   | DR  | 18.0 | 21.0 | 2.0E+01 | 2.0E+01 | 0.35  | 14815 |   | 1  | 32  | 3   | -  | Y  | 0.500 |
| 1   | UN  | 21.0 | 21.0 | 1.0E-03 | 1.0E-03 | 0.35  | 2778  |   | 1  | 35  | 5   | -  | Y  | 0.500 |

Material data sets

EMK boorprof.404, Hollandsche IJssel

PLAXIS

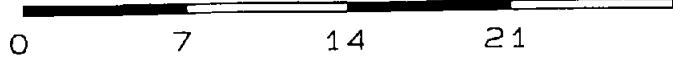
Professional  
Version 6.30

EMK404 Step 137

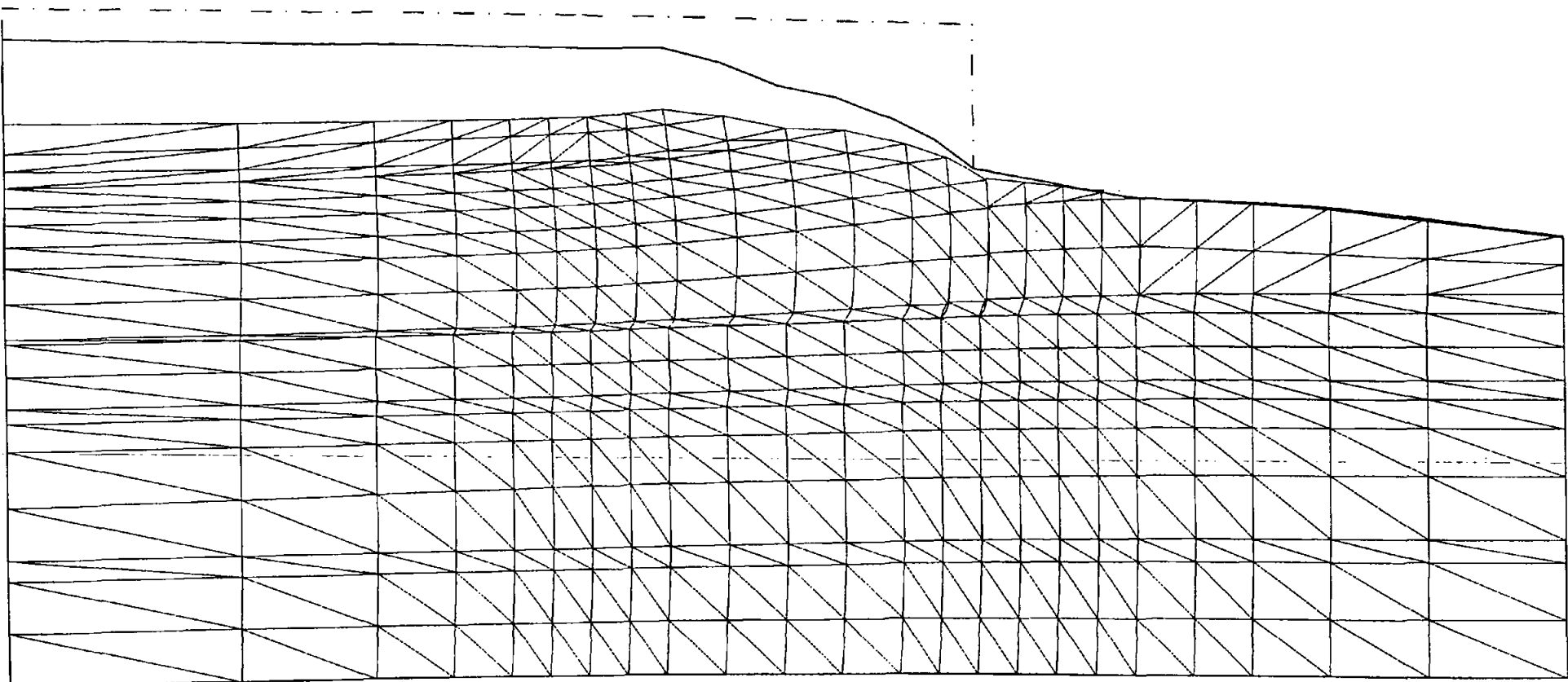
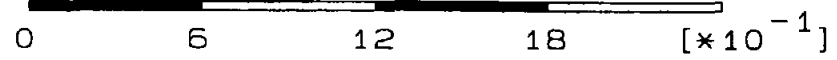
10-1-97

OMEGAM

Mesh Scale [m]



Displacements [m]



Deformed mesh, scaled up (down)

Extreme displacement 3.55E-01 m

PLAXIS

Professional  
Version 6.30

EMK boorprof.404, Hollandsche IJssel

EMK404 Step 5

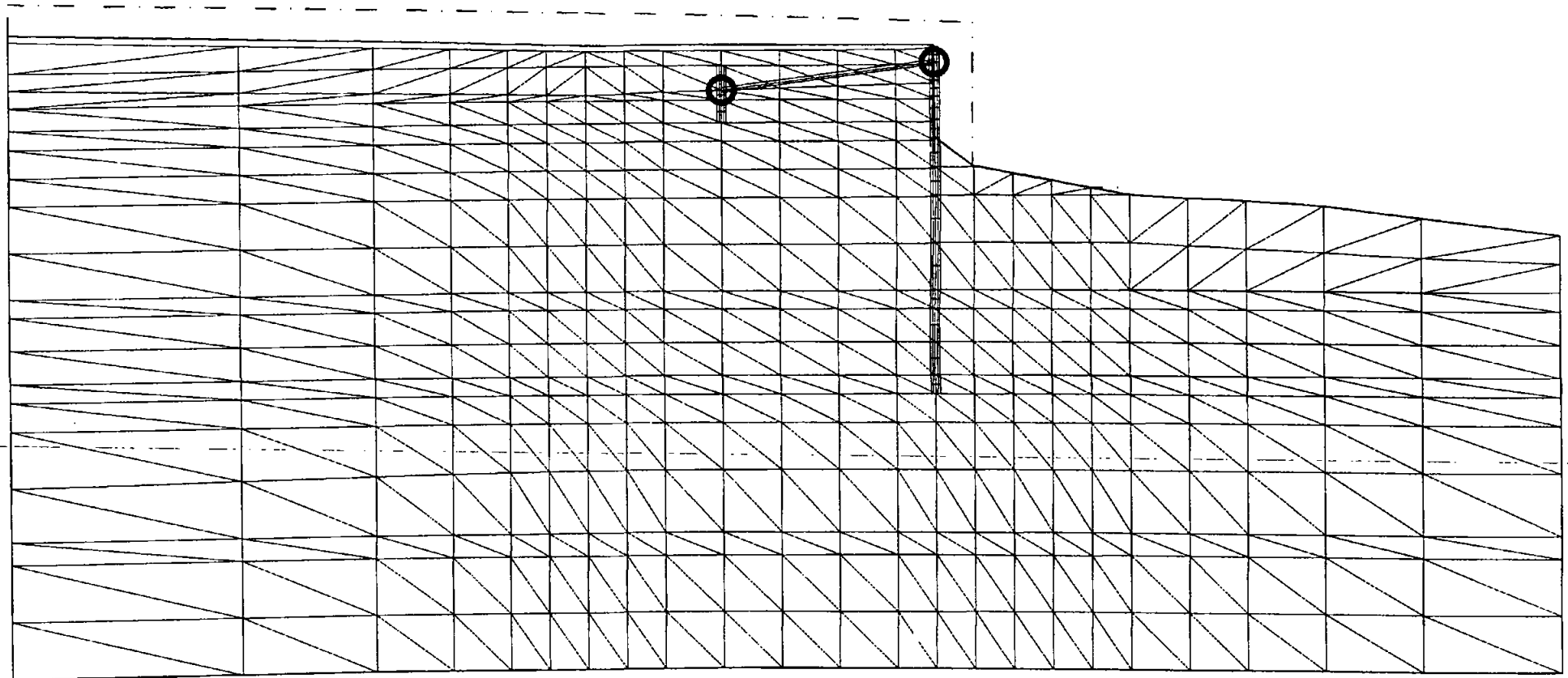
10-1-97

OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21



Deformed mesh, truly scaled  
Extreme displacement 3.54E-01 m

**PLAXIS**  
Professional  
Version 6.30

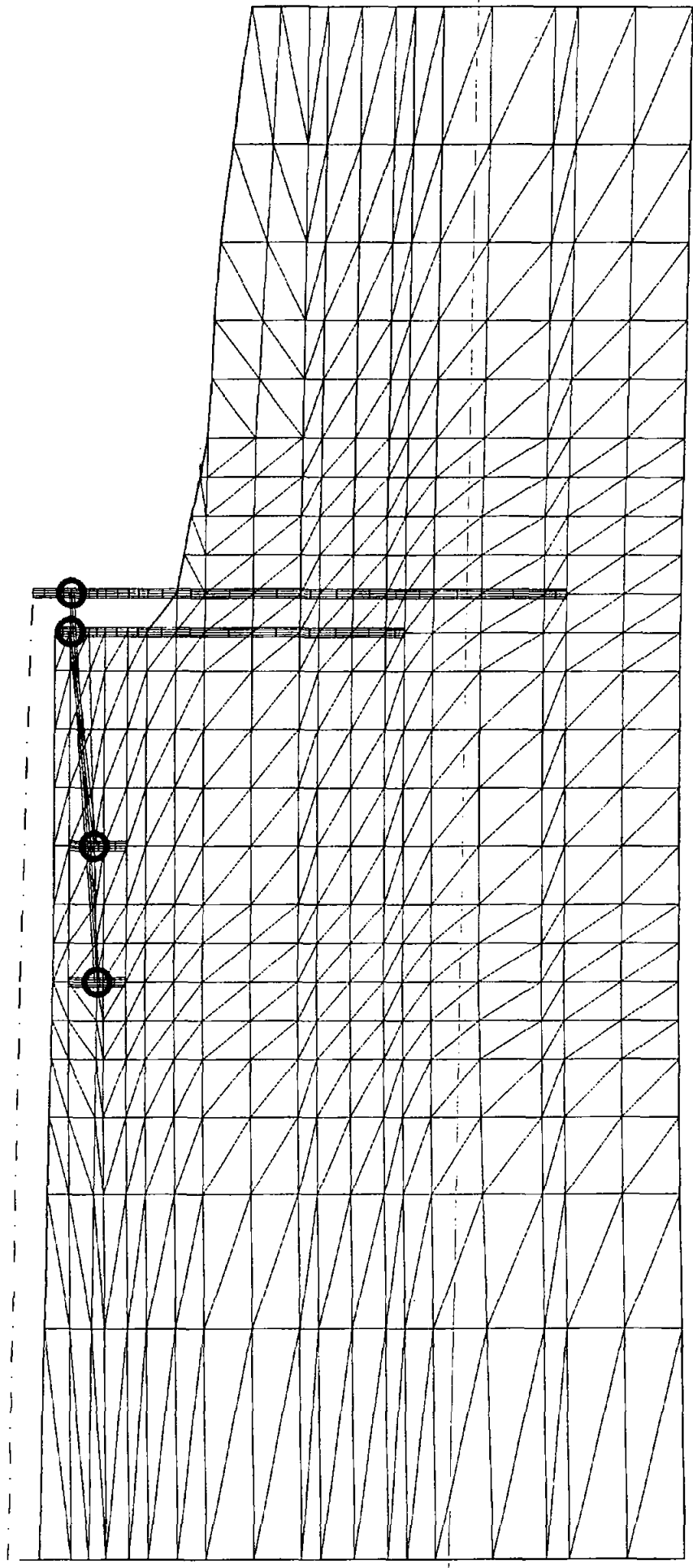
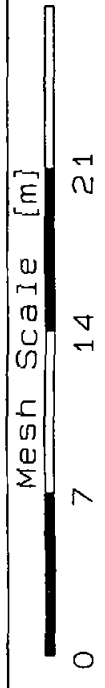
EMK boorprof.404, Hollandsche IJssel

EMK404 Step 38

10-1-97

OMEGAM

Plane Strain



Deformed mesh, truly scaled

Extreme displacement 2.19E-03 m

**PLAXIS**  
Professional  
Version 6.30

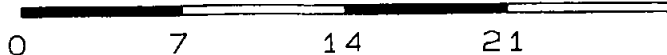
EMK boorprof.404, Hollandsche IJssel

EMK404 Step 40 10-1-97

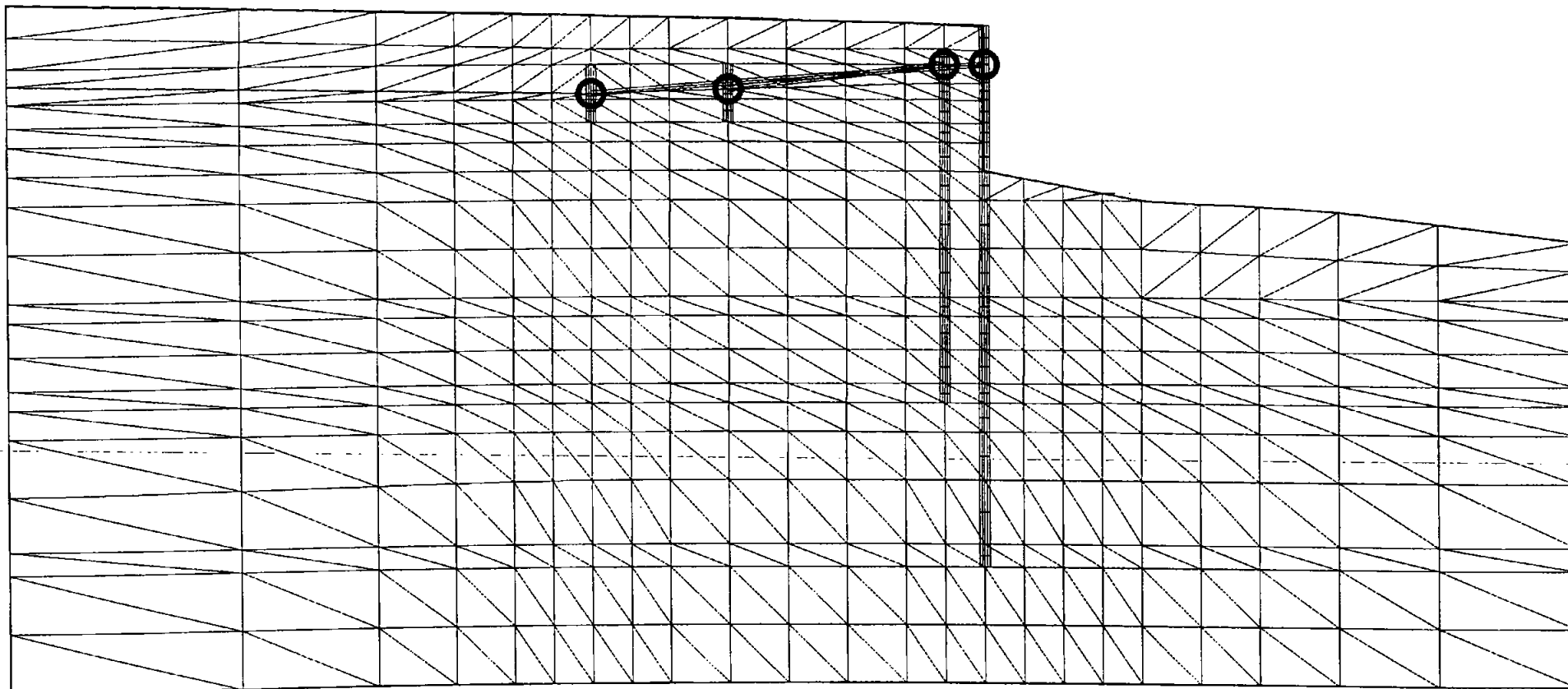
OMEGAM



Mesh Scale [m]



Plane Strain



Deformed mesh, truly scaled  
Extreme displacement 1.17E-01 m

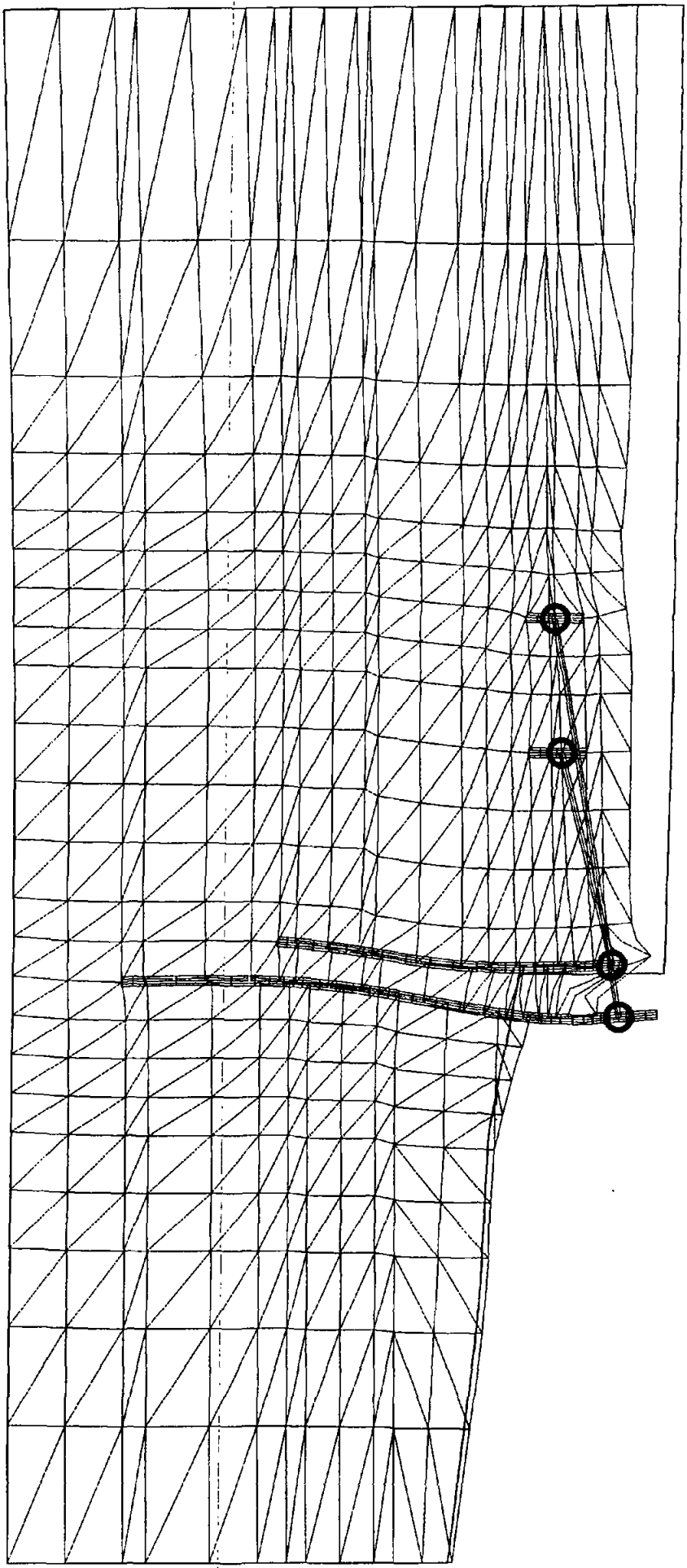
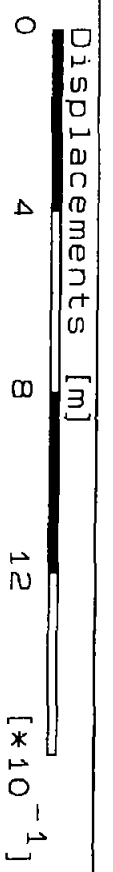
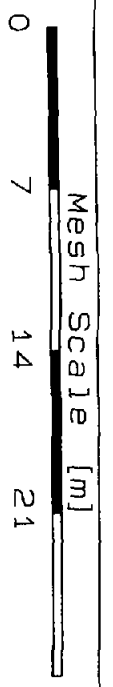
**PLAXIS**  
Professional  
Version 6.30

