APPENDIX G

PROPOSED CONDITIONS HEC-2 MODELS

PLATE 3
EXISTING CONDITIONS 100-YR HYDRAULIC WORKMAP

Reno — Washoe County — Nevada

Sheet 1 of 1	
Nimbus Job #	0030
Date:	March 2001
Scale:	1" = 500'
Contour Interval:	1ft
File Name:	030ex_hwm
Drawn By:	kk
Designed By:	ms/dw

Revisions:

Double Diamond Ranch / Damonte Ranch

Regional CLOMR

Nimbus Engineers
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HEC-2 PROPOSED CONDITIONS MODEL

SHEET FLOW ACROSS THE BELLA VISTA RANCH – 30CLOMR1.DAT

```
1*****************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    12SEP01    TIME   10:02:52  *
*****************************************
```

```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*           (916) 756-1104          *
*************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X           X     X
X     X  X        X                 X
XXXXXXX  XXXX     X          XXXXX   XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX            XXXXXXX
```

1

THIS RUN EXECUTED 12SEP01 10:02:52

```
************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************
```

```
T1     BELLA VISTA RANCH                NIMBUS JOB # : 0030
T2     100-YEAR FLOODPLAIN BOUNDARY     FILE NAME: 30CLOMR1.DAT  DATE: SEPT 2001
T3      STEAMBOAT CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        2         0         0    0.0022         0         0         0      4446         0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

                                                                                              15

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150         38        43         13        14        15        26         1        53        54
      4         25
    120
```

```
QT       1      5850
```

335 cfs is removed from the flows in this model. Split flow for Steamboat Creek (30CLOMR2.DAT) shows that, of the total flows computed for the watersheds in HEC-1 runoff model (030CLOMR.DAT), 335 cfs will remain in the channel at the Damonte Ranch / Bella Vista Ranch property line.

Cross-sections 0.1 to 0.95 all run across Bella Vista Ranch from the fence line at Double Diamond to the eastern slopes.

```
NC      .05       .05       .05

X1      0.1         6      1000      1910         0         0         0                 4400
X2                                                                                       15
GR       30      1000      13.8      1135      13.1      1320        13      1515        15      1620
GR       20      1910
```

1


```
QT       1      5900

X1     .125         6      1000      2670       600       700       870                 4400
X2                                                                                       15
GR       30      1000        18      1140        18      1475      17.2      1655      16.9      2180
GR       30      2670


X1      .15        11      1660      2965       600       600       600                 4400
X2                                                                                       15
GR       30      1000        20      1210      19.7      1400        20      1660      18.3      2060
GR       18      2435      17.6      2495        18      2570        18      2875        20      2965
GR       30      3105


X1     .175        13       200      3690       600       600       600                 4400
X2                                                                                       15
```

GR	25.5	200	25	240	24	400	21.5	1000	21.1	1510
GR	20.1	1740	20	2125	20	2450	19.5	2900	19.6	3160
GR	20	3290	28	3520	40	3690				
QT	1	5350								
X1	0.2	12	450	3845	600	600	600		4400	
X2										15
X3	10									
GR	23.4	450	23.5	1000	23.1	1210	23.7	1420	23.4	1540
GR	22	1920	21.2	2840	22	3070	22.8	3260	30	3620
GR	36	3785	40	3845						
X1	.225	13	200	3560	600	600	600		4400	
X2										15
GR	30	200	28	320	26	420	24.9	1000	24	1465
GR	23.6	1880	24	2060	24.6	2180	24	2260	23	2740
GR	30	3130	36	3415	40	3560				
X1	.25	9	130	3675	600	600	600		4400	
X2										15
GR	28	130	26.9	1000	26.5	1760	27.4	2050	25.5	2460
GR	26	2940	30	3310	36	3590	40	3675		
X1	.275	13	380	3825	600	600	600		4400	
X2										15
X3	10									
GR	28	380	28.5	1000	30	1500	30.8	1530	28	1990
GR	27	2225	26	2420	25.8	2480	26	2540	26	3190
GR	28	3490	30	3570	40	3825				

X1	0.3	21	10	3350	600	600	600		4400	
X2										15
X3	10			1100						
GR	30	10	28	20	30	30	30	320	32	910
GR	33.2	990	31.7	995	31.7	1005	33.2	1010	32	1050
GR	30.8	1350	30	1500	28.4	1800	28	2200	28	2250
GR	28	2450	28.5	2700	28	3000	30	3130	32	3250
GR	34	3350								
QT	1	5400								
X1	0.4	30	0	3845	600	600	600		4400	
X2										15
X3	10			1281						
GR	32	0	30	5	30	35	32	95	32	160
GR	31.9	220	32	385	32	745	32	800	34	945
GR	35.2	1245	33.4	1445	32.4	1545	32	1645	30.8	1945
GR	30	2245	28.3	2645	28	2745	30	2795	30	2945
GR	28	2955	28	2960	30	2965	30	3145	30	3345
GR	29	3350	30	3355	32	3545	34	3645	36	3845
X1	0.5	21	20	4200	600	600	600		4400	
X2										15
GR	34	20	34	100	34	260	34	455	36	785
GR	36.5	1050	36	1150	34.9	1500	34	1700	32	2200
GR	30	2500	28	2505	28	2510	30	2515	30	3000
GR	32	3300	32.3	3500	32	3600	34	3800	36	4200
GR	38	4350								
QT	1	5450								
X1	0.6	24	100	4700	600	600	600		4400	
X2										15
X3	10			870						
GR	34	100	36	150	36	280	36	430	38	810
GR	38.2	1000	36.9	1200	36	1500	34	1800	34	2000
GR	34	2300	32.5	2500	32	2600	32	2610	32.1	2800
GR	32.3	3100	30	3400	32	3410	34	3500	34	3900
GR	34	3910	35.2	4200	36	4300	38	4700		
X1	0.7	27	0	4930	600	600	600		4400	
X2										15
GR	38	0	38.4	205	40	610	40.3	1030	40	1130
GR	38	1380	38	1530	36	2130	36.2	2230	36	2330
GR	35.6	2380	36	2430	35.3	2830	34	3030	36	3530
GR	36.2	3580	36	3630	36.4	3730	36	3830	35.7	3880
GR	36	3930	37.2	4130	36	4330	36	4340	38	4430
GR	40	4830	42	4930						

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X1      0.8         43        210       4900        600        600        600                  4400
X2                                                                                              15
GR       40        210         40        420       41.1        600         42        720         42        860
GR     42.8       1000       42.5       1100         42       1200       40.7       1400         40       1800
GR     39.1       2100         38       2200       38.7       2350         38       2500       37.8       2505
GR       38       2510       38.5       2600         38       2700         36       2900         36       2910
GR       38       2915         38       2960         36       3150         36       3155         38       3160
GR     38.3       3220         38       3300       37.7       3305         38       3310         38       3600
GR     38.6       3700         38       4050         38       4200         38       4210       38.5       4400
GR       40       4550       40.5       4575         40       4650         40       4700         40       4710
GR       42       4720         44       4800         46       4900

