

BIBLIOTECĂ CENTRALĂ
UNIVERSITATEA "POLITEHNICA"
TIMIȘOARA

L I S T A A N E X E L O R

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A/ Domeniu fără surse interioare

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de margine tehnic posibilă /placa reală/ și laplacianul
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eroarea față de calculul cu programul NELFIN-1.

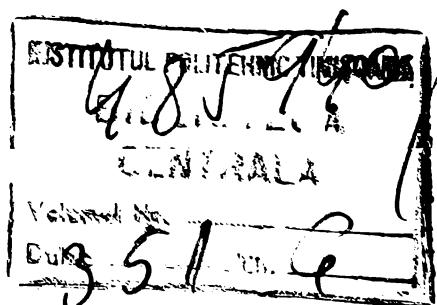
B/ Domeniu cu surse interioare

ANEXA 9. Idem ca și Anexa 5, dar cu placă încărcată în interior.

ANEXA 10. Valoare $\frac{M}{D}$

ANEXA 11. Valoare înălțimilor piezometrice din deformarea tehnic
posibilă a plăcii.

ANEXA 12. Idem ca și Anexa 8.



ANEXA.1

• SEC PRINC
• COMPILE FORTRAN
FORTRAN STARTED

MELFI 43
FORTRAN 0.10

MELFINI 28/03/84 14.54.15

```
C 1 C XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
C 2 C
C 3 C PROGRAM ELABORAT OF ING POGANY ANDREI
C 4 C
C 5 C XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
C 6 C * SEGMENT B1+B2
C 7 C REAL KX,KY
C 8 C INTEGER EL,DIF,CODMAR,V
C 9 C COMMON/B1/NUMEL,NUMNOD,NNODEL,MBAND,LIM2,IPRO,LBA,MEO,INIV
C 10 C COMMON/B2/CODMAR(200),HPAR(200),X(200),Y(200),OCON(200),EL(200,6),
C 11 C *INO(300,3),QDIST(300),ICEL(300),ICNO(200)
C 12 C
C 13 C PRINT 101
C 14 C PRINT 102
C 15 C PRINT 103
C 16 C READ(105,111)NTOP
C 17 C 111 FORMAT(I2)
C 18 C PRINT 125
C 19 C 125 FORMAT(//,50X,'MISCAREA APEI IN MEDIU PORDASE',//)
C 20 C DO 121 ITUP=1,NTOP
C 21 C PRINT 131,ITOP
C 22 C 131 FORMAT(5,X,'CONFIGURATIA TOPOLOGICA NR',I3/50X,29(1H*),//)
C 23 C READ(105,111)NPROBL
C 24 C 110 FORMAT(I2)
C 25 C READ(105,130)NUMEL,NUMNOD,NNODEL,LBA,MEO,INIV
C 26 C 130 FORMAT(6I5)
C 27 C PRINT 135,NUMEL,NUMNOD,NNODEL,LBA
C 28 C 135 FORMAT(30X,'DOMENIUL ARE',1X,I3,1X,'ELEMENTE SI',1X,I3,1X,'NODURI,
C 29 C *UN ELEMENT ARE',I2,1X,'NODURI',//9X,'MEMORIA CENTRALA ARE LA DISPOZ
C 30 C *ITIE LOCATII PENTRU 200 NODURI,300 ELEMENTE SI O LATIME DE',1X,I2,
C 31 C *1X,'A MATRICEI BANDA',//)
C 32 C IF(MEO.EQ.0) PRINT 136
C 33 C IF(MEO.EQ.1) PRINT 137
C 34 C IF(MEO.EQ.2) PRINT 138
C 35 C IF(MEO.EQ.3) PRINT 139
C 36 C 136 FORMAT(33X,'MEDIUL POROS ESTE OMogen IZOTROP',//)
C 37 C 137 FORMAT(33X,'MEDIUL POROS ESTE ANIZOTROP',//)
C 38 C 138 FORMAT(33X,'MEDIUL POROS ESTE ORTOTROP',//)
C 39 C 139 FORMAT(33X,'MEDIUL POROS ESTE NEOMogen',//)
C 40 C IF(NUMNOD*(11+LBA)+22*NLMEL+28-16384)141,141,142
C 41 C 142 PRINT 145
C 42 C 145 FORMAT(33X,'MEMORIA CENTRALA LA DISUZITIE DEPASITA STOP CALCUL')
C 43 C GO TO 15
C 44 C 141 PRINT 70
C 45 C PRINT 71
C 46 C PRINT 72
C 47 C PRINT 73
```

FORTRAN 0.10.

MELFINI 28/03/84 14.54.15

1

```
48 DO 15 IPRO=1,NPROBL
49 CALL ASEML1
50 CALL INPUT
51 CALL FORMEC
52 CALL MATREL
53 CALL MATRINF
54 CALL TERMLIB
55 CALL FECHOLES
56 CALL LINPOTEN
57 CALL LINCURLN
58 15 CONTINUE
59 70 FORMAT(32X,'CODMAR'/32X,51(1H_),//)
60 71 FORMAT(34X,'1',5X,'PUNCT INTERIOR SAU FRONTIERA IMPERMEABILA',//)
61 72 FORMAT(34X,'2',5X,'FRONTIERA UE ALIMENTARE',//)
62 73 FORMAT(34X,'3',5X,'FRONTIERA CU NIVEL LIBER',//)
63 121 CONTINUE
64 101 FORMAT(33X,67(1H*),//)
65 112 FORMAT(33X,'DETERMINAREA SPECTRULUI HIDRODINAMIC PRIN METODA ELEM
66 INTELOR FINITE',//)
67 15 STOP
68 END
```

MELFI 44
FORTRAN 0.10.

MELFINI 28/03/84 14.54.15

2

MODULE	B2	TYPE	C	LONGUEUR	3CF0 (1560)
MODULE	R1	TYPE	C	LONGUEUR	124 (01..36)
MODULE	FZMOATA	TYPE	P	LONGUEUR	9670 (-1648)

***** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = -1)
SEG SI

14.54.34

```

1   * SEGMENT B1+B2
2   SUBROUTINE ASEML1
3   INTEGER EL,CODMAR
4   COMMON/B1/NUMEL,NUMNOD,NODEL,MBAND,LIM2,IPRO,LBA,MEO,INV
5   COMMON/B2/CODMAR(200),HMAR(200),X(200),Y(200),QCON(200),EL(200,6),
6   *IND(300,3),QDIST(300),ICEL(300),ICNO(200)
7   C ASAMBLAREA ELEMENTELOR IN JURUL NODURILOR
8   IF(IPRO-1)88,88,89
9   89 DO 96 ICAR=1,NUMEL
10   TF(ICEL(ICAR)-1)96,97,96
11   READ(1,5,82)QDIST(ICAR),ICEL(ICAR)
12   FORMAT(F25.9,I1)
13   CONTINUE
14   GO TO 17
15   DO 18 M=1,NUMEL
16   READ(1,5,8)IND(M,J),J=1,NNODEL,QDIST(M),ICEL(M)
17   FORMAT(313,F16.9,I1)
18   CONTINUE
19   IF(IPRO.EQ.1) GO TO 60
20   GO TO 8
21   60 N=1
22   L=1
23   M=1
24   J=1
25   IF(IND(N,J)=N)23,21,23
26   EL(N,L)=M
27   L=L+1
28   IF(L=6)23,23,5
29   23 J=J+1
30   IF(J=NNODEL)30,34,31
31   M=M+1
32   IF(M=NUMEL)40,40,35
33   EL(N,L)=L
34   L=L+1
35   IF(L=6)35,35,5
36   5 N=N+1
37   IF(N=NUMNOD)60,60,65
38   65 WRITE(1,6,67)
39   67 FORMAT(//,37X,'ASAMBLAREA ELEMENTELOR IN JURUL NODURILOR PENTRU DO
40   *MENIUL DAT'//)
41   WRITE(1,6,7)
42   7 FORMAT(41X,'NUMNOD',6X,'L1',6X,'L2',6X,'L3',6X,'L4',6X,'L5',6X,
43   *'L6')
44   DO 8 N=1,NUMNOD
45   WRITE(1,8,81)(N,(EL(N,L),L=1,6))
46   81 FORMAT(' ',(42X,[3,6X,6(I3,5X)]))
47   CONTINUE

```

```

48   81 PRINT 12,IPRO
49   12 FORMAT(////,60X,'P R U B L E M A',13,/,59X,2,(1H=)//)
50   RETURN
51   END

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MODULE	B2	TYPE	C	LONGUEUR	3CF6 (1568)
MODULE	B1	TYPE	C	LONGUEUR	0.24 (0.036)
MODULE	ASEML1	TYPE	P	LONGUEUR	03A1 (0.928)

***** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR rencontré =) 14.54.45
 .
 . SEG S2
 . COMPILE FORTRAN
 FORTRAN 77.00

```

1   * SEGMENT B1+B2
2   SUBROUTINE INPUT
3   INTEGER EL,CODMAR
4   COMMON/B1/NUMEL,NUMNOD,NODEL,MBAND,LIM2,IPRO,LBA,MEO,INV
5   COMMON/B2/CODMAR(200),HMAR(200),X(200),Y(200),QCON(200),EL(200,6),
6   *IND(300,3),QDIST(300),ICEL(300),ICNO(200)
7   IF(IPRO-1)88,88,89
8   89 DO 96 ICAR=1,NUMNOD
9   IF(ICNO(ICAR)-1)96,97,96
10  READ(1,5,82)ICAR,X(ICAR),Y(ICAR),CODMAR(ICAR),HMAR(ICAR),QCON(ICAR)
11  *,ICNO(ICAR)
12  FORMAT(14,2F8.2,I2,F7.2,F16.9,I5)
13  CONTINUE
14  GO TO 5
15  88 DO 5 N=1,NUMNOD
16  FORMAT(14,2F8.2,I2,F7.2,F16.9,I5)
17  READ(1,5,1)N,X(N),Y(N),CODMAR(N),HMAR(N),QCON(N),ICNO(N)
18  CONTINUE

```

```

19      PRINT 11
20      PRINT 115
21      PRINT 116
22      PRINT 130

23      DO 35 N=1,NUMNOD
24      PRINT 135,N,X(N),Y(N),CCDMAR(N),HMAR(N),QCON(N),ICNO(N)
25      35 CONTINUE
26      111 FORMAT(//,6X,'DATE NODALE'/6X,11(1H.),//)
27      115 FORMAT(' ',15X,'NOD',15X,'X',17X,'Y',17X,'CDMAR',9X,'HMAR',10X,'Q
28      *'UN',11X,ICNO '/')
29      116 FORMAT(' ',32X,'(M)',15X,'(M)',4IX,'(M*#3/SEC)'//)
30      130 FORMAT(' ',14X,104(1H=))
31      135 FORMAT(' ',15X,I4,10X,F8.2,10X,F8.2,12,9X,F7.2,5X,F16.9,5X,I1,
32      *)
33      RETURN
34      END

```

MELFI.46
FORTRAN 4.0.0

MELFINI 28/03/84 14.54.47

MODULE	R2	TYPE	C	LONGUEUR	3CF0 (15600)
MODULE	R1	TYPE	C	LONGUEUR	3.24 (0.036)
MODULE	INPUT	TYPE	P	LONGUEUR	370 (2188)

*** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = 0) 14.55.02
SEG S3
COMPILE FORTRAN
FORTRAN 4.0.0

MELFINI 28/03/84 14.55.04

```

1      * SEGMENT B1+B2,B3
2      SUBROUTINE FORMEC
3      INTEGER EL,DIF,V
4      COMMON/B1/NUMEL,NUMNOD,NNODEL,MBAND,LIM2,IPRD,LBA,MEO,INIV
5      COMMON/B2/CCDMAR(200),HMAR(200),X(200),Y(200),QCON(200),EL(200,6),
6      *IND(300),QDIST(300),ICEL(300),ICNO(200)
7      COMMON/B3/DIF(300,3)
8      DO 15 M=1,NUMEL
9      DO 16 J=1,NNODEL
10      K=J+1
11      IF(K>3)17,17,18
12      K=1
13      17 CONTINUE
14      16 DIF(M,J)=IDIM(IND(M,K),IND(M,J))
15      CONTINUE
16      M=1
17      V=DIF(M,1)
18      J=2
19      21 IF(V.GE.DIF(M,J)) GO TO 21
20      V=DIF(M,J)
21      J=J+1
22      IF(J>3)21,21,22
23      M=M+1
24      IF(M>NUMEL)23,23,24
25      J=1
26      GO TO 21
27      MBAND=V+1
28      PRINT 156,MBAND
29      156 FORMAT(/,6X,'MBAND=',I3,'COLDANE'/6X,16(1H=))
30      IF(LBA-MBAND)31,40,40
31      30 PRINT 31,LBA,MBAND
32      31 FORMAT(//,9X,'LATIMEA DE',I3,'COLDANE LA DISPOZITIA MATRICEI BAND
33      *A INSUFICIENTA PTR CIT E NFCESAR LA MBAND=',I3,'COLDANE STOP CALCUL
34      *L'//)
35      STOP
36      40 CONTINUE
37      RETURN
38      END

```

MELFI.47
FORTRAN 4.0.0

MELFINI 28/03/84 14.55.04

MODULE	B3	TYPE	C	LONGUEUR	3E14 (0.3614)
MODULE	B2	TYPE	C	LONGUEUR	3CF0 (15600)
MODULE	B1	TYPE	C	LONGUEUR	3.24 (0.036)
MODULE	FORMEC	TYPE	P	LONGUEUR	3288 (21648)

*** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = 0) 14.55.14
SEG S4
COMPILE FORTRAN
FORTRAN 4.0.0

MELFINI 28/03/84 14.55.17

```

1      * SEGMENT B1+B2,B3+B6+B7+B8,B9
2      SUBROUTINE MATREL
3      INTEGER EL,CCDMAR
4      REAL KX,KY

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2      COMMON/81/NUMEL,NNODEL,MBAND,LIM2,IPRU,LBA,NEU,INV
3      COMMON/82/CODMAR(200),HMAR(200),X(200),Y(200),QCON(200),EL(200,6),
4      *IND(300,3),QDIST(300),ICEL(300),ICNO(200)
5      COMMON/85/SK(200,35)

6      COMMON/86/SUP(300)
7      COMMON/87/S(300,3,3)
8      COMMON/88/KX(300),KY(300)
9      COMMON/89/DIFA(300,3),DIFB(300,3)
10     IF(IPRU.EQ.1) GO TO 5
11     GO TO 9
12     IF(MFO.EQ.2) GO TO 6
13     IF(MFO.EQ.1) GO TO 61
14     IF(MEO.EQ.2) GO TO 62
15     IF(MEO.EQ.3) GO TO 63
16     PRINT 64
17     64 FORMAT(//,20X,'INITIALIZAREA TIPULUI MEDIULUI POROS CU CODUL 0,1,
18     *2 SAU 3 NU ESTE CORECTA IN CARTELA DE DATE NR 2 STOP CALCUL')
19     STOP
20     READ(105,71) KXX
21     FORMAT(F16.9)
22     DO 71 M=1,NUMEL
23       KX(M)=KXX
24       KY(M)=XX
25       GO TO 90
26     61 RFA0(105,72)XKX,YKY
27     72 FORMAT(2F16.9)
28     DO 73 M=1,NUMEL
29       KX(M)=XKX
30       KY(M)=YKY
31       GO TO 90
32     62 GO TO 61
33     63 DO 75 M=1,NUMEL
34       READ(105,76)KX(M),KY(M)
35     76 FORMAT(2F16.9)
36     CONTINUE
37     DO 10 M=1,NUMEL
38       SUP(M)=0.0
39     10 DO 11 J=1,NNODEL
40       N3=IND(M,J)
41       K=J+1
42       L=J+2
43       TEL=4.20.75.3L
44     11 N1=IND(K,L)
45
FORTRAN --. 1

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MELFINI 28/03/84 14.55.17

1

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46       N2=IND(M,L)
47       GO TO 25
48   25   L=1
49       GO TO 34
50   34   L=2
51       K=1
52   53   M=IND(N,K)
53   54   N=IND(M,L)
54   55   DIFC(M,J)=V(N1)-V(N2)
55   56   DIFC(M,J)=V(N2)-V(N1)
56   57   SUP(M)=SUP(M)+DIFC(M,J)*DIFC(M,J)
57   58   CONTINUE
58   59   DO 60 M=1,NUMEL
59   60   DO 61 J=1,NNODEL
60   61   S(M,J)=(V(N1)*DIFC(M,J)+V(N2)*DIFC(M,J)+V(N3)*DIFC(M,J))/4.0
61   62   /SUP(M)
62   63   CONTINUE
63   64   CONTINUE
64   65   CONTINUE
65   66   66   CONTINUE
66   67   67   CONTINUE
67   68   68   CONTINUE
68   69   69   CONTINUE
69   70   70   M=1,NUMEL
70   71   DO 72 M=1,NNODEL,1,IND(M,J),KY(M),KY(M),IND(M),ICEL(M)
71   72   CONTINUE
72   73   73   FORMAT(//,20X,'INCORIGILE DOMENIULUI EXPLOATAZ IN SENSI ANTITERARE')
73   74   74   FORMAT(20X,2H,,/1)
74   75   75   FORMAT(20X,2H,,/1)
75   76   76   FORMAT(20X,2H,,/1)
76   77   77   FORMAT(20X,2H,,/1)
77   78   78   FORMAT(20X,2H,,/1)
78   79   79   FORMAT(20X,2H,,/1)
79   80   80   FORMAT(20X,2H,,/1)
80   81   81   FORMAT(49X,'(MP/SEC)',20X,'(F/SEC)',20X,'(M/S/MO)',20X,'(14.)',/1)
81   82   82   FORMAT(13X,4(I2,5X),2(F16.2,4X),11)
82   83   83   RETURN
83   84   84   END
84

```

MELFI 48 --.
FORTRAN --.

MELFINI 28/03/84 14.55.17

2

MODULE	B9	TYPE	C	LONGUEUR	1020 (072000)
MODULE	B8	TYPE	C	LONGUEUR	9050 (072000)
MODULE	B7	TYPE	C	LONGUEUR	2420 (120000)

MODULE	B6	TYPE	C	LONGUEUR	896 (01200)
MODULE	B5	TYPE	C	LONGUEUR	606 (12000)
MODULE	B2	TYPE	C	LONGUEUR	305 (15500)
MODULE	B1	TYPE	C	LONGUEUR	724 (10000)
MODULE	MATREL	TYPE	P	LONGUEUR	70 (154)
***** FIN DE COMPILE (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = *)					14.55.57
SEG 55					
COMPILE FORTRAN					
FORTRAN 03.04				MELFIN1	28/03/84 14.55.47