EMK boorprof.404, Hollandsche IJssel

EMK404 Step 71

10-1-97

OMEGAM



Deformed mesh, scaled up (down)  
 Extreme displacement 2.26E-01 m

PLAXIS

Professional  
 Version 6.30

EMK boorprof. 404, Hollandsche IJssel

EMK404 Step 137

8-1-97

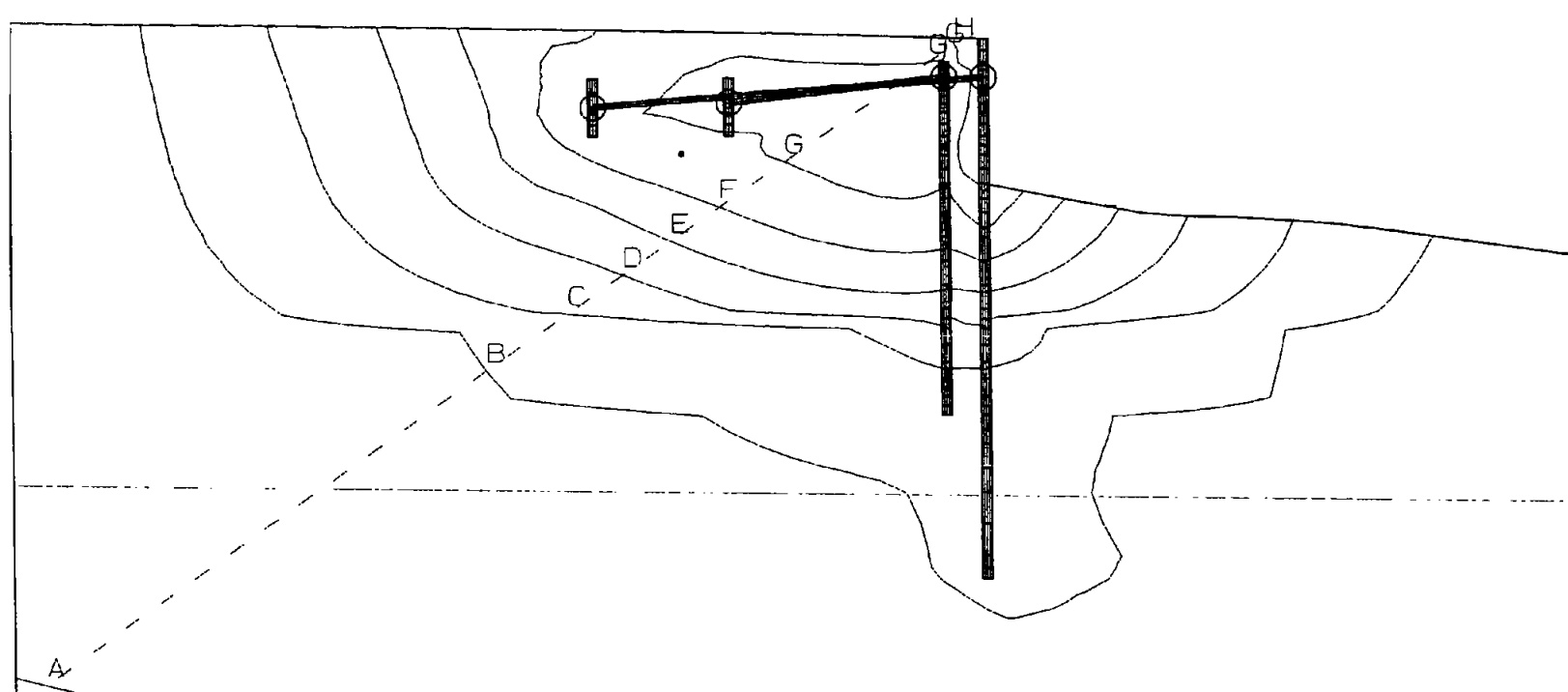
OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21

- A: 4.44E-16
- B: 1.00E-02
- C: 2.00E-02
- D: 3.00E-02
- E: 4.00E-02
- F: 5.00E-02
- G: 6.00E-02
- H: 7.00E-02



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 7.95E-02 m

**PLAXIS**  
Professional  
Version 6.30

EMK boorprof.404, Hollandsche IJssel

EMK404 Step 71

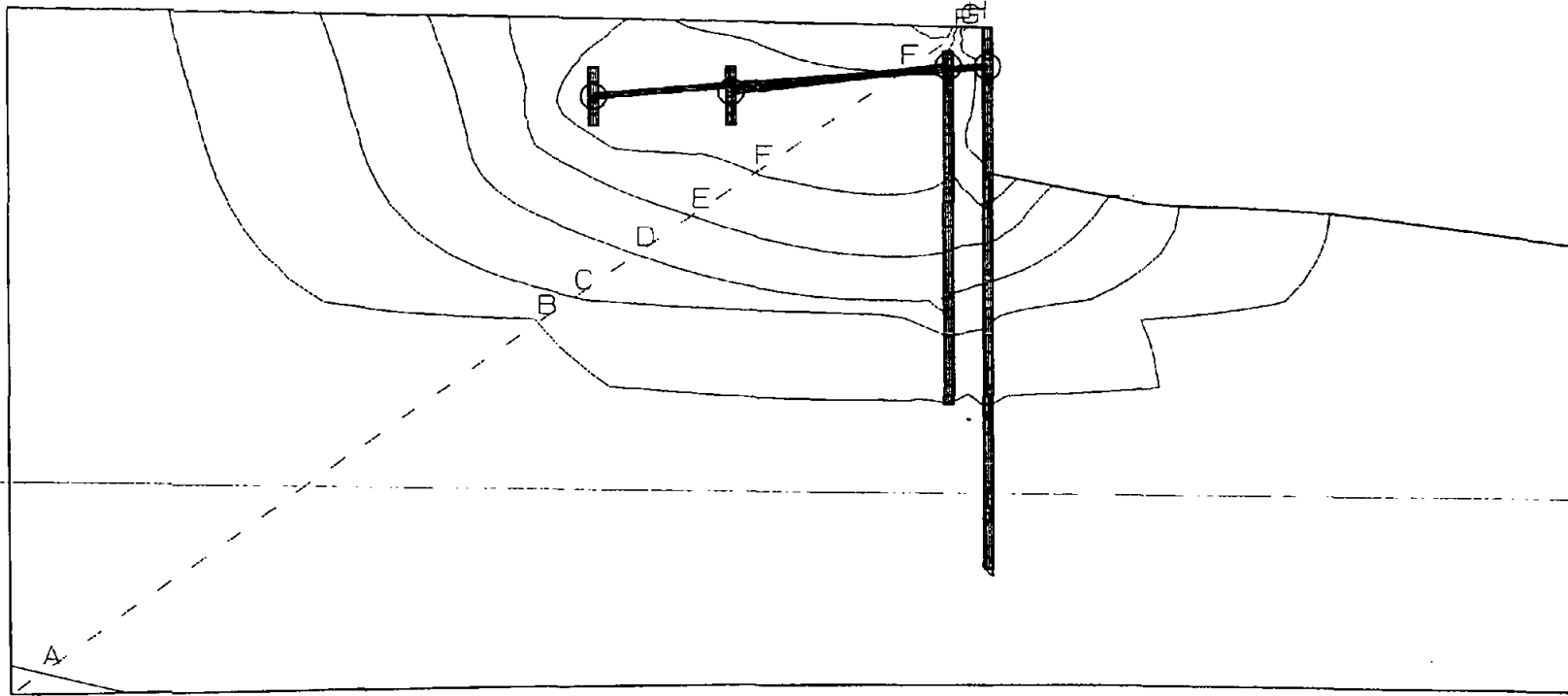
10-1-97

OMEGAM

Mesh Scale [m]

0 7 14 21

Plane Strain



- A: 4.44E-16
- B: 1.00E-02
- C: 2.00E-02
- D: 3.00E-02
- E: 4.00E-02
- F: 5.00E-02
- G: 6.00E-02
- H: 7.00E-02

Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 7.04E-02 m

**PLAXIS**

Professional  
Version 6.30

EMK boorprof.404, Hollandsche IJssel

EMK404 Step 108

10-1-97

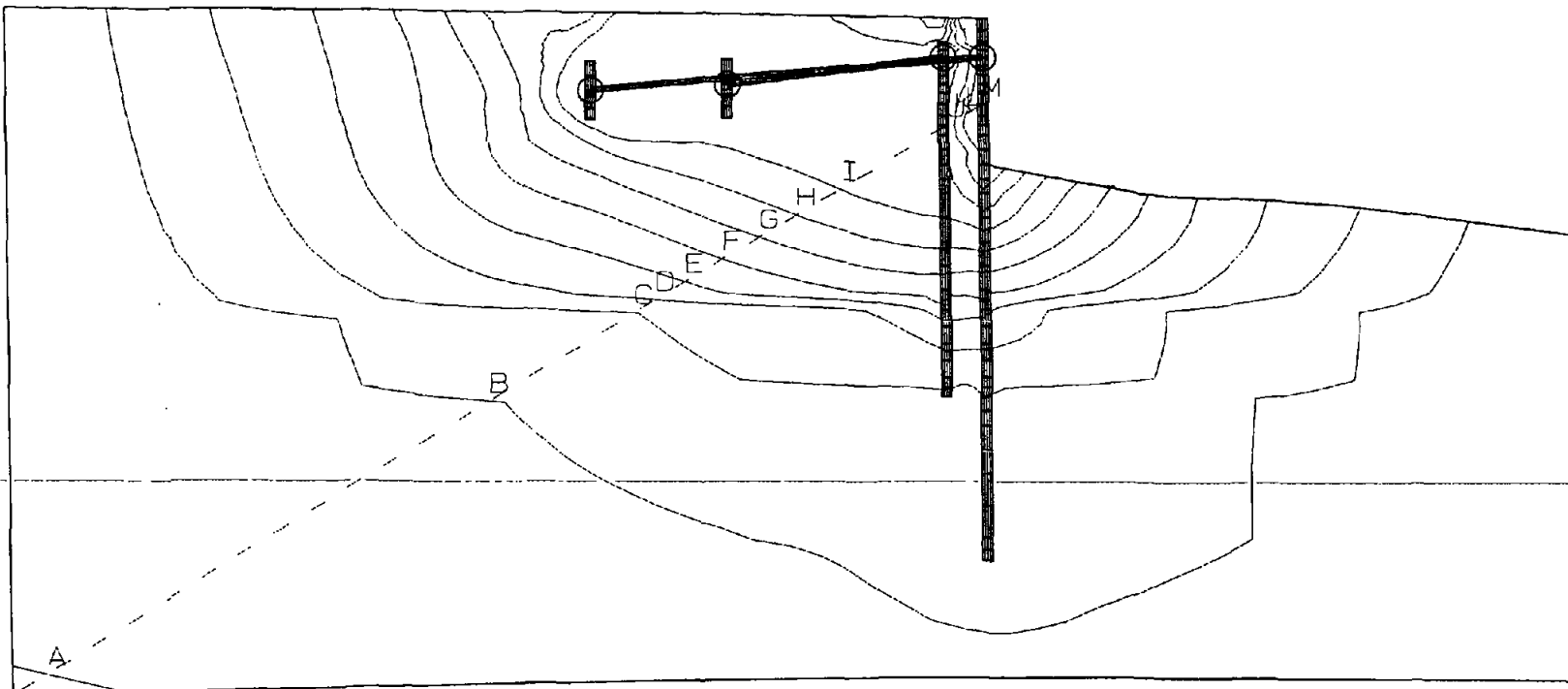
OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21

- A: -2.46E-15
- B: 1.00E-02
- C: 2.00E-02
- D: 3.00E-02
- E: 4.00E-02
- F: 5.00E-02
- G: 6.00E-02
- H: 7.00E-02
- I: 8.00E-02
- J: 9.00E-02
- K: 1.00E-01
- L: 1.10E-01
- M: 1.20E-01



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.21E-01 m

PLAXIS

EMK boorprof.404, Hollandsche IJssel

Professional  
Version 6.30

EMK404 Step 137

10-1-97

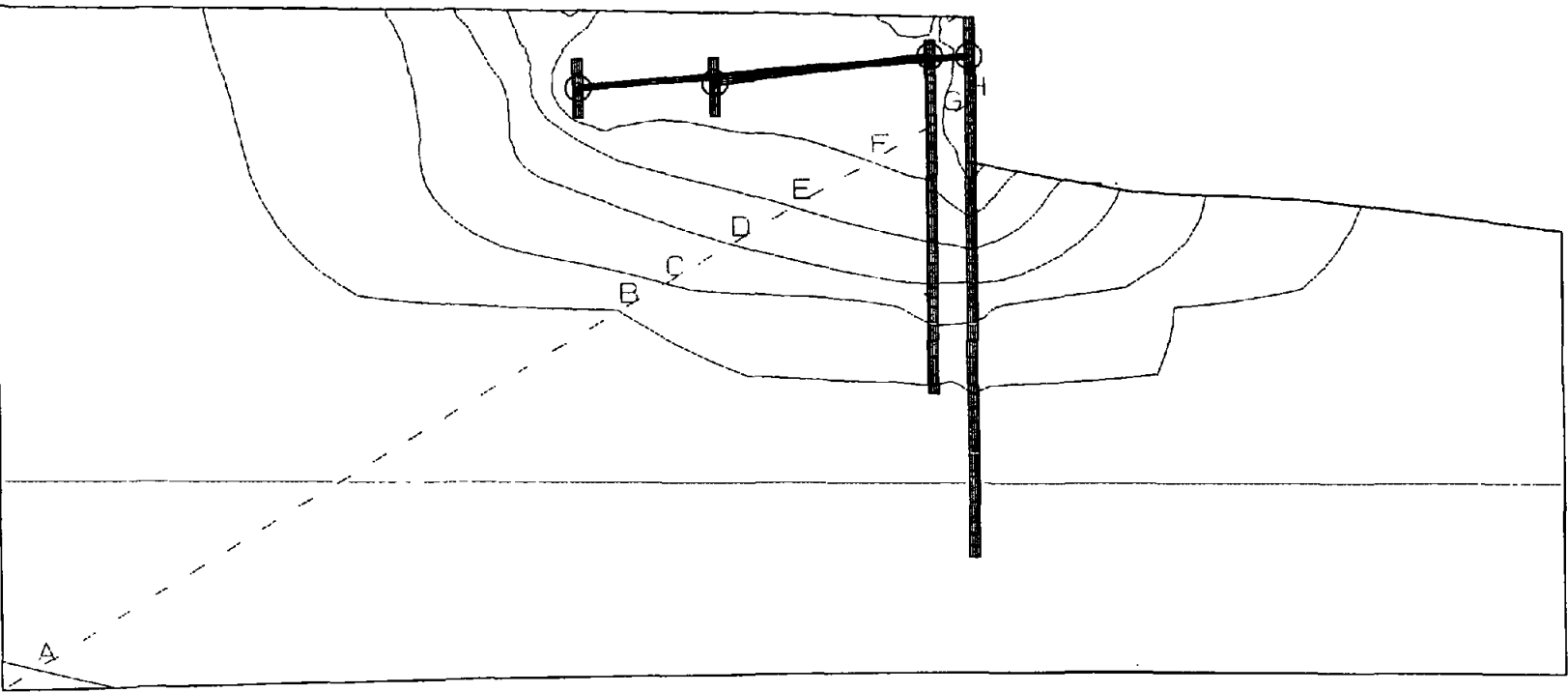
OMEGAM

Mesh Scale [m]

Plane Strain

0 7 14 21

- A: 8.88E-16
- B: 2.00E-02
- C: 4.00E-02
- D: 6.00E-02
- E: 8.00E-02
- F: 1.00E-01
- G: 1.20E-01
- H: 1.40E-01



Contours of total horizontal displacements

Minimum value 0.00E+00, maximum value 1.43E-01 m

PLAXIS

EMK boorprof.404, Hollandsche IJssel

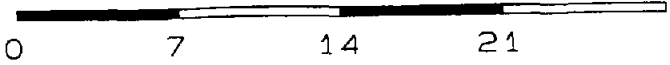
Professional  
Version 6.30

EMK404 Step 192

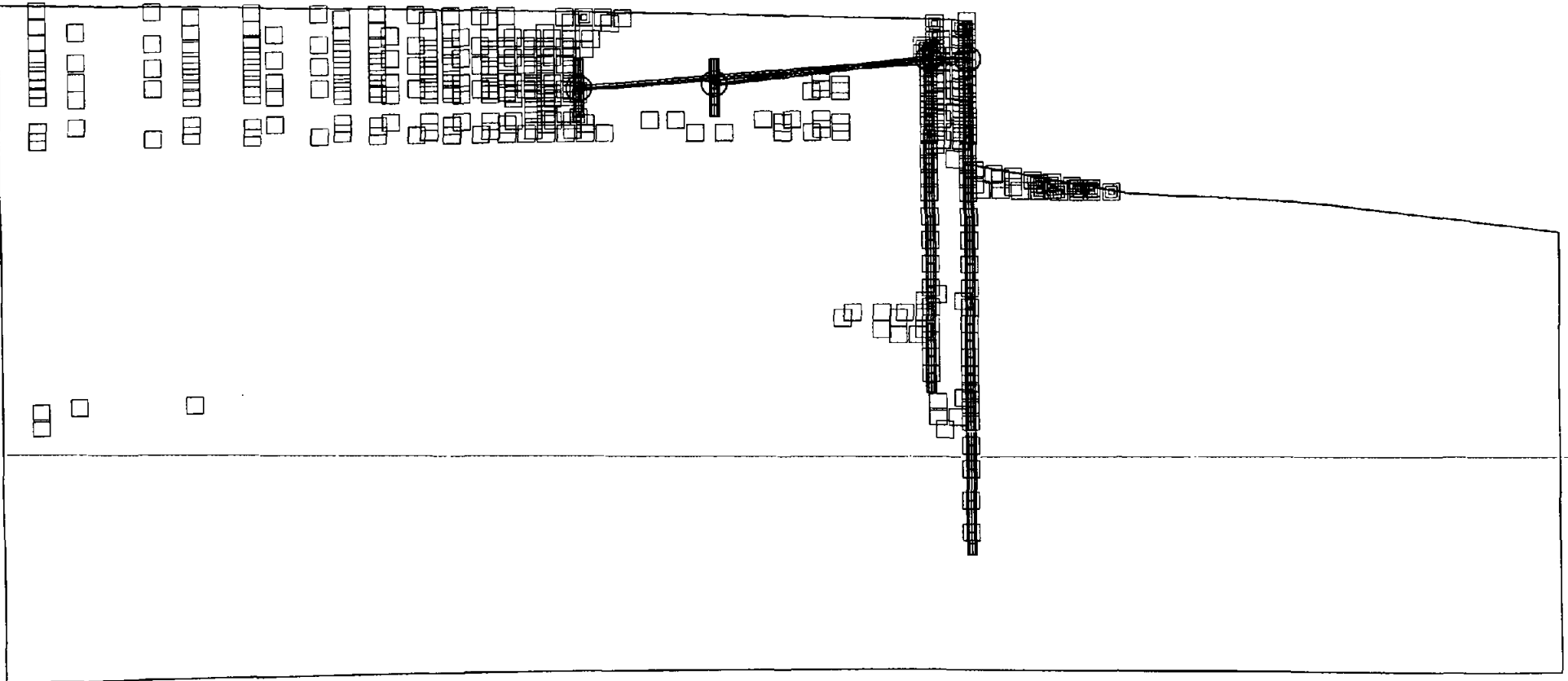
10-1-97

OMEGAM

Mesh Scale [m]