X1      0.9         38         45       5120        600        600        600                  4400
X2                                                                                              15
GR       42         45         42        180         42        250         44        580       44.7        845
GR       44        990       43.5        995       43.5       1005         44       1010       45.3       1050
GR     44.4       1300       44.8       1500       42.1       1900       41.7       2100       40.5       2500
GR       40       2800         40       2880         41       2920         41       3100         40       3120
GR     40.2       3200         40       3400       40.1       3480         40       3550       39.9       3650
GR       40       3680       40.2       3700         40       3720       39.8       3900         40       4000
GR     40.2       4100         40       4200       38.9       4240         40       4250         40       4380
GR       42       4700         44       5000         46       5120

X1     0.94         21        885        960        240        180        110                  4400
X2                                                                                              15
GR       42         45         42         65         44        450         46        705       46.5        885
GR     46.3        900         46        911      44.15      927.5         46        938       46.5        960
GR    47.81       1000      44.15       1020      46.88       1050         42       2350         40       2800
GR     40.9       3520         40       3965      42.37       4675      40.18       4690         44       4950
GR       46       5170

   Berm on Bella Vista side of ditch

X1     0.95         38         70       5160         20         20         20                  4400
X2                                                                                              15
X3       10                              1173
GR       42         70         44        470       45.6        530         46        645       46.5        885
GR     46.3        900         46        911      44.15      927.5         46        938       46.5        960
GR    46.88       1000      47.43       1170      45.49       1480       46.6       1550      45.91       1650
GR    45.52       1860      45.13       2180      42.45       2885      41.99       3010      41.68       3080
GR     38.0       3090       38.0       3095      41.43       3115      42.59       3255      43.01       3270
GR    43.39       3420      42.91       3530      43.38       3620      43.32       3980      43.23       4030
GR    43.33       4140      42.57       4310      42.86       4500      41.96       4640      42.39       4660
GR    43.17       4720      45.17       4950      47.23       5160

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X1     0.96          5       1000       5230        210        210        210                  4400
X2                                                                                              15
GR    49.12       1000       43.0       1880      40.97       3200      40.58       3530      48.23       5230
1
   12SEP01      10:02:52                                                                        PAGE    6

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*PROF 1

*SECNO  .100
      .100      4.11   4417.11       .00   4446.00   4417.25       .14       .00       .00   4430.00
    5850.0        .0    5850.0        .0        .0    1972.5        .0        .0        .0    4420.00
       .00       .00      2.97       .00      .000      .050      .000      .000   4413.00   1107.38
   .002199        0.        0.        0.         0         0         9       .00    635.21   1742.60

FLOW DISTRIBUTION FOR SECNO=       .10         CWSEL=   4417.11

STA=    1107.    1910.
  PER Q=    100.0
   AREA=   1972.5
    VEL=      3.0
  DEPTH=      3.1

*SECNO  .125
      .125      2.56   4419.46       .00       .00   4419.57       .11      2.32       .00   4430.00
    5900.0        .0    5900.0        .0        .0    2226.9        .0      41.9      17.9    4430.00
       .09       .00      2.65       .00      .000      .050      .000      .000   4416.90   1122.94
   .003304      600.      870.      700.         3         0         0       .00   1152.91   2275.85

FLOW DISTRIBUTION FOR SECNO=       .13         CWSEL=   4419.46
```

```
STA=    1123.    2670.
  PER Q=    100.0
   AREA=   2226.9
    VEL=      2.6
  DEPTH=      1.9

*SECNO  .150

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.58

      .150      3.11   4420.71       .00       .00   4420.77       .05      1.19       .00   4420.00
    5900.0     381.0    5517.1       1.9     392.0    2956.7       3.5      80.4      38.1   4420.00
       .18       .97      1.87       .54      .050      .050      .050      .000   4417.60   1195.10
   .001325      600.      600.      600.         2         0         0       .00   1779.83   2974.93


1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   4420.71

STA=    1195.    1210.    1400.    1660.    2965.    2975.
  PER Q=       .0       2.7       3.7      93.5        .0
   AREA=      5.3     163.3     223.4    2956.7       3.5
    VEL=       .5       1.0       1.0       1.9        .5
  DEPTH=       .4        .9        .9       2.3        .4

*SECNO  .175
      .175      2.22   4421.72       .00       .00   4421.76       .05      1.00       .00   4425.50
    5900.0        .0    5900.0        .0        .0    3392.5        .0     126.8      66.8   4440.00
       .28       .00      1.74       .00      .000      .050      .000      .000   4419.50    950.20
   .002145      600.      600.      600.         2         0         0       .00   2388.90   3339.09


FLOW DISTRIBUTION FOR SECNO=       .17          CWSEL=   4421.72

STA=     950.    3690.
  PER Q=    100.0
   AREA=   3392.5
    VEL=      1.7
  DEPTH=      1.4

*SECNO  .200

3265 DIVIDED FLOW


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .68


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      4423.40 ELREA=      4440.00

      .200      2.15   4423.35       .00       .00   4423.42       .07      1.66       .00   4423.40
    5350.0        .0    5350.0        .0        .0    2483.0        .0     167.3      96.7   4440.00
       .36       .00      2.15       .00      .000      .050      .000      .000   4421.20   1076.67
   .003828      600.      600.      600.         5         0         0       .00   1957.44   3287.71


FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   4423.35

1
   12SEP01      10:02:52                                                                          PAGE    8

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


STA=    1077.    3845.
  PER Q=    100.0
   AREA=   2483.0
    VEL=      2.2
  DEPTH=      1.3

*SECNO  .225
      .225      2.41   4425.41       .00       .00   4425.47       .06      2.04       .00   4430.00
    5350.0        .0    5350.0        .0        .0    2753.0        .0     203.3     124.9   4440.00
       .44       .00      1.94       .00      .000      .050      .000      .000   4423.00    736.13
   .003052      600.      600.      600.         3         0         0       .00   2137.61   2873.74


FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   4425.41

STA=     736.    3560.
  PER Q=    100.0
   AREA=   2753.0
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```
   VEL=      1.9
  DEPTH=     1.3

*SECNO  .250
     .250      2.14   4427.64       .00       .00   4427.71       .06      2.24       .00   4428.00
    5350.0        .0    5350.0        .0        .0    2651.0        .0     240.6     158.1   4440.00
      .52       .00      2.02       .00      .000      .050      .000      .000   4425.50    414.59
   .004672      600.      600.      600.         3         0         0       .00   2677.12   3091.71


FLOW DISTRIBUTION FOR SECNO=       .25         CWSEL=   4427.64

STA=     415.    3675.
  PER Q=    100.0
   AREA=   2651.0
    VEL=      2.0
  DEPTH=      1.0

*SECNO  .275

3265 DIVIDED FLOW

1
   12SEP01      10:02:52                                                                    PAGE    9

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3280 CROSS SECTION       .28 EXTENDED       .84 FEET