```

1 * SEGMENT B1+B2,B5+B6+B7+B8
2 SUBROUTINE MATRINF
3 INTEGER EL, CODMAR
4 COMMON/B1/NUMEL,NUMNOD,MNODEL,MBAND,LIM2,IP80,LBA,MED,INIV
5 COMMON/B2/CODMAR(20),HMAR(20),X(20),Y(20),QCON(20),L(20,6),
6 *IND(300,3),QDIST(30),ICEL(30),ICNO(20)
7 COMMON/B5/SR(20,35)
8 COMMON/B6/SUP(3,3)
9 COMMON/B7/S(300,3,3)
10 COMMON/B8/KX(300),KY(300)
11 IN=1
12 16 JN=1
13 SR(IN,JN)=0.0
14 JN=JN+1
15 IF(JN-MBAND)10,10,15
16 15 IN=IN+1
17 IF(IN-NUMNOD)16,16,17
18 17 N=1
19 N1=N
20 IN=N
21 JN=N1-(N-1)
22 L=1
23 M=MEL(N,L)
24 IF(M.EQ.0) GO TO 104
25 J=1
26 115 IF(IND(M,J).EQ.N) GO TO 117
27 J=J+1
28 IF(J-3)115,115,100
29 L=L+1
30 IF(L-6)120,120,125
31 N1=N+1
32 180 IF(N1-NUMNOD)130,130,264
33 130 IF(N1-N-MBAND+1)140,140,264
34 JN=N1-(N-1)
35 L=1
36 K=1
37 M=MEL(N,L)
38 IF(M.EQ.0) GO TO 150
39 IF(EL(N1,K).EQ.M) GO TO 155
40 150 K=K+1
41 IF(K-6)160,160,165
42 L=L+1
43 IF(L-6)170,170,175
44 175 N1=N1+1
45 GO TO 180
46 155 J=1
47 205 IF(IND(M,J).EQ.N1) GO TO 200

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FORTRAN 03.04 MELFIN1 28/03/84 14.55.46

```

48 J=J+1
49 IF(J-3)205,205,200
50 I=1
51 215 IF(IND(M,I).EQ.N) GO TO 210
52 I=I+1
53 IF(I-3)215,215,150
54 210 SR(IN,JN)=SR(IN,JN)+S(M,I,J)
55 GO TO 150
56 110 SR(IN,JN)=SR(IN,JN)+S(M,J,J)
57 GO TO 100
58 N=N+1
59 IF(N-NUMNOD)220,220,135
60 135 LIM2=IN
61 RETURN
62 END

```

MODULE	B8	TYPE	C	LONGUEUR	896 (02400)
MODULE	B7	TYPE	C	LONGUEUR	2430 (10000)
MODULE	B6	TYPE	C	LONGUEUR	0480 (01200)
MELFIN1 28/03/84 14.55.46					
FORTRAN 03.04					

1

2

MODULE	85	TYPE	C	LONGUEUR	606 (28)
MODULE	82	TYPE	C	LONGUEUR	30F (156)
MODULE	81	TYPE	C	LONGUEUR	24 (136)
MODULE	NATRINF	TYPE	P	LONGUEUR	338 (1824)

***** FIN DE COMPILE (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = 1) 14.55.53
 SEG 56
 COMPILE FORTRAN
 FORTRAN 1.0

HELFINI 28/13/84 14.55.55

```

1 * SEGMENT B1+B2,B5+B6+B7+B8,B1.
2   SUBROUTINE TERMLIB
3     INTEGER EL,CODMAR
4     COMMON/B1/NUMEL,NUMNOD,ANODEL,M8AND,LIM2,IPRO,LBA,MED,INIV
5     COMMON/B2/CODMAR(2%),HPAR(2%),X(2%),Y(2%),QCON(2%),EL(2%,6),
6     *IND(3%,3),QDIST(3%),ICEL(3%),ICNO(2%)
7     COMMON/B5/SR(2%,35)
8     COMMON/B6/SUP(3%)
9     COMMON/B7/S(3%,3,3)
10    COMMON/B8/KX(3%),KY(3%) 
11    COMMON/B1//P(2%)
12    N=1
13    IN=N
14    P(IN)=1.
15    IF(QCON(N).EQ.1.) GO TO 25
16    P(IN)=P(IN)+QCON(N)
17    L=1
18    M=EL(N,L)

19    IF(M.EQ.1) GO TO 6
20    IF(QDIST(M).EQ.0.0) GO TO 8
21    P(L)=P(L)+QDIST(M)*SUP(M)/3
22    L=L+1
23    IF(L>65,65,11
24    IF(CODMAR(N).EQ.2.OR.CODMAR(N).EQ.3)GO TO 20
25    GO TO 60
26    JN=1
27    P(IN)=P(IN)+SR(IN,JN)*HMAR(N)
28    JN=JN+1
29    IF(JN-M8AND)>1,2,1,35
30    1 SR(IN,JN)=0
31    GO TO 2,3
32    66 IF(N-M8AND)>1,1,15
33    1 N1=1
34    4 I=CODMAR(N1)
35    GO TO (21,22,22),I
36    21 N1=N1+1
37    IF(N1-NUMNOD)>3,3,35
38    3 IF(N1-N-M8AND+1)>0,4,35
39    35 N=N+1
40    IF(N-NUMNOD)>5,5,55
41    15 N1=N-M8AND+1
42    GO TO 4,
43    22 JN=N1-(N-1)
44    IF(JN-1)>1,21,71
45    71 SRT=SR(IN,JN)
46    SR(IN,JN)=0
47    83 P(IN)=P(IN)-SRT*HMAR(N1)

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FORTRAN 1.0 HELFINI 28/13/84 14.55.55

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48    GO TO 21
49    70 L=1
50    SRT=0
51    K=1
52    M=EL(N,L)
53    80 IF(M.EQ.1) GO TO 72
54    IF(EL(N1,K).EQ.M) GO TO 73
55    GO TO 72
56    73 J=1
57    75 IF(IND(M,J).EQ.N1) GO TO 74
58    J=J+1
59    IF(J>3) 75,75,74
60    74 J=1
61    78 IF(IND(M,I).EQ.N) GO TO 77
62    I=I+1
63    IF(I>3) 78,78,72
64    77 SRT=SRT+S(M,I,J)
65    72 K=K+1
66    IF(K>8,8,81
67    81 L=L+1
68    IF(L>6) 82,82,83
69    85 IF(IN.EQ.LIM2) GO TO 85
70    WRITE(1,8,99)
71    99 FORMAT(//,2X,'IN TERMLIB IN NU ESTE EGAL CU LIM2 ERORARE,STOP')
72    STOP
73    85 WRITE(1,8,12)(IN,P(IN),IN=1,LIM2)
74    121 FORMAT(//,4(3X,'P(''14.'')=''.G16.9,3X)/)

```

```

76      PRINT END
77      FORMAT(//,57X,'R E Z U L T A T E',/57X,17(1H*),///)
78      RETURN
END

```

MELFIN1A
FORTRAN 00.00

2

MODULE	B1	TYPE	C	LONGUEUR	MELFIN1	28/03/84	14.55.55
MODULE	88	TYPE	C	LONGUEUR	3960	(02460)	
MODULE	87	TYPE	C	LONGUEUR	2430	(14800)	
MODULE	86	TYPE	C	LONGUEUR	9480	(01200)	
MODULE	85	TYPE	C	LONGUEUR	6060	(28000)	
MODULE	82	TYPE	C	LONGUEUR	3000	(15600)	
MODULE	81	TYPE	C	LONGUEUR	3024	(01036)	
MODULE	TERMLIB	TYPE	P	LONGUEUR	6530	(01320)	

***** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = 0)
SEG S7
COMPILE FORTRAN
FORTRAN 00.00

MELFIN1 28/03/84 14.56.17

1

```

1 * SEGMENT B1+B2,B5+B6+B7+B8,B18
2      SUBROUTINE MECHOLE
3      INTEGER EL,CODMAR
4
5      COMMON/B1/NUMEL,NUMNOO,NNODEL,MBAND,LIM2,IPRO,LBA,MEO,INIV
6      COMMON/B2/CODMAR(200),HRAR(200),X(200),Y(200),QCON(200),EL(200,6),
7      *IND(300,3),QDIST(300),ICEL(300),ICNO(200)
8      COMMON/B5/SR(200,35)
9      COMMON/B6/SUP(300)
10     COMMON/B7/S(300,3,3)
11     COMMON/B8/X(300)
12     COMMON/B9/P(200)
13     WRITE(108,218)
218    FORMAT(43X,'INALTIMILE PIEZOMETRICE IN NODURILE RETELEI'/42X,45(1H
14    */)
15     I=1
16     J=1
17     99 IN=I
18     JN=J-(I-1)
19     K=1
20     IF(I-J)130,110,110
21     IF(I.EQ.1) GO TO 131
22     SUM30=0.
23     IF(I-K-MBAND+1)132,132,133
24     132 IF(J-K-MBAND+1)134,134,133
25     134 ARG30=SR(K,I-K+1)*SR(K,1)*SR(K,J-K+1)
26     SUM30=SUM30+ARG30
27     K=K+1
28     IF(K-I+1)135,135,136
29     135 SUM30=0.
30     136 IF(SR(IN,1))350,335,350
31     350 W=SR(IN,JN)
32     SR(IN,JN)=(W-SUM30)/SR(IN,1)
33     J=J+1
34     JN=J-(I-1)
35     IF(JN-MBAND)60,60,61
36     61 IF(I.EQ.1) GO TO 7
37     WP=P(I)
38     77 K=1
39     SUM2=0.
40     75 IF(I-K-MBAND+1)71,71,72
41     71 E2=SR(K,I-K+1)*SR(K,1)*P(K)
42     SUM2=SUM2+E2
43     72 K=K+1
44     IF(K-I+1)75,75,76
45     75 WP=P(I)
46     P(I)=0
47     GO TO 77

```

FORTRAN 00.00

MELFIN1 28/03/84 14.56.17

1

```

48     P(I)=(WP-SUM2)/SR(I,1)
49     I=I+1
50     IF(I-LIM2)59,59,62
51     59 J=I
52     GO TO 99
53     335 WRITE(108,340)I,I
54     340 FORMAT(17,2X,I,IN MECHOLE B(,I4,1H,,I4,)=ZERO SISTEMUL DE ECUA
55     *TII NEDETERMINAT SE INTRERUPE CALCULUL AICI")
56     STOP
57     111 IF(J.EQ.1) GO TO 111
58     SUM10=0.
59     115 IF(I-K-MBAND+1)112,112,113

```

```

60      112 IF(J-K-MBAND+1)114,119,113
61      114 ARG1=SR(K,I-K+1)*SR(K,1)*SR(K,J-K+1)
62      SUM1=SUM1+ARG1
63      113 K=K+1
64      IF(K-J+1)115,115,116
65      111 SUM1=0.
66      116 W=SR(IN,JN)
67      SR(IN,JN)=W-SUM1
68      GO TO 117
69      62 J=1
70      32 I=LIM2+1-J
71      K=I+1
72      IF(K-LIM2)50,50,51
73      SUM3=0.
74      54 IF(K-I-MBAND+1)52,52,53
75      52 E3=SR(I,K-I+1)*P(K)
76      SUM3=SUM3+E3
77      53 K=K+1
78      IF(K-LIM2)54,54,55
79      51 SUM3=0.
80      55 WU=P(I)
81      P(I)=WU-SUM3
82      J=J+1
83      IF(J-LIM2)32,32,207
84      207 WRITE(148,215)(N,P(N),N=1,NUMNOD)
85      215 FORMAT(' ',5(5X,'H(''14,'')='',F8.3,5X)//)
86      CONTINUE
87      RETURN
88      END

```

MELFIN1
FORTRAN 00.00

MELFIN1 28/03/84 14.56.17

2

MODULE	B1	TYPE	C	LONGUEUR	32 (00.00)
MODULE	B8	TYPE	C	LONGUEUR	7960 (02400)
MODULE	B7	TYPE	C	LONGUEUR	2A30 (11800)
MODULE	B6	TYPE	C	LONGUEUR	4B0 (1120)
MODULE	B5	TYPE	C	LONGUEUR	6D60 (28000)
MODULE	B2	TYPE	C	LONGUEUR	3CF (1560)
MODULE	B1	TYPE	C	LONGUEUR	0.124 (00.36)
MODULE	MECHOLEFS	TYPE	P	LONGUEUR	7678 (1656)

***** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR RENCONTRE =) 14.56.32
 SEG S8
 COMPILE FORTRAN
 FORTRAN 00.00

MELFIN1 28/03/84 14.56.34

```

1 * SEGMENT B1+B2,B5+B6+B7+B8,B10
2 SUBROUTINE LINPOTEN
3 INTEGER EL,COOMAR
4 COMMON/B1/NUMEL,NUMNOD,ANODEL,MBAND,LIM2,IPRO,LBA,MEO,INIV
5 COMMON/B2/COOMAR(200),HPAR(200),X(200),Y(200),QCON(200),EL(200,6),
6 *IND(300,3),QDIST(300),ICEL(300),ICNO(200)
7 COMMON/B5/SR(200,35)
8 COMMON/B6/SUP(300)
9 COMMON/B7/S(300,3,3)
10 COMMON/B8/KX(300),KY(300)
11 COMMON/B11/P(200)
12 DIMENSION X1(600),Y1(600),KIND(400),NU(400),LPC(200),H(200)
13 EQUIVALENCE (SR(1,1),X1(1)),(SR(1,4),Y1(1)),(SR(1,7),KIND(1)),(SR(1
14 *,9),NU(1)),(SR(1,11),LPC(1)),(P(1),H(1))
15 VEP=1.0*10.**(-20)
16 HMAX=H(1)
17 DO 1 I=2,NUMNOD
18 IF(HMAX-H(I))2,1,1
19 2 HMAX=H(I)
20 1 CONTINUE
21 HMIN=H(1)
22 DO 3 N=2,NUMNOD
23 IF(HMIN-H(N))3,3,4
24 3 HMIN=H(N)
25 3 CONTINUE
26 VAL=HMAX-HMIN
27 DNIV=VAL/(INIV-1)
28 PRINT 6,HMAX,HMIN,INIV
29 6 FORMAT(' //10X,'INTRE HMAX='',F8.3,' SI HMIN='',F8.3,' SE TRASEAZA
30 * ',I2,' LINII ECHIPOTENTIALE',//,
31 11=
32 CCC=HMIN
33 K1=
34 DO 7 I=1,NUMNOD
35 IF(H(I).EQ.HMIN) GO TO 8
36 GO TO 7
37 8 K1=K1+1
38 X1(K1)=X(I)

```

```

39      Y1(K1)=Y(1)
40      LPC(1)=K1
41      7 CONTINUE
42      GO TO 259
43      265 CCC=11*UNIV+HMIN
44      DO 6 I=1,NUMEL
45      KIND(I)=
46      NU(I)=
47      6 CONTINUE

```

FORTRAN ..

MELFIN1 28/3/84 14.56.34

1

```

48      DO 6 I=1,NUMEL
49      LPC(I)=
50      6 1 CONTINUE
51      K1=
52      M=1
53      LA=
54      LNU=
55      J1=1
56      J2=J1+1
57      IF(J2>3)11,1,15
58      1 J3=J2+1
59      IF(J3>3)12,2,25
60      15 J2=1
61      GO TO 1
62      25 J3=1
63      2 N3=IND(M,J3)
64      N2=IND(M,J2)
65      N1=IND(M,J1)
66      V1=((Y(N2)-Y(N3))*H(N1)+(Y(N3)-Y(N1))*H(N2)+(Y(N1)-Y(N2))*H(N3))
67      A1=V1/(2.*SUP(M))
68      W1=((X(N3)-X(N2))*H(N1)+(X(N1)-X(N3))*H(N2)+(X(N2)-X(N1))*H(N3))

69      R1=K1/(2.*SUP(M))
70      Z1=(X(N2)*Y(N3)-X(N3)*Y(N2))*H(N1)
71      Z2=(X(N3)*Y(N1)-X(N1)*Y(N3))*H(N2)
72      Z3=(Y(N1)*Y(N2)-X(N2)*X(N1))*H(N3)
73      C1=(Z1+Z2+Z3)/(2.*SUP(M))
74      V5=(A1*X(N1)+R1*Y(N1)+C1-CCC)
75      V6=(A1*(X(N2)-X(N1))+R1*(Y(N2)-Y(N1)))
76      V7=ARS(V6)
77      IF(V7.LT.VEP1) GO TO 41
78      DELTA=V5/V6
79      V1=IF(DELTA-V1)41,42,43
80      41 LNU=LNU+1
81      IF(LNU.EQ.2) GO TO 2
82      GO TO 9
83      42 K1=K1+1
84      LA=LA+1
85      KIND(M)=KIND(M)+1
86      LPC(N1)=LPC(N1)+1
87      IF(LPC(N1).GE.2) GO TO 3
88      X1(K1)=X(N1)
89      Y1(K1)=Y(N1)
90      GO TO 31
91      3 K1=K1-1
92      31 IF(LA.EQ.2) GO TO 32
93      GO TO 11

```

FORTRAN ..

MELFIN1 28/3/84 14.56.34

2

```

95      32 NN=N1
96      GO TO 6,2
97      43 IF(DELTA-1)44,45,41
98      44 K1=K1+1
99      LA=LA+1
100     KIND(M)=KIND(M)+1
101     X1(K1)=X(N1)+(X(N2)-X(N1))*DELTA
102     Y1(K1)=Y(N1)+(Y(N2)-Y(N1))*DELTA
103     IF(LA.EQ.2) GO TO 4
104     IF(KIND(M).GE.2) GO TO 9
105     GO TO 40
106     45 K1=K1+1
107     LA=LA+1
108     KIND(M)=KIND(M)+1
109     LPC(N2)=LPC(N2)+1
110     IF(LPC(N2).GE.2)GO TO 33
111     X1(K1)=X(N2)
112     Y1(K1)=Y(N2)
113     GO TO 34
114     33 K1=K1-1
115     34 IF(LA.EQ.2) GO TO 35
116     GO TO 11
117     35 NN=N2
118     GO TO 6,2
119     9 J1=J1+1
120     IF(J1>3)11,117,199
121     2 NU(M)=1
122     199 M=M+1
123     . . IF(M-NUMEL)6,3,6,3,6,4

```

```

167      GO TO 239
126      603 IF(KIND(M).EQ.0) GO TO 6 5
127      GO TO 199
128      6 5 IF(NU(M).EQ.1) GO TO 199
129      GO TO 15
130      606 M=1
131      GO TO 6 3
132      602 L=1
133      609 IF(EL(NN,L).EQ.M) GO TO 6 7
134      M=EL(NN,L)
135      IF(KIND(M).EQ.2) GO TO 6 7
136      J1=1
137      GO TO 11
138      607 L=L+1
139      IF(L-6)608,608,606
140      608 IF(EL(NN,L).EQ.0) GO TO 6 6
141      GO TO 609

```

FORTRAN 03.00

MELFINI 28/03/84 14.56.34

3

```

142      400 M2=1
143      350 IF(IND(M2,1).EQ.N1) GO TO 36
144      IF(IND(M2,2).EQ.N1) GO TO 37
145      IF(IND(M2,3).EQ.N1) GO TO 39
146      353 M2=M2+1
147      IF(M2-NUMEL)1350,350,352
148      36 J1=1
149      GO TO 351
150      37 J1=2
151      GO TO 351
152      38 J1=3
153      351 IF(IND(M2,1).EQ.N2) GO TO 354
154      IF(IND(M2,2).EQ.N2) GO TO 354

155      IF(IND(N2,3).EQ.N2) GO TO 354
156      GO TO 353
157      354 IF(M2.EQ.M) GO TO 353
158      INDEX=1
159      401 IF(INDEX.EQ.1) GO TO 4 2
160      GO TO 61
161      352 INDEX=1
162      GO TO 401
163      402 IF(KIND(M2).EQ.0) GO TO 611
164      IF(KIND(M2).EQ.1) GO TO 611
165      GO TO 616
166      611 IF(LA.EQ.2) GO TO 612
167      GO TO 116
168      612 M=1
169      613 IF(KIND(M).EQ.1) GO TO 1:
170      M=M+
171      IF(M-NUMEL)613,613,606
172      611 M=M2
173      LA=1
174      LNU=
175      KIND(M)=KIND(M)+1
176      GO TO 118
177      259 PRINT 260,I1,CCC
178      260 FORMAT(' //4X,'COORDONATELE LINIFI ECHIPOTENTIALE',I2,' DE VALO
179      *ARE ',F7.2,')
180      PRINT 261,IPMAX
181      261 FORMAT(4X,'LINIA ECHIPOTENTIALA ARE',I3,'PUNCTE',/)
182      WRITE(108,262)((K1,X1(K1),K1,Y1(K1)),K1=1,IPMAX)
183      262 FORMAT(3,3(2X,'XT(',I3,',')=',F9.2,3X,'YT(',I3,',')=',F9.2,1//)
184      I1=I1+1
185      IF(I1-INIV+1)265,266,270
186      266 CCC=HMAX
187      K1=
188      DO 1: I=1,NUMNOO