Plane Strain



□ Plastic Mohr-Coulomb point

⊗ Tension cut off point

**PLAXIS**  
Professional  
Version 6.30

EMK boorprof .404, Hollandsche IJssel

EMK404 Step 71

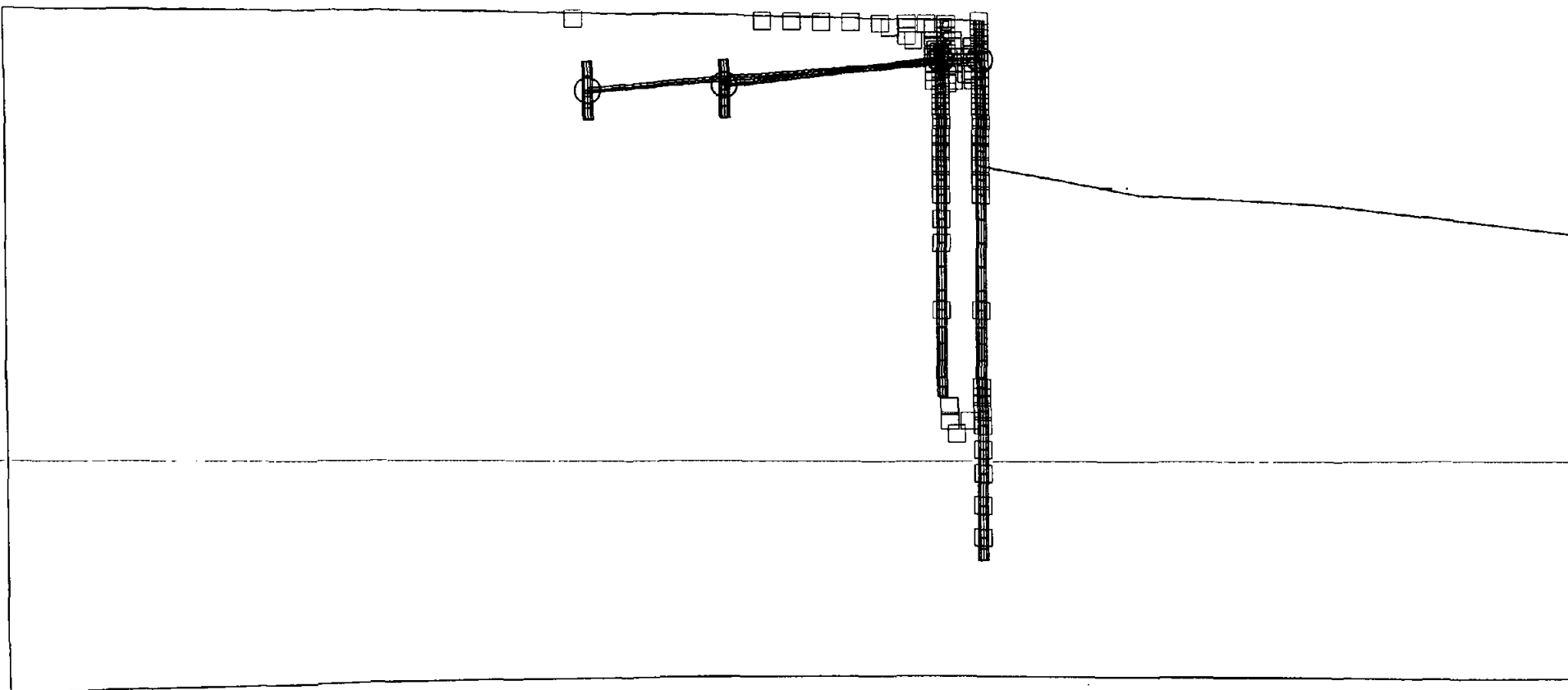
10-1-97

OMEGAM

Mesh Scale [m]

0 7 14 21

Plane Strain



□ Plastic Mohr-Coulomb point

⊙ Tension cut off point

PLAXIS

Professional  
Version 6.30

EMK boorprof.404, Hollandsche IJssel

EMK404 Step 108

10-1-97

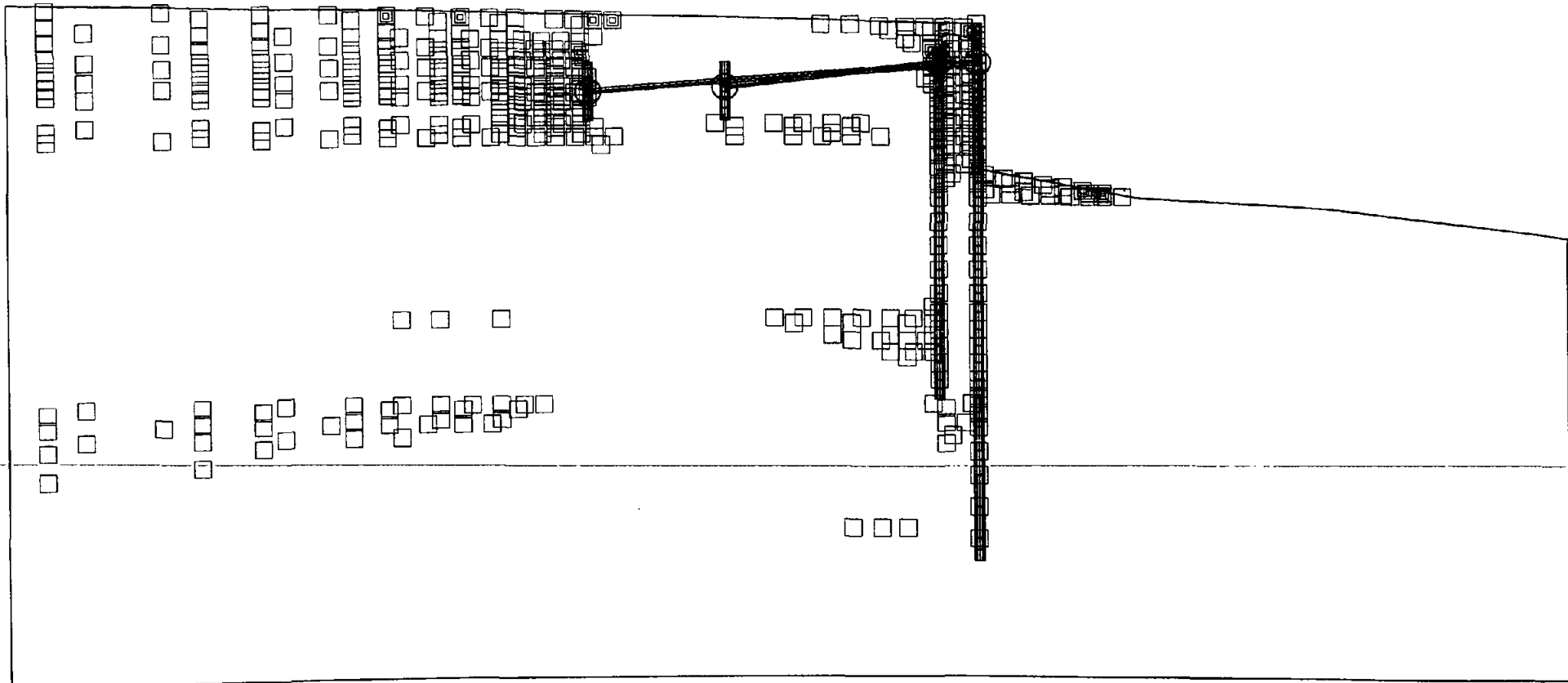
OMEGAM



Mesh Scale [m]

0 7 14 21

Plane Strain



□ Plastic Mohr-Coulomb point

⊗ Tension cut off point

**PLAXIS**

Professional  
Version 6.30

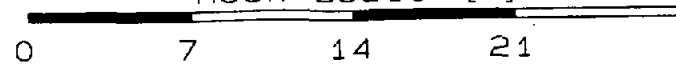
EMK boorprof.404, Hollandsche IJssel

EMK404 Step 137

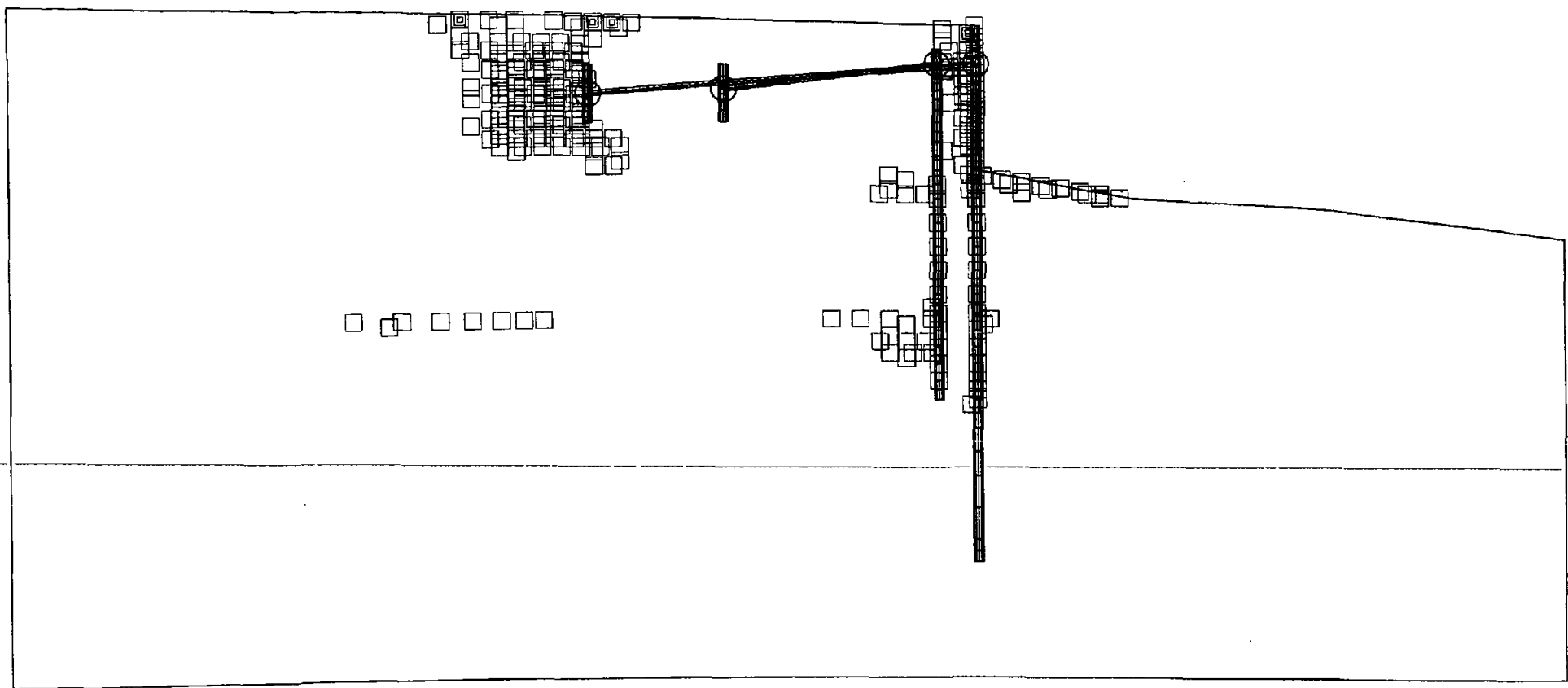
8-1-97

OMEGAM

Mesh Scale [m]



Plane Strain



□ Plastic Mohr-Coulomb point

⊗ Tension cut off point

**PLAXIS**  
Professional  
Version 6.30

EMK boorprof.404, Hollandsche IJssel

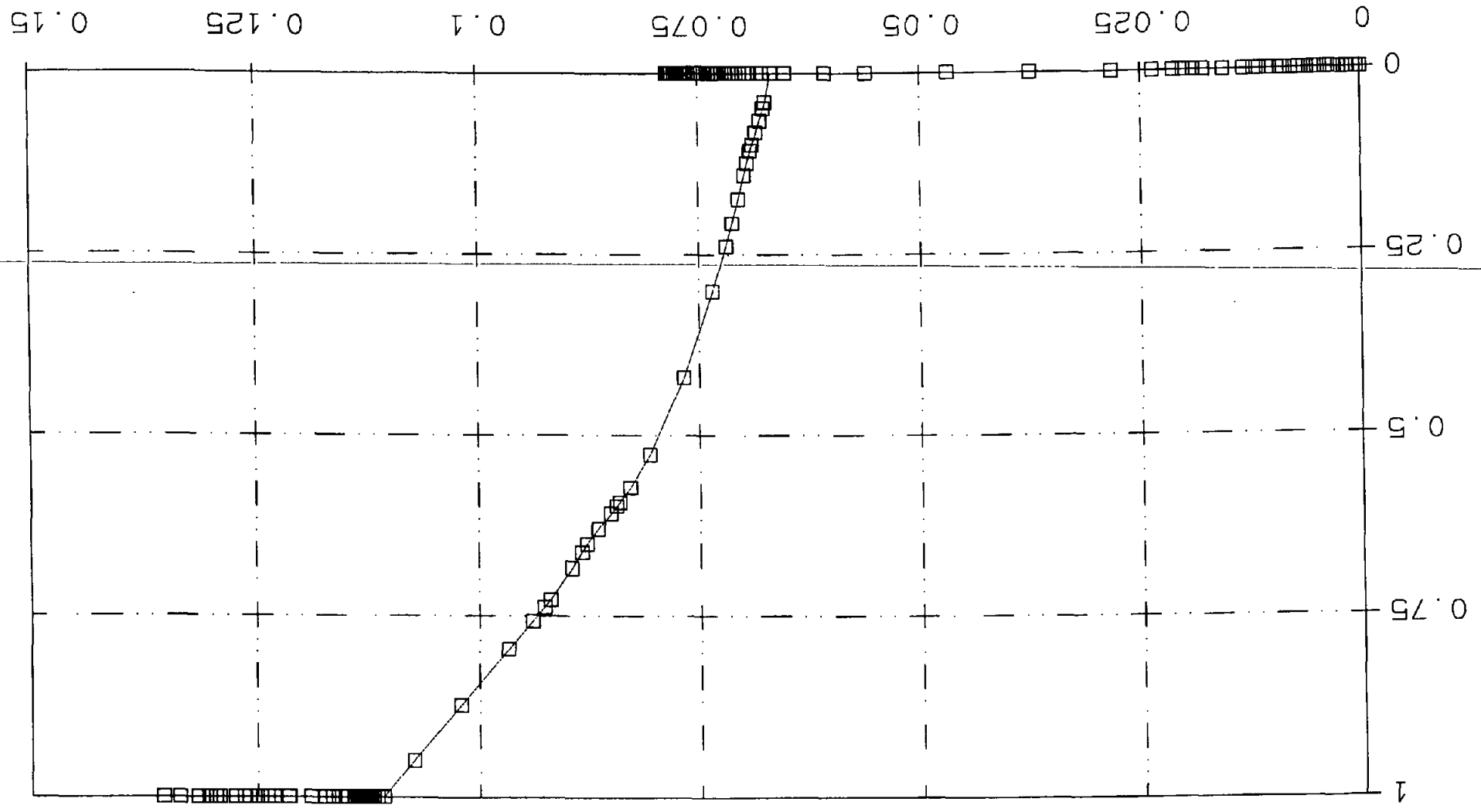
EMK404 Step 192

8-1-97

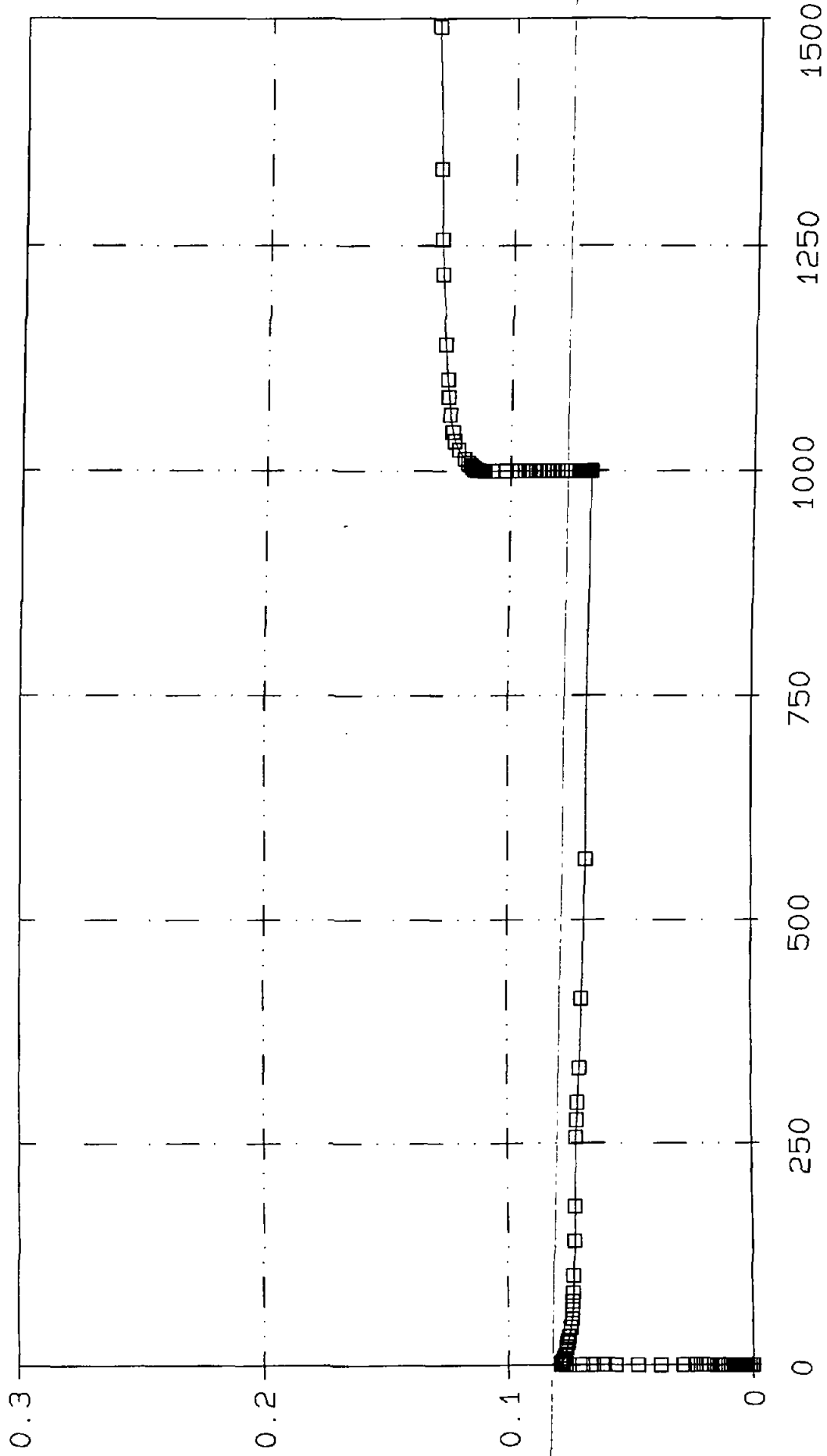
OMEGAM

EMK boorprof. 404, Hollandische IJssel

Horizontale verpl. b.k. damwand



Hor. verpl. bovenkant damwand [m]



Tijd [dagen]