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.12

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      4428.00 ELREA=      4440.00

      .275      3.03   4428.83       .00       .00   4428.86       .03      1.16       .00   4428.00
    5350.0        .0    5350.0        .0        .0    3982.3        .0     286.2     193.1   4440.00
      .65       .00      1.34       .00      .000      .050      .000      .000   4425.80    380.00
   .001044      600.      600.      600.         3         0         0       .00   2405.65   3523.65


FLOW DISTRIBUTION FOR SECNO=       .28         CWSEL=   4428.83

STA=     380.    3825.
  PER Q=    100.0
   AREA=   3982.3
    VEL=      1.3
  DEPTH=      1.7

*SECNO  .300

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .53

3470 ENCROACHMENT STATIONS=     1100.0    3350.0  TYPE=       1  TARGET=    -1100.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=    100000.00 ELREA=    100000.00

      .300      1.85   4429.85       .00       .00   4429.93       .08      1.07       .00 100000.00
    5350.0        .0    5350.0        .0        .0    2307.9        .0     329.6     220.6 100000.00
      .72       .00      2.32       .00      .000      .050      .000      .000   4428.00   1528.47
   .003707      600.      600.      600.         3         0         0       .00   1591.66   3120.13


FLOW DISTRIBUTION FOR SECNO=       .30         CWSEL=   4429.85

STA=    1528.    3350.
  PER Q=    100.0
   AREA=   2307.9
    VEL=      2.3
  DEPTH=      1.5

1
   12SEP01      10:02:52                                                                    PAGE   10

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO  .400

3470 ENCROACHMENT STATIONS=     1281.0    3845.0  TYPE=       1  TARGET=    -1281.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=    100000.00 ELREA=    100000.00

      .400      3.54   4431.54       .00       .00   4431.59       .06      1.66       .00 100000.00
    5400.0        .0    5400.0        .0        .0    2830.9        .0     364.9     243.5 100000.00
```

```
      .81       .00      1.91       .00      .000      .050      .000      .000   4428.00   1760.95
   .002154      600.      600.      600.         3         0         0       .00   1739.98   3500.93

FLOW DISTRIBUTION FOR SECNO=       .40          CWSEL=   4431.54

STA=    1761.    3845.
  PER Q=    100.0
   AREA=   2830.9
    VEL=      1.9
  DEPTH=      1.6

*SECNO  .500
      .500      4.81   4432.81       .00      .00   4432.87       .06      1.28       .00   4434.00
    5400.0        .0    5400.0        .0       .0    2814.9        .0     403.8     267.1   4436.00
       .90       .00      1.92       .00      .000      .050      .000      .000   4428.00   1998.83
   .002098      600.      600.      600.         2         0         0       .00   1681.64   3680.47

FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   4432.81

STA=    1999.    4200.
  PER Q=    100.0
   AREA=   2814.9
    VEL=      1.9
  DEPTH=      1.7

*SECNO  .600

3470 ENCROACHMENT STATIONS=      870.0    4700.0  TYPE=       1  TARGET=     -870.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=    100000.00 ELREA=    100000.00

1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

      .600      4.29   4434.29       .00      .00   4434.35       .06      1.48       .00 100000.00
    5450.0        .0    5450.0        .0       .0    2862.2        .0     442.9     294.0 100000.00
       .98       .00      1.90       .00      .000      .050      .000      .000   4430.00   1756.27
   .002933      600.      600.      600.         3         0         0       .00   2224.16   3980.44

FLOW DISTRIBUTION FOR SECNO=       .60          CWSEL=   4434.29

STA=    1756.    4700.
  PER Q=    100.0
   AREA=   2862.2
    VEL=      1.9
  DEPTH=      1.3

*SECNO  .700

3265 DIVIDED FLOW

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .70

      .700      2.71   4436.71       .00      .00   4436.79       .08      2.44       .00   4438.00
    5450.0        .0    5450.0        .0       .0    2334.4        .0     478.7     325.1   4442.00
      1.05       .00      2.33       .00      .000      .050      .000      .000   4434.00   1916.57
   .006024      600.      600.      600.         2         0         0       .00   2292.55   4372.01

FLOW DISTRIBUTION FOR SECNO=       .70          CWSEL=   4436.71

STA=    1917.    4930.
  PER Q=    100.0
   AREA=   2334.4
    VEL=      2.3
  DEPTH=      1.0

*SECNO  .800

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.40

      .800      3.24   4439.24       .00      .00   4439.29       .05      2.50       .00   4440.00
    5450.0        .0    5450.0        .0       .0    2924.8        .0     514.9     357.6   4446.00
      1.14       .00      1.86       .00      .000      .050      .000      .000   4436.00   2050.52
   .003062      600.      600.      600.         3         0         0       .00   2424.34   4474.85

1
   12SEP01      10:02:52                                                                    PAGE   12

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
```

```
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=        .80          CWSEL=    4439.24

STA=     2051.     4900.
  PER Q=     100.0
   AREA=    2924.8
    VEL=       1.9
  DEPTH=       1.2

*SECNO  .900
      .900       2.50    4441.40        .00        .00    4441.46        .07       2.17        .00    4442.00
    5450.0         .0     5450.0          .0         .0     2626.9         .0      553.2      390.8    4446.00
      1.22        .00       2.07        .00       .000       .050       .000       .000    4438.90    2202.03
   .004323       600.       600.       600.          4          0          0        .00    2401.01    4603.05


FLOW DISTRIBUTION FOR SECNO=        .90          CWSEL=    4441.40

STA=     2202.     5120.
  PER Q=     100.0
   AREA=    2626.9
    VEL=       2.1
  DEPTH=       1.1

*SECNO  .940

3265 DIVIDED FLOW

      .940       1.93    4441.93        .00        .00    4441.99        .06        .53        .00    4446.50
    5450.0         .0         .0     5450.0         .0         .0     2815.2      562.3      398.6    4446.50
      1.24        .00        .00       1.94       .000       .000       .050       .000    4440.00    2365.82
   .003094       240.       110.       180.          2          0          0        .00    2308.31    4809.08


FLOW DISTRIBUTION FOR SECNO=        .94          CWSEL=    4441.93

STA=     2366.      960.     2800.     3520.     3965.     4543.     4690.     4809.
  PER Q=        .0       12.4      42.0      25.9      16.5        .3       2.9
   AREA=        .0      418.9    1065.4     658.5     557.7      10.5     104.2
    VEL=        .0        1.6       2.1       2.1       1.6       1.5       1.5
  DEPTH=        .0         .2       1.5       1.5       1.0        .1        .9

1
   12SEP01      10:02:52                                                                                PAGE   13

    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


*SECNO  .950

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1173.0     5160.0  TYPE=       1  TARGET=     -1173.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=     100000.00 ELREA=     100000.00