```

FORTRAN 03.00

MELFINI 28/03/84 14.56.34

4

```

189      IF(H(I).EQ.HMAX) GO TO 11
190      GO TO 9
191      11 K1=K1+1
192      X1(K1)=X(I)
193      Y1(K1)=Y(I)
194      IPMAX=K1
195      9 CONTINUE
196      GO TO 259
197      270 CONTINUE
198      RETURN
199      END

```

MELFINI 4C
FORTRAN 03.00

MODULE	81	TYPE	C	LONGUEUR	3320 (0.81)
MODULE	88	TYPE	C	LONGUEUR	1960 (0.2400)
MODULE	87	TYPE	C	LONGUEUR	2A30 (1.811)
MODULE	86	TYPE	C	LONGUEUR	3480 (0.1200)

5

MODULE	85	TYPE	C	LONGUEUR	606 : (28*)
MODULE	82	TYPE	C	LONGUEUR	3CF : (156*)
MODULE	81	TYPE	C	LONGUEUR	324 : (3 36)
MODULE	LINPOTEN	TYPE	P	LONGUEUR	1028 : (3368)

***** FIN DE COMPILE (PLUS HAUT NIVEAU D'ERREUR RENCONTRE =) 14.56.59
 SEG S9
 COMPILE FORTRAN
 FURTRAN MELFIN1 28/03/84 14.57.11

```

1 * SEGMENT B1+B2,B5+B6+B7+B8,B10
2 SUBROUTINE LINCUREN
3 INTEGER IL
4 REAL KX,KY
5 COMMON/B1/NUMEL,NODEL,MBAND,LIMZ,IPRO,LBA,NEO,INV
6 COMMON/B2/CODMAR(2:),HMAR(2:),X(2:),Y(2:),QCON(2:),EL(2:),61,
7 *IND(30:3),QDIST(30:),ICEL(30:),ICNO(2:)
8 COMMON/B5/SR(2:),35)
9 COMMON/B6/SUP(3:)
10 COMMON/B7/S(30:3,3)
11 COMMON/B8/KX(30:),KY(3:)
12 COMMON/B9/P(2:)
13 DIMENSION XT(60:),YT(60:),H(2:),NC(60:),IM(30:)
14 EQUIVALENCE (SR(1,19),XT(1)),(SR(1,22),YT(1)),(P(1),H(1))
15 EQUIVALENCE (SR(1,25),NC(1)),(S(1,1,1),IM(1))
16 LCIP=-1
17 VEP=1.*+1.*(-2.)
18 READ(1,5+1) ICC

```

```

19 1. FORMAT(15)
20 READ(1,5,2.) (NC(I1),I1=1,ICC)
21 FORMAT(16I5)
22 WRITE(1,8,18) ICC,(NC(I1),I1=1,ICC)
23 18 FORMAT(' //4X,'LINILLE DE CURENT PORNESC DIN',IS,2X,
24 *'NOUURI SI CARF SINT'//4X,8(5X,'N=',[3,],3X//)
25 I1=1
26 DO 92 M1=1,NUMEL
27 IM(M1)=1
28 CONTINUE
29 IP=1
30 L=1
31 27 IL=NC(I1)
32 X=X(IL)
33 Y=Y(IL)
34 M=EL(IL,L)
35 IF(M.EQ.0) GO TO 26
36 IF(IM(M).EQ.1) GOTO 29
37 IP=1
38 XT(IP)=X
39 YT(IP)=Y
40 LA=_
41 J1=1
42 71 J2=J1+1
43 IF(J2>3) 31,31,32
44 J3=J2+1
45 IF(J3>4) 4,4,45
46 J2=1
47 GO TO 31

```

FURTRAN MELFIN1 28/03/84 14.57. 1

```

48 45 J3=1
49 N3=IN0(M,J3)
50 N2=IN0(M,J2)
51 N1=IN0(M,J1)
52 SC=X(N1)*(Y(N2)-Y)+X(N2)*(Y-N(Y(N1)))+X*(Y(N1)-Y(N2))
53 IF(SC.LT.0.1) GO TO 9*1
54 GO TO 52
55 9*1 IF(J1.EQ.1) GO TO 51
56 GO TO 51
57 5 V1=((Y(N2)-Y(N3))*H(N1)+(Y(N3)-Y(N1))*H(N2)+(Y(N1)-Y(N2))*H(N3))
58 A1=V1/(2.*SUP(M))
59 W1=((X(N3)-X(N2))*H(N1)+(X(N1)-X(N3))*H(N2)+(X(N2)-X(N1))*H(N3))
60 B1=W1/(2.*SUP(M))
61 IF(LA.EQ.0) GO TO 51
62 GO TO 9*2
63 51 VJOS=KX(M)*A1*(Y(N1)-Y(N3))-KY(M)*B1*(X(N1)-X(N3))
64 GO TO 9*3
65 9*2 VJOS=KX(M)*A1*(Y(N2)-Y(N3))-KY(M)*B1*(X(N2)-X(N3))
66 9*3 V777=ABS(VJOS)
67 IF(V777.LT.VEP) GO TO 57
68 VSUS=-KX(M)*A1*(Y(N3)-Y)+KY(M)*B1*(X(N3)-X)
69 GO TO 9*5
70 57 IF(LA.EQ.0) GO TO 9*4
71 GO TO 692
72 9*4 LA=_1
73 GO TO 9*2

```

```

75      IF(IP>58,53,54
76      58 IF(LA.EQ.0) GO TO 9-4
77      GO TO 69
78      53 IP=IP+1
79      XT(IP)=X(N3)
80      YT(IP)=Y(N3)
81      GO TO 69
82      54 IF(IP>155,56,58
83      56 IP=IP+1
84      IF(LA.EQ.0) GO TO 9-6
85      GO TO 9-7
86      9-6 XT(IP)=X(N1)
87      YT(IP)=Y(N1)
88      GO TO 69
89      9-7 XT(IP)=X(N2)
90      YT(IP)=Y(N2)
91      GO TO 69
92      55 IP=IP+1
93      IF(LA.EQ.0) GO TO 9-6
94      GO TO 9-9

```

FORTRAN 11.0.0

MELFINI 28/03/84 14.57.1

2

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95      908 XT(IP)=X(N3)+(X(N1)-X(N3))*EP
96      YT(IP)=Y(N3)+(Y(N1)-Y(N3))*EP
97      GO TO 65
98      949 XT(IP)=X(N3)+(X(N2)-X(N3))*EP
99      YT(IP)=Y(N3)+(Y(N2)-Y(N3))*EP
100     GO TO 65
101     52 J1=J1+1
102     IF(J1>3)71,7,69
103     69 IM(M)=1
104     NOD=1

115     78 CX=X(NOD)-XT(IP)
116     CY=Y(NOD)-YT(IP)
117     IF(ABS(CX).LE.(1.99))GO TO 77
118     GO TO 31
119     77 IF(ABS(CY).LE.(0.99))GO TO 311
120     GO TO 31
121     311 DX=XT(IP)-XT(IP+LCIP)
122     DY=YT(IP)-YT(IP+LCIP)
123     IF(ABS(DX).LE.(0.99))GO TO 166
124     GOTO 165
125     166 IF(ABS(DY).LE.(0.99))GO TO 167
126     GOTO 165
127     167 IP=IP+LCIP
128     IF(LA.EQ.0) GO TO 9-4
129     165 L6=1
130     312 M3=EL(NOD,L6)
131     IF(M3.EQ.1)GO TO 33
132     IF01M(M3).EQ.1)GO TO 33
133     M=M3
134     X1=XT(IP)
135     Y1=YT(IP)
136     GO TO 71
137     313 L6=L6+1
138     IF(L6>6)3 2,312,340
139     31 NOD=NOD+1
140     IF(NOD-NUMNOD)78,78,74
141     65 IM(M)=1
142     M2=1
143     159 IF(LA.EQ.0) GO TO 15
144     IF(IND(M2,1).EQ.N2) GO TO 151
145     IF(IND(M2,2).EQ.N2) GO TO 151
146     IF(IND(M2,3).EQ.N2) GO TO 151
147     GO TO 153
148     151 IF(IND(M2,1).EQ.N1) GO TO 151
149     IF(IND(M2,2).EQ.N1) GO TO 151
150     IF(IND(M2,3).EQ.N1) GO TO 151
151     153 M2=M2+1

```

FORTRAN 11.0.0

MELFINI 28/03/84 14.57. 1

3

```

152     154 IF(IM(M2).EQ.1) GO TO 153
153     M=M2
154     X1=XT(IP)
155     Y1=YT(IP)
156     GO TO 71
157     72 IPMAX=IP
158     PRINT 26,11
159     26 FORMAT(1,/,4 X,'COORDINATELE LINIEI DE CURENT',15,/)
160     PRINT 261,IPMAX
161     261 FORMAT(4 X,'LINIA DE CURENT ARE',15,2X,'PUNCTE',/)
162     WRITE(1,8)262)((IP,XT(IP),IP,YT(IP)),IP=1,IPMAX)
163     262 FORMAT(1,3(2X,'XT(''13,'')=''',F9.2,3X,'YT(''13,'')=''',F9.2,1))
164     29 L=L+1
165     IF(L>6)26,26,263

```