**PLAXIS**  
Professional  
Version 6.30

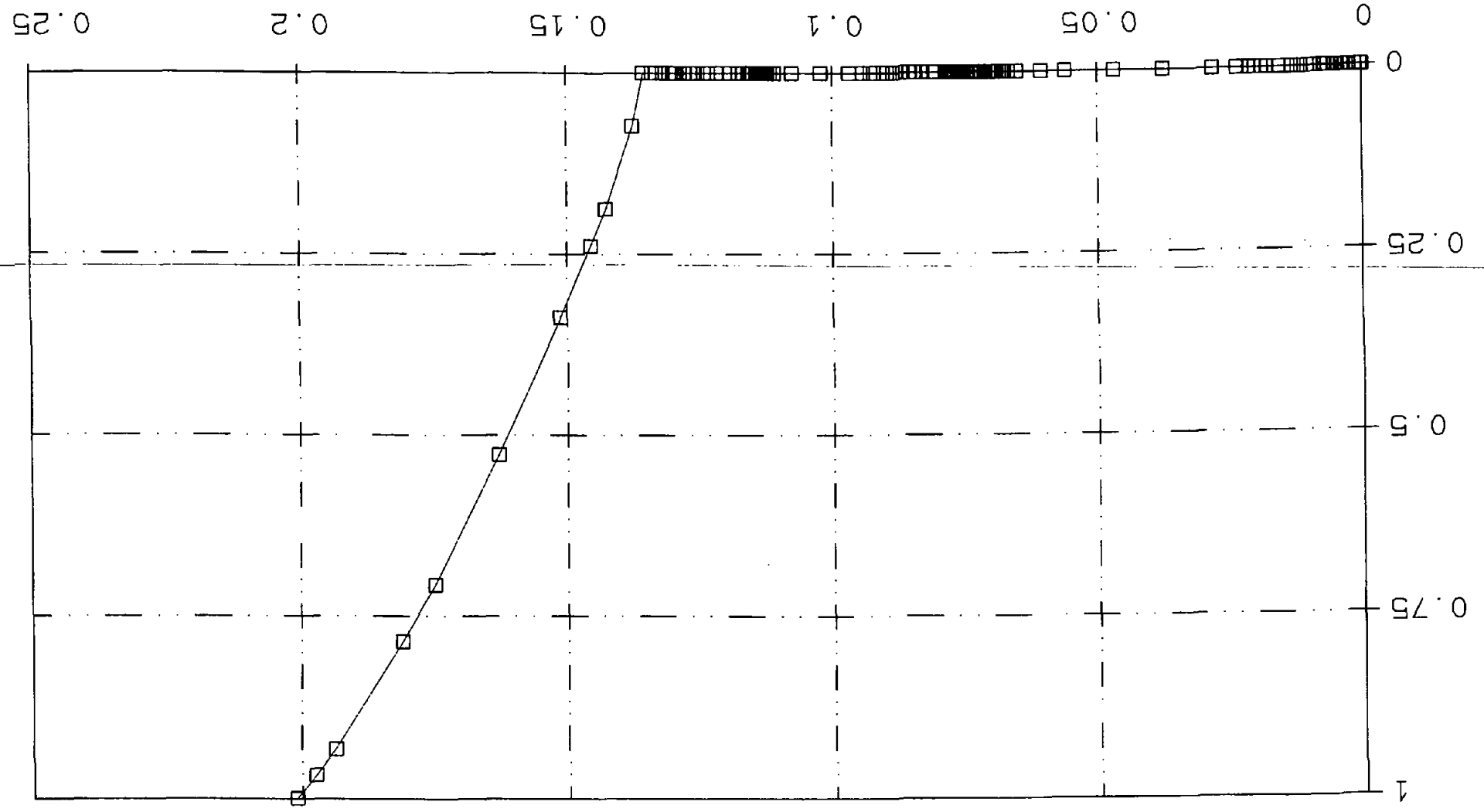
EMK boorprof. 404, Hollandsche IJssel

EMK404

8-1-97

OMEGAM

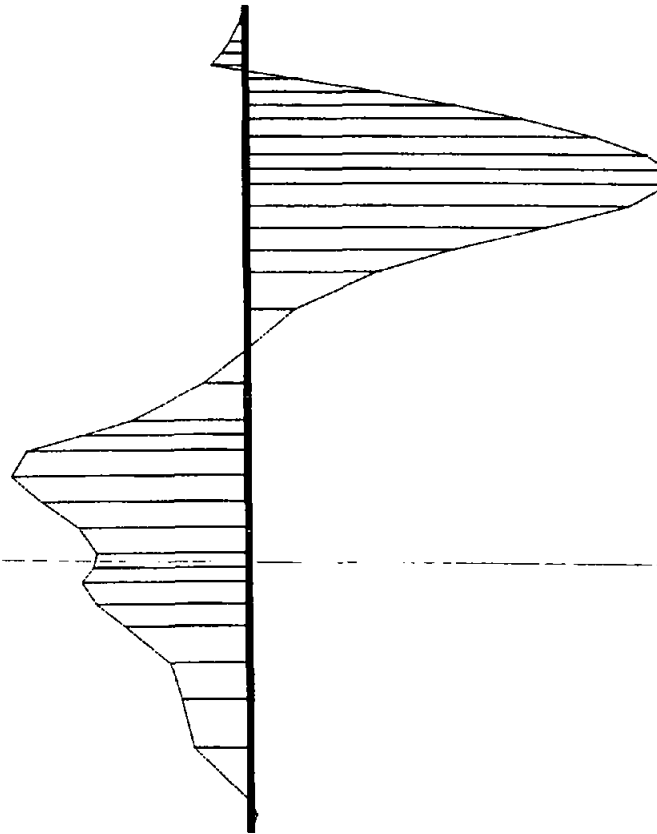
Hor. verpl. bovenkant damwand [m]



Mesh Scale [m]

Plane Strain

0 3 6 9



Moments in beam chain 1

Extreme moment  $-2.36E+02$  kNm/m

PLAXIS

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Version 6.30

EMK boorprof.404, Hollandsche IJssel

EMK404 Step 137

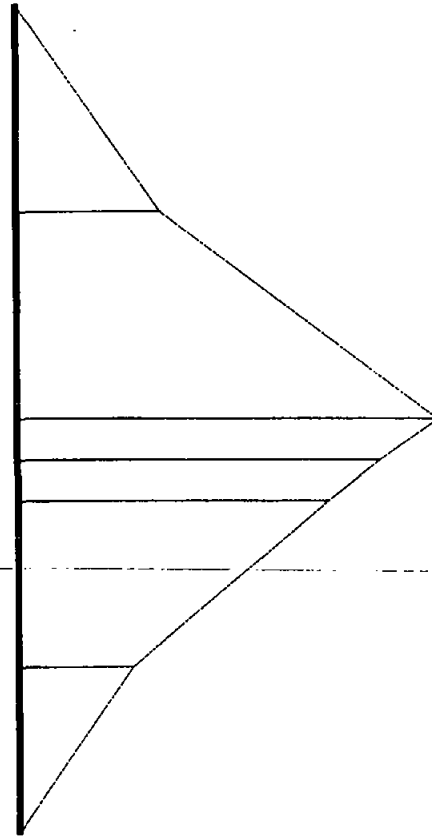
8-1-97

OMEGAM

Mesh Scale [m]

Plane Strain

0 3 6 9 [ $\times 10^{-1}$ ]



Moments in beam chain 2

Extreme moment  $-6.11E+01$  kNm/m

PLAXIS

Professional  
Version 6.30

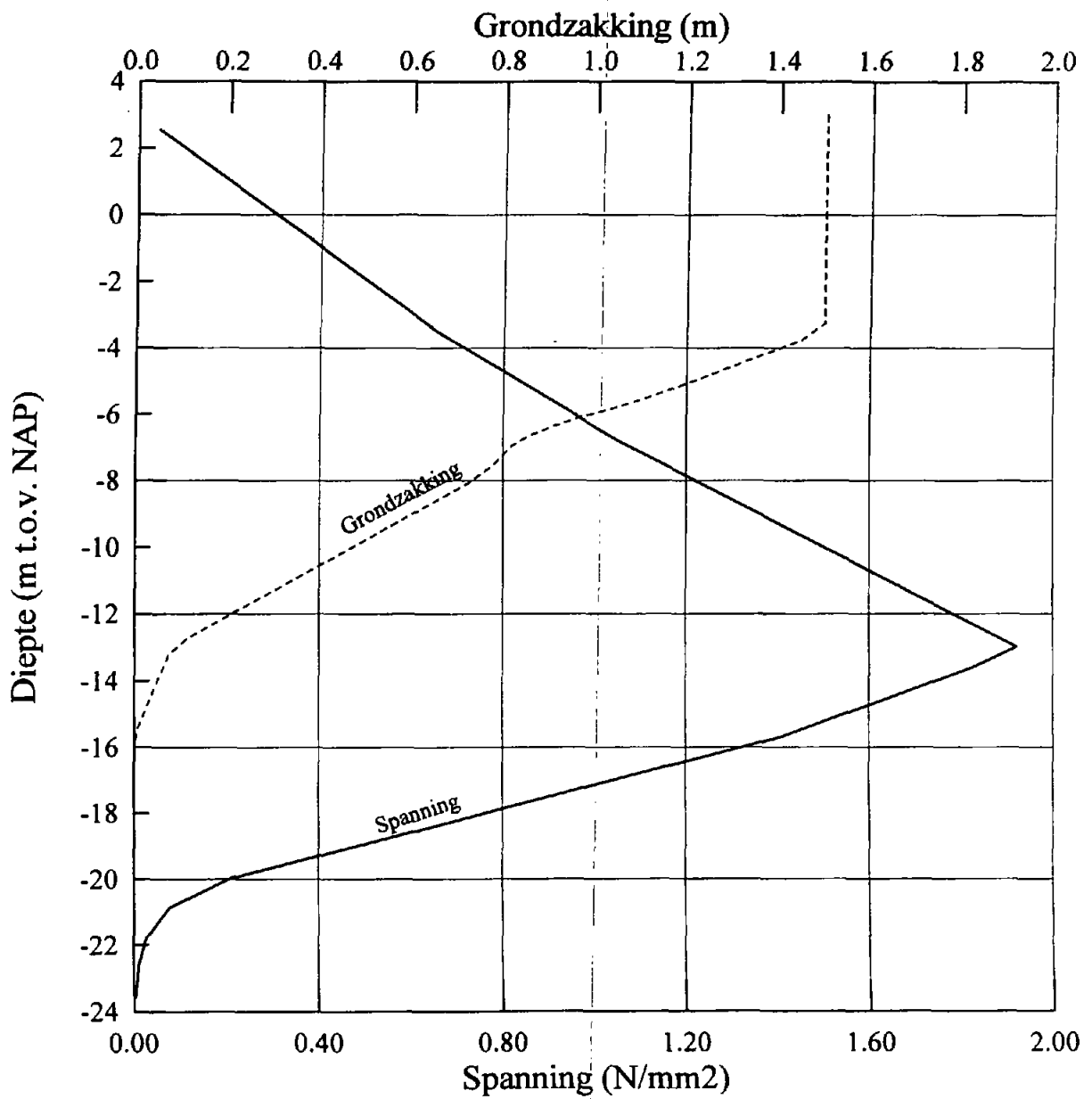
EMK boorprof.404, Hollandsche IJssel

EMK404 Step 137

8-1-97

OMEGAM

## Spanning in cement-bentonietwand

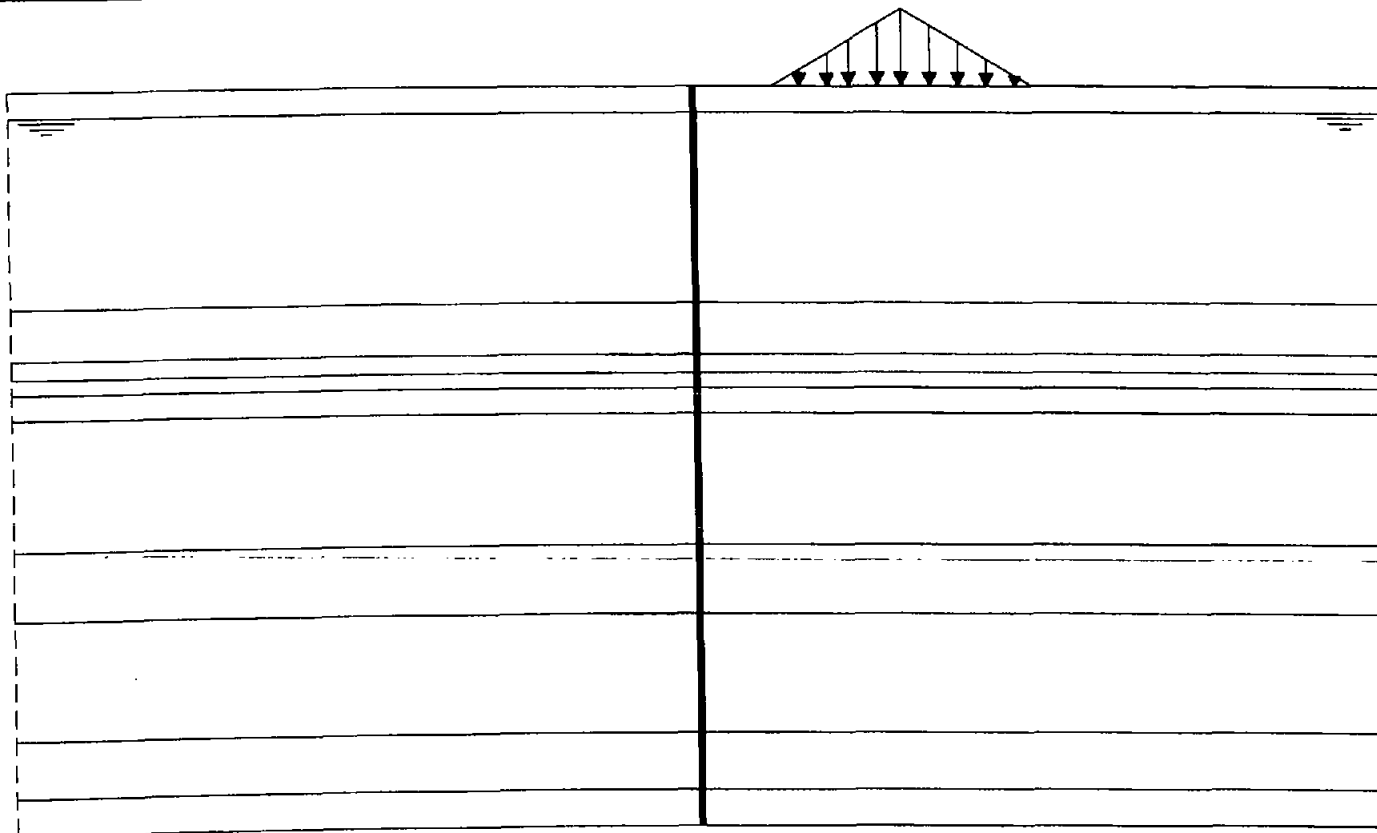




OVERZICHT INVOER BOUWFASE : 1

Peil  
[m]

5.0  
2.0  
0.0  
-2.0  
-4.0  
-6.0  
-8.0  
-10.  
-12.  
-14.  
-16.  
-18.  
-20.  
-22.  
-24.



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GD MSHEET [4.0.2]

File : CB405

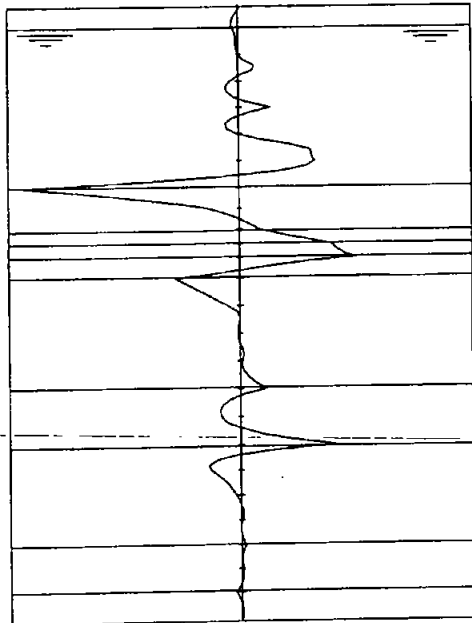
Maaiveld L/R : 1 / 2      Lengte : 29.00

Water      L/R : 4.00 / 4.00

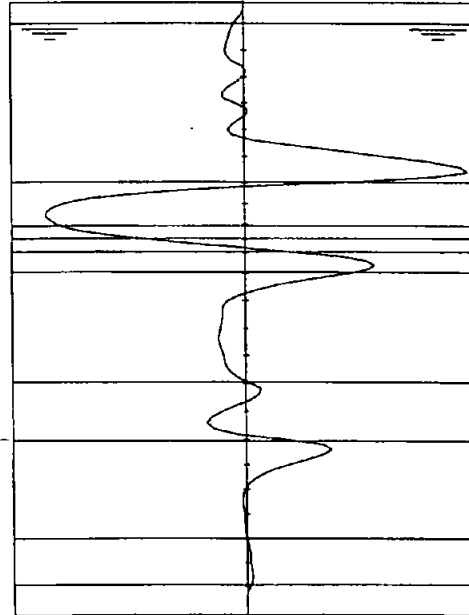
EMK-terrein, 2% sterkte-waarden

Boring 405, cement-bentonietwand

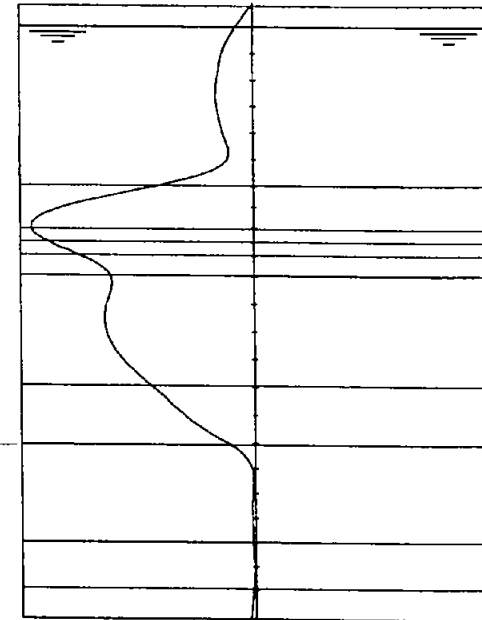
KRACHTEN EN VERPLAATSINGEN BOUWFASE : 1



Dwarskrachten [kN/Bm]  
 Maximum : 4.6  
 Minimum : -8.8



Momenten [kNm/Bm]  
 Maximum : 3.7  
 Minimum : -3.3



Verplaatsingen [mm]  
 Maximum : -9.3

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GD MSHEET [4.0.2]