      .950       5.36    4443.36    4443.36        .00    4443.70        .34        .16        .00 100000.00
    5450.0         .0     5450.0          .0         .0     1162.6         .0      563.2      399.6 100000.00
      1.25        .00       4.69        .00       .000       .050       .000       .000    4438.00    2645.42
   .049976       20.        20.        20.          20         17          0        .00    1960.48    4741.96


FLOW DISTRIBUTION FOR SECNO=        .95          CWSEL=    4443.36

STA=     2645.     5160.
  PER Q=     100.0
   AREA=    1162.6
    VEL=       4.7
  DEPTH=        .6

*SECNO  .960

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO = 10.06

      .960       3.45    4444.03        .00        .00    4444.05        .02        .34        .00    4449.12
    5450.0         .0     5450.0          .0         .0     5170.3         .0      578.5      410.5    4448.23
      1.30        .00       1.05        .00       .000       .050       .000       .000    4440.58    1732.00
   .000494       210.       210.       210.          5          0          0        .00    2564.50    4296.50


FLOW DISTRIBUTION FOR SECNO=        .96          CWSEL=    4444.03

STA=     1732.     5230.
  PER Q=     100.0
   AREA=    5170.3
```

VEL= 1.1
DEPTH= 2.0

1
PROFILE FOR STREAM STEAMBOAT CREEK

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

```
ELEVATION  4413.     4418.     4423.     4428.     4433.     4438.     4443.     4448.     4453.     4458.
    SECNO   CUMDIS

      .10     0.  I       WE.   R     .         .   L     .         .         .         .         .         .
            100.  CI       E.     R   .         .   L     .         .         .         .         .         .
            200.  C I      WE        R.         .   L     .         .         .         .         .         .
            300.  C  I      E         .R        .   L     .         .         .         .         .         .
            400.  C   I     WE        .  R      .   L     .         .         .         .         .         .
            500.  C   I     .E        .    R    .   L     .         .         .         .         .         .
            600.  C    I    .WE       .       R .   L     .         .         .         .         .         .
            700.  C     I   . E       .         R   L     .         .         .         .         .         .
            800.  C      I  .  E      .         . R L     .         .         .         .         .         .
      .13   900.  C       I .  E      .         .   L     .         .         .         .         .         .
           1000.  C       I .  WE     .         .L  M     .         .         .         .         .         .
           1100.  C       I .   E     .       L .   M     .         .         .         .         .         .
           1200.  C        I.   E     .  L      .   M     .         .         .         .         .         .
           1300.  C        I.    E    .L        .   M     .         .         .         .         .         .
           1400.  C        I.    E L  .         .   M     .         .         .         .         .         .
      .15  1500.  C        I.   LWE   .         .   M     .         .         .         .         .         .
           1600.  C         I    E   .R        .  M      .         .         .         .         .         .
           1700.  C         I    E L .      R  .M        .         .         .         .         .         .
           1800.  C         .I   WE  L         M  R      .         .         .         .         .         .
           1900.  C         . I   E  .L      M  .        .R        .         .         .         .         .
           2000.  C         . I   E  .  L    M  .        .      R  .         .         .         .         .
      .17  2100.  C         .  I  WE .    L    .        .         .  R      .         .         .         .
           2200.  C         .   I  E .   L     .        .         .  R      .         .         .         .
           2300.  C         .   I   E.  L     .        .         .  R      .         .         .         .
           2400.  C         .    I  E. L      .        .         .  R      .         .         .         .
           2500.  C         .    I   E L      .        .         .  R      .         .         .         .
           2600.  C         .     I  EL       .        .         .  R      .         .         .         .
      .20  2700.  C         .     I  .E       .        .         .  R      .         .         .         .
           2800.  C         .      I .WEL     .        .         .  R      .         .         .         .
           2900.  C         .       I . E L   .        .         .  R      .         .         .         .
           3000.  C         .       I .  E  L .        .         .  R      .         .         .         .
           3100.  C         .        I.  WE   L        .         .  R      .         .         .         .
           3200.  C         .        I.   E     . L    .         .  R      .         .         .         .
      .22  3300.  C         .         I   E     .  L   .         .  R      .         .         .         .
           3400.  C         .         .I   E    .  L   .         .  R      .         .         .         .
           3500.  C         .         . I  E    .  L   .         .  R      .         .         .         .
           3600.  C         .         .  I  E   . L    .         .  R      .         .         .         .
           3700.  C         .         .  I   E .L      .         .  R      .         .         .         .
           3800.  C         .         .   I   E.L      .         .  R      .         .         .         .
      .25  3900.  C         .         .   I   EL       .         .  R      .         .         .         .
           4000.  C         .         .   I   E        .         .  R      .         .         .         .
           4100.  C         .         .   I   E        .         .  R      .         .         .         .
           4200.  C         .         .   I   WE       .         .  R      .         .         .         .
           4300.  C         .         .   I   LE       .         .  R      .         .         .         .
           4400.  C         .         .   I   LE       .         .  R      .         .         .         .
      .28  4500.  C         .         .    I  L E      .         .  R      .         .         .         .
           4600.  C         .         .    I  . E      .         .         .         .         .         .  L
           4700.  C         .         .     I . E      .         .         .         .         .         .  L
           4800.  C         .         .      I .  E     .         .         .         .         .         .  L
           4900.  C         .         .       I.  E     .         .         .         .         .         .  L
           5000.  C         .         .       I.  WE    .         .         .         .         .         .  L
      .30  5100.  C         .         .         I   E    .         .         .         .         .         .  L
           5200.  C         .         .         I   E    .         .         .         .         .         .  L
           5300.  C         .         .         I    E   .         .         .         .         .         .  L
           5400.  C         .         .         I    WE  .         .         .         .         .         .  L
           5500.  C         .         .         I     E  .         .         .         .         .         .  L
           5600.  C         .         .         I      E .         .         .         .         .         .  L
      .40  5700.  C         .         .         I      E .         .         .         .         .         .  L
           5800.  C         .         .         I       E.         .         .         .         .         .  L
           5900.  C         .         .         I       E.         .         .         .         .         .  L
           6000.  C         .         .         I       E.         .         .         .         .         .  L
           6100.  C         .         .         I        E.        .         .         .         .         .  L
           6200.  C         .         .         I        E.        .         .         .         .         .  L
      .50  6300.  C         .         .         I         E L   R  .         .         .         .         .
           6400.  C         .         .        .I         E        .         .         .         .         .  L
           6500.  C         .         .        .I          .E      .         .         .         .         .  L
           6600.  C         .         .        . I         .E      .         .         .         .         .  L
           6700.  C         .         .        .  I        . E     .         .         .         .         .  L
           6800.  C         .         .        .  I        . E     .         .         .         .         .  L
      .60  6900.  C         .         .        .   I       .  E    .         .         .         .         .  L
           7000.  C         .         .        .    I      .  WE   .         .         .         .         .  L
           7100.  C         .         .        .      I    .   E   .         .         .         .         .  L
           7200.  C         .         .        .       I   .    E  .         .         .         .         .  L
           7300.  C         .         .        .        I. .     E .         .         .         .         .  L
           7400.  C         .         .        .          .I     E .         .         .         .         .  L
      .70  7500.  C         .         .        .          . I    WE L      R .         .         .         .
           7600.  C         .         .        .          .  I    E .L       R.         .         .         .
           7700.  C         .         .        .          .  I     E.L         .R       .         .         .
           7800.  C         .         .        .          .   I    E L        . R      .         .         .
           7900.  C         .         .        .          .    I    .E L       .  R     .         .         .
```