```

161      40 IF(1>1) GO TO 27
162      263 I1=I1+1
163      IF(I1>100) 90,90,91
164      690 PRINT 691,M,X0,Y0,I1
165      691 FORMAT(' ',IN ELEMENTUL',I5,' X0=',F9.2,', S1 Y0=',F9.2,', NU SI
166      4NT PE VREO LATURA. SE OPRESTE CALCULUL LINIEI DE CURENT',I2,/)
167      GO TO 72
168      692 PRINT 693,M,X0,Y0,I1
169      693 FORMAT(' ',IN ELEMENTUL',I5,' DIN PUNCTUL X =',F9.2,', S1 Y =',F
170      *9.2,', VALOAREA FP=INFINIT SI LA=1. NU SE poate CONTINUА CALCULUL LI
171      *NIEI DE CURENT',I2,/)
172      GO TO 72
173      91 CONTINUE
174      RETURN
175      END

```

MELFI:4D
FORTRAN PRG.DJ

4

			MELFINI	28/03/84 14.57.01
MODULE	B1	TYPE	C	LONGUEUR 4320 (0.800)
MODULE	B8	TYPE	C	LONGUEUR 4960 (0.240)
MODULE	B7	TYPE	C	LONGUEUR 2A30 (1.080)
MODULE	B6	TYPE	C	LONGUEUR 1480 (0.120)
MODULE	B5	TYPE	C	LONGUEUR 6D60 (2.800)
MODULE	B2	TYPE	C	LONGUEUR 3CF0 (1.560)
MODULE	B1	TYPE	C	LONGUEUR 0240 (0.136)

MODULE LINCUREN TYPE P LONGUEUR 7070 (-3448)

***** FIN DE COMPILEATION (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = 0)
 : TREE PRINC+(B1+B2)(S1,S2,S3+B3),S5+(B5+B6+B7+B8)(S6+B1-(S7,+
 : S8,S9),S4+(B9)) 14.57.26

MELFI:4E

CENTRUL DE CALCUL AL I.P.T. TIMISOARA FELIX C-512 STEM - 000
 0723 MELFINI AN = CMEI PH = 0002 DATE = 28/03/84-088
 H. DEB = 14H 54M 35S H.FIN = 14H 57M 33S TIME = 00008626
 LGP = 00050 MEM = 00013 LO = 00000990 IN = 00000902 QDE = 00

LINK NLG
STARTED

MELFI:4F

AUCUNE ERREUR A L EDITION DE LIENS

MELFI:41

CENTRUL DE CALCUL AL I.P.T. TIMISOARA FELIX C-512 STEM - 000
 0723 MELFINI AN = CMEI PH = 0003 DATE = 28/03/84-088
 H. DEB = 14H 57M 33S H.FIN = 14H 59M 55S TIME = 0000997
 LGP = 00050 MEM = 0012 LO = 00000996 IN = 00000900 QDE = 00

RUN NL:144000,TIME:6
STARTED

MELFI:42

 DETERMINAREA SPECTRULUI HIDRODINAMIC PRIN METODA ELEMENTELOR FINITE

MISCAREA APEI IN MEDII PORUASE

CONFIGURATIA TOPOLOGICA NR 1

DOMENIUL ARE 200 ELEMENTE SI 121 NODURI, UN ELEMENT ARE 3 NODURI
 MEMORIA CENTRALA ARE LA DISPOZITIE LOCATII PENTRU 200 NODURI, 300 ELEMENTE SI U LATIME DE 35 A MATRICEI BANDA

MEDIUL POROS ESTE OMogen IZOTROP

CODMAR

BUPT

1 PUNCT INTERIOR SAU FRONTIERA IMPERMEABILA

2 FRONTIERA DE ALIMENTARE

3 FRONTIERA CU NIVEL LIBER

ASAMBLAREA ELEMENTELOR IN JURUL NODURILOR PENTRU DOMENIUL DAT

NUMAR	L1	L2	L3	L4	L5	L6
1	1	2	3	4		
2	2	3	5	6		
3	4	5	7	8		
4	6	8	9	10		
5	7	12	14	15		
6	8	13	15	16		
7	12	14	17	18		
8	14	16	19	20		
9	18	21	22	23		
10	20	24	25	26		
11	11	12	13	14		
12	12	13	14	15		
13	13	14	15	16		
14	15	16	17	18		
15	15	16	17	18		
16	17	18	19	20		
17	19	21	22	23		
18	21	24	25	26		
19	13	14	15	34		
20	15	16	17	36		
21	17	18	19	38		
22	19	21	22	40		
23	21	22	23	42		
24	23	24	25	44		
25	23	24	26	46		
26	25	26	27	48		
27	27	28	29	50		
28	29	30	31	52		
29	31	32	33	54		
30	33	34	35	56		
31	35	36	37	58		
32	37	38	39	60		
33	39	40	41	62		
34	41	42	43	64		
35	41	42	45	66		
36	43	44	47	68		
37	45	46	49	70		
38	47	48	51	72		
39	49	50	52	74		
40	51	52	54	76		
41	53	54	56	78		
42	55	56	58	80		
43	57	58	60	82		
44	59	60	61	84		
45	61	62	63	86		
46	63	64	65	88		
47	65	66	67	90		
48	67	68	69	92		
49	69	70	71	94		
50	71	72	73	96		
51	73	74	75	98		
52	75	76	77	100		
53	77	78	79	101		
54	79	80	81	102		
55	81	82	83	103		
56	83	84	85	104		
57	85	86	87	106		
58	87	88	89	108		
59	89	90	91	110		
60	91	92	93	112		
61	93	94	95	114		
62	95	96	97	116		
63	97	98	99	118		
64	99	100	101	121		
65	101	102	103	122		
66	102	103	104	123		
67	103	104	105	124		
68	104	105	106	125		
69	105	106	107	126		
70	106	107	108	127		
71	107	108	109	128		
72	109	110	111	129		
73	111	112	113	130		
74	113	114	115	131		
75	115	116	117	132		
76	117	118	119	133		
77	119	120	121	134		
78	121	141	142	143		

52		70.00	1	
53		70.00	1	
54		70.00	1	
55		70.00	1	
56		70.00	1	
57		70.00	1	
58		70.00	1	
59		70.00	1	
60		70.00	1	
61		70.00	1	
62		70.00	1	
63		70.00	1	
64		70.00	1	
65		70.00	1	
66		70.00	1	
67		70.00	1	
68		70.00	1	
69		70.00	1	
70		70.00	1	
71		70.00	1	
72		70.00	1	
73		70.00	1	
74		70.00	1	
75		70.00	1	
76		70.00	1	
77		70.00	1	
78		70.00	1	
79		70.00	1	
80		70.00	1	
81		70.00	1	
82		70.00	1	
83		70.00	1	
84		70.00	1	
85		70.00	1	
86		70.00	1	
87		70.00	1	
88		70.00	1	
89		70.00	1	
90		70.00	1	
91		70.00	1	
92		70.00	1	
93		70.00	1	
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97		70.00	1	
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100		70.00	1	
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107		70.00	1	
108		70.00	1	
109		70.00	1	
110		70.00	1	
111		70.00	1	
112		70.00	1	
113		70.00	1	
114		70.00	1	
115		70.00	1	
116		70.00	1	
117		70.00	1	
118		70.00	1	
119		70.00	1	
120		70.00	1	
121		70.00	1	

MBAND- 13COLOANE

REZULTATE

INALTIMILE PIEZOMETRICE IN NODURILE RETELEI

H(1)=	.78	H(2)=	.561	H(3)=	.46	H(4)=	.378	H(5)=	.379
H(6)=	.248	H(7)=	.193	H(8)=	.142	H(9)=	.093	H(10)=	.46
H(11)=	.089	H(12)=	.65	H(13)=	.542	H(14)=	.45	H(15)=	.372
H(16)=	.305	H(17)=	.245	H(18)=	.191	H(19)=	.14	H(20)=	.92
H(21)=	.046	H(22)=	.08	H(23)=	.69	H(24)=	.507	H(25)=	.426
H(26)=	.356	H(27)=	.293	H(28)=	.237	H(29)=	.185	H(30)=	.136
H(31)=	.29	H(32)=	.645	H(33)=	.50	H(34)=	.53	H(35)=	.459
H(36)=	.392	H(37)=	.331	H(38)=	.276	H(39)=	.224	H(40)=	.176
H(41)=	.138	H(42)=	.086	H(43)=	.043	H(44)=	.06	H(45)=	.47
H(46)=	.468	H(47)=	.352	H(48)=	.301	H(49)=	.253	H(50)=	.218
H(51)=	.165	H(52)=	.123	H(53)=	.081	H(54)=	.04	H(55)=	.0
H(56)=	.39	H(57)=	.349	H(58)=	.368	H(59)=	.268	H(60)=	.229
H(61)=	.19	H(62)=	.152	H(63)=	.114	H(64)=	.076	H(65)=	.38
H(66)=	.00	H(67)=	.32	H(68)=	.291	H(69)=	.263	H(70)=	.234
H(71)=	.204	H(72)=	.172	H(73)=	.139	H(74)=	.105	H(75)=	.71
H(76)=	.035	H(77)=	.08	H(78)=	.24	H(79)=	.23	H(80)=	.216
H(81)=	.201	H(82)=	.18	H(83)=	.155	H(84)=	.127	H(85)=	.97
H(86)=	.066	H(87)=	.033	H(88)=	.00	H(89)=	.16	H(90)=	.173
H(91)=	.178	H(92)=	.173	H(93)=	.161	H(94)=	.142	H(95)=	.118
H(96)=	.091	H(97)=	.062	H(98)=	.031	H(99)=	.00	H(100)=	.8
H(101)=	.124	H(102)=	.147	H(103)=	.153	H(104)=	.147	H(105)=	.132
H(106)=	.112	H(107)=	.087	H(108)=	.059	H(109)=	.03	H(110)=	.0
H(111)=	.086	H(112)=	.095	H(113)=	.134	H(114)=	.146	H(115)=	.142
H(116)=	.129	H(117)=	.109	H(118)=	.085	H(119)=	.058	H(120)=	.3
H(121)=	.00	H(

INTRE HMAX= .78 SI HMIN= .00 SE TRASEAZA LINIILE ECHIPOTENTIALE

COORDONATELE LINIEI ECHIPOTENTIALE DE VALOARE C= .00
LINIA ECHIPOTENTIALA ARE 12 PUNCTE

XT(1)=	.00	YT(1)=	100.00	XT(2)=	14.00	YT(2)=	100.00	XT(3)=	28.00	YT(3)=	100.00
XT(4)=	37.00	YT(4)=	106.00	XT(5)=	43.00	YT(5)=	100.00	XT(6)=	57.00	YT(6)=	107.00
XT(7)=	69.00	YT(7)=	100.00	XT(8)=	75.00	YT(8)=	100.00	XT(9)=	87.00	YT(9)=	107.00
XT(10)=	90.00	YT(10)=	100.00	XT(11)=	100.00	YT(11)=	.0	XT(12)=	100.00	YT(12)=	107.00

COORDONATELE LINIEI ECHIPOTENTIALE 1 DE VALOARE C= .07
LINIA ECHIPOTENTIALA ARE 3 PUNCTE

XT(1)=	1.00	YT(1)=	84.77	XT(2)=	14.65	YT(2)=	84.65	XT(3)=	28.00	YT(3)=	84.37
XT(4)=	24.25	YT(4)=	84.20	XT(5)=	30.00	YT(5)=	83.70	XT(6)=	33.51	YT(6)=	83.51

XT(7)=	48.68	YT(7)=	82.76	XT(8)=	42.59	YT(8)=	82.59	XT(9)=	52.99	YT(9)=	81.56
XT(10)=	51.46	YT(10)=	81.46	XT(11)=	60.00	YT(11)=	80.17	XT(12)=	60.15	YT(12)=	80.15
XT(13)=	61.19	YT(13)=	80.60	XT(14)=	80.20	YT(14)=	77.18	XT(15)=	86.61	YT(15)=	76.61
XT(16)=	98.68	YT(16)=	76.09	XT(17)=	95.91	YT(17)=	75.91	XT(18)=	100.00	YT(18)=	75.69
XT(19)=	16.68	YT(19)=	84.77	XT(20)=	4.86	YT(20)=	84.86	XT(21)=	.00	YT(21)=	84.97
XT(22)=	68.91	YT(22)=	78.91	XT(23)=	61.19	YT(23)=	80.00	XT(24)=	70.00	YT(24)=	78.64
XT(25)=	77.69	YT(25)=	77.69	XT(26)=	80.00	YT(26)=	77.18	XT(27)=	91.25	YT(27)=	80.00
XT(28)=	91.25	YT(28)=	.00	XT(29)=	70.00	YT(29)=	78.64	XT(30)=	68.91	YT(30)=	78.91

COORDONATELE LINIEI ECHIPOTENTIALE 2 DE VALOARE C= .14
LINIA ECHIPOTENTIALA ARE 40 PUNCTE

XT(1)=	10.00	YT(1)=	70.64	XT(2)=	10.04	YT(2)=	70.64	XT(3)=	10.49	YT(3)=	70.73
XT(4)=	39.00	YT(4)=	67.86	XT(5)=	36.73	YT(5)=	66.73	XT(6)=	40.00	YT(6)=	65.85
XT(7)=	44.87	YT(7)=	64.87	XT(8)=	50.00	YT(8)=	63.17	XT(9)=	52.58	YT(9)=	62.58
XT(10)=	59.43	YT(10)=	60.00	XT(11)=	70.00	YT(11)=	55.52	XT(12)=	74.11	YT(12)=	54.11
XT(13)=	80.00	YT(13)=	50.67	XT(14)=	80.53	YT(14)=	50.53	XT(15)=	81.73	YT(15)=	50.33
XT(16)=	95.51	YT(16)=	20.00	XT(17)=	100.00	YT(17)=	25.08	XT(18)=	10.00	YT(18)=	70.04
XT(19)=	.31	YT(19)=	70.31	XT(20)=	.00	YT(20)=	70.32	XT(21)=	19.32	YT(21)=	69.32
XT(22)=	10.49	YT(22)=	70.00	XT(23)=	20.00	YT(23)=	69.24	XT(24)=	28.21	YT(24)=	68.21
XT(25)=	30.00	YT(25)=	67.86	XT(26)=	60.00	YT(26)=	59.78	XT(27)=	67.20	YT(27)=	57.20
XT(28)=	70.00	YT(28)=	55.52	XT(29)=	82.50	YT(29)=	.00	XT(30)=	82.50	YT(30)=	.00
XT(31)=	20.00	YT(31)=	69.24	XT(32)=	19.32	YT(32)=	69.32	XT(33)=	85.55	YT(33)=	5.55
XT(34)=	86.74	YT(34)=	10.00	XT(35)=	90.00	YT(35)=	44.86	XT(36)=	93.99	YT(36)=	43.99
XT(37)=	100.00	YT(37)=	41.77	XT(38)=	60.00	YT(38)=	59.78	XT(39)=	59.86	YT(39)=	59.86
XT(40)=	59.43	YT(40)=	60.00	XT(

COORDONATELE LINIEI ECHIPOTENTIALE 3 DE VALOARE C= .21
LINIA ECHIPOTENTIALA ARE 13 PUNCTE

XT(1)=	10.00	YT(1)=	56.47	XT(2)=	15.85	YT(2)=	55.85	XT(3)=	20.00	YT(3)=	55.18
XT(4)=	24.42	YT(4)=	54.42	XT(5)=	30.00	YT(5)=	52.94	XT(6)=	32.38	YT(6)=	52.38
XT(7)=	38.85	YT(7)=	50.00	XT(8)=	50.00	YT(8)=	44.91	XT(9)=	53.34	YT(9)=	43.34
XT(10)=	57.56	YT(10)=	40.00	XT(11)=	70.00	YT(11)=	24.89	XT(12)=	71.82	YT(12)=	21.82
XT(13)=	72.03	YT(13)=	20.00	XT(

COORDONATELE LINIEI ECHIPOTENTIALE 4 DE VALOARE C= .28

XT(7)=	41.03	YT(7)=	82.76	XT(8)=	42.59	YT(8)=	82.59	XT(9)=	51.49	YT(9)=	81.56
XT(10)=	51.46	YT(10)=	81.46	XT(11)=	60.00	YT(11)=	80.17	XT(12)=	69.15	YT(12)=	80.15
XT(13)=	61.19	YT(13)=	87.00	XT(14)=	80.27	YT(14)=	77.18	XT(15)=	86.61	YT(15)=	76.61
XT(16)=	91.03	YT(16)=	76.79	XT(17)=	95.91	YT(17)=	75.91	XT(18)=	100.47	YT(18)=	75.69
XT(19)=	10.00	YT(19)=	84.77	XT(20)=	4.86	YT(20)=	84.86	XT(21)=	1.00	YT(21)=	84.97
XT(22)=	68.91	YT(22)=	78.91	XT(23)=	61.19	YT(23)=	80.00	XT(24)=	71.	YT(24)=	78.64
XT(25)=	77.69	YT(25)=	77.69	XT(26)=	90.00	YT(26)=	77.18	XT(27)=	91.25	YT(27)=	70.
XT(28)=	91.25	YT(28)=	70.00	XT(29)=	70.00	YT(29)=	78.64	XT(30)=	68.91	YT(31)=	78.91

COORDONATELE LINIEI ECHIPOTENTIALE 2 DE VALOARE C= .14
LINIA ECHIPOTENTIALA ARE 40 PUNCTE

XT(1)=	10.	YT(1)=	70.04	XT(2)=	11.74	YT(2)=	72.04	XT(3)=	11.49	YT(3)=	71.
XT(4)=	30.00	YT(4)=	67.86	XT(5)=	36.73	YT(5)=	66.73	XT(6)=	41.03	YT(6)=	65.85
XT(7)=	44.87	YT(7)=	64.87	XT(8)=	50.00	YT(8)=	63.17	XT(9)=	52.58	YT(9)=	62.58
XT(10)=	59.43	YT(10)=	67.00	XT(11)=	70.00	YT(11)=	55.52	XT(12)=	74.11	YT(12)=	54.11
XT(13)=	80.00	YT(13)=	50.67	XT(14)=	80.53	YT(14)=	51.53	XT(15)=	81.73	YT(15)=	51.
XT(16)=	95.51	YT(16)=	20.00	XT(17)=	10.00	YT(17)=	25.08	XT(18)=	10.00	YT(18)=	70.4
XT(19)=	10.31	YT(19)=	70.31	XT(20)=	10.00	YT(20)=	70.32	XT(21)=	19.32	YT(21)=	69.32
XT(22)=	10.49	YT(22)=	70.00	XT(23)=	20.00	YT(23)=	69.24	XT(24)=	20.21	YT(24)=	68.21
XT(25)=	30.00	YT(25)=	67.86	XT(26)=	60.00	YT(26)=	59.78	XT(27)=	67.20	YT(27)=	57.2
XT(28)=	70.00	YT(28)=	55.52	XT(29)=	82.50	YT(29)=	10.00	XT(30)=	82.50	YT(31)=	10.
XT(31)=	20.00	YT(31)=	69.24	XT(32)=	19.32	YT(32)=	69.32	XT(33)=	85.55	YT(33)=	5.55
XT(34)=	86.74	YT(34)=	10.00	XT(35)=	90.00	YT(35)=	44.86	XT(36)=	93.99	YT(36)=	43.99
XT(37)=	100.00	YT(37)=	41.77	XT(38)=	60.00	YT(38)=	59.78	XT(39)=	59.86	YT(39)=	59.86
XT(40)=	59.43	YT(40)=	67.00	XT(

COORDONATELE LINIEI ECHIPOTENTIALE 3 DE VALOARE C= .21
LINIA ECHIPOTENTIALA ARE 13 PUNCTE

XT(1)=	10.00	YT(1)=	56.47	XT(2)=	15.85	YT(2)=	55.85	XT(3)=	20.00	YT(3)=	55.18
XT(4)=	24.42	YT(4)=	54.42	XT(5)=	31.00	YT(5)=	52.94	XT(6)=	32.38	YT(6)=	52.38
XT(7)=	38.85	YT(7)=	50.00	XT(8)=	50.00	YT(8)=	44.91	XT(9)=	53.34	YT(9)=	43.34
XT(10)=	57.56	YT(10)=	4.00	XT(11)=	70.00	YT(11)=	24.89	XT(12)=	71.82	YT(12)=	21.82
XT(13)=	72.03	YT(13)=	20.00	XT(

COORDONATELE LINIEI ECHIPOTENTIALE 4 DE VALOARE C= .28

XT(1)= 8.86 YT(1)= 6.86 XT(2)= 6.86 YT(2)= 6.86 XT(3)= 6.86 YT(3)= 6.86 XT(4)= 6.86 YT(4)= 6.86

XT(5)= .86 YT(5)= 12.09 XT(6)= .86 YT(6)= 12.09 XT(7)= .86 YT(7)= 12.09 XT(8)= .86 YT(8)= 12.09 XT(9)= .86 YT(9)= 12.09 XT(10)= .86 YT(10)= 12.09 XT(11)= .86 YT(11)= 12.09 XT(12)= .86 YT(12)= 12.09 XT(13)= .86 YT(13)= 12.09 XT(14)= .86 YT(14)= 12.09 XT(15)= .86 YT(15)= 12.09 XT(16)= .86 YT(16)= 12.09 XT(17)= .86 YT(17)= 12.09 XT(18)= .86 YT(18)= 12.09 XT(19)= .86 YT(19)= 12.09 XT(20)= .86 YT(20)= 12.09

COORDONATELE LINIEI ECHIPOTENTIALE 9 DE VALOARE C= .63
LINIA ECHIPOTENTIALA ARE 6 PUNCTE

XT(1)= 10.00 YT(1)= 1.85 XT(2)= 11.40 YT(2)= 1.40 XT(3)= 14.00 YT(3)= .00

XT(4)= 10.00 YT(4)= 1.85 XT(5)= 4.43 YT(5)= 4.43 XT(6)= .00 YT(6)= 5.3

COORDONATELE LINIEI ECHIPOTENTIALE 10 DE VALOARE C= .70
LINIA ECHIPOTENTIALA ARE 1 PUNCTE

XT(1)= .86 YT(1)= .86 XT(2)= .86 XT(3)= .86 XT(4)= .86 XT(5)= .86 XT(6)= .86 XT(7)= .86 XT(8)= .86 XT(9)= .86 XT(10)= .86 XT(11)= .86 XT(12)= .86 XT(13)= .86 XT(14)= .86 XT(15)= .86 XT(16)= .86 XT(17)= .86 XT(18)= .86 XT(19)= .86 XT(20)= .86

LINIILE DE CURENT PORNESC DIN 9 NODURI SI CARE SINT

N= 12 N= 23 N= 34 N= 45 N= 56 N= 67 N= 78 N= 89

N= 12 N=

COORDONATELE LINIEI DE CURENT 1

LINIA DE CURENT ARE 20 PUNCTE

XT(1)= 10.00 YT(1)= .00 XT(2)= 13.25 YT(2)= 10.00 XT(3)= 15.76 YT(3)= 15.76

XT(4)= 16.86 YT(4)= 20.00 XT(5)= 20.00 YT(5)= 29.26 XT(6)= 20.25 YT(6)= 30.00

XT(7)= 20.45 YT(7)= 30.45 XT(8)= 23.17 YT(8)= 40.00 XT(9)= 24.84 YT(9)= 44.84