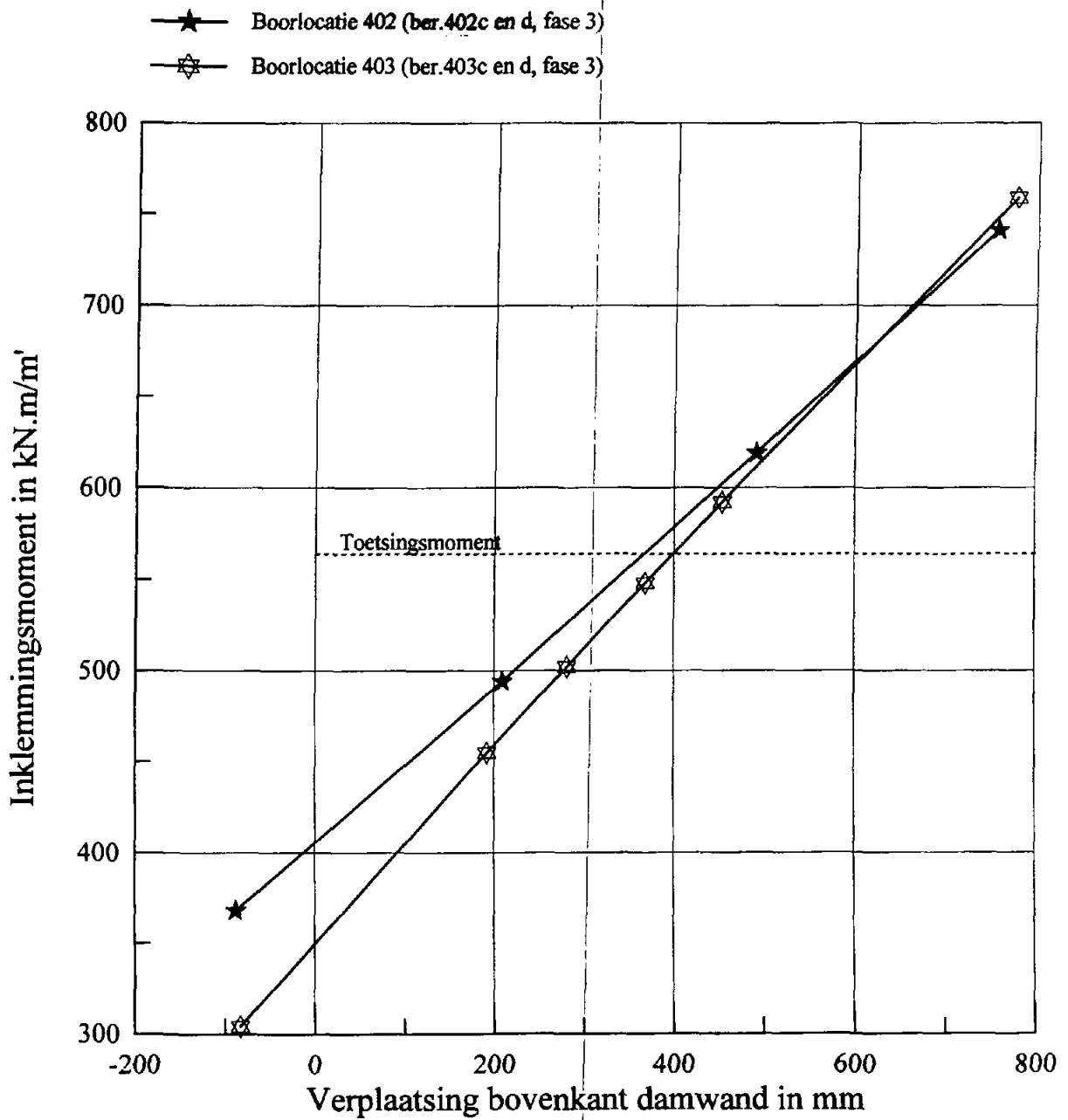
File : CB405

Maarveld L/R : 1 / 2 Lengte : 29.00

Water L/R : 4.00 / 4.00

EMK-terrein, 2% sterkte-waarden

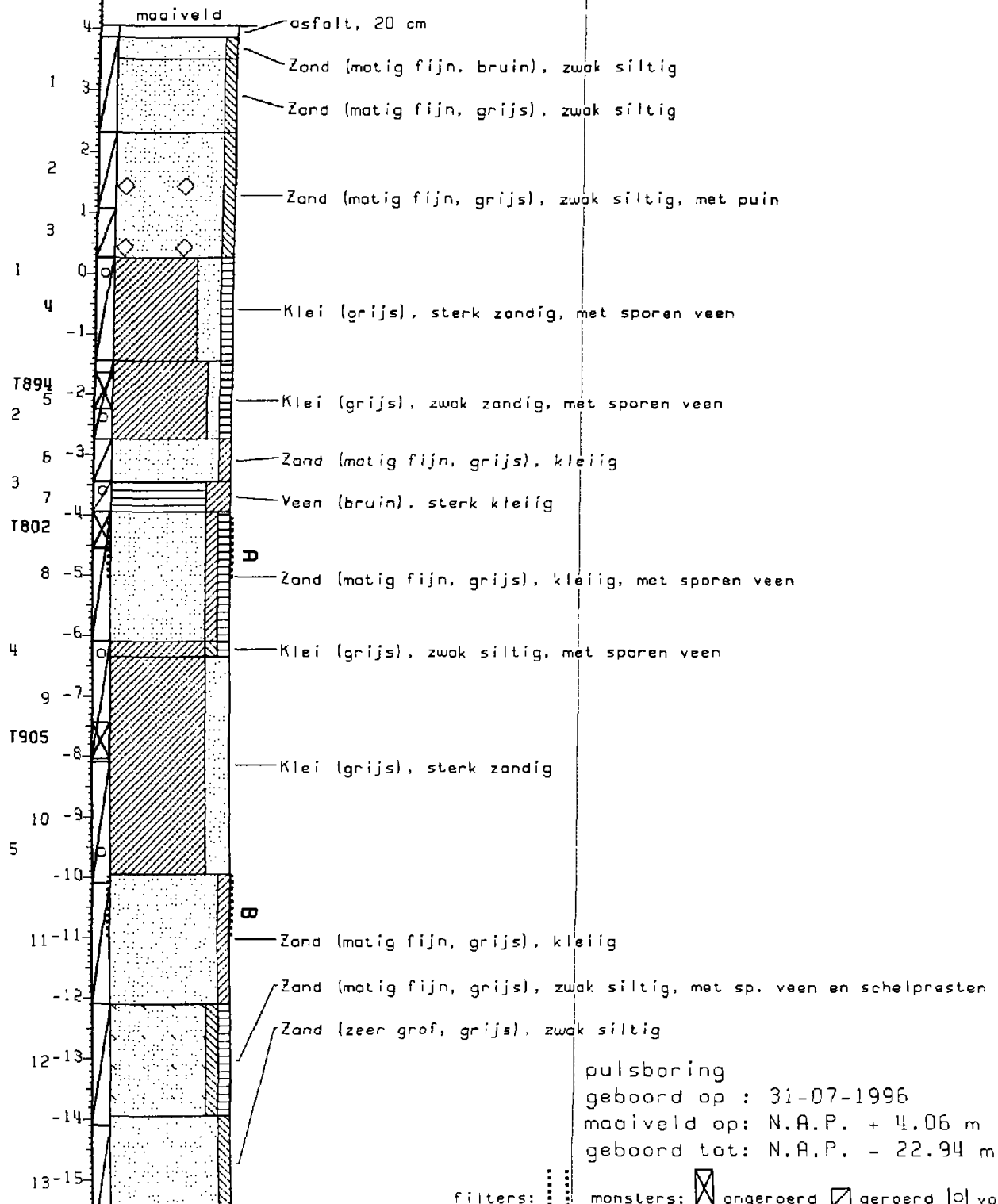
Boring 405, cement-bentonietwand



m +/-  
N.A.P.

getekend volgens NEN 5104 met aanvullingen

401



pulsboring

geboord op : 31-07-1996

maaiveld op: N.A.P. + 4.06 m

geboord tot: N.A.P. - 22.94 m



OMEGAM

15-11-1996/C.B.

CHB

EMK-TERREIN  
BOORSTRAAT

(12) 10.692

Sector 1. Geotechniek

401

pg.1 van 2

getekend volgens NEN 5104 met aanvullingen

401

13

-16

14-17

-18

15-19

-20

16

-21

A2926

17-22

-23

-24

-25

-26

-27

-28

-29

-30

-31

-32

-33

-34

-35

-36

-37

-38

-39

Zand (zeer grof, grijs), zwak siltig

Zand (zeer grof, grijs), zwak siltig, sterk grindig

Leem

m +/-  
N.A.P.

pulsboring  
geboord op : 31-07-1996  
maaiveld op: N.A.P. + 4.06 m  
geboord tot: N.A.P. - 22.94 m

filters: monsters:  ongeroerd  geroerd  volume



OMEGAM

29-10-1996/C.B.

*CB*

EMK-TERRAIN  
BOORSTAAT

Sector 1, Geotechniek

(12) 10.692



401

pg.2 van 2

m +/-  
N.A.P.

9  
8  
7  
6  
5  
4  
3  
2  
1  
0  
-1  
-2  
-3  
-4  
-5  
-6  
-7  
-8  
-9  
-10  
-11  
-12  
-13  
-14  
-15  
17

**402**

maaiveld

asfalt, 20 cm

Zand (matig fijn, bruin), zwak siltig

Zand (matig fijn, grijs), zwak siltig, met veel puin en houtresten

Klei (grijs), zwak siltig, met veel puin

Klei (grijs), zwak siltig, met sporen zand en puin

Veen (bruin)

Klei (grijs), zwak siltig, met sporen veen en schelpresten

Veen (bruin), sterk kleilig

Klei (grijs), zwak siltig, sterk humeus

Veen (bruin)

Klei (grijs), zwak siltig, sterk humeus

Zand (matig grof), kleilig

Zand (matig grof), zwak siltig, met een enkel kleilaagje

T907

T314

T930

T967

T398

pulsboring  
geboord op : 7-08-1996  
maaiveld op: N.A.P. + 4.04 m  
geboord tot: N.A.P. - 24.76 m

filters: monsters:  ongeroerd  geroerd  volume



**OMEGAM**

15-11-1996/C.B.

*de*

EMK-TERREIN  
BOORSTAAT

(12) 10.692

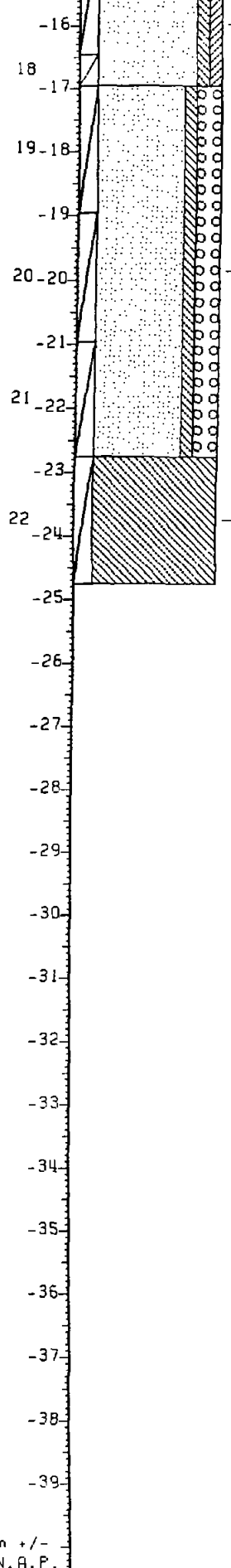
Sector 1, Geotechniek

**402**

pg.1 van 2

T398  
17

getekend volgens NEN 5104 met aanvullingen



402

Zand (matig grof), zwak siltig, met een enkel kleilaagje

Zand (zeer grof, grijs), zwak siltig, sterk grindig

Leem

m +/-  
N.A.P.

pulsboring  
geboord op : 7-08-1996  
maaiveld op: N.A.P. + 4.04 m  
geboord tot: N.A.P. - 24.76 m

filters: ..... monsters:  ongeroerd  geroerd [0] volume



OMEGAM

15-11-1996/C.B.

*HC*

ENK-TERREIN  
BOGRSTART

(12) 10.692

Sector 1, Geotechniek

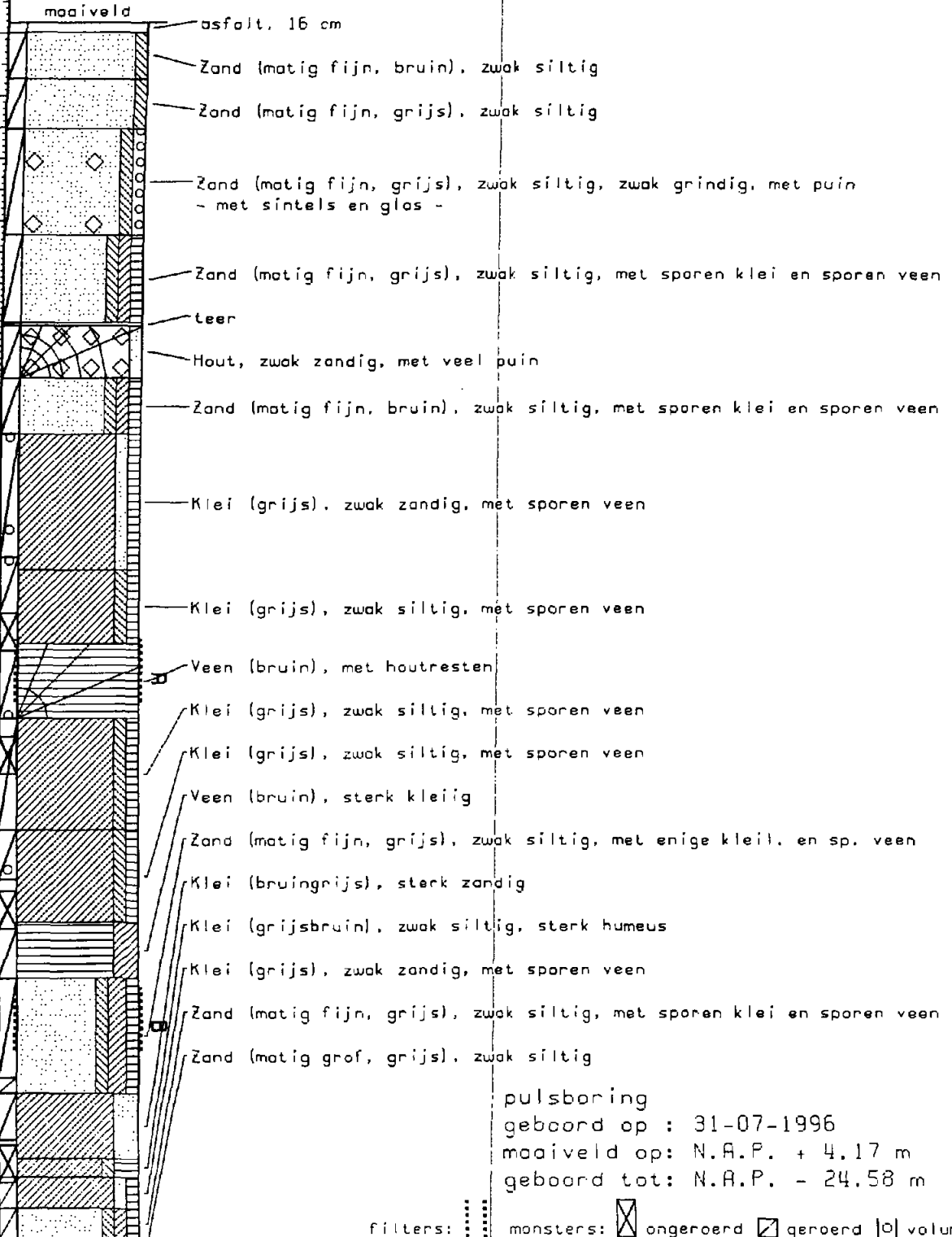
● 402

pg.2 van 2

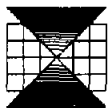
m +/-  
N.A.P.

9  
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T983  
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4  
T985  
11  
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T850  
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T943  
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15  
19

**403**



pulsboring  
geboord op : 31-07-1996  
maaiveld op: N.A.P. + 4.17 m  
geboord tot: N.A.P. - 24.58 m



**OMEGAM**

15-11-1996/C.B.

*dlc*

EMK-TERREIN  
BOORSTART

(12) 10.692

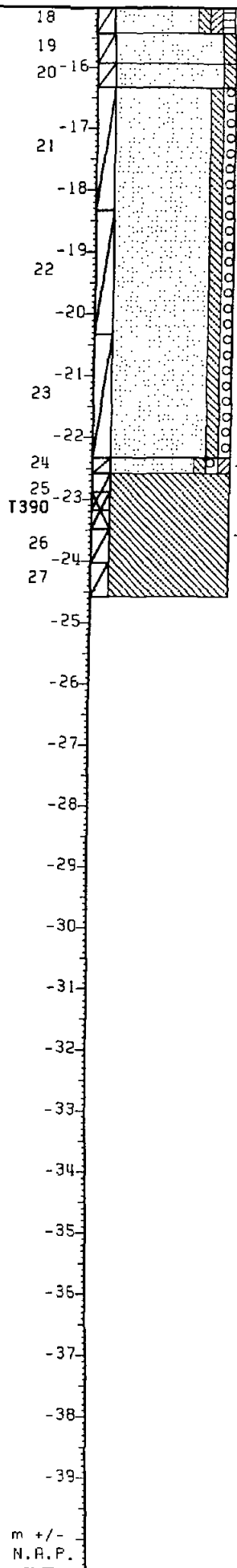
Sector 1, Geotechniek

**403**

pg.1 van 2



getekend volgens NEN 5104 met aanvullingen.



**403**

- Zand (matig fijn, grijs), zwak siltig, met sporen klei en sporen veen
- Zand (matig grof, grijs), zwak siltig
- Zand (matig fijn, grijs), zwak siltig
- Zand (matig grof, grijs), zwak siltig, zwak grindig
- Zand (matig grof, grijs), zwak siltig, zwak grindig, met sporen klei
- Leem

pulsboring  
 geboord op : 31-07-1996  
 maaiveld op: N.A.P. + 4.17 m  
 geboord tot: N.A.P. - 24.58 m

m +/-  
 N.A.P.

filters: monsters:  ongeroerd  geroerd |  volume



**OMEGAM**

15-11-1996/C.B.

*dtg*

EMK-TERREIN  
 SOORSTAAT

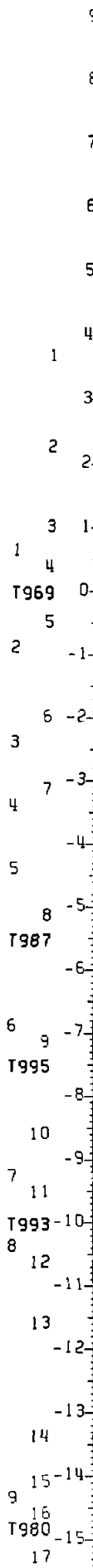
(12) 10.692

Sector 1, Geotechniek

**403**

pg.2 von 2

m +/-  
N.A.P.



**404**

maaiveld

asfalt, 15 cm

Zand (matig fijn, bruin), zwak siltig

Zand (matig fijn, grijs), zwak siltig

Klei (grijs), zwak siltig, met sporen veen, sporen zand en puin

Klei (grijs), zwak zandig

Zand (matig fijn, grijs), zwak siltig, met sp. klei, houtr. en puin

Klei (grijsbruin), zwak siltig, met enige zandlaagjes

Zand (matig grof, grijs), zwak siltig, met enige kleil. en schelpr.

Veen (bruin)

Zand (matig fijn, grijs), zwak siltig, met sporen veen

Veen (bruin), sterk kleilig

Klei (grijs), zwak siltig, met sporen veen

Zand (matig fijn, grijs), zwak siltig, met enige kleilaagjes

pulsboring

geboord op : 24-07-1996

maaiveld op: N.A.P. + 4.23 m

geboord tot: N.A.P. - 24.87 m

filters:

monsters:  ongeroerd  geroerd | 0 | volume



OMEGAM

15-11-1996/C.B.

*de*

EMK-TERREIN  
BOORSTAAT

(12) 10.692

Sector 1, Geotechniek

**404**

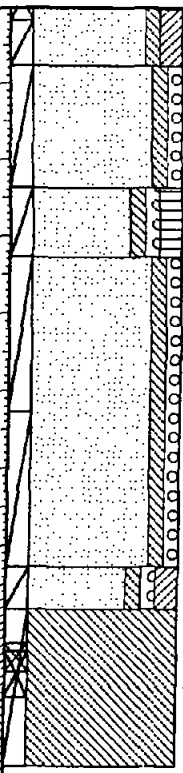
pg.1 van 2

T980  
17

getekend volgens NEN 5104 met aanvullingen

404

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T375  
T342  
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-39



Zand (matig fijn, grijs), zwak siltig, met enige kleilaagjes

Zand (matig grof, grijs), zwak siltig, zwak grindig

Zand (m. gr., grijs), zw. siltig, zw. grindig, met enige veenl. en enige

Zand (zeer grof, grijs), zwak siltig, zwak grindig

Zand (zeer grof, grijs), zwak siltig, zwak grindig, met enige kleil.