```
        8000.  C          .         .         .         .    I    . EL       .    R    .         .         .         .
   .80  8100.  C          .         .         .         .     I   .  EL      .     R   .         .         .         .
        8200.  C          .         .         .         .      I  .  E L     .     R   .         .         .         .
        8300.  C          .         .         .         .       I .   EL     .     R   .         .         .         .
        8400.  C          .         .         .         .        I.    EL    .     R   .         .         .         .
        8500.  C          .         .         .         .         I    E L   .     R   .         .         .         .
        8600.  C          .         .         .         .         .I    EL    .     R   .         .         .         .
   .90  8700.  C          .         .         .         .         . I    EL   .     R   .         .         .         .
   .94  8800.  C          .         .         .         .         .   I   E    .      L  .         .         .         .
   .95  8900.  .          .         .         .         .         I          .E         .         .         .         L
        9000.  C          .         .         .         .         . I        .WE        .         .         .         L
   .96  9100.  C          .         .         .         .         .    I     . E       R L       .         .         .
1
   12SEP01      10:02:52                                                                                    PAGE   14
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THIS RUN EXECUTED 12SEP01 10:02:52

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**************************************
 HEC-2 WATER SURFACE PROFILES

 Version  4.6.2;  May 1991
**************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

STEAMBOAT CREEK

SUMMARY PRINTOUT

	SECNO	Q	QLOB	QCH	QROB	VCH	CWSEL	SSTA	ENDST	TOPWID	AREA
	.100	5850.00	.00	5850.00	.00	2.97	4417.11	1107.38	1742.60	635.21	1972.51
	.125	5900.00	.00	5900.00	.00	2.65	4419.46	1122.94	2275.85	1152.91	2226.89
*	.150	5900.00	380.98	5517.12	1.91	1.87	4420.71	1195.10	2974.93	1779.83	3352.21
	.175	5900.00	.00	5900.00	.00	1.74	4421.72	950.20	3339.09	2388.90	3392.46
*	.200	5350.00	.00	5350.00	.00	2.15	4423.35	1076.67	3287.71	1957.44	2482.98
	.225	5350.00	.00	5350.00	.00	1.94	4425.41	736.13	2873.74	2137.61	2752.96
	.250	5350.00	.00	5350.00	.00	2.02	4427.64	414.59	3091.71	2677.12	2651.02
*	.275	5350.00	.00	5350.00	.00	1.34	4428.83	380.00	3523.65	2405.65	3982.30
*	.300	5350.00	.00	5350.00	.00	2.32	4429.85	1528.47	3120.13	1591.66	2307.92
	.400	5400.00	.00	5400.00	.00	1.91	4431.54	1760.95	3500.93	1739.98	2830.87
	.500	5400.00	.00	5400.00	.00	1.92	4432.81	1998.83	3680.47	1681.64	2814.91
	.600	5450.00	.00	5450.00	.00	1.90	4434.29	1756.27	3980.44	2224.16	2862.25
*	.700	5450.00	.00	5450.00	.00	2.33	4436.71	1916.57	4372.01	2292.55	2334.35
*	.800	5450.00	.00	5450.00	.00	1.86	4439.24	2050.52	4474.85	2424.34	2924.78
	.900	5450.00	.00	5450.00	.00	2.07	4441.40	2202.03	4603.05	2401.01	2626.94
	.940	5450.00	.00	.00	5450.00	.00	4441.93	2365.82	4809.08	2308.31	2815.20
*	.950	5450.00	.00	5450.00	.00	4.69	4443.36	2645.42	4741.96	1960.48	1162.56

1

	SECNO	Q	QLOB	QCH	QROB	VCH	CWSEL	SSTA	ENDST	TOPWID	AREA
*	.960	5450.00	.00	5450.00	.00	1.05	4444.03	1732.00	4296.50	2564.50	5170.29

1

STEAMBOAT CREEK

SUMMARY PRINTOUT TABLE 120

	SECNO	CWSEL	EG	VCH	10*KS	DEPTH	TOPWID	CLSTA	BW	STCHL	XLBEL	STCHR	RBEL
	.100	4417.11	4417.25	2.97	21.99	4.11	635.21	.00	.01	1000.00	4430.00	1910.00	4420.00
	.125	4419.46	4419.57	2.65	33.04	2.56	1152.91	.00	.01	1000.00	4430.00	2670.00	4430.00
*	.150	4420.71	4420.77	1.87	13.25	3.11	1779.83	.00	.01	1660.00	4420.00	2965.00	4420.00

	.175	4421.72	4421.76	1.74	21.45	2.22	2388.90	.00	.01	200.00	4425.50	3690.00	4440.00
*	.200	4423.35	4423.42	2.15	38.28	2.15	1957.44	.00	.01	450.00	4423.40	3845.00	4440.00
	.225	4425.41	4425.47	1.94	30.52	2.41	2137.61	.00	.01	200.00	4430.00	3560.00	4440.00
	.250	4427.64	4427.71	2.02	46.72	2.14	2677.12	.00	.01	130.00	4428.00	3675.00	4440.00
*	.275	4428.83	4428.86	1.34	10.44	3.03	2405.65	.00	.01	380.00	4428.00	3825.00	4440.00
*	.300	4429.85	4429.93	2.32	37.07	1.85	1591.66	.00	.01	10.00	100000.00	3350.00	100000.00
	.400	4431.54	4431.59	1.91	21.54	3.54	1739.98	.00	.01	.00	100000.00	3845.00	100000.00
	.500	4432.81	4432.87	1.92	20.98	4.81	1681.64	.00	.01	20.00	4434.00	4200.00	4436.00
	.600	4434.29	4434.35	1.90	29.33	4.29	2224.16	.00	.01	100.00	100000.00	4700.00	100000.00
*	.700	4436.71	4436.79	2.33	60.24	2.71	2292.55	.00	.01	.00	4438.00	4930.00	4442.00
*	.800	4439.24	4439.29	1.86	30.62	3.24	2424.34	.00	.01	210.00	4440.00	4900.00	4446.00
	.900	4441.40	4441.46	2.07	43.23	2.50	2401.01	.00	.01	45.00	4442.00	5120.00	4446.00
	.940	4441.93	4441.99	.00	30.94	1.93	2308.31	.00	.01	885.00	4446.50	960.00	4446.50
*	.950	4443.36	4443.70	4.69	499.76	5.36	1960.48	.00	.01	70.00	100000.00	5160.00	100000.00
*	.960	4444.03	4444.05	1.05	4.94	3.45	2564.50	.00	.01	1000.00	4449.12	5230.00	4448.23