XT(10)= 26.01 YT(10)= 50.00 XT(11)= 28.17 YT(11)= 58.17 XT(12)= 28.49 YT(12)= 60.00

XT(13)= 30.00 YT(13)= 67.75 XT(14)= 30.45 YT(14)= 78.00 XT(15)= 30.55 YT(15)= 78.55

XT(16)= 31.57 YT(16)= 80.00 XT(17)= 31.78 YT(17)= 81.78 XT(18)= 32.21 YT(18)= 90.00

XT(19)= 32.34 YT(19)= 92.34 XT(20)= 32.34 YT(20)= 100.00 XT(21)= .00

COORDONATELE LINIEI DE CURENT 2

LINIA DE CURENT ARE 21 PUNCTE

XT(1)= 25.00 YT(1)= .00 XT(2)= 20.00 YT(2)= .00 XT(3)= 25.12 YT(3)= 10.00

XT(4)= 30.00 YT(4)= 16.86 XT(5)= 32.24 YT(5)= 20.00 XT(6)= 40.00 YT(6)= 29.92

XT(7)= 40.06 YT(7)= 30.00 XT(8)= 40.42 YT(8)= 30.42 XT(9)= 45.34 YT(9)= 45.34

XT(10)= 50.00 YT(10)= 47.33 XT(11)= 51.69 YT(11)= 59.00 XT(12)= 53.76 YT(12)= 53.76

XT(13)= 55.85 YT(13)= 60.00 XT(14)= 59.38 YT(14)= 69.38 XT(15)= 59.52 YT(15)= 70.00

XT(16)= 60.00 YT(16)= 71.92 XT(17)= 62.01 YT(17)= 80.00 XT(18)= 62.37 YT(18)= 82.37

XT(19)= 62.87 YT(19)= 90.00 XT(20)= 63.09 YT(20)= 93.09 XT(21)= 63.9 YT(21)= 100.00

COORDONATELE LINIEI DE CURENT 3

LINIA DE CURENT ARE 20 PUNCTE

XT(1)=	30.00	YT(1)=	.00	XT(2)=	37.20	YT(2)=	10.00	XT(3)=	40.30	YT(3)=	12.92
XT(4)=	46.59	YT(4)=	20.00	XT(5)=	50.00	YT(5)=	23.08	XT(6)=	57.67	YT(6)=	31.00
XT(7)=	60.00	YT(7)=	32.07	XT(8)=	68.96	YT(8)=	40.00	XT(9)=	70.43	YT(9)=	41.11
XT(10)=	78.39	YT(10)=	50.00	XT(11)=	80.00	YT(11)=	52.75	XT(12)=	84.23	YT(12)=	60.00
XT(13)=	85.67	YT(13)=	65.67	XT(14)=	86.34	YT(14)=	70.00	XT(15)=	87.47	YT(15)=	77.47
XT(16)=	87.69	YT(16)=	80.00	XT(17)=	88.42	YT(17)=	88.42	XT(18)=	88.48	YT(18)=	96.00
XT(19)=	88.84	YT(19)=	98.84	XT(20)=	88.84	YT(20)=	100.00	XT(

COORDONATELE LINIEI DE CURENT 4

LINIA DE CURENT ARE 14 PUNCTE

XT(1)=	40.00	YT(1)=	.00	XT(2)=	40.00	YT(2)=	.00	XT(3)=	49.39	YT(3)=	10.00
XT(4)=	50.00	YT(4)=	10.43	XT(5)=	51.43	YT(5)=	11.43	XT(6)=	60.00	YT(6)=	17.43
XT(7)=	63.67	YT(7)=	20.00	XT(8)=	70.00	YT(8)=	22.37	XT(9)=	73.79	YT(9)=	23.79
XT(10)=	80.00	YT(10)=	26.12	XT(11)=	89.78	YT(11)=	29.78	XT(12)=	90.70	YT(12)=	29.86
XT(13)=	90.37	YT(13)=	30.00	XT(14)=	100.00	YT(14)=	34.37	XT(

COORDONATELE LINIEI DE CURENT 5

LINIA DE CURENT ARE 3 PUNCTE

XT(1)=	50.00	YT(1)=	.00	XT(2)=	50.00	YT(2)=	.00	XT(3)=	50.00	YT(3)=	.00
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COORDONATELE LINIEI DE CURENT 5

LINIA DE CURENT ARE 9 PUNCTE

XT(1)=	50.00	YT(1)=	.00	XT(2)=	60.00	YT(2)=	4.21	XT(3)=	67.26	YT(3)=	7.26
XT(4)=	70.00	YT(4)=	8.42	XT(5)=	73.77	YT(5)=	10.00	XT(6)=	79.36	YT(6)=	10.36
XT(7)=	70.00	YT(7)=	10.21	XT(8)=	69.33	YT(8)=	10.00	XT(

COORDONATELE LINIEI DE CURENT 6

LINIA DE CURENT ARE 9 PUNCTE

XT(1)=	60.00	YT(1)=	.00	XT(2)=	70.00	YT(2)=	1.19	XT(3)=	71.35	YT(3)=	1.35
XT(4)=	80.00	YT(4)=	2.39	XT(5)=	82.71	YT(5)=	2.71	XT(6)=	90.00	YT(6)=	3.58
XT(7)=	94.06	YT(7)=	4.06	XT(8)=	100.00	YT(8)=	4.77	XT(

COORDONATELE LINIEI DE CURENT 6

LINIA DE CURENT ARE 1 PUNCTE

XT(1)=	60.00	YT(1)=	.00	XT(
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COORDONATELE LINIEI DE CURENT

LINIA DE CURENT ARE 1 PUNCTE

XT(1)= 75.00 YT(1)= .00 XT(

COORDONATELE LINIEI DE CURENT 8

LINIA DE CURENT ARE 4 PUNCTE

XT(1)= 85.00 YT(1)= .00 XT(2)= 71.41 YT(2)= 1.41 XT(3)= 71.41 YT(3)= 1.17
XT(4)= 62.95 YT(4)= .00 XT(

COORDONATELE LINIEI DE CURENT 8

LINIA DE CURENT ARE 1 PUNCTE

XT(1)= 85.00 YT(1)= .00 XT(

COORDONATELE LINIEI DE CURENT 9

LINIA DE CURENT ARE 8 PUNCTE

XT(1)= 95.00 YT(1)= .00 XT(2)= 83.55 YT(2)= 3.55 XT(3)= 83.19 YT(3)= 4.51
XT(4)= 75.66 YT(4)= 5.66 XT(5)= 75.00 YT(5)= 4.71 XT(6)= 63.66 YT(6)= 3.66
XT(7)= 63.00 YT(7)= 1.87 XT(8)= 56.19 YT(8)= .00 XT(

COORDONATELE LINIEI DE CURENT 9

LINIA DE CURENT ARE 2 PUNCTE

XT(1)= 95.00 YT(1)= .00 XT(

PROBLEMA Z

DATE NODALE

NOD	X (M)	Y (M)	CODMAR	HMAR	QCON (M**3/SEC)	ICNO
1	.00	.00	2	.78		
2	.00	14.00	1	.48		
3	.00	20.00	1	.50		
4	.00	30.00	1	.60		
5	.00	40.00	1	.60		
6	.00	50.00	1	.60		
7	.00	60.00	1	.60		
8	.00	70.00	1	.60		
9	.00	80.00	1	.60		
10	.00	90.00	1	.60		
11	.00	100.00	1	.60		
12	.00		2	.85		
13	10.00	10.00	2	.85		
14	10.00	20.00	1	.65		
15	10.00	30.00	1	.60		
16	10.00	40.00	1	.60		
17	10.00	50.00	1	.60		
18	10.00	60.00	1	.60		
19	10.00	70.00	1	.60		
20	10.00	80.00	1	.60		

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98	•04233180
99	•04233180
100	•04233180
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1,59	•04233180
16	•04233180

P(105)= .00000000
 P(109)= .00000000
 P(113)= .00000000
 P(117)= .00000000
 P(121)= .00000000

P(106)= .00000000
 P(110)= .00000000
 P(114)= .00000000
 P(118)= .00000000
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P(107)= .00000000
 P(111)= .00000000
 P(115)= .00000000
 P(119)= .00000000

P(108)= .00000000
 P(112)= .00000000
 P(116)= .00000000
 P(120)= .00000000

R E Z U L T A T E

INALTIMILE PIEZOMETRICE IN NODURILE RETELEI

H(1)= .700	H(2)= .522	H(3)= .383	H(4)= .265	H(5)= .164
H(6)= .478	H(7)= .089	H(8)= -.037	H(9)= -.155	H(10)= -.4
H(11)= .100	H(12)= .650	H(13)= .503	H(14)= .372	H(15)= .257
H(16)= .156	H(17)= .069	H(18)= -.002	H(19)= -.051	H(20)= -.71
H(21)= -.052	H(22)= .084	H(23)= .60	H(24)= .466	H(25)= .345
H(26)= .235	H(27)= .135	H(28)= .044	H(29)= -.035	H(30)= -.96
H(31)= -.125	H(32)= -.098	H(33)= .00	H(34)= .53	H(35)= .417
H(36)= .308	H(37)= .204	H(38)= .104	H(39)= .008	H(40)= -.86
H(41)= -.173	H(42)= -.235	H(43)= -.215	H(44)= .00	H(45)= .47
H(46)= .364	H(47)= .265	H(48)= .168	H(49)= .071	H(50)= -.31
H(51)= -.143	H(52)= -.274	H(53)= -.427	H(54)= -.527	H(55)= .0
H(56)= .391	H(57)= .305	H(58)= .219	H(59)= .132	H(60)= .41
H(61)= -.06	H(62)= -.181	H(63)= -.355	H(64)= -.671	H(65)= -.1466
H(66)= .00	H(67)= .320	H(68)= .247	H(69)= .175	H(70)= .181
H(71)= .121	H(72)= -.067	H(73)= -.168	H(74)= -.292	H(75)= -.437
H(76)= -.532	H(77)= .00	H(78)= .24	H(79)= .188	H(80)= .134
H(81)= .74	H(82)= .009	H(83)= -.061	H(84)= -.134	H(85)= -.215
H(86)= -.255	H(87)= -.225	H(88)= .00	H(89)= .16	H(90)= .133
H(91)= .097	H(92)= .053	H(93)= .003	H(94)= -.051	H(95)= -.12
H(96)= -.141	H(97)= -.153	H(98)= -.111	H(99)= .00	H(100)= .18
H(101)= .085	H(102)= .069	H(103)= .039	H(104)= -.001	H(105)= -.44
H(106)= -.081	H(107)= -.105	H(108)= -.104	H(109)= -.068	H(110)= .0
H(111)= .00	H(112)= .057	H(113)= .057	H(114)= .033	H(115)= -.13
H(116)= -.041	H(117)= -.074	H(118)= -.093	H(119)= -.089	H(120)= -.56
H(121)= .00	H(

INTRE HMAX= .70 SI HMIN= -.1466 SE TRASEAZA LINII ECHIPOTENTIALE

COORDONATELE LINIEI ECHIPOTENTIALE 0 DE VALOARE C= -1.47
LINIA ECHIPOTENTIALA ARE 1 PUNCTE

XT(1)= 50.00 YT(1)= 90.00 XT(

COORDONATELE LINIEI ECHIPOTENTIALE 1 DE VALOARE C= -1.25
LINIA ECHIPOTENTIALA ARE 4 PUNCTE

XT(1)= 50.00 YT(1)= 87.27 XT(2)= 52.32 YT(2)= 90.00 XT(3)= 51.48 YT(3)= 91.48

XT(4)= 50.00 YT(4)= 91.48 XT(

COORDONATELE LINIEI ECHIPOTENTIALE 2 DE VALOARE C= -1.19
LINIA ECHIPOTENTIALA ARE 4 PUNCTE

XT(1)= 5.0 . YT(1)= 84.55 XT(2)= 54.64 YT(2)= 90.00 XT(3)= 52.95 YT(3)= 92.95
XT(4)= 5.0 . YT(4)= 92.95 XT(

COORDONATELE LINIEI ECHIPOTENTIALE 3 DE VALOARE C= -0.82
LINIA ECHIPOTENTIALA ARE 4 PUNCTE

XT(1)= 5.0 . YT(1)= 81.82 XT(2)= 56.96 YT(2)= 90.00 XT(3)= 54.43 YT(3)= 94.43
XT(4)= 5.0 . YT(4)= 94.43 XT(

COORDONATELE LINIEI ECHIPOTENTIALE 4 DE VALOARE C= -0.6
LINIA ECHIPOTENTIALA ARE 6 PUNCTE

XT(1)= 5.0 . YT(1)= 77.74 XT(2)= 53.06 YT(2)= 80.00 XT(3)= 55.14 YT(3)= 85.14
XT(4)= 59.28 YT(4)= 90.00 XT(5)= 55.91 YT(5)= 95.91 XT(6)= 5.0 . YT(6)= 95.91

COORDONATELE LINIEI ECHIPOTENTIALE 5 DE VALOARE C= -0.38
LINIA ECHIPOTENTIALA ARE 14 PUNCTE

XT(1)= 4.0 . YT(1)= 77.13 XT(2)= 42.74 YT(2)= 72.74 XT(3)= 50.00 YT(3)= 70.00
XT(4)= 53.43 YT(4)= 73.43 XT(5)= 61.00 YT(5)= 76.27 XT(6)= 62.98 YT(6)= 80.00
XT(7)= 62.56 YT(7)= 82.56 XT(8)= 64.85 YT(8)= 90.00 XT(9)= 62.80 YT(9)= 92.00
XT(10)= 6.0 . YT(10)= 42.80 XT(11)= 57.39 YT(11)= 97.39 XT(12)= 5.0 . YT(12)= 97.39
XT(13)= 42.73 YT(13)= 92.73 XT(14)= 40.00 YT(14)= 92.73 XT(

COORDONATELE LINIEI ECHIPOTENTIALE 6 DE VALOARE C= -0.17
LINIA ECHIPOTENTIALA ARE 12 PUNCTE

XT(1)= 3.0 . YT(1)= 69.29 XT(2)= 34.20 YT(2)= 64.28 XT(3)= 40.00 YT(3)= 61.78
XT(4)= 41.0 . YT(4)= 51.0 XT(5)= 46.00 YT(5)= 60.0 XT(6)= 50.0 YT(6)= 98.86
XT(7)= 58.86 YT(7)= 98.86 XT(8)= 60.00 YT(8)= 96.87 XT(9)= 66.87 YT(9)= 96.87
XT(10)= 70.0 . YT(10)= 92.59 XT(11)= 72.59 YT(11)= 92.59 XT(12)= 75.13 YT(12)= 90.00

COORDONATELE LINIEI ECHIPOTENTIALE 7 DE VALOARE C= 0.5
LINIA ECHIPOTENTIALA ARE 33 PUNCTE

XT(1)= 1.0 . YT(1)= 52.68 XT(2)= 11.84 YT(2)= 51.84 XT(3)= 17.70 YT(3)= 50.00
XT(4)= 30.00 YT(4)= 45.63 XT(5)= 34.01 YT(5)= 44.01 XT(6)= 40.00 YT(6)= 42.00
XT(7)= 41.57 YT(7)= 41.57 XT(8)= 46.93 YT(8)= 40.00 XT(9)= 60.00 YT(9)= 36.34
XT(10)= 65.53 YT(10)= 35.53 XT(11)= 70.00 YT(11)= 33.71 XT(12)= 73.36 YT(12)= 33.36
XT(13)= 80.00 YT(13)= 30.58 XT(14)= 80.54 YT(14)= 30.54 XT(15)= 82.00 YT(15)= 30.00
XT(16)= 93.73 YT(16)= 0.00 XT(17)= 93.73 YT(17)= 0.00 XT(18)= 10.00 YT(18)= 52.68
XT(19)= 30.48 YT(19)= 53.48 XT(20)= 0.00 YT(20)= 54.50 XT(21)= 19.49 YT(21)= 49.49

XT(25)= 24.22 YT(25)= 84.22 XT(26)= 26.00 YT(26)= 85.19 XT(27)= 16. 9 YT(27)= 86. 9

XT(28)= 10.69 YT(28)= 88.56 XT(29)= 8.97 YT(29)= 88.97 XT(30)= 8.11 YT(30)= 91. 1

XT(31)= 6.55 YT(31)= 96.55 XT(32)= 6.55 YT(32)= 160.00 XT(33)= 160.00 YT(33)= 160.00

COORDONATELE LINIEI DE CURENT 5

LINIA DE CURENT ARE 3 PUNCTE

XT(1)= 50.00 YT(1)= .00 XT(2)= 50.00 YT(2)= .00 XT(3)= 50.00 YT(3)= .00

COORDONATELE LINIEI DE CURENT 5

LINIA DE CURENT ARE 1 PUNCTE

XT(1)= 50.00 YT(1)= .00 XT(2)= 50.00 YT(2)= .00 XT(3)= 50.00 YT(3)= .00

COORDONATELE LINIEI DE CURENT 6

LINIA DE CURENT ARE 22 PUNCTE

XT(1)= 60.00 YT(1)= .00 XT(2)= 70.00 YT(2)= 6.45 XT(3)= 75.50 YT(3)= 14.0

XT(4)= 80.00 YT(4)= 12.85 XT(5)= 87.76 YT(5)= 17.76 XT(6)= 90.00 YT(6)= 19.18

XT(7)= 91.30 YT(7)= 20.00 XT(8)= 92.64 YT(8)= 22.64 XT(9)= 94.00 YT(9)= 31.0

XT(10)= 94.75 YT(10)= 34.75 XT(11)= 94.94 YT(11)= 40.00 XT(12)= 95.12 YT(12)= 45.12

XT(13)= 94.83 YT(13)= 50.00 XT(14)= 94.48 YT(14)= 54.48 XT(15)= 93.45 YT(15)= 61.0

XT(16)= 92.52 YT(16)= 62.52 XT(17)= 90.00 YT(17)= 67.70 XT(18)= 89.25 YT(18)= 69.25

XT(19)= 88.55 YT(19)= 70.00 XT(20)= 90.00 YT(20)= 70.05 XT(21)= 90.05 YT(21)= 70.5

XT(22)= 100.00 YT(22)= 70.36 XT(23)= 100.00 YT(23)= 70.36 XT(24)= 100.00 YT(24)= 70.36

COORDONATELE LINIEI DE CURENT 6

LINIA DE CURENT ARE 7 PUNCTE

XT(1)= 60.00 YT(1)= .00 XT(2)= 68.69 YT(2)= 10.00 XT(3)= 70.00 YT(3)= 11.78

XT(4)= 78.86 YT(4)= 20.00 XT(5)= 80.00 YT(5)= 21.37 XT(6)= 87.16 YT(6)= 31.0

XT(7)= 90.00 YT(7)= 37.72 XT(8)= 90.00 YT(8)= 40.00 XT(9)= 90.00 YT(9)= 40.00

COORDONATELE LINIEI DE CURENT 7

LINIA DE CURENT ARE 1 PUNCTE

XT(1)= 70.00 YT(1)= .00 XT(2)= 70.00 YT(2)= .00 XT(3)= 70.00 YT(3)= .00

COORDONATELE LINIEI DE CURENT 8

LINIA DE CURENT ARE 3 PUNCTE

XT(1)= 80.00 YT(1)= .00 XT(2)= 80.00 YT(2)= .00 XT(3)= 80.00 YT(3)= .00

COORDONATELE LINIEI DE CURENT 8

LINIA DE CURENT ARE 1 PUNCTE

XT(1)= 80.00 YT(1)= .00 XT(

COORDONATELE LINIEI DE CURENT 9

LINIA DE CURENT ARE 4 PUNCTE

XT(1)= 90.00 YT(1)= .00 XT(2)= 80.55 YT(2)= .55 XT(3)= 80.00 YT(3)= .23

XT(4)= 79.59 YT(4)= .00 XT(

COORDONATELE LINIEI DE CURENT 9

LINIA DE CURENT ARE 1 PUNCTE

XT(1)= 90.00 YT(1)= .00 XT(

COORDONATELE LINIEI DE CURENT 10

LINIA DE CURENT ARE 8 PUNCTE

XT(1)= 50.00 YT(1)= 90.00 XT(2)= 40.00 YT(2)= 88.93 XT(3)= 38.81 YT(3)= 88.81

XT(4)= 30.00 YT(4)= 89.37 XT(5)= 29.41 YT(5)= 89.41 XT(6)= 26.82 YT(6)= 90.57

XT(7)= 24.41 YT(7)= 94.41 XT(8)= 24.41 YT(8)= 100.00 XT(

COORDONATELE LINIEI DE CURENT 10

LINIA DE CURENT ARE 3 PUNCTE

XT(1)= 50.00 YT(1)= 90.00 XT(2)= 46.10 YT(2)= 96.10 XT(3)= 46.10 YT(3)= 100.70

COORDONATELE LINIEI DE CURENT 10

LINIA DE CURENT ARE 30 PUNCTE

XT(1)= 50.00 YT(1)= 90.00 XT(2)= 50.00 YT(2)= 80.00 XT(3)= 50.00 YT(3)= 70.70

XT(4)= 50.00 YT(4)= 60.00 XT(5)= 50.00 YT(5)= 50.00 XT(6)= 50.00 YT(6)= 40.70

XT(7)= 50.00 YT(7)= 30.00 XT(8)= 50.00 YT(8)= 20.00 XT(9)= 50.00 YT(9)= 10.70

XT(10)= 50.00 YT(10)= .00 XT(11)= 56.84 YT(11)= 10.00 XT(12)= 60.00 YT(12)= 13.91

XT(13)= 64.91 YT(13)= 20.00 XT(14)= 70.00 YT(14)= 27.30 XT(15)= 71.88 YT(15)= 30.70

XT(16)= 73.23 YT(16)= 33.23 XT(17)= 73.93 YT(17)= 40.00 XT(18)= 74.49 YT(18)= 44.49

XT(19)= 73.72 YT(19)= 50.00 XT(20)= 73.12 YT(20)= 53.12 XT(21)= 70.10 YT(21)= 60.70

XT(22)= 70.06 YT(22)= 60.06 XT(23)= 70.00 YT(23)= 60.12 XT(24)= 65.32 YT(24)= 65.32

XT(25)= 62.04 YT(25)= 70.00 XT(26)= 60.75 YT(26)= 70.75 XT(27)= 60.00 YT(27)= 71.34

XT(28)= 55.19 YT(28)= 75.19 XT(29)= 51.64 YT(29)= 80.00 XT(30)= 50.47 YT(30)= 80.47

COORDONATELE LINIEI DE CURENT 1

LINTA DE CURENT ARE 3 PUNCTE

XTC(1)= 51.0 YTC(1)= 95.0 XTC(2)= 61.0 YTC(2)= 95.7 XTC(3)= 67.56 YTC(3)= 1.0

COORDONATELE LINIEI DE CURENT 1

LINTA DE CURENT ARE 2 PUNCTE

*XT(1)= 51.0 YTC(1)= 95.0 XTC(2)= 51.0 YTC(2)= 100.0 XTC(

MELFI 43

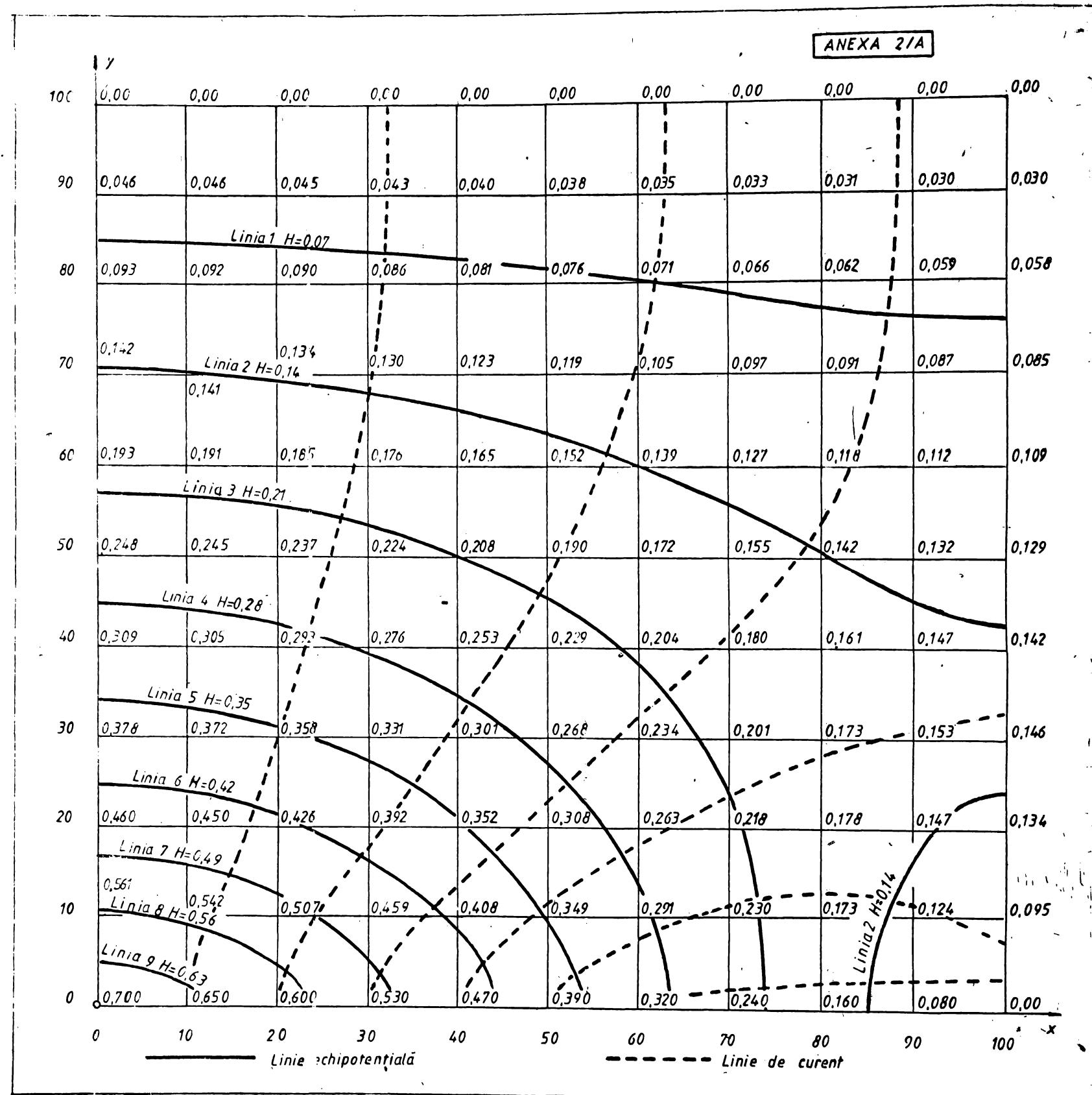
CENTRUL DE CALCUL AL I.P.T. TIMISOARA FELIX C-512 STEM -
23 MELFINI AN = CMFI PH = 104 DATE = 28/13/94- 38
H.DEB = 14H 59M 5S H.FIN = 15H 3M 3 S TIME = 11/7866
LGP = 5° MEM = 44 LU = 11.265 IN = 11.331 ODE =

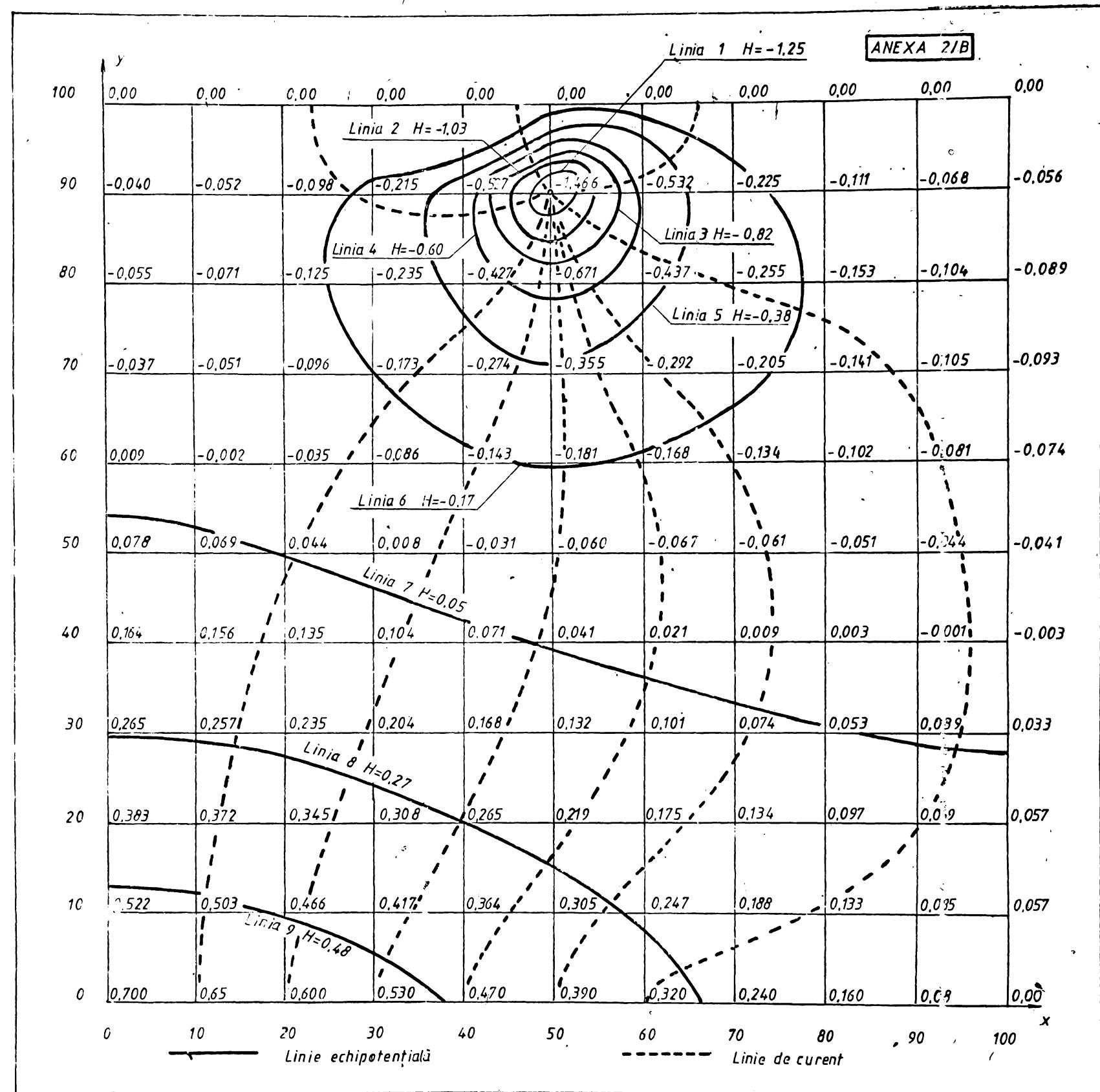
EQU
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ANEXA 2

ANEXA 2/A





ANEXA 3

COMPILE FORTRAN
FORTRAN STARTED
FORTRAN 16.06

IEUA 05/03/84 10.00.00

0