Leem

m +/-  
N.A.P.

filters:

monsters:  ongeroerd  geroerd  volume

pulsboring

geboord op : 24-07-1996

maaiveld op: N.A.P. + 4.23 m

geboord tot: N.A.P. - 24.87 m



OMEGAM

15-11-1996/C.B.

*CB*

EMK-TERREIN  
BOORSTAAT

Sector 1, Geotechniek

(12) 10.692

404

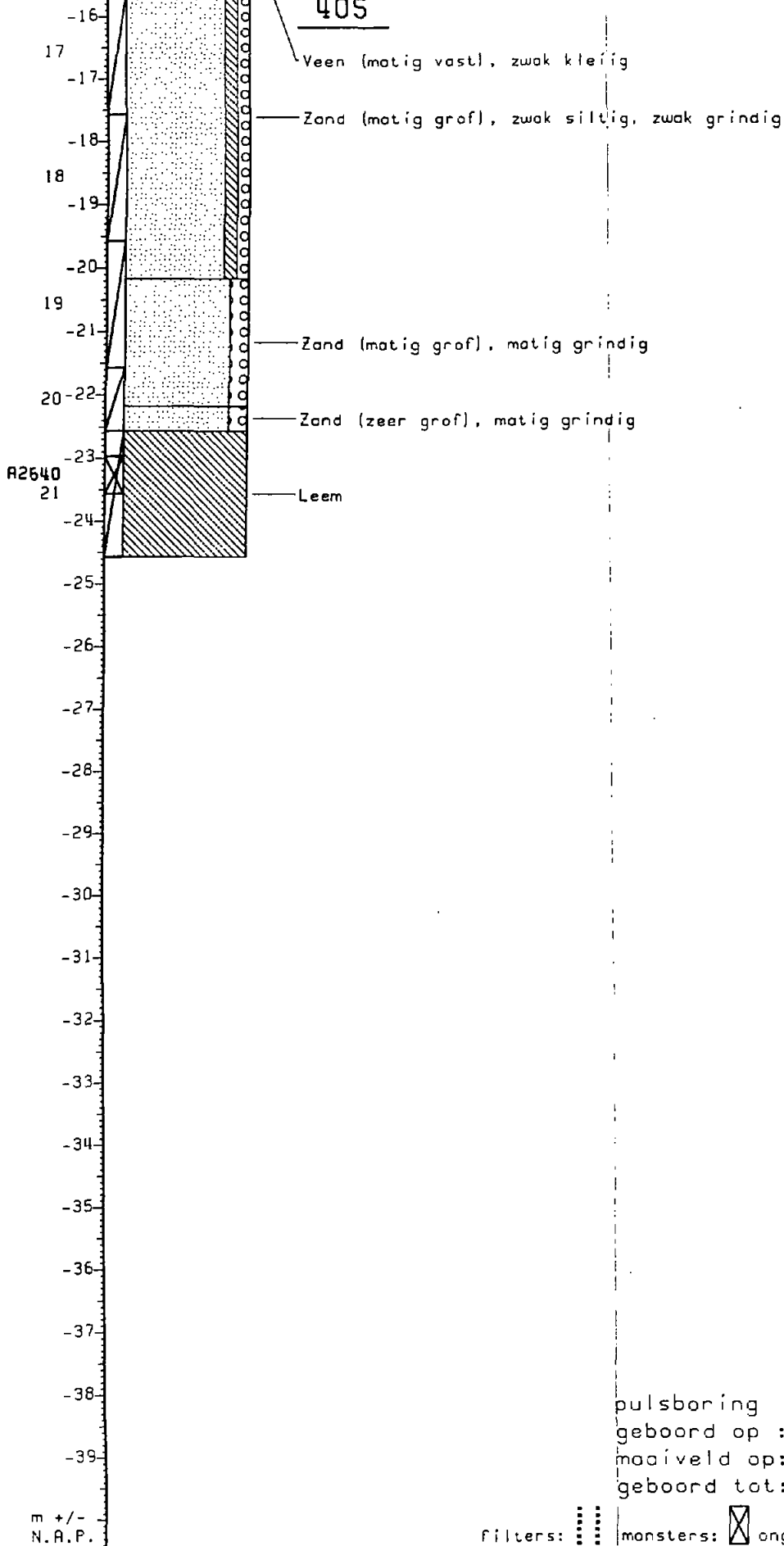
pg.2 van 2



T979

getekend volgens NEN 5104 met aanvullingen

405



pulsborring  
 geboord op : 27-08-1996  
 maaiveld op: N.A.P. + 4.33 m  
 geboord tot: N.A.P. - 24.57 m

m +/-  
 N.A.P.

filters:  monsters:  ongeroerd  geroerd  volume



OMEGAM

15-11-1996/C.B.

EMK-TERRAIN  
 BOORSTAAT

(12) 10.692

Sector 1, Geotechniek

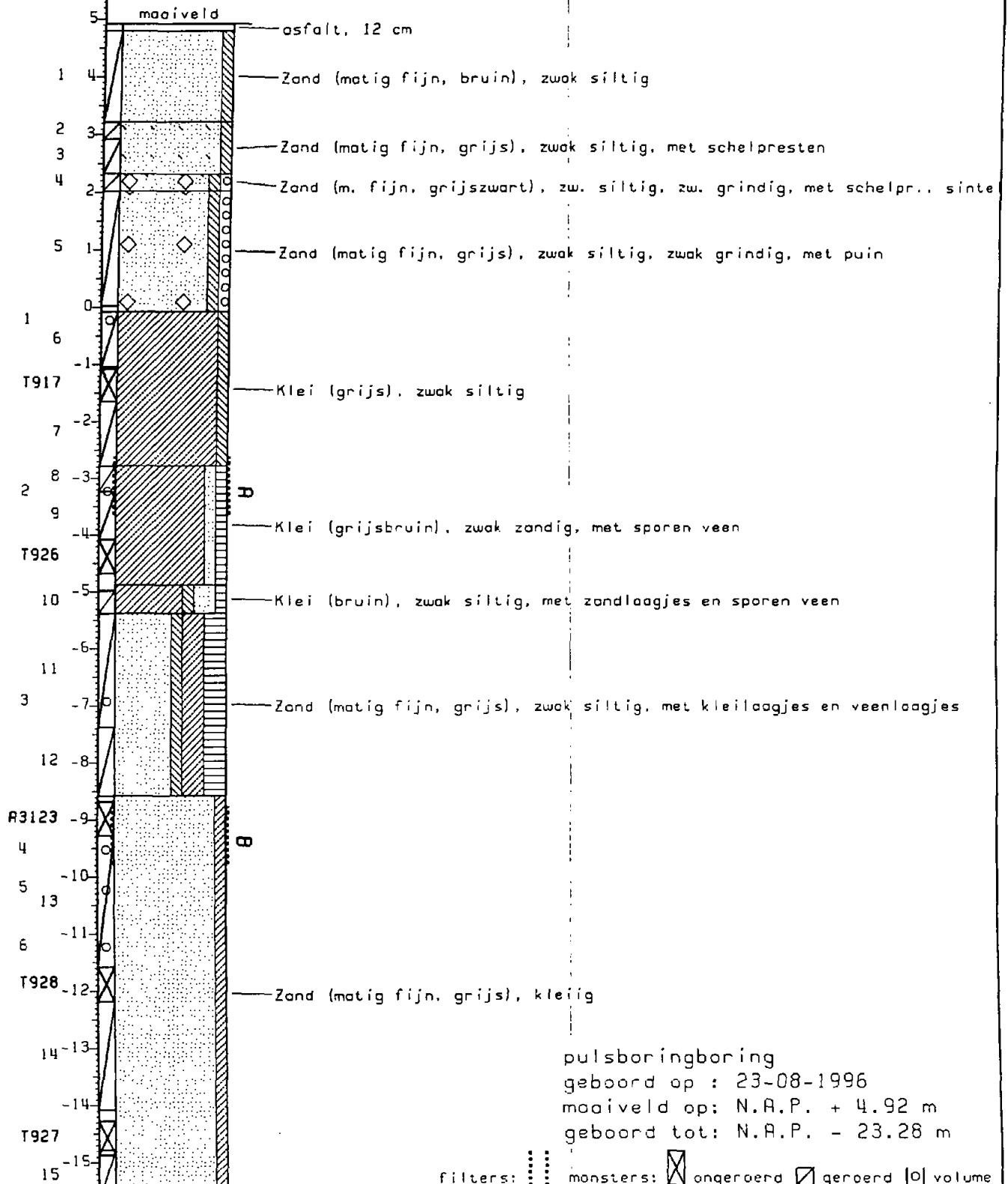
● 405

pg.2 van 2

m +/-  
N.A.P.

getekend volgens NEN 5104 met aanvullingen

**406**



pulsboringboring

geboord op : 23-08-1996

maaiveld op: N.A.P. + 4.92 m

geboord tot: N.A.P. - 23.28 m

filters: ..... monsters:  ongeroerd  geroerd [O] volume



**OMEGAM**

15-11-1996/C.B.

*406*

EMK-TERREIN  
BOORSTAAT

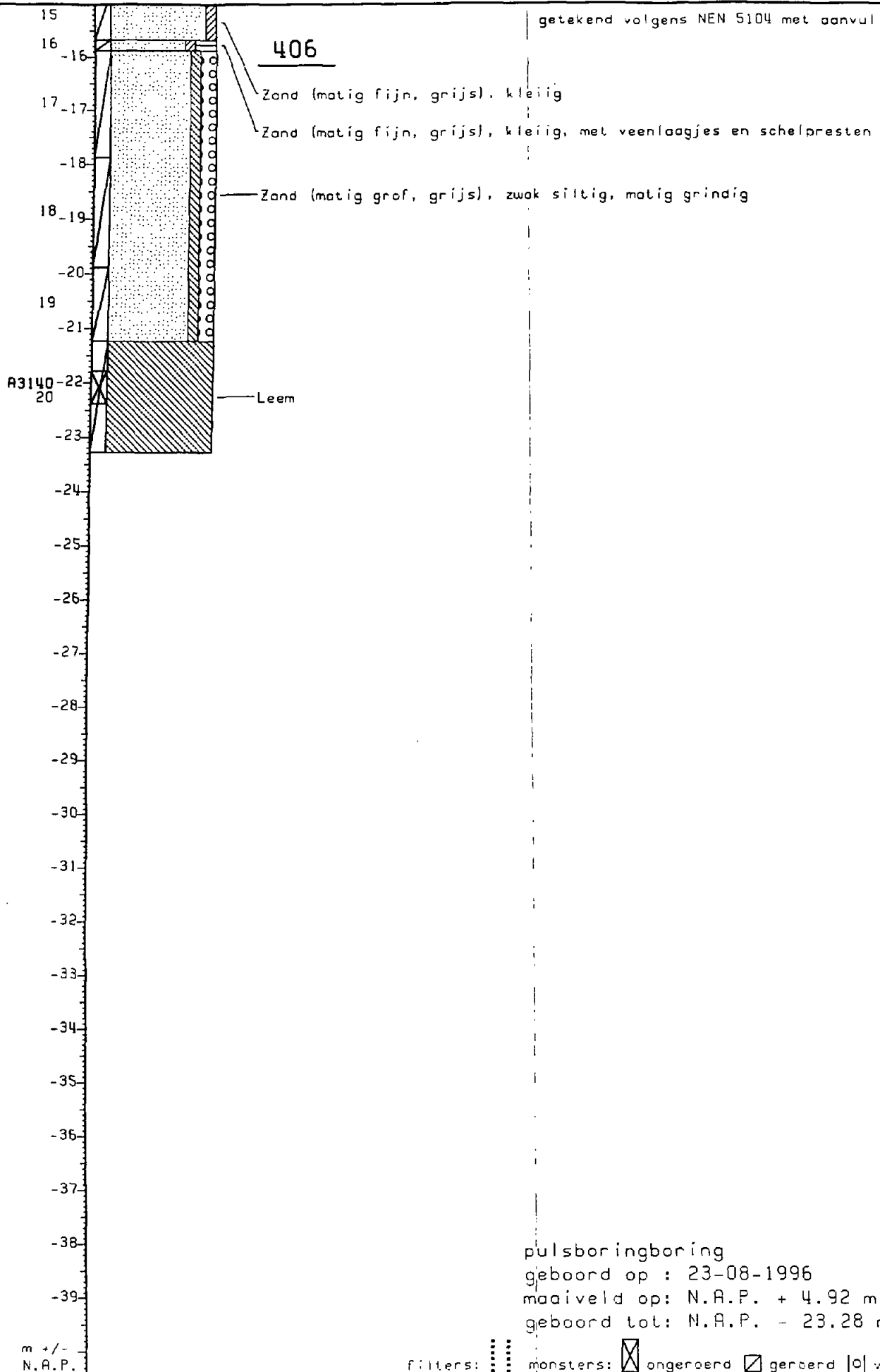
(12) 10.692

Sector 1, Geotechniek

**406**

pg.1 van 2

getekend volgens NEN 5104 met aanvullingen



pulsboringboring  
 geboord op : 23-08-1996  
 maaiveld op: N.A.P. + 4.92 m  
 geboord tot: N.A.P. - 23.28 m

filters: ..... monsters:  ongeroerd  geroid | 0 | volume



OMEGAM

15-11-1996/C.B.

*CB*

EMK-TERREIN  
BOORSTAAT

(12) 10.692

Sector 1, Geotechniek

● 406

pg.2 van 2

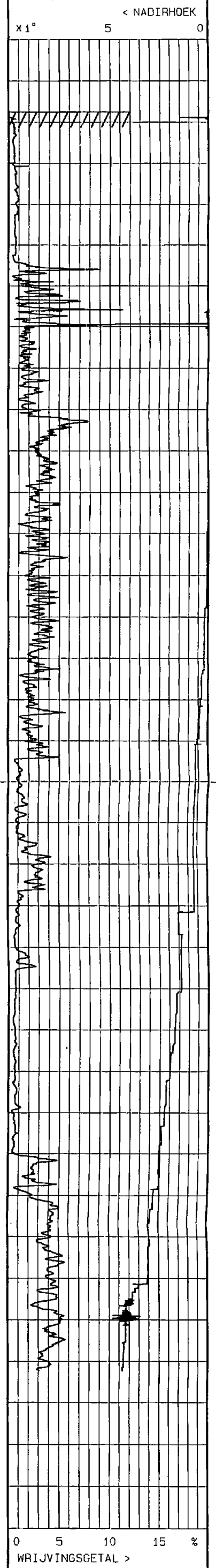
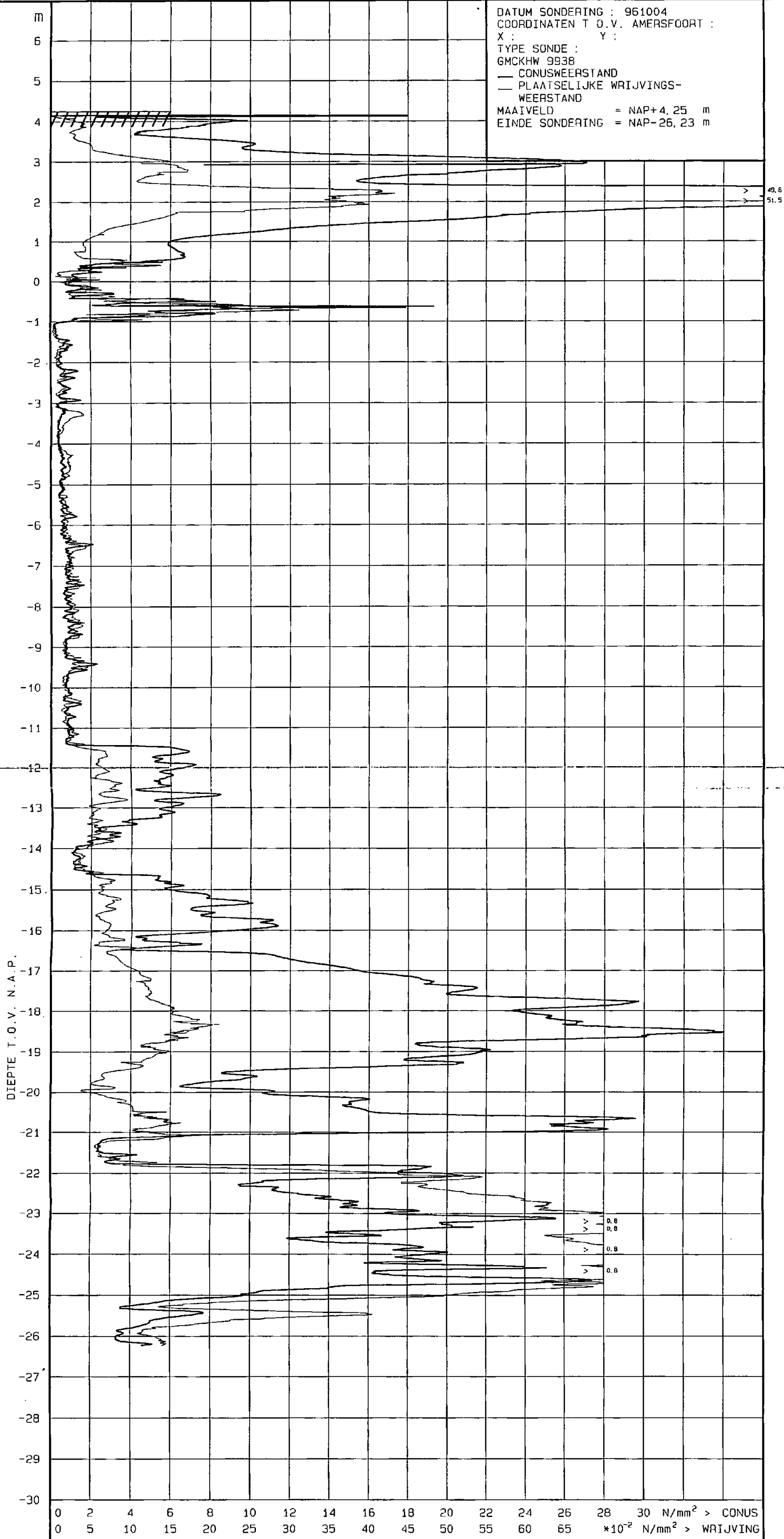
DATUM SONDERING : 961004  
 COORDINATEN T.O.V. AMERSFOORT :  
 X : Y :  
 TYPE SONDE :  
 GMCKHW 9938  
 — CONUSWEERSTAND  
 — PLAATSELIJKE WRIJVINGS-  
 WEERSTAND  
 MAAVELD = NAP+4.25 m  
 EINDE SONDERING = NAP-26.23 m