STEAMBOAT CREEK

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	.100	.00	.00	.00	4413.00	5850.00	4417.11	.00	4417.25	21.99	2.97	1972.51	1247.50
	.125	870.00	.00	.00	4416.90	5900.00	4419.46	.00	4419.57	33.04	2.65	2226.89	1026.44
*	.150	600.00	.00	.00	4417.60	5900.00	4420.71	.00	4420.77	13.25	1.87	3352.21	1621.04
	.175	600.00	.00	.00	4419.50	5900.00	4421.72	.00	4421.76	21.45	1.74	3392.46	1273.83
*	.200	600.00	.00	.00	4421.20	5350.00	4423.35	.00	4423.42	38.28	2.15	2482.98	864.73
	.225	600.00	.00	.00	4423.00	5350.00	4425.41	.00	4425.47	30.52	1.94	2752.96	968.49
	.250	600.00	.00	.00	4425.50	5350.00	4427.64	.00	4427.71	46.72	2.02	2651.02	782.75
*	.275	600.00	.00	.00	4425.80	5350.00	4428.83	.00	4428.86	10.44	1.34	3982.30	1655.85
*	.300	600.00	.00	.00	4428.00	5350.00	4429.85	.00	4429.93	37.07	2.32	2307.92	878.72
	.400	600.00	.00	.00	4428.00	5400.00	4431.54	.00	4431.59	21.54	1.91	2830.87	1163.47
	.500	600.00	.00	.00	4428.00	5400.00	4432.81	.00	4432.87	20.98	1.92	2814.91	1179.07
	.600	600.00	.00	.00	4430.00	5450.00	4434.29	.00	4434.35	29.33	1.90	2862.25	1006.37
*	.700	600.00	.00	.00	4434.00	5450.00	4436.71	.00	4436.79	60.24	2.33	2334.35	702.17
*	.800	600.00	.00	.00	4436.00	5450.00	4439.24	.00	4439.29	30.62	1.86	2924.78	984.87
	.900	600.00	.00	.00	4438.90	5450.00	4441.40	.00	4441.46	43.23	2.07	2626.94	828.94
	.940	110.00	.00	.00	4440.00	5450.00	4441.93	.00	4441.99	30.94	.00	2815.20	979.87
*	.950	20.00	.00	.00	4438.00	5450.00	4443.36	4443.36	4443.70	499.76	4.69	1162.56	243.79
*	.960	210.00	.00	.00	4440.58	5450.00	4444.03	.00	4444.05	4.94	1.05	5170.29	2452.33

STEAMBOAT CREEK

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	.100	5850.00	4417.11	.00	.00	-28.89	635.21	.00
	.125	5900.00	4419.46	.00	2.35	.00	1152.91	870.00
*	.150	5900.00	4420.71	.00	1.25	.00	1779.83	600.00
	.175	5900.00	4421.72	.00	1.00	.00	2388.90	600.00

*	.200	5350.00	4423.35	.00	1.64	.00	1957.44	600.00
	.225	5350.00	4425.41	.00	2.06	.00	2137.61	600.00
	.250	5350.00	4427.64	.00	2.23	.00	2677.12	600.00
*	.275	5350.00	4428.83	.00	1.19	.00	2405.65	600.00
*	.300	5350.00	4429.85	.00	1.01	.00	1591.66	600.00
	.400	5400.00	4431.54	.00	1.69	.00	1739.98	600.00
	.500	5400.00	4432.81	.00	1.27	.00	1681.64	600.00
	.600	5450.00	4434.29	.00	1.48	.00	2224.16	600.00
*	.700	5450.00	4436.71	.00	2.41	.00	2292.55	600.00
*	.800	5450.00	4439.24	.00	2.54	.00	2424.34	600.00
	.900	5450.00	4441.40	.00	2.15	.00	2401.01	600.00
	.940	5450.00	4441.93	.00	.54	.00	2308.31	110.00
*	.950	5450.00	4443.36	.00	1.43	.00	1960.48	20.00
*	.960	5450.00	4444.03	.00	.67	.00	2564.50	210.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= .150 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= .200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= .275 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

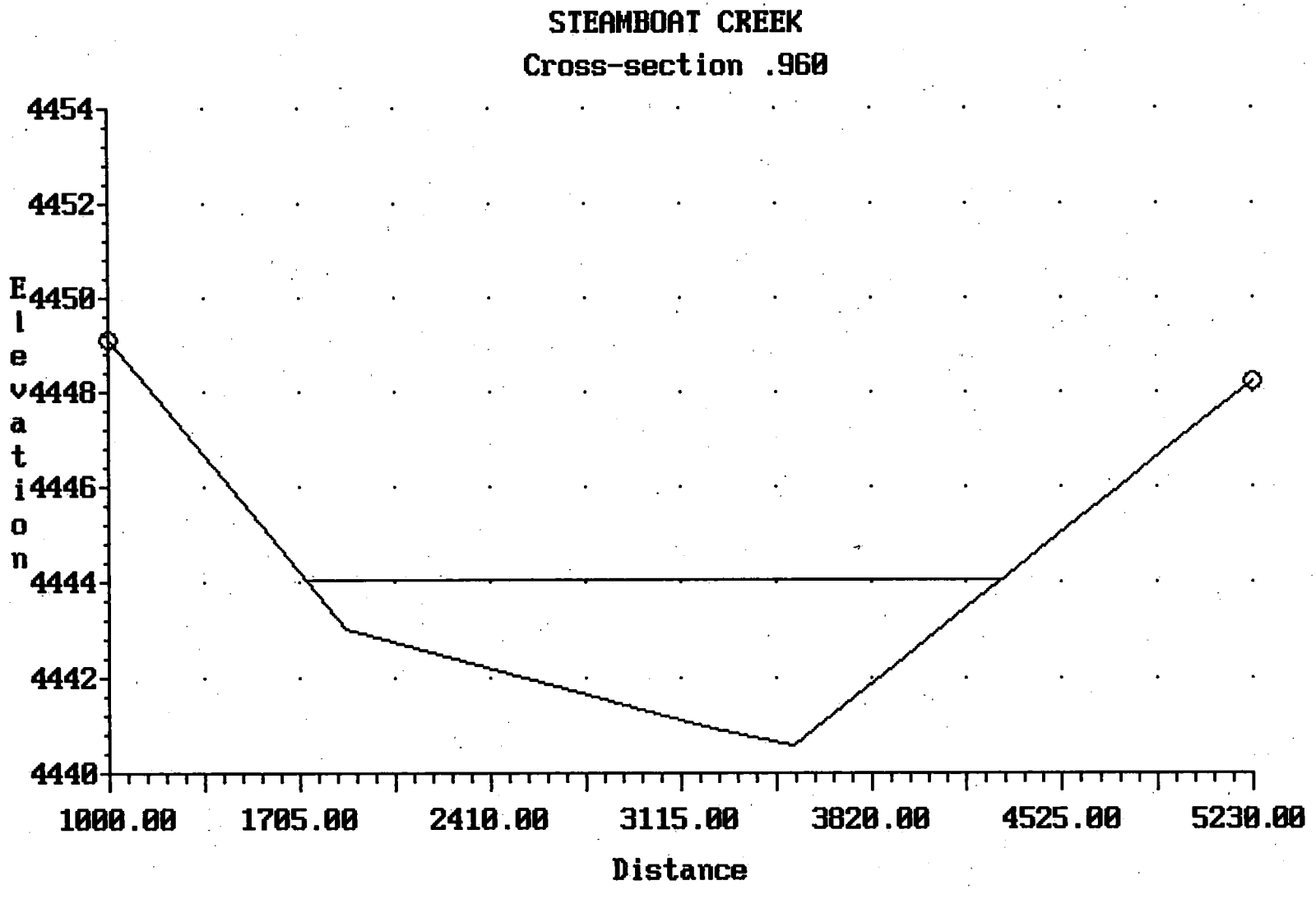
WARNING SECNO= .300 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= .700 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= .800 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= .950 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .950 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .950 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= .960 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE


STEAMBOAT CREEK
Cross-section .960
4454
4452
4450
4448
4446
4444
4442
4440
Elevation
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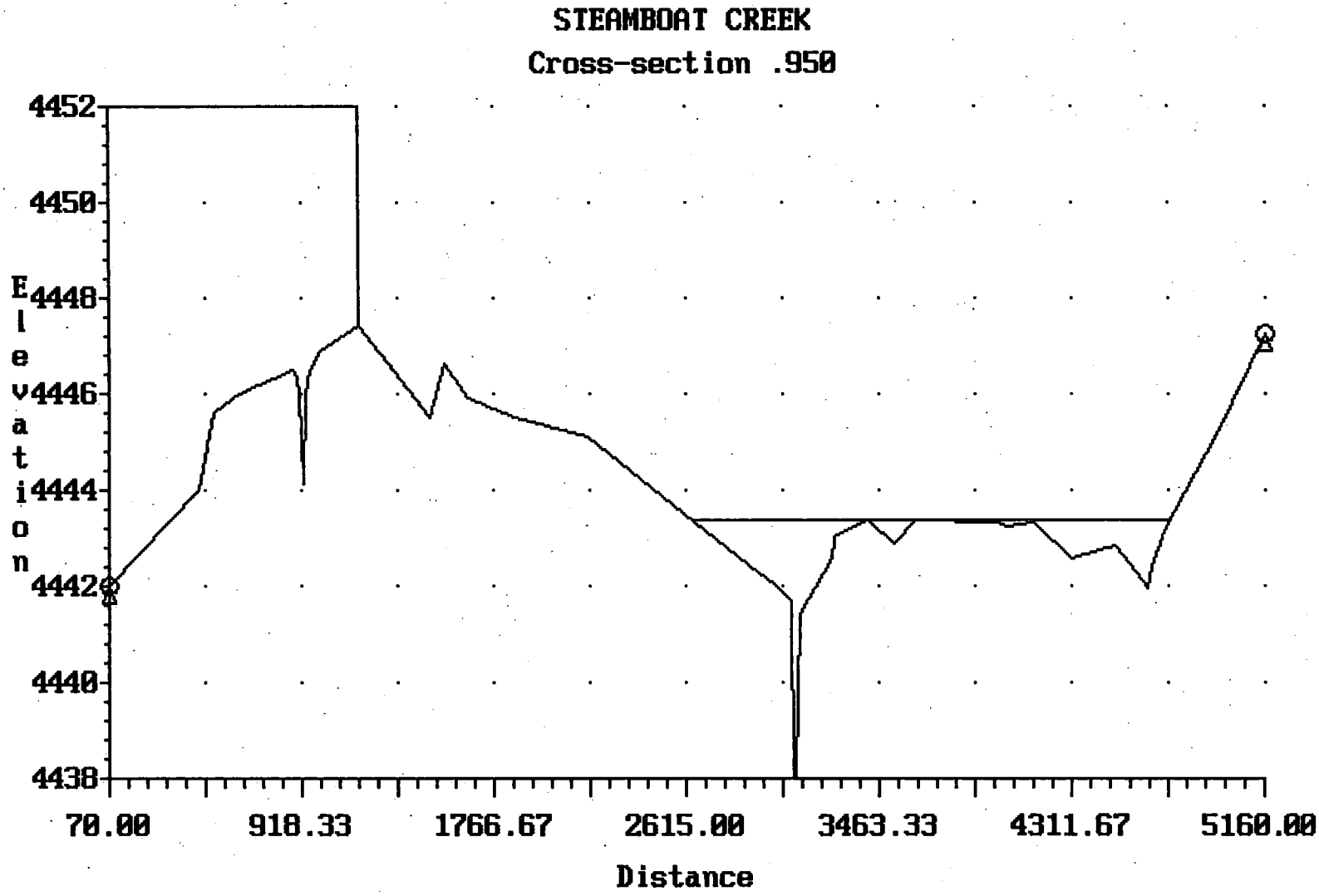
1705.00
2410.00
3115.00
3820.00
4525.00
5230.00
Distance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Cross-section .950
4452
4450
4448
4446
4444
4442
4440
4438
Elevation
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1766.67
2615.00
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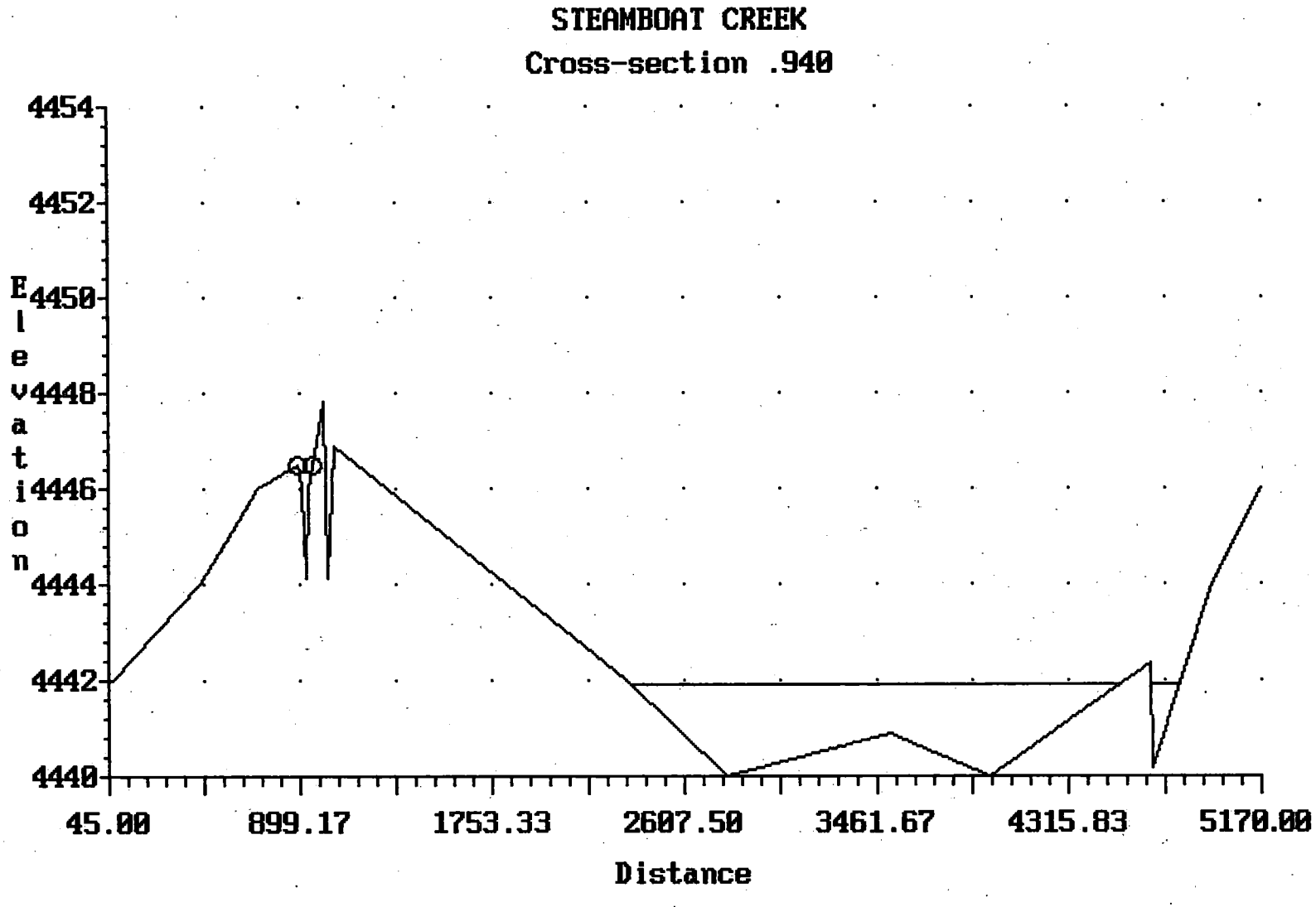