```
1      C
2      C      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3      C
4      C      PROGRAM ELABORAT DE ING. PUGANY ANDREI
5      C      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
6      C
7      C
8      C      DIMENSION X(8),A(8)
9      C      READ(105,1)AA,BB,CI,ALFA,PI,RK
10     C      1 FORMAT(2F5.2,2F10.8,2F12.4)
11     C      WRITE(10H,2)AA,BB,CI,ALFA,PI,RK
12     C      2 FORMAT(1,20X,'AA='!,F5.2,F5.2,5X,'BB='!,F5.2,5X,'CI='!,F10.8,5X,'ALFA='!,F12.8,5X,'RK='!,F12.8,7X)
13     C      *F10.8,5X,*PI,F12.8,5X,*RK,F12.8,7X)
14     C      EPS2=1.0*10.-9
15     C      H2=(BB-AA)/2
16     C      H1=(BB-AA)/2
17     C      X(5)=0.183454642495650
18     C      X(6)=0.4265532409916329
19     C      X(7)=0.796666477813627
20     C      X(8)=0.966288856497536
21     C      X(1)=X(8)
22     C      X(2)=X(7)
23     C      X(3)=X(6)
24     C      X(4)=X(5)
25     C      A(5)=0.362683783378362
26     C      A(6)=0.313706645877887
27     C      A(7)=0.222381034453374
28     C      A(8)=0.101224536290376
29     C      A(1)=A(8)
30     C      A(2)=A(7)
31     C      A(3)=A(6)
32     C      A(4)=A(5)
33     C      PRINT 30
34     C      30 FORMAT(1,6X,'XIAI'4X,'VIAI'9X,'V1'14X,'V2'14X,'V3'14X,'V4'14X,'V5'14X,'V6'14X,'V7'14X,'V8'14X,'V9'14X,'V10'14X)
35     C      *1,1UNL010L5X,V1V2V3A,M/SEC1,110(10*3),7,3
36     C      121
37     C      J=1
38     C      J1=J-1
39     C      XIA=FLOAT((J1)/5)*P2,0
```