< NADIRHOEK  
 x1° 5 0

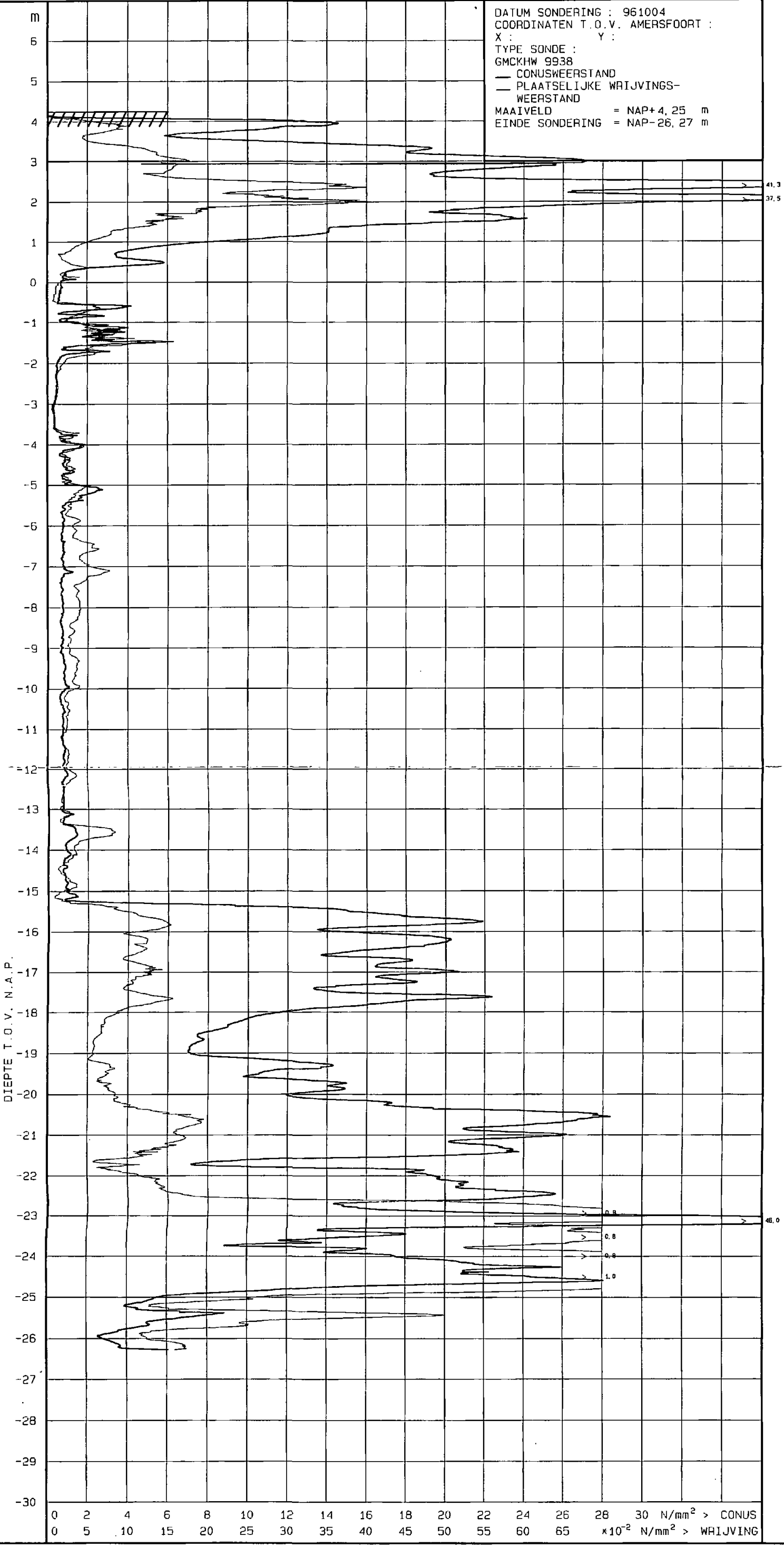


EMK TERREIN  
 KRIMPEN A/D IJSSEL  
 SONDERING

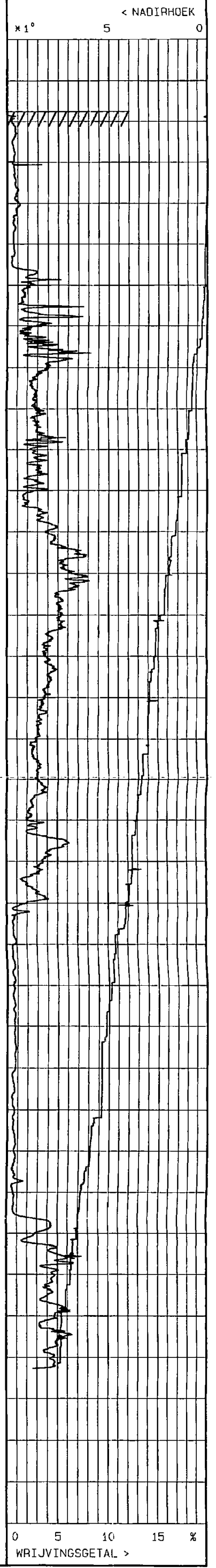
GET. 961007  
 GEC.   
 GEZ.   
 OPDRACHT: 401



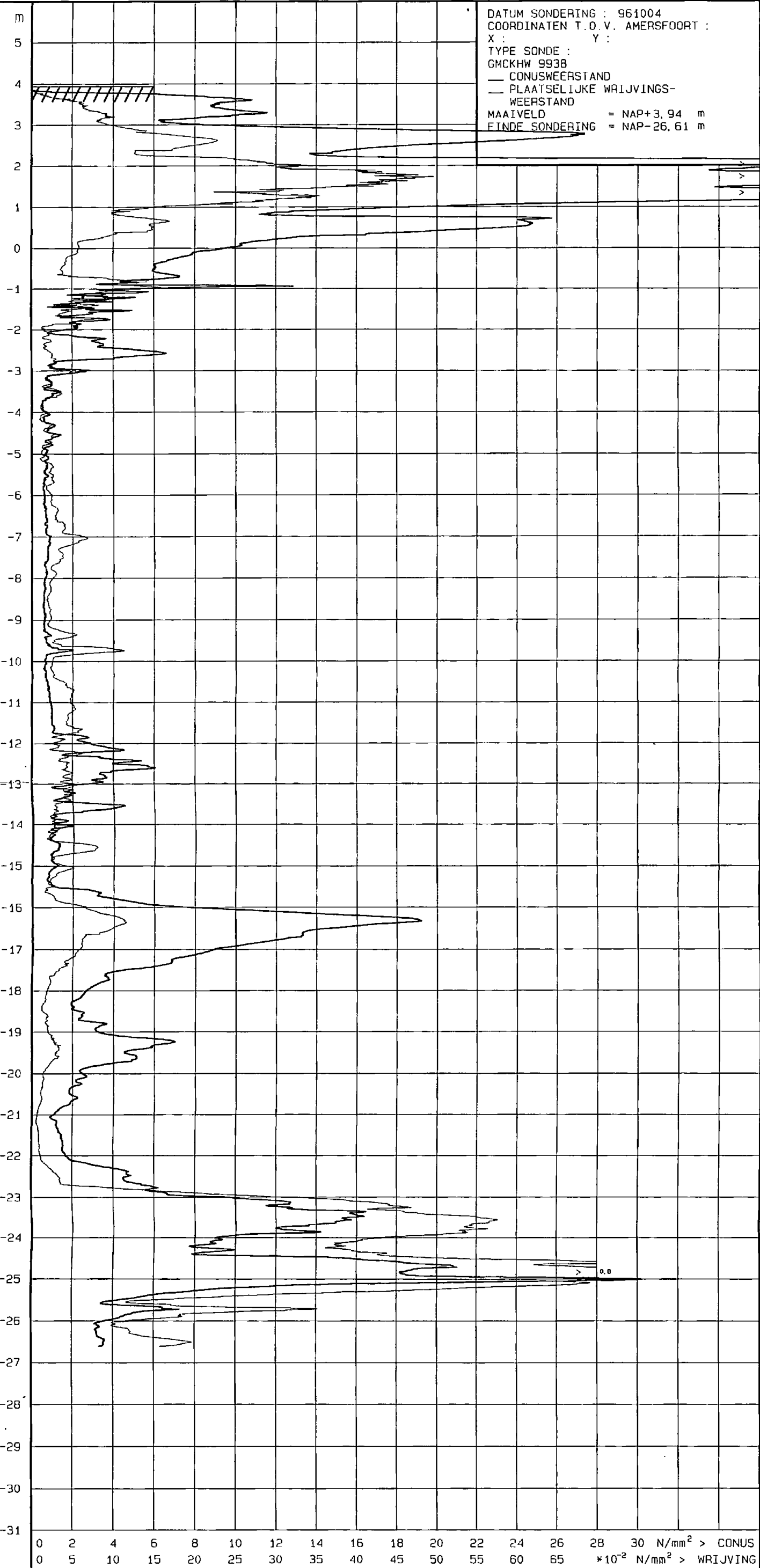




DATUM SONDERING : 961004  
COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
GMCKHW 9938  
— CONUSWEERSTAND  
— PLAATSELIJKE WRIJVINGS-  
WEERSTAND  
MAAIVELD = NAP+4,25 m  
EINDE SONDERING = NAP-26,27 m



DIEPTE T.O.V. N.A.P.



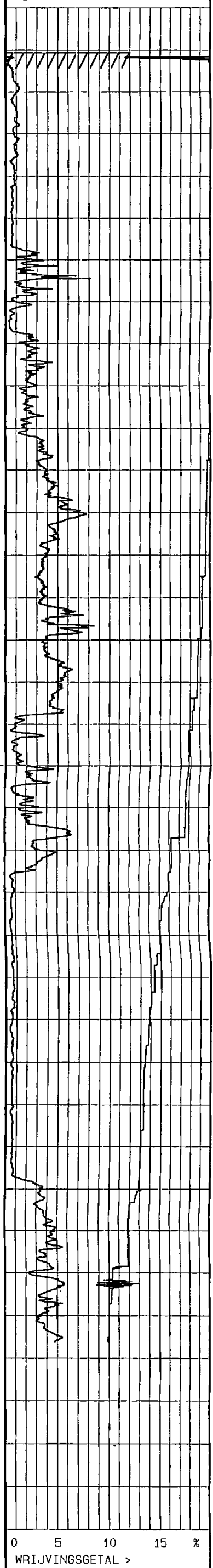
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COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
GMCKHW 9938  
— CONUSWEERSTAND  
— PLAATSELIJKE WRIJVINGS-  
WEERSTAND  
MAAIVELD = NAP+3.94 m  
FINDE SONDERING = NAP-26.61 m

41.1  
54.3  
55.2

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 N/mm<sup>2</sup> > CONUS  
0 5 10 15 20 25 30 35 40 45 50 55 60 65 \*10<sup>-2</sup> N/mm<sup>2</sup> > WRIJVING

< NADIRHOEK

\*1° 5 0



0 5 10 15 %  
WRIJVINGSGETAL >



OMEGAM  
GRONDMECHANICA  
AMSTERDAM

EMK - TERREIN  
KRIMPEN A/O IJSSEL  
SONDERING

GET. 961007  
GEC. 9/9/96

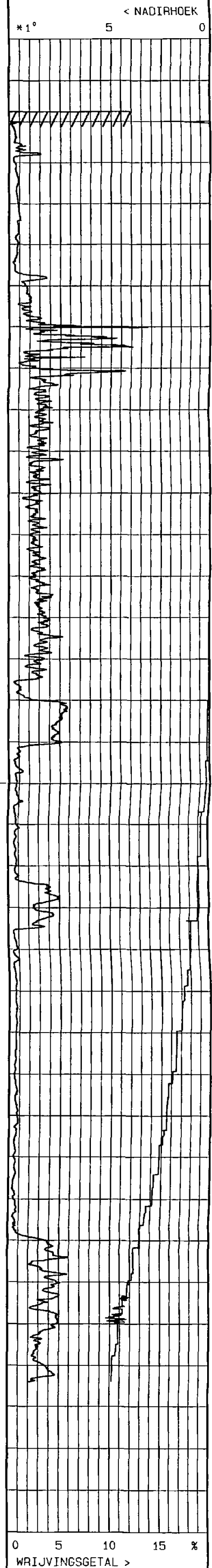
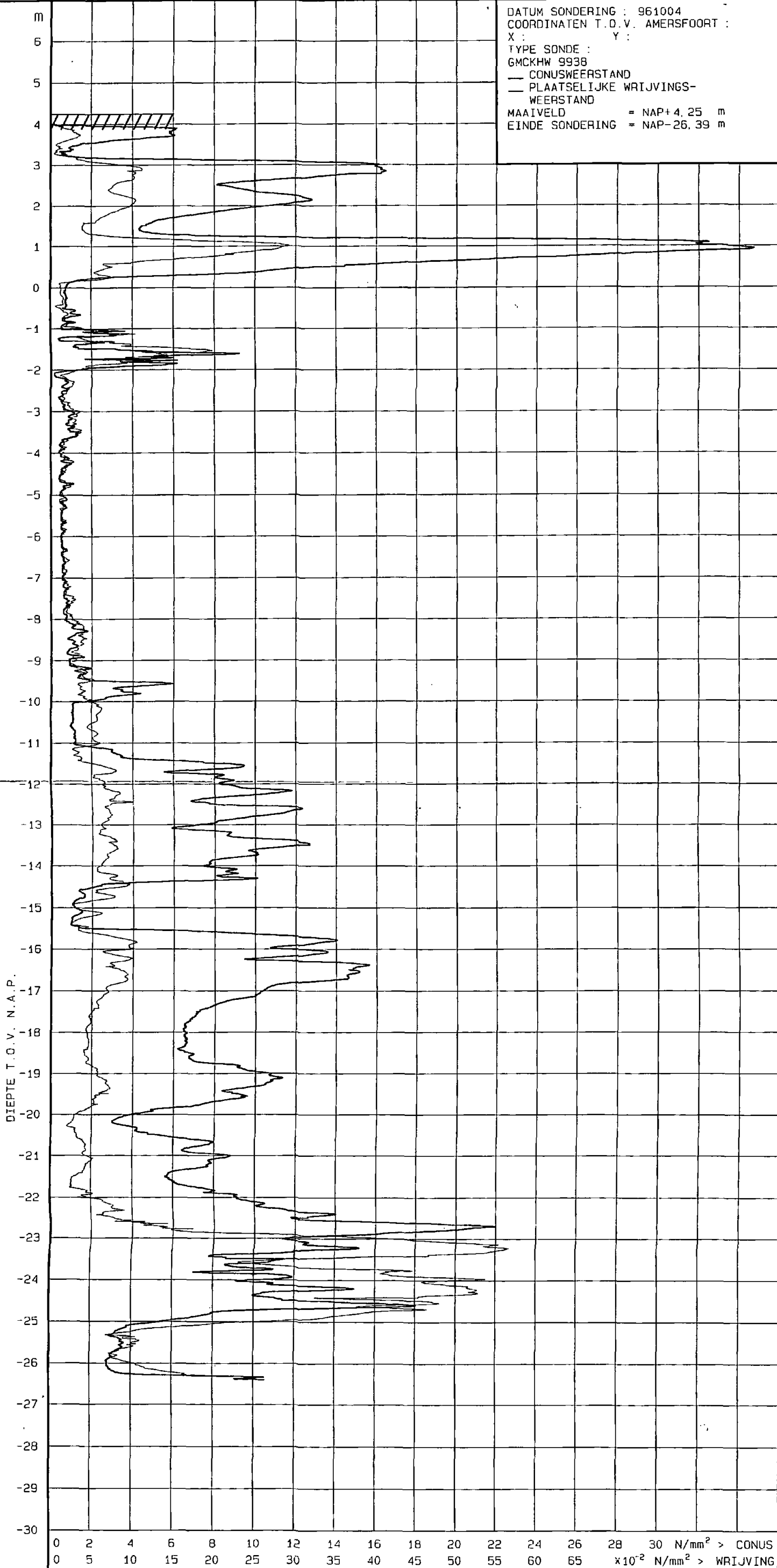
SONDERING  
V/S. 1

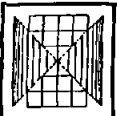
OPDRACHT: 404

OPDRACHT: 10.692

DATUM SONDERING : 961004  
COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
GMCKHW 9938  
— CONUSWEERSTAND  
— PLAATSELIJKE WRIJVINGS-  
WEERSTAND  
MAAIVELD = NAP+4,25 m  
EINDE SONDERING = NAP-26,39 m

< NADIRHOEK  
\*1° 5 0



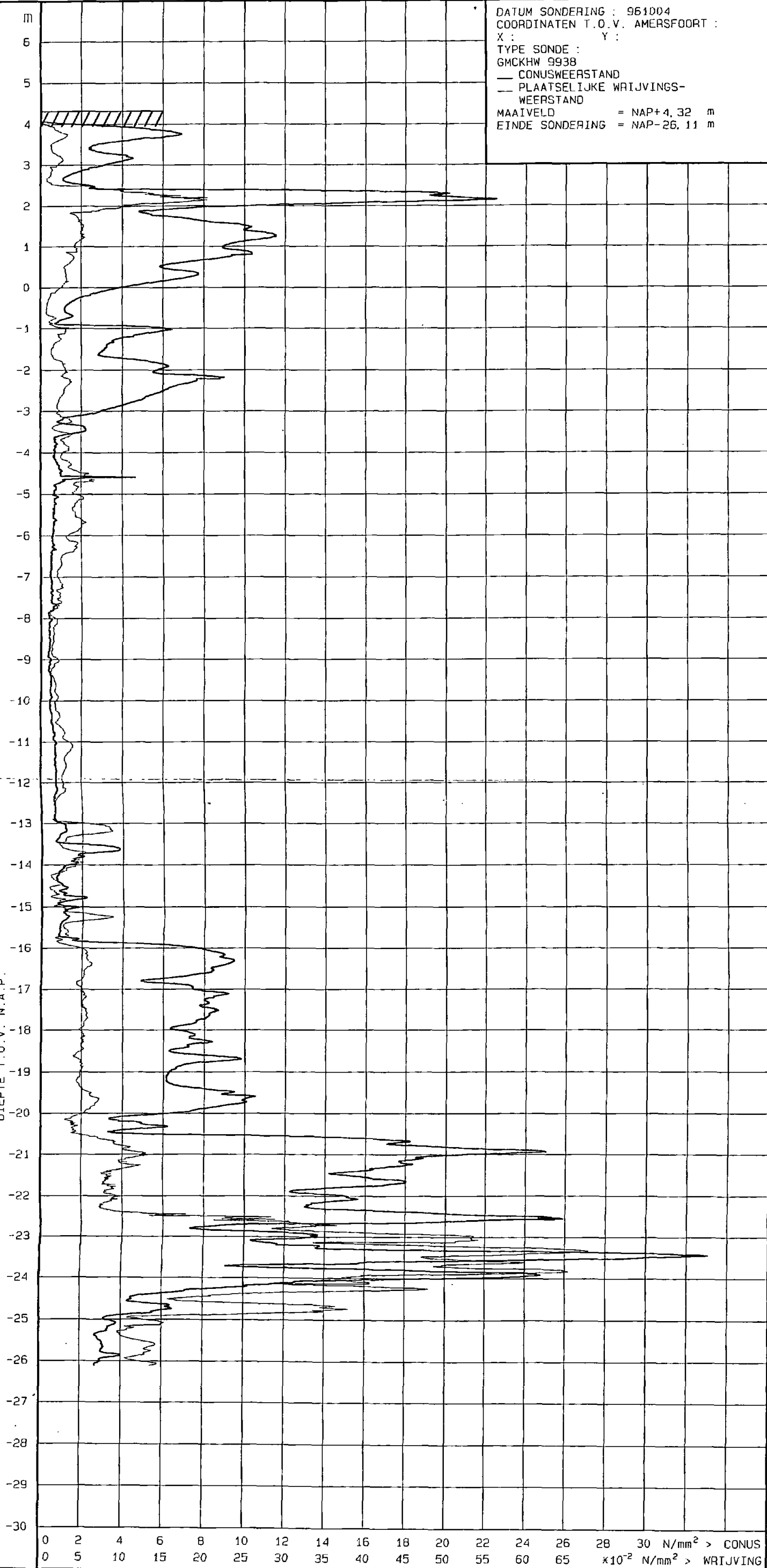


**OMEGAM**  
GRONDMECHANICA  
AMSTERDAM

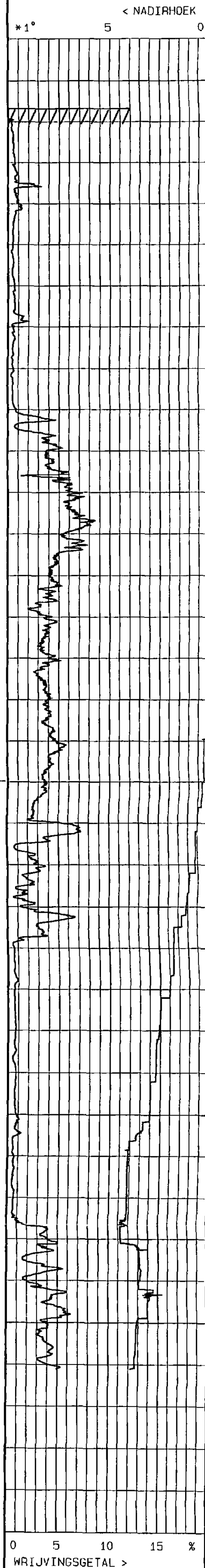
EMK TERREIN  
KRIMPEN A/D IJSSEL  
SONDERING

|      |        |        |           |        |
|------|--------|--------|-----------|--------|
| GET. | 961007 | SOONER | OPDRACHT: | 10.692 |
| GEC. |        | V.3.51 |           |        |
| GEZ. | 9/9-96 |        |           |        |
|      |        |        | 405       |        |

DIEPTE T.O.V. N.A.P.