```

41      FUNCTION F1(PX,XIA,YIA,BB,ALFA)
42      S1=0.
43      S2=0.
44      S3=0.
45      S4=0.
46      DO 11 L=1,8
47      XACP=H1*X(L)*H2
48      S1=S1+A(L)*F1(XACP,XIA,YIA,BB,ALFA)   IFCA      05/03/84 10.00.00     1
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80
      S2=S2+A(L)*F2(XACP,XIA,YIA,BB,ALFA,P1)
      S3=S3+A(L)*F3(XACP,XIA,YIA,BB,ALFA)
      S4=S4+A(L)*F4(XACP,XIA,YIA,BB,ALFA)
CONTINUE
S1=S1+H1
S2=S2+H1
S3=S3+H1
S4=S4+H1
V1=(C1)/(4*PI)*S1
V2=(C1)/(2*PI)*S2
V3=(C1)/(2*PI)*S3
V4=(C1)/(2*PI)*S4
VX=ABS(CV3)
IF (VX.LE.EPS) GO TO 19
WRITE(V3)
USATAN(H1*(180./PI))
IF (U.GE.0.) GO TO 20
USU+180
GO TO 20
19 US90
20 VY=ABS(CV4)
VY=SQRT(CVX**2+VY**2)
WRITE(108,12)XIA,YIA,Y1,Y2,V3,V4,U,V
12 FORMAT(1X,2F5.2,2X,3,6(014.7,2X,1,/,1)
I=I+1
IF(I.LE.14) GO TO 10
J=J+1
IF(J.LE.26) GO TO 23
GO TO 24
23 I=I
GO TO 25
24 STOP
END
      IFCA      05/03/84 10.00.24     2

```

FORTRAN 16.06 05/03/84 10.00.24 2


```

1      FUNCTION F1(PX,XIA,YIA,BB,ALFA)
2      V1X=ABS(XIA-PX)
3      F1=(1-((PX/BB)-ALFA))/((ALOG(V1X-2*YIA-2)*(-1.))
4      RETURN
5      END
      IFCA      05/03/84 10.00.31     3

```

FORTRAN 16.06 05/03/84 10.00.31 3


```

1      FUNCTION F2(PX,XIA,YIA,BB,ALFA,PI)
2      VA=ABS(XIA-PX)
3      IF(VA.LE.EPS) GO TO 40
4      VY=(YIA)-(XIA-PX)
5      AC1=ATAN(VYT)
6      IF(AC1.GE.0.) GO TO 41
7      AC1=AC1+PI
8      GO TO 41
9      AC1=PI
10     F2=(1-((PX/BB)-ALFA))*AC1
11     RETURN
12     END
      IFCA      05/03/84 10.00.38     4

```

FORTRAN 16.06 05/03/84 10.00.38 4


```

1      FUNCTION F3(PX,XIA,YIA,BB,ALFA)
2      VY3=XIA-PX
3      R3=ABS(VY3)
4      R3=SQRT(R3**2+YIA**2)
5      F3=(1-((PX/BB)-ALFA))*((XIA-PX)/R3)
6      RETURN
7      END
      IFCA      05/03/84 10.00.45     5

```

FORTRAN 16.06 05/03/84 10.00.45 5