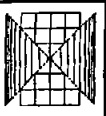
DATUM SONDERING : 961004  
 COORDINATEN T.O.V. AMERSFOORT :  
 X : Y :  
 TYPE SONDE :  
 GMCKHW 9938  
 — CONUSWEERSTAND  
 — PLAATSELIJKE WRIJVINGS-  
 WEERSTAND  
 MAAVELD = NAP+4.32 m  
 EINDE SONDERING = NAP-26.11 m



< NADIRHOEK  
 \*1° 5 0

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 N/mm<sup>2</sup> > CONUS  
 0 5 10 15 20 25 30 35 40 45 50 55 60 65 ×10<sup>-2</sup> N/mm<sup>2</sup> > WRIJVING

0 5 10 15 %  
 WRIJVINGSGETAL >



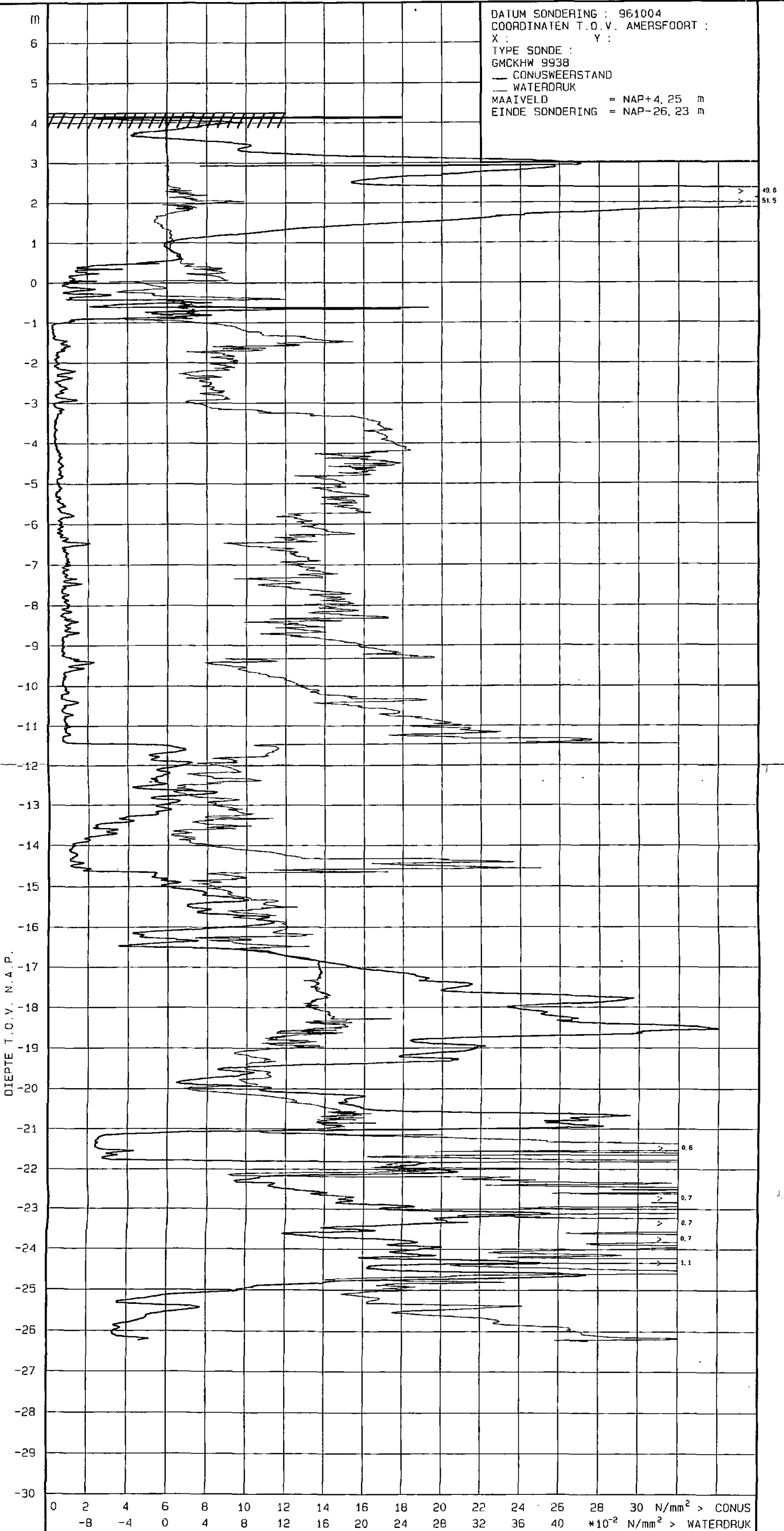
**OMEGAM**  
GRONDMECHANICA  
AMSTERDAM

EKK TERREIN  
KRIMPEN A/O IJSSEL  
SONDERING

GET. 961007  
GEC. 19/2/96  
GEZ. 19/2/96

SOMTEX v. 5.51  
OPDRACHT: 401

DATUM SONDERING : 961004  
COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
GMCKHW 9938  
— CONUSWEERSTAND  
— WATERDRUK  
MAAIVELD = NAP+4,25 m  
EINDE SONDERING = NAP-26,23 m



DIEPTE T.O.V. N.A.P.

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30  $N/mm^2$  > CONUS  
-8 -4 0 4 8 12 16 20 24 28 32 36 40  $*10^{-2} N/mm^2$  > WATERDRUK



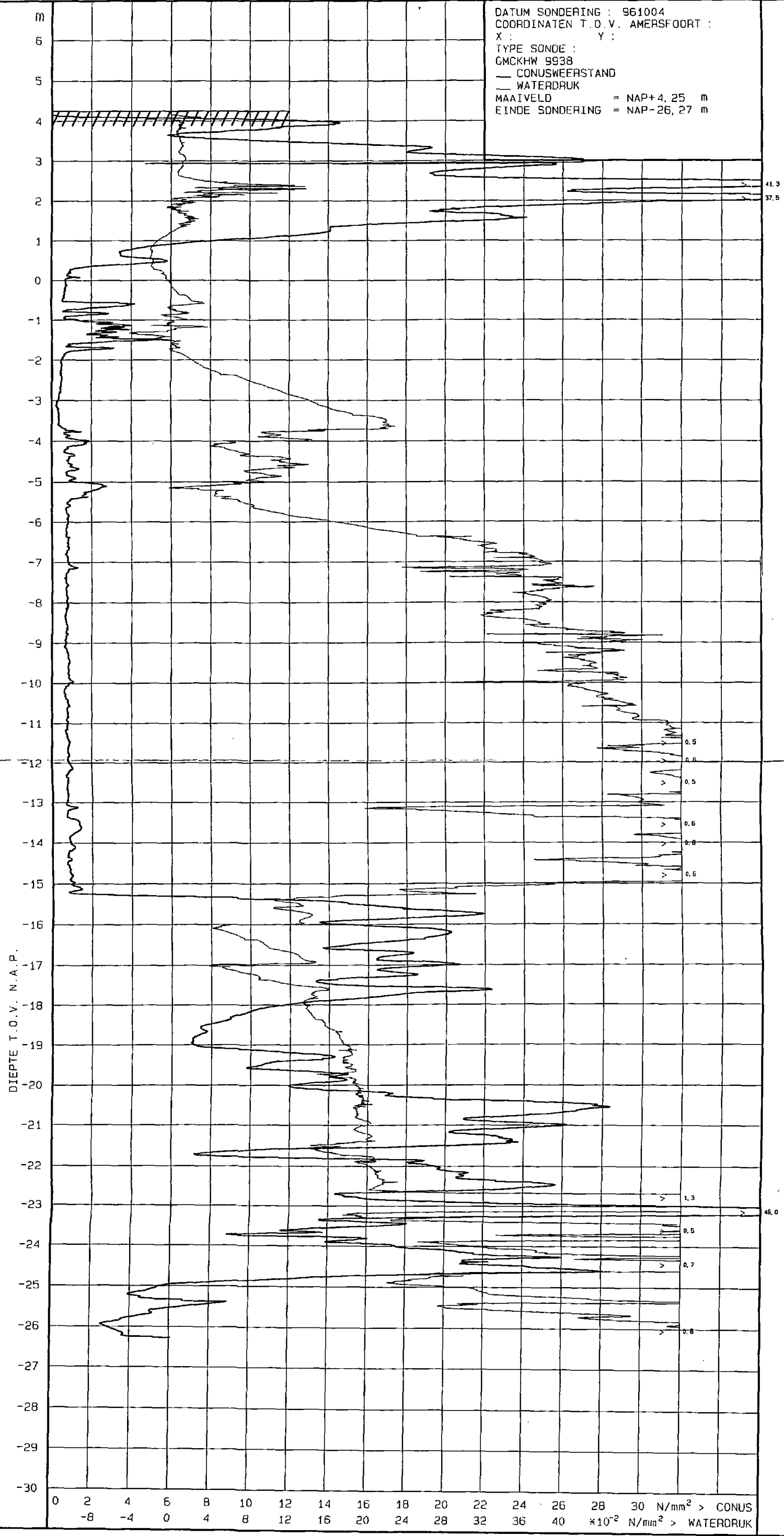
**OMEGAM**  
GRONDMECHANICA  
AMSTERDAM

EMK TERREIN  
KRIMPEN A/D IJSSEL  
SONDERING

GET. 961007  
GEC. *kg-rl*

SOMER V. S.J.  
OPDRACHT: 402

DATUM SONDERING : 961004  
COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
GMCKHW 9938  
— CONUSWEERSTAND  
— WATERDRUK  
MAAIVELD = NAP+4,25 m  
EINDE SONDERING = NAP-26,27 m



41,3  
37,5

0,5  
0,5  
0,5  
0,6  
0,6  
0,6

1,3  
46,0

0,5  
0,7  
0,6

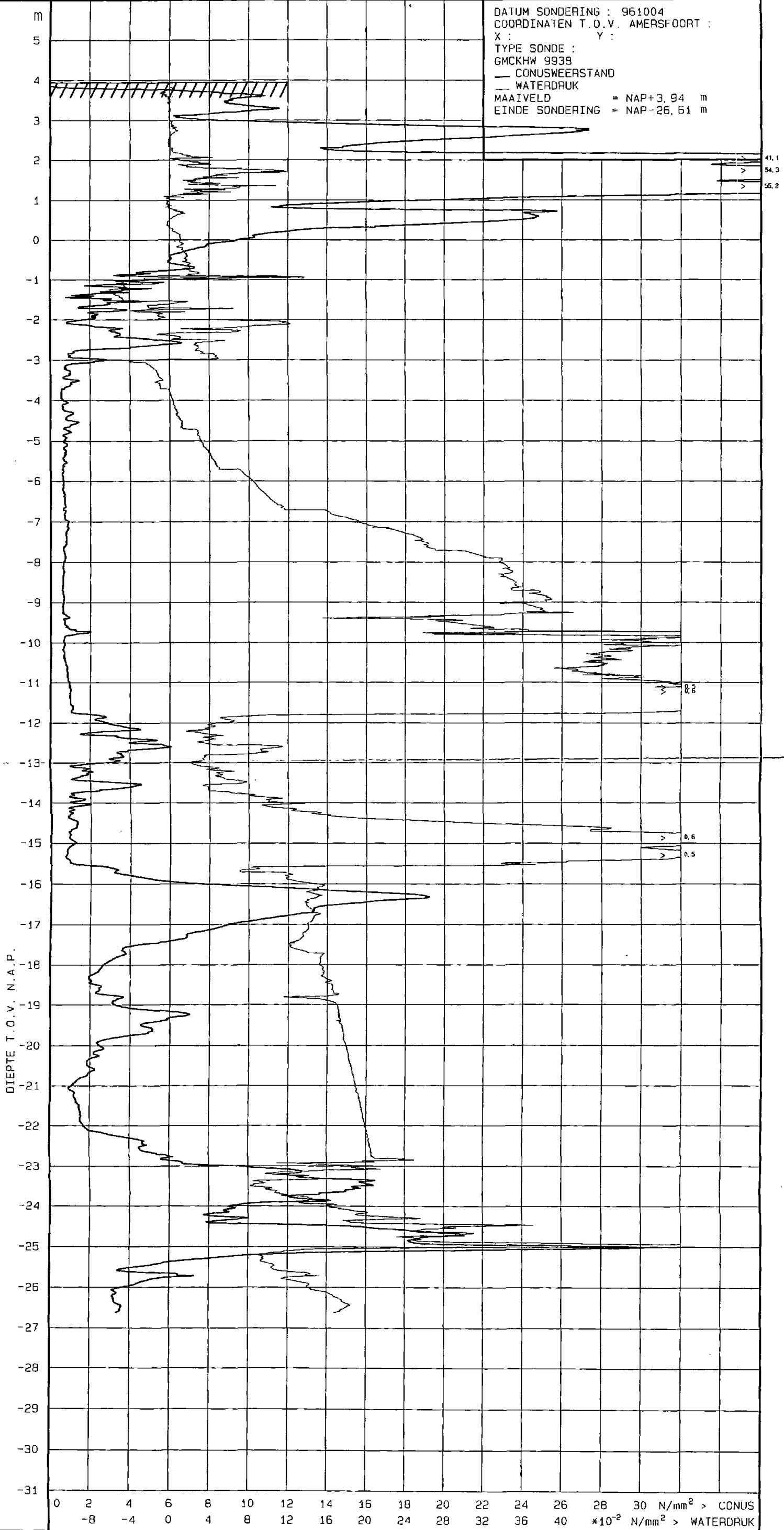


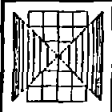
EMK TERREIN  
KRIMPEN A/O IJSSEL

SONDERING

OPDRACHT  
403

DATUM SONDERING : 961004  
COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
GMCKHW 9938  
— CONUSWEERSTAND  
— WATERDRUK  
MAAIVELD = NAP+3,94 m  
EINDE SONDERING = NAP-26,61 m



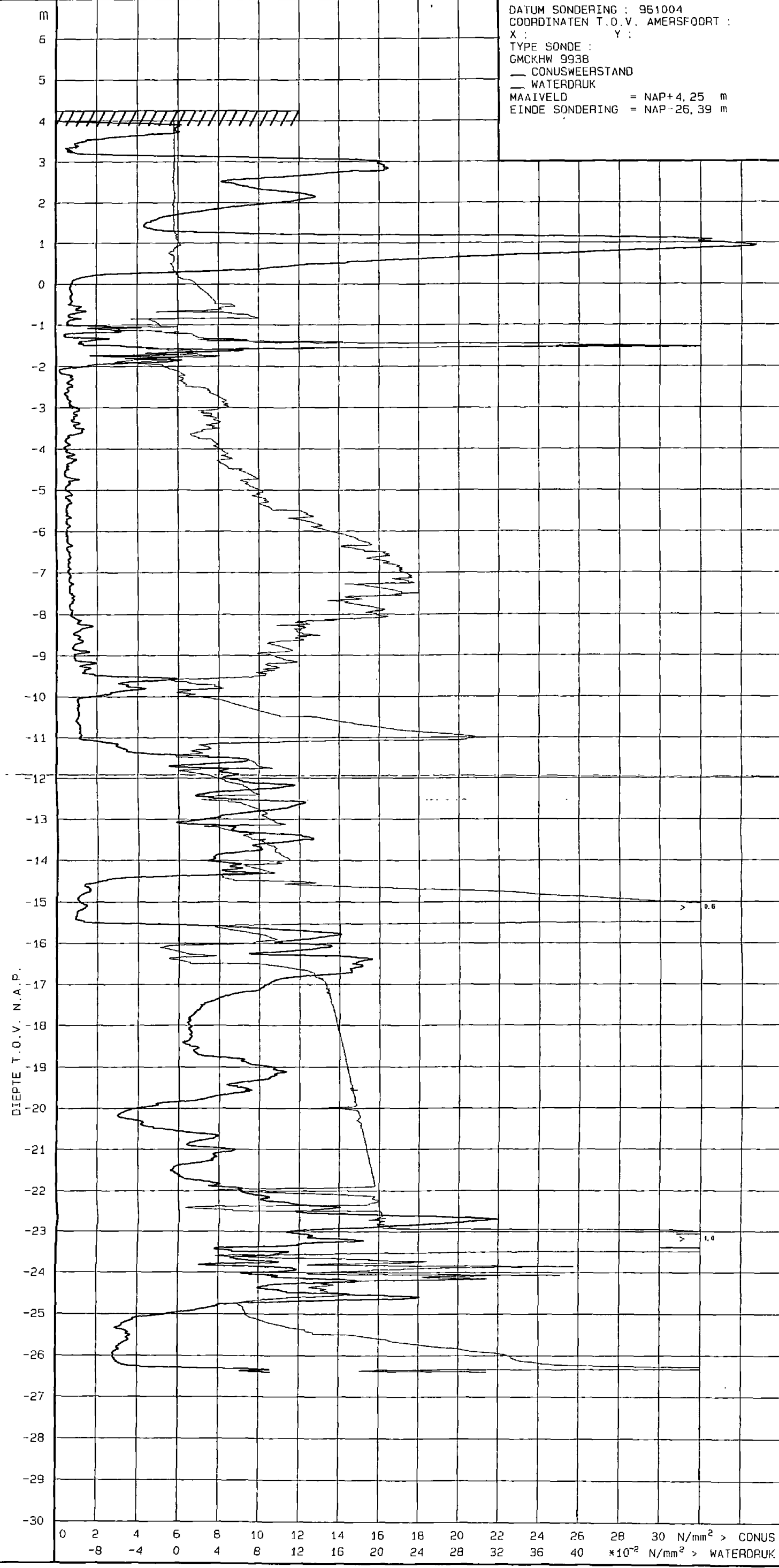


**OMEGAM**  
GRONDMECHANICA  
AMSTERDAM

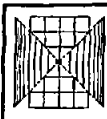
EMK - TERREIN  
KRIMPEN A/D IJSSEL  
SONDERING

|      |        |           |           |        |
|------|--------|-----------|-----------|--------|
| GET. | 961007 | SONDERING | OPDRACHT. | 10.692 |
| GEZ. | 19.36  | V.B.51    |           |        |
|      |        |           | 404       |        |

DATUM SONDERING : 961004  
COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
GMCKHW 9938  
— CONUSWEERSTAND  
— WATERDRUK  
MAAIVELD = NAP+4,25 m  
EINDE SONDERING = NAP-26,39 m







**OMEGAM**  
GRONDMECHANICA  
AMSTERDAM

EMK TERREIN  
KRIMPEN A/D IJSSEL  
SONDERING

GET. 961007  
GEC. V. S. 51  
GEZ. 7/6.56

OPDRACHT: 10.592  
405

DATUM SONDERING : 961004  
COORDINATEN T.O.V. AMERSFOORT :  
X : Y :  
TYPE SONDE :  
CMCKHW 9938  
— CONUSWEERSTAND  
— WATERDRUK  
MAAIVELD = NAP+4,32 m  
EINDE SONDERING = NAP-26,11 m