```

1      FUNCTION F4(PX,XIA,YIA,BB,ALFA)
2      VY4=XIA-PX
3      R4=ABS(VY4)
4      R4=SQRT(R4**2+YIA**2)
5      F4=(1-((PX/BB)-ALFA))*((YIA/R4))
6      RETURN
7      END
      IFCA      05/03/84 10.00.45     6

```

FORTRAN 16.06 05/03/84 10.00.45 6

MODULE	FIMDATA	TYPE	P	LONGUEUR	0758 (01880)
MODULE	F1	TYPE	P	LONGUEUR	0080 (00176)
MODULE	F2	TYPE	P	LONGUEUR	00F8 (00248)
MODULE	F3	TYPE	P	LONGUEUR	00D0 (00208)
MODULE	F4	TYPE	P	LONGUEUR	00D0 (00208)

* FIN DE COMPILEATION. (PLUS HAUT NIVEAU D'ERREUR RENCONTRE = 0) 10.00.53
 D.E.N.-C.C.E.T.-OFFICIEL DE CALCUL TIMISUARA SISTEM P-193 / W16.A
 0018 IFCA AN = 8021 PH = 0002 DATE = 05/03/84-065
 H.DEB = 09H 59M 55S H.FIN = 10H 00M 57S TIME = 00001875 CODE = 000
 LCP = 00052 MEM = 00013 LU = 00000123 IN = 00000113 PUN = 00000000

LINK STARTED

LINK 16.50.00 05/03/84 10H01M40S

1

SEGMENT	FIMDATA	NU	IMPLEMENTATION	0
MODULE	FIMDATA	1	IMPLEMENTATION	98
MODULE	F1		IMPLEMENTATION	7F0
MODULE	F2		IMPLEMENTATION	8A0
MODULE	F3		IMPLEMENTATION	998
MODULE	F4		IMPLEMENTATION	A68
MODULE	TDFSYSUT		IMPLEMENTATION	B38
MODULE	TDFSYSIN		IMPLEMENTATION	B88
MODULE	I2INIT		IMPLEMENTATION	C20
MODULE	I2READ		IMPLEMENTATION	10D8
MODULE	I2IUI		IMPLEMENTATION	12F8
MODULE	I2ENDIOL		IMPLEMENTATION	13C8
MODULE	I2PRINT		IMPLEMENTATION	13F0
MODULE	I2PWRRI		IMPLEMENTATION	1640
MODULE	I2VFLUAT		IMPLEMENTATION	1700
MODULE	I2AATAN		IMPLEMENTATION	1730
MODULE	I2ASURT		IMPLEMENTATION	18B0
MODULE	I2STOP		IMPLEMENTATION	1980
MODULE	I2PHRRR		IMPLEMENTATION	1A98
MODULE	I2AALUG		IMPLEMENTATION	1B30
MODULE	I2ERR1		IMPLEMENTATION	1CC0
MODULE	STOPRUN		IMPLEMENTATION	1DE8
MODULE	I2ECAPI		IMPLEMENTATION	1E58
MODULE	I2FORMA		IMPLEMENTATION	2148
MODULE	I2ECRANI		IMPLEMENTATION	3798
MODULE	I2AEXP		IMPLEMENTATION	3800
MODULE	I2DUNNEE		IMPLEMENTATION	38A0
MODULE	I2PREP		IMPLEMENTATION	3C18
			LONGUEUR DU SEGMENT	3D60

LINK 16.50.00 05/03/84 10H01M41S

2

IMPLEMENT, APRES TRAITEMENT OPTION FMS

SEGMENT	FIMDATA	NU	IMPLEMENTATION	0
		1	IMPLEMENTATION	0
			LONGUEUR DU SEGMENT	58E8

LINK 16.50.00 05/03/84 10H01M41S

3

0 ERREUR EN EDITION DE LIENS
 ADRESSE DE LANCEMENT 3D0
 LONGUEUR PLUS GRANDE BRANCHE 58E8
 LONGUEUR DU PROGRAMME EDITE 58E8

PLUS HAUT NIVEAU D'ERREUR RENCONTRE N°0 (PAS D'ERREUR)
 D.E.N.-C.C.E.T.-OFFICIEL DE CALCUL TIMISUARA SISTEM P-193 / W16.A
 0018 IFCA AN = 8021 PH = 0003 DATE = 05/03/84-065
 H.DEB = 10H 00M 57S H.FIN = 10H 01M 46S TIME = 00001023 CODE = 000
 LCP = 00052 MEM = 00012 LU = 00000051 IN = 00000000 PUN = 00000000

RUN TIME > 30, NL > 50000
 STARTED

BUPT

2.60	0.00	-0.0100774E+03	.4073703E+03	.4106513E+03	.3727657E+03	41.15710	.5583552E+03
2.60	2.20	-0.6417800E+03	.4337917E+03	.3986054E+03	.3909846E+03	44.44702	.5583550E+03
2.60	2.40	-0.6666831E+03	.4579616E+03	.3813442E+03	.4078499E+03	46.92357	.5583559E+03
2.60	2.60	-0.6914302E+03	.4800786E+03	.3649301E+03	.4226246E+03	49.18985	.5583575E+03
2.80	0.00	-0.4996657E+03	.0000000	.5591791E+03	.0000000	.0000000	.5591791E+03
2.80	.20	-0.5015715E+03	.4589066E+04	.5572769E+03	.4583750E+04	4.702144	.5591589E+03
2.80	.40	-0.5072071E+03	.9115205E+04	.5516906E+03	.9073612E+04	9.339777	.5591025E+03
2.80	.60	-0.5163446E+03	.1352072E+03	.5427564E+03	.1338541E+03	13.85379	.5590182E+03
2.80	.80	-0.5286378E+03	.1775734E+03	.5309740E+03	.1745207E+03	18.19467	.5589193E+03
2.80	1.00	-0.5436623E+03	.2178858E+03	.5169306E+03	.2122733E+03	22.32510	.5588178E+03
2.80	1.20	-0.5609605E+03	.2559025E+03	.5012313E+03	.2468573E+03	26.22032	.5587230E+03
2.80	1.40	-0.5800810E+03	.2914958E+03	.4844440E+03	.2781993E+03	29.86725	.5586420E+03
2.80	1.60	-0.6005974E+03	.3246327E+03	.4670646E+03	.3063665E+03	33.26248	.5585782E+03
2.80	1.80	-0.6221319E+03	.3553543E+03	.4494996E+03	.3315243E+03	36.41029	.5585532E+03
2.80	2.00	-0.6443574E+03	.3837536E+03	.4320673E+03	.3538970E+03	39.32016	.5585027E+03
2.80	2.20	-0.6670021E+03	.4099573E+03	.4150039E+03	.3737381E+03	42.00511	.5584876E+03
2.80	2.40	-0.6898427E+03	.4384111E+03	.3984757E+03	.3913078E+03	44.48001	.5584541E+03
2.80	2.60	-0.7127023E+03	.4563683E+03	.3825929E+03	.4068590E+03	46.76057	.5584704E+03
3.00	0.00	-0.5438519E+03	.0000000	.5591791E+03	.0000000	.0000000	.5591791E+03
3.00	.20	-0.5454745E+03	.4238581E+04	.5575591E+03	.4234417E+04	4.343026	.5591647E+03
3.00	.40	-0.5502841E+03	.8427720E+04	.5527854E+03	.8394996E+04	8.635366	.5591237E+03
3.00	.60	-0.5581141E+03	.1252146E+03	.5451036E+03	.1241440E+03	12.82993	.5590613E+03
3.00	.80	-0.5687093E+03	.1648024E+03	.5348846E+03	.1623694E+03	16.88617	.5589861E+03
3.00	1.00	-0.5817495E+03	.2027270E+03	.5225763E+03	.1982161E+03	20.77202	.5589405E+03
3.00	1.20	-0.5968828E+03	.2387645E+03	.5086558E+03	.2314270E+03	24.46448	.5588282E+03
3.00	1.40	-0.6137483E+03	.2727764E+03	.4935863E+03	.2618858E+03	27.44942	.5587589E+03
3.00	1.60	-0.6319985E+03	.3047015E+03	.4777892E+03	.2895929E+03	31.22047	.5587006E+03
3.00	1.80	-0.651312ME+03	.3345388E+03	.4616270E+03	.3146369E+03	34.27765	.5586555E+03
3.00	2.00	-0.6714074E+03	.3623357E+03	.4453964E+03	.3371662E+03	37.12581	.5586224E+03
3.00	2.20	-0.6920353E+03	.3881741E+03	.4293309E+03	.3573662E+03	39.77330	.5586015E+03
3.00	2.40	-0.7129903E+03	.4121568E+03	.4136057E+03	.3754380E+03	42.23064	.5585705E+03
3.00	2.60	-0.7341006E+03	.4343993E+03	.3983467E+03	.3915874E+03	44.50974	.5585582E+03

D.E.N.-C.I.C.-E.T.-OFICIAL DE CALCUL TIMISOARA SISTEM P=193 / N16.A
 0018 IFDA AN = 8021 PH = 0004 DATE = 05/03/84-065
 H.DEB = 10H 01M 46S H.FIN = 10H 03M 20S TIME = 00004179 CODE = 000
 LCP = 00052 MEM = 00012 LU = 00000740 IN = 00000002 PLN = 00000000

ANEXA 4

In această anexă s-au reprezentat grafic liniile echipotențiale și de curent calculate cu programul IFGA din anexa 3.

Liniile echipotențiale s-au trasat din 0.2 în 0.2, iar cele de curent din 0.25 în 0.25.

Legendă

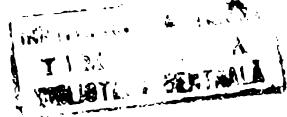
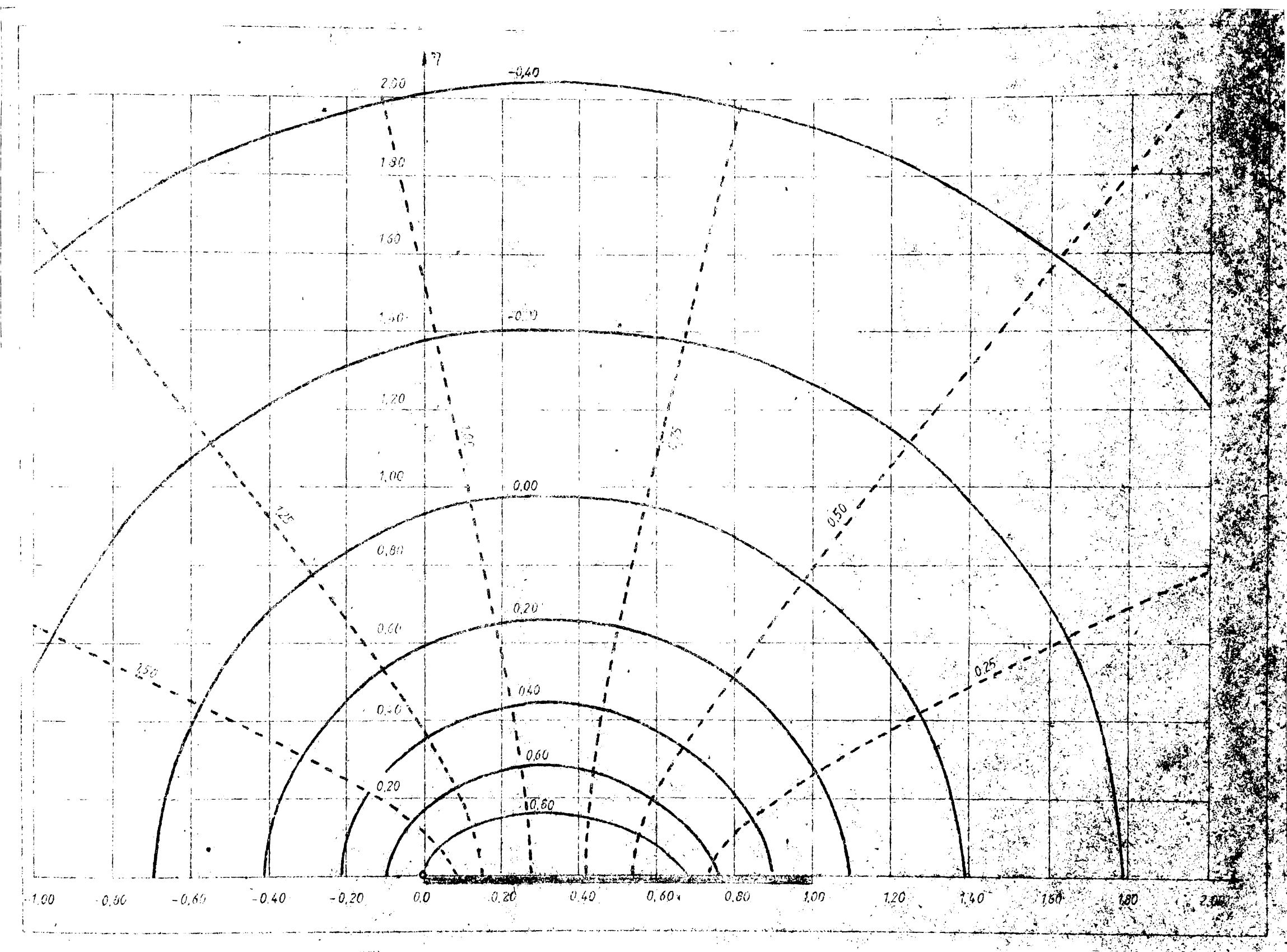
— Linie echipotențială

- - - - Linie de curent

— Canal de îmbogățire



Coordinate adimensionale

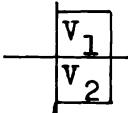


ANEXA 5

In această anexă sunt prezentate valorile citirilor pentru placă fără surse interioare din deformarea tehnic posibilă a marginilor.

Legendă

- Margine încastrată
- - - Margine liberă



V_1 =Valoarea citirilor C_m la puntea tensiometrică citirea finală-citirea inițială

V_2 =Laplacianul valorilor V_1 cu semn schimbat.Se calculează cu formula

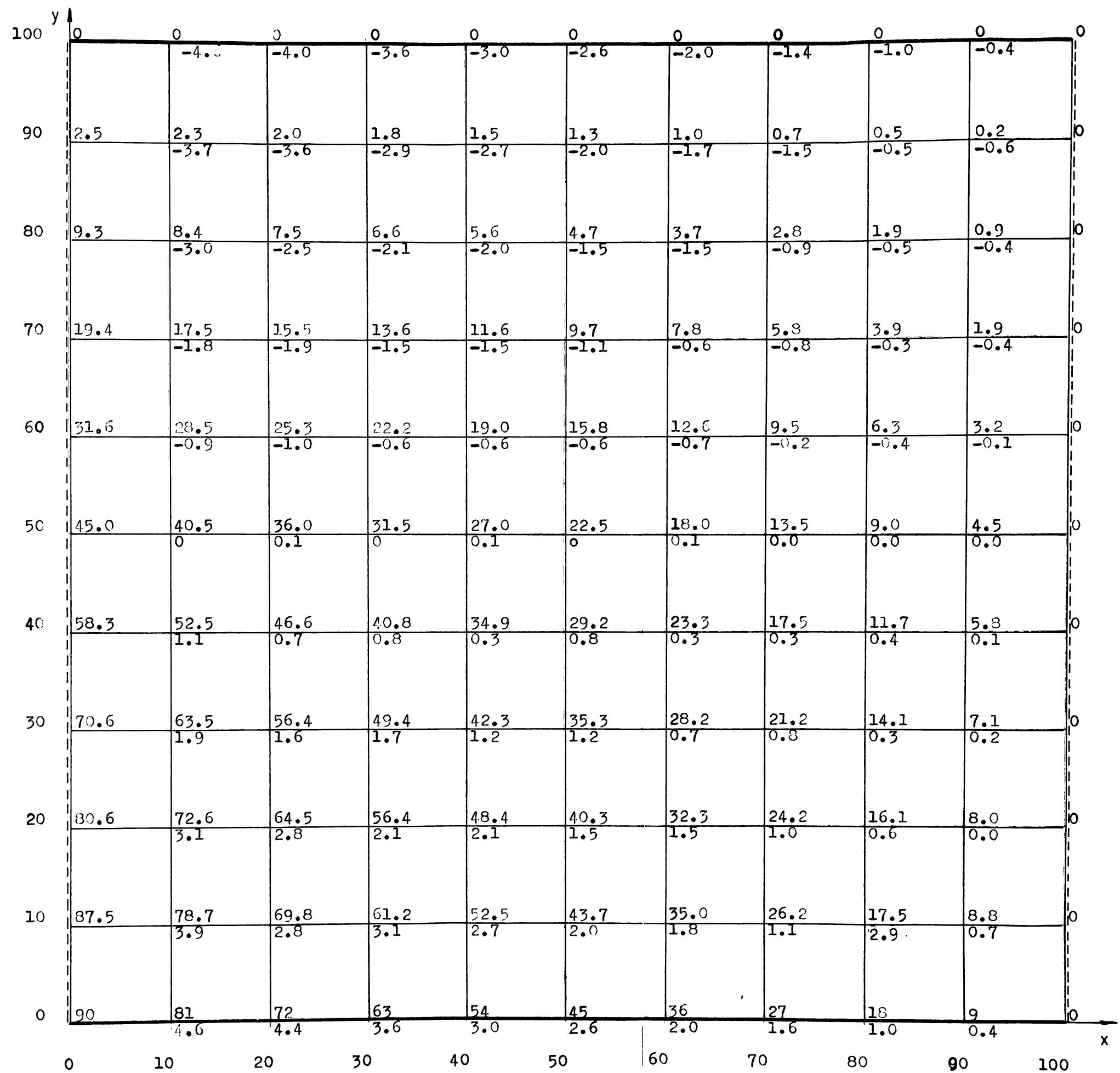
$$-(C_{m1} + C_{m2} + C_{m3} + C_{m4} - 4C_{mo})$$

Cu aceste valori se încarcă placă având reazemele conjugate.

Obs.

1 Punctul este virgula zecimală

2 Pentru economie nu s-au mai tipărit și zerourile din stînga acestui punct.



ANEXA 6

In nodurile rețelei plăcii cu rezemele conjugate și încărcate cu valorile V_2 din Anexa 5, se verifică dacă laplacianul este egal cu 0. (placa reală nu are surse interioare). Neconcordanțe în unele puncte s-au corectat prin relaxare. Valorile V_2 rezultate în nodurile rețelei, notate cu C_{mi} reprezintă înălțimea piezometrică din deformația tehnic posibilă.

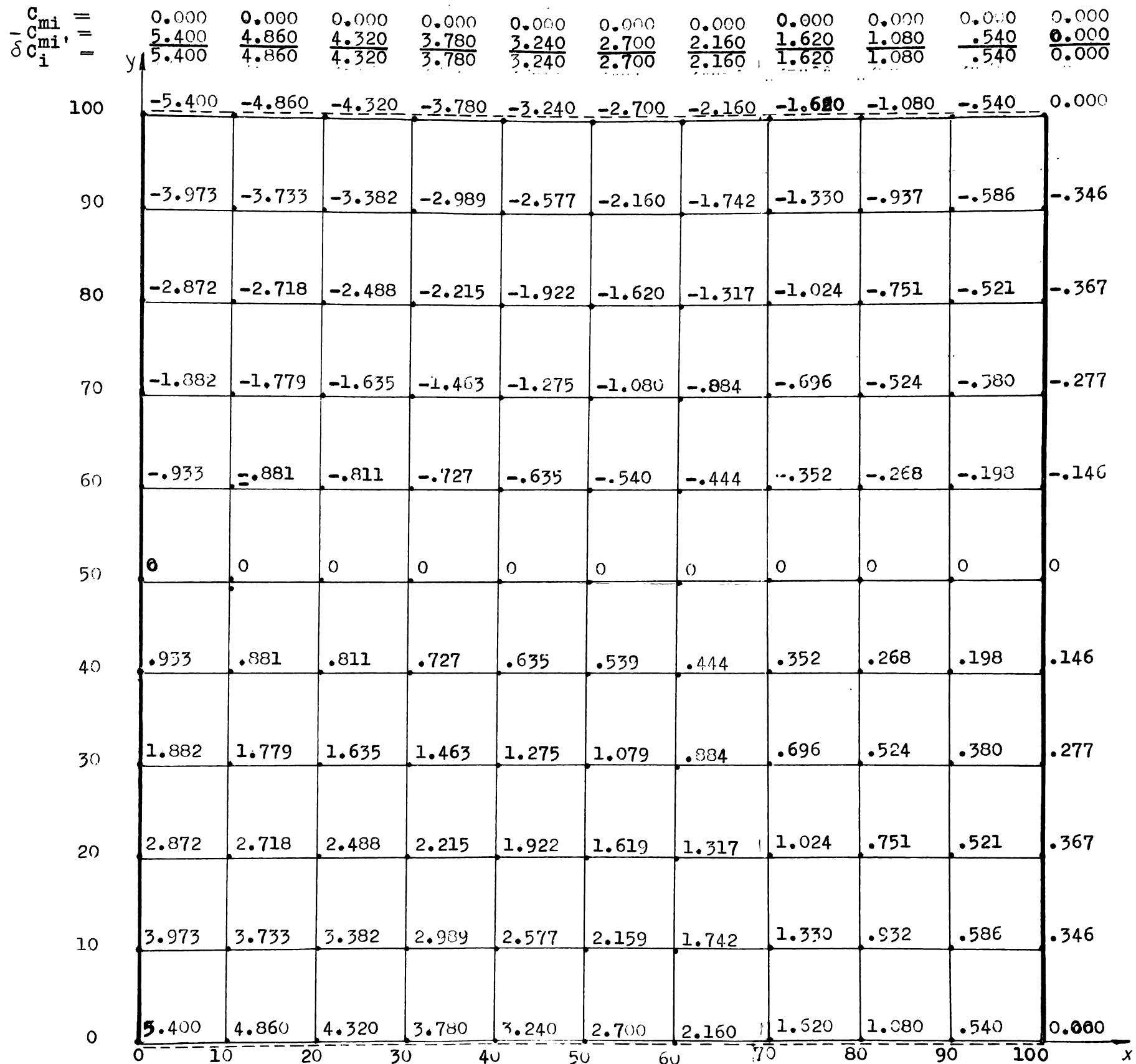
Pentru a ajunge în situația finală pe frontierele de alimentare se aplică o corecție δC_i calculată cu relația (6.50). Se observă că de fapt corecția este un moment cunoscut aplicat pe marginea plăcii cu rezemarea conjugată iar în interiorul domeniului nu există încărcări.

In continuare valoarea C_{mi} se notează cu C_a .

Obs.

1 Punctul . este virgula zecimală.

2 pentru economie nu s-eu mai tipărit și zerourile din stînga acestui punct.



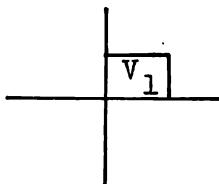
$\frac{C_{mi}}{\delta C_i} = \begin{matrix} .700 & .650 & .600 & .530 & .470 & .390 & .320 & .240 & .160 & .080 & 0.000 \\ -5.400 & -4.860 & -4.320 & -3.780 & -3.240 & -2.700 & -2.160 & -1.620 & -1.080 & -0.540 & 0.000 \end{matrix}$
 $\frac{\delta C_{mi}}{C_i} = \begin{matrix} .700 & .650 & .600 & .530 & .470 & .390 & .320 & .240 & .160 & .080 & 0.000 \\ -4.700 & -4.210 & -3.720 & -3.250 & -2.770 & -2.310 & -1.840 & -1.380 & -0.92 & -0.460 & 0.000 \end{matrix}$

ANEXA 7

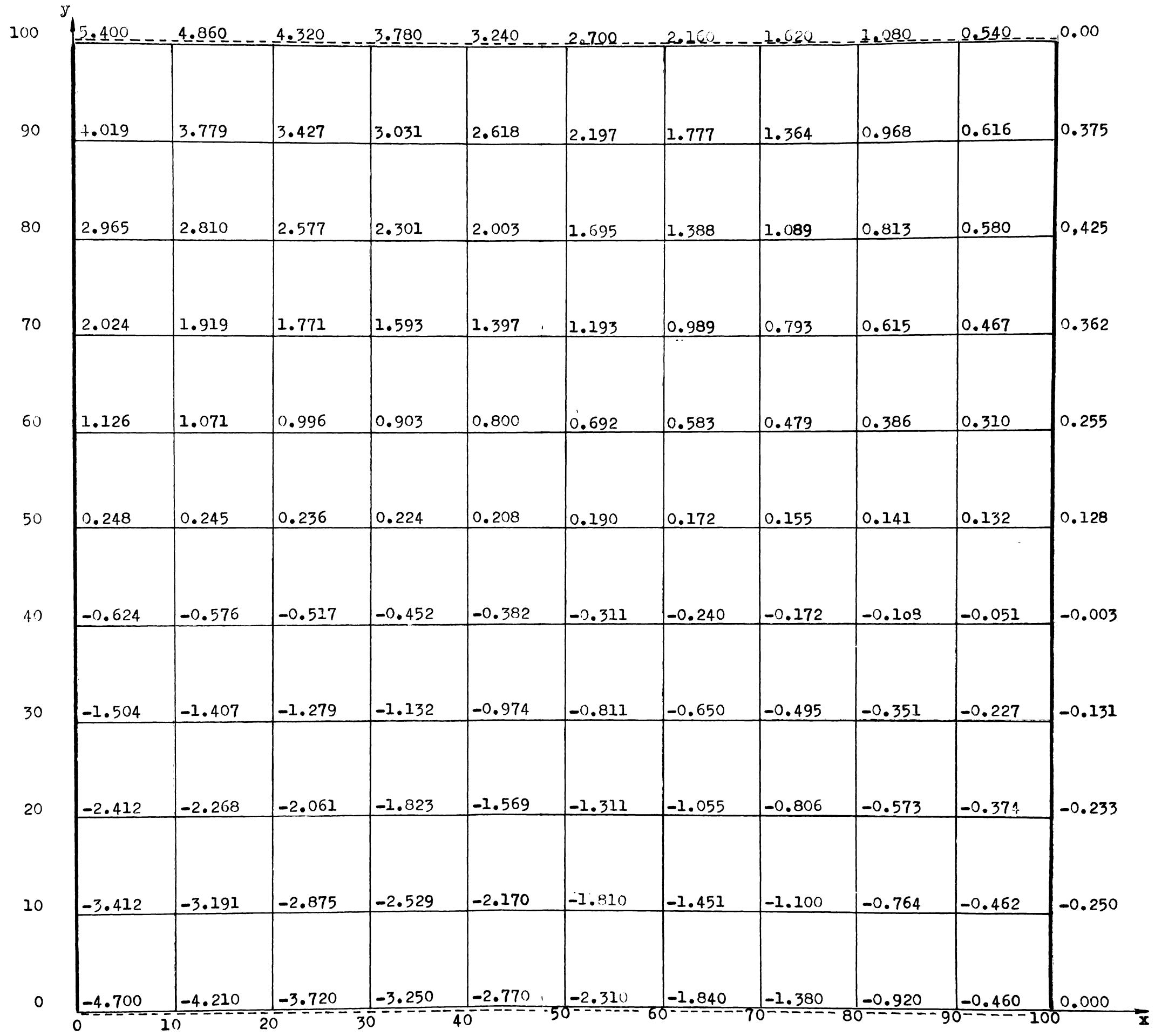
Valorile δc_i aplicate pe frontierele plăcii conjugate se transmit în punctele interioare ale domeniului. Se obțin valorile notate cu $[\delta c_i]$.

Legendă

- Margine încastrată
- - - - Margine liberă



V_1 = Valoarea corecturii $[\delta c_1]$.



ANEXA 8

In această anexă, pentru placa în situația reală, sînt prezentate valorile înălțimilor piezometrice în nodurile rețelei rezultate după corecțura lor conform relației (6.51). Constanta modelării este $C_1=1$ (domeniu fără surse interioare, analogie automodelatoare).

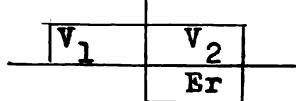
$$H = [C_a] + [\delta C]$$

Val.anexa 8 = Val. anexa 7 + Val. anexa 6

Legendă

— Margine încastrată

— Margine liberă



V_1 =Valoarea din calculul analogic

V_2 =Valoarea din rularea programului MELFIN-1

Er =Eroarea în % calculată după formula

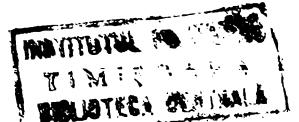
$$Er = \left[\frac{V_1}{V_2} - 1 \right] \times 100$$

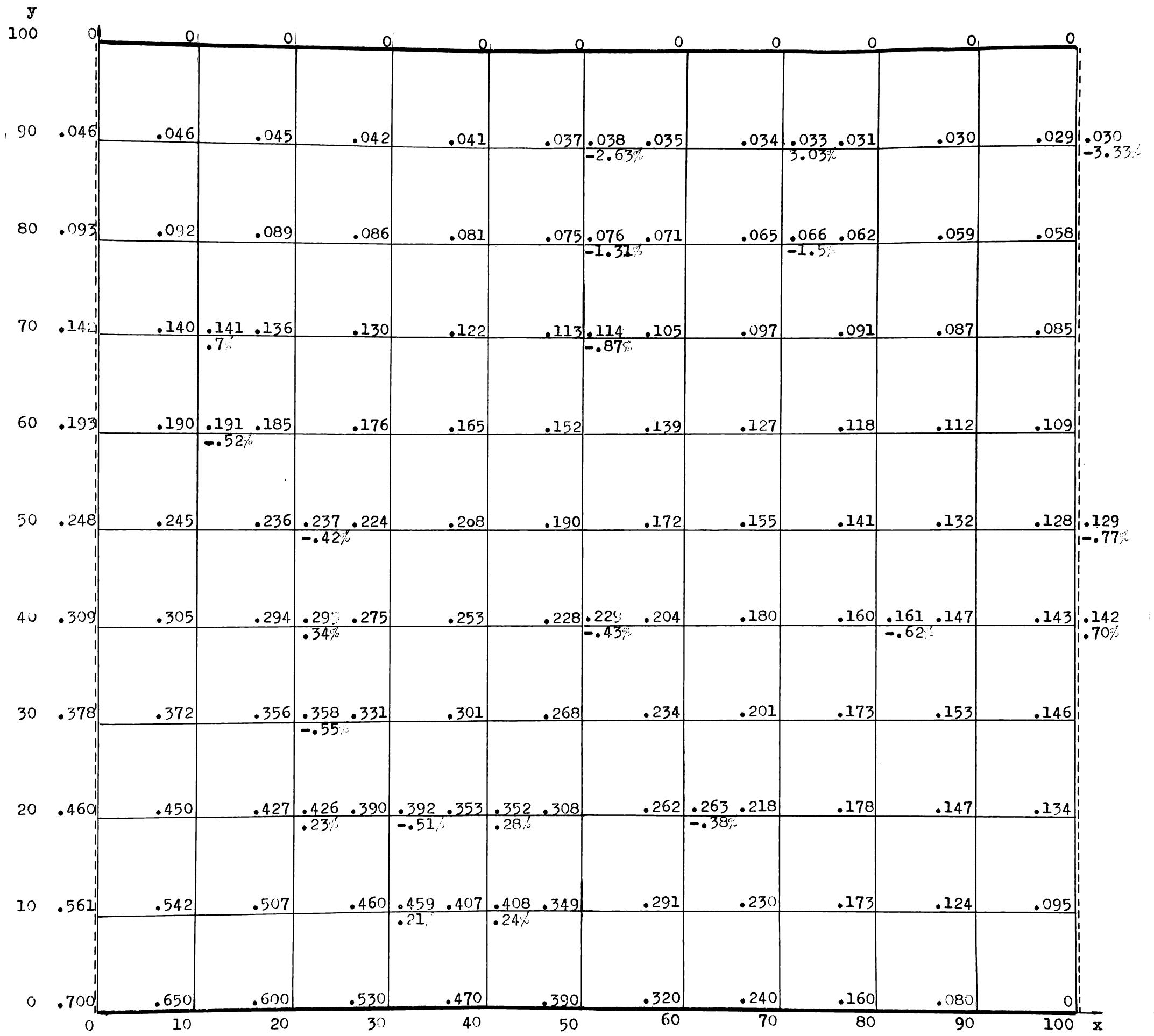
Obs.

1.Unde nu sînt figurate valorile V_2 acolo valorile V_1 coincid cu V_2 și $Er=0$.

2. Punctul . este virgula zecimală.

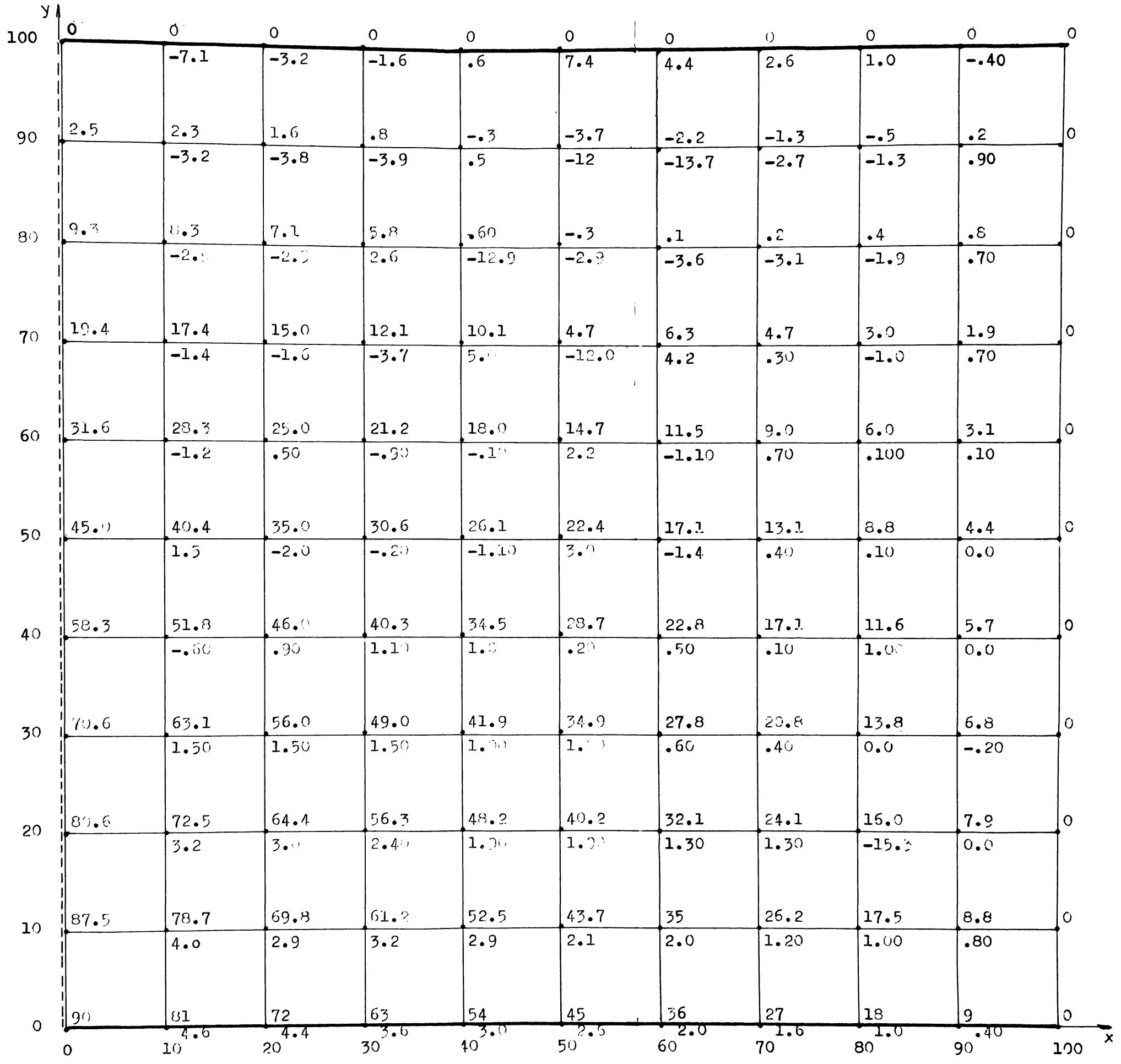
3. Pentru economie de spațiu nu s-au mai tipărit și zerourile din stînga acestui punct.





ANEXA 9.

Vezi explicația de la Anexa 5 cu mențiunea că placa este deformată în continuare față de situația din Anexa 5 cu o încărcare de 1,865 daN în punctul de coordonate 50, 90.



ANEXA 10

In această anexă se reprezintă valorile $\frac{M}{D}$ calculate cu formule.

$$\frac{M}{D} = -[C_{m1} + C_{m2} + C_{m3} + C_{m4} - 4C_{mo}] \frac{\alpha_\ell^2}{\ell^2} C_{ap}$$

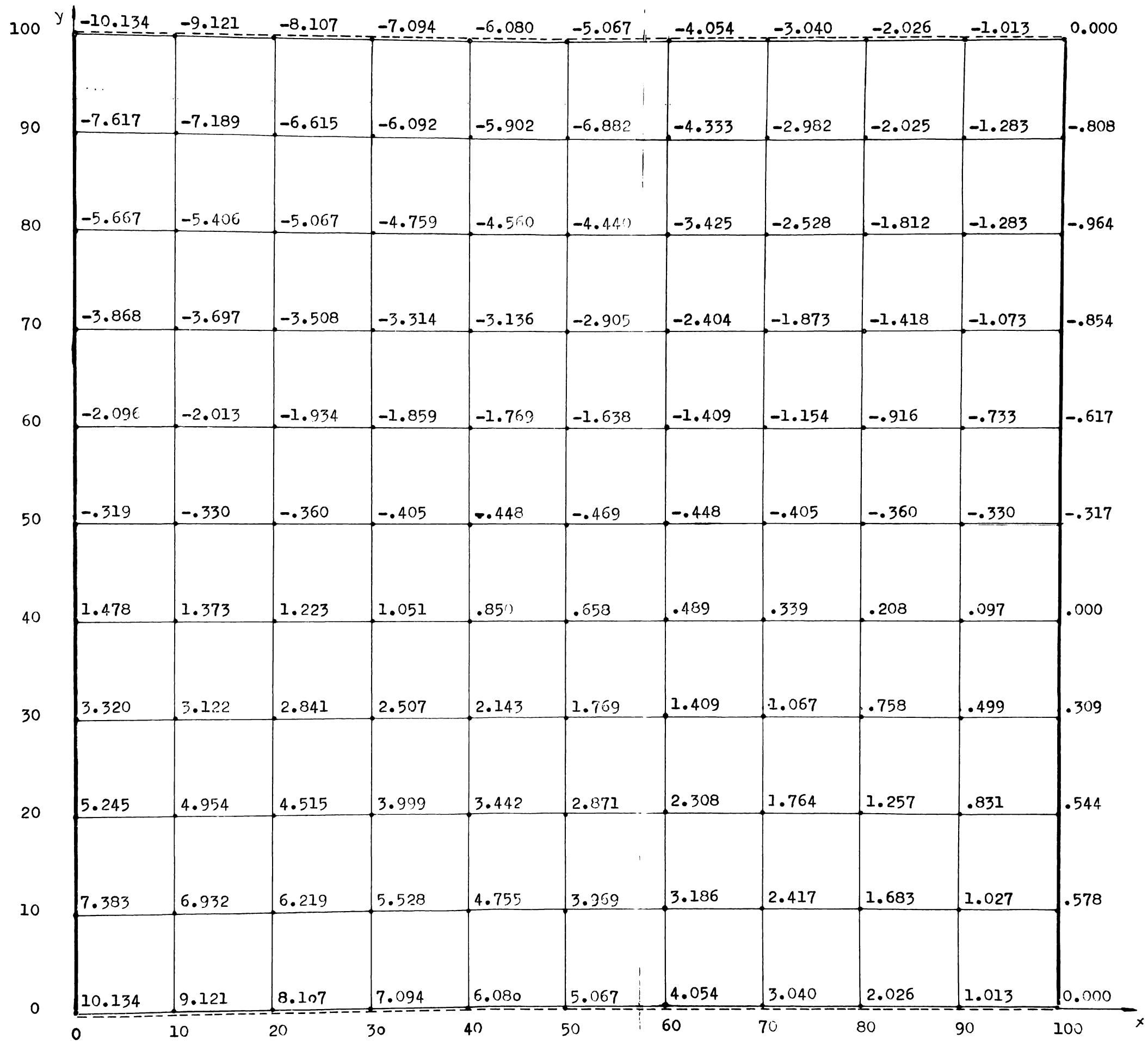
In punctele interioare neîncărcate se obține conform (6.4) $\Delta M=0$.

In punctul de coordonate (50,90) se obține
 $D\Delta\frac{M}{D} = -0.24038 \times (4.44 + 5.902 + 5.067 + 4.333 - 4 \times 6.882) =$
= 1.871 daN cu o eroare de 0.32% față de
1.865 daN cît s-a aplicat pe placă.

Obs.

1 Punctul . este virgula zecimală.

2 Pentru economie nu s-au mai tipărit și
zerourile din stînga acestui punct.



ANEXA 11

Folosind scara α_m definită prin formula 6.16 în această anexă s-au calculat valorile înălțimilor piezometrice din deformația tehnic posibilă.

$$H = \alpha_m M = \alpha_m D \left[\frac{M}{D} \right] = 2.21662 \times 0.24038 \frac{M}{D} = 0.53283 \frac{M}{D}$$

adică de fapt

$$H = \alpha_m D \times \left\{ -[C_{m1} + C_{m2} + C_{m3} + C_{m4} - 4C_{mo}] \right\} \frac{\alpha_\ell^2}{\ell^2} C_{ap} = \\ = -C_1 (C_{m1} + C_{m2} + C_{m3} + C_{m4} - 4C_{mo}).$$

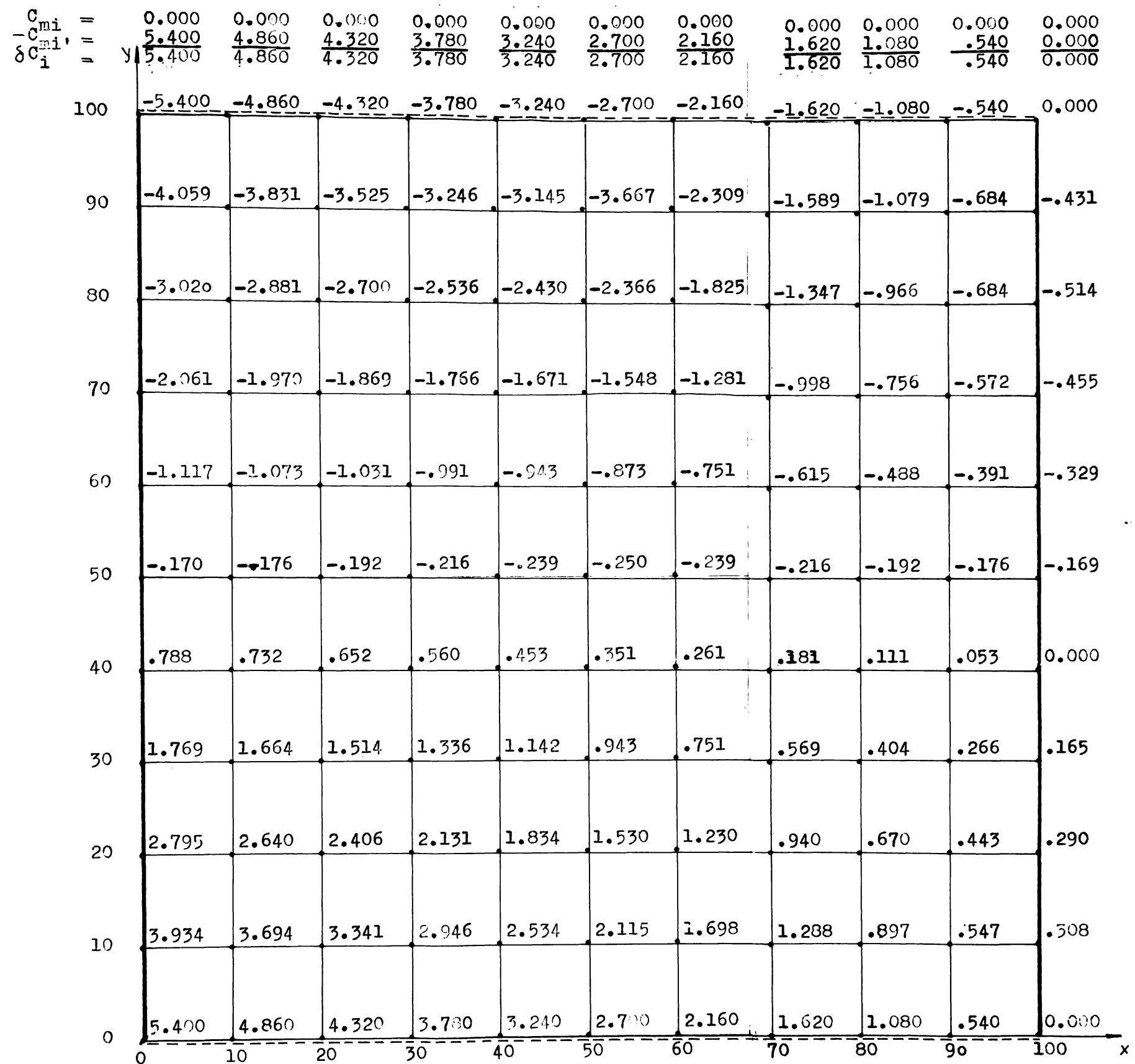
Valorile H obținute se notează cu C_{mi}'

Pentru a ajunge în situația finală pe frontierele de alimentare se aplică o corecțură C_i calculată cu relația 6.50 . Se observă că aceste corecțuri au aceeași valoare ca în anexa 6, iar repartizarea lor este cea din anexa 7.

In continuare valorile C_{mi}' se notează cu C_a .

Obs. 1 Punctul . este virgula zecimală.

2 Pentru economie de spațiu nu s-au mai tipărit zerourile din stînga acestui punct.



$\begin{matrix} C_{mi} \\ -C_{mi} \\ \delta C_i \end{matrix} = \begin{matrix} .700 & .650 & .600 & .530 & .470 & .390 & .320 & .240 & .160 & .080 & 0.000 \\ -5.400 & -4.860 & -4.320 & -3.780 & -3.240 & -2.700 & -2.160 & -1.620 & -1.080 & -.540 & 0.000 \\ -4.700 & -4.210 & -3.720 & -3.250 & -2.770 & -2.310 & -1.840 & -1.380 & -0.920 & -.460 & 0.000 \end{matrix}$

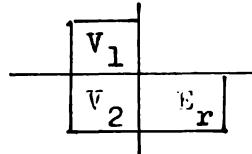
ANEXA 12

In această anexă pentru placă în situația reală sînt prezentate valorile înălțimilor piezometrice în nodurile rețelei rezultate după corecțura lor conform relației (6.51).

$$\text{Val.anexa } 12 = \text{Val.anexa } 1 + \text{Val.anexa } 7$$

Legendă

- Margine încastrată
— Margine liberă



$$E_r = \left[\frac{V_1}{V_2} - 1 \right] \times 100 \quad \text{în \%}$$

Obs.

1 Unde nu sînt figurate valorile V_2 acolo valorile V_2 coincid cu valorile V_1 și $E_r = 0$.

2 Punctul . este virgula zecimală.

3 Pentru economie de spațiu nu s-au mai tipărit și zerourile din stînga acestui punct.