Distance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Cross-section .940
4454
4452
4450
4448
4446
4444
4442
4440
Elevation
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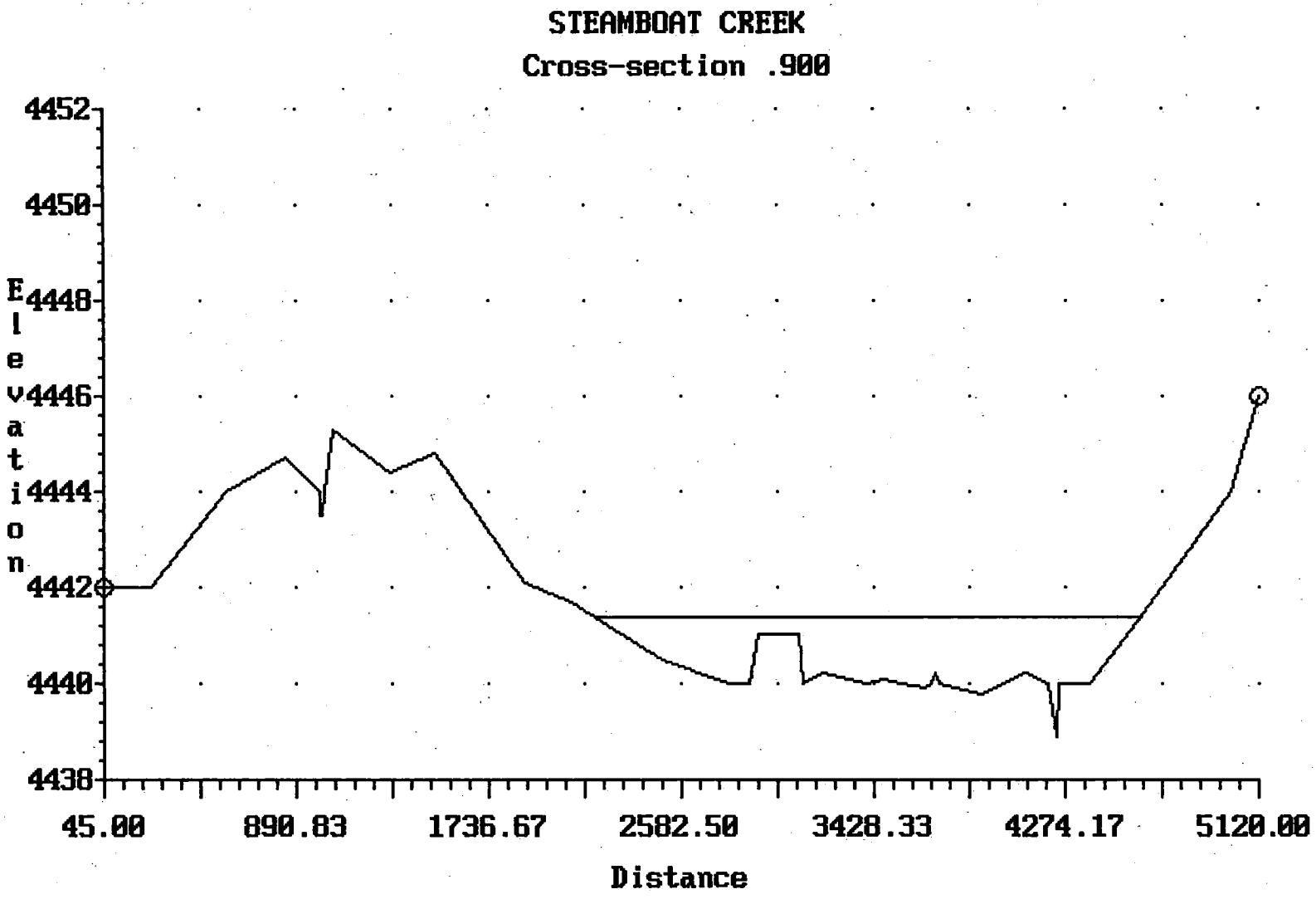
Distance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Cross-section .900
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4450
4448
4446
4444
4442
4440
4438
Elevation
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2582.50
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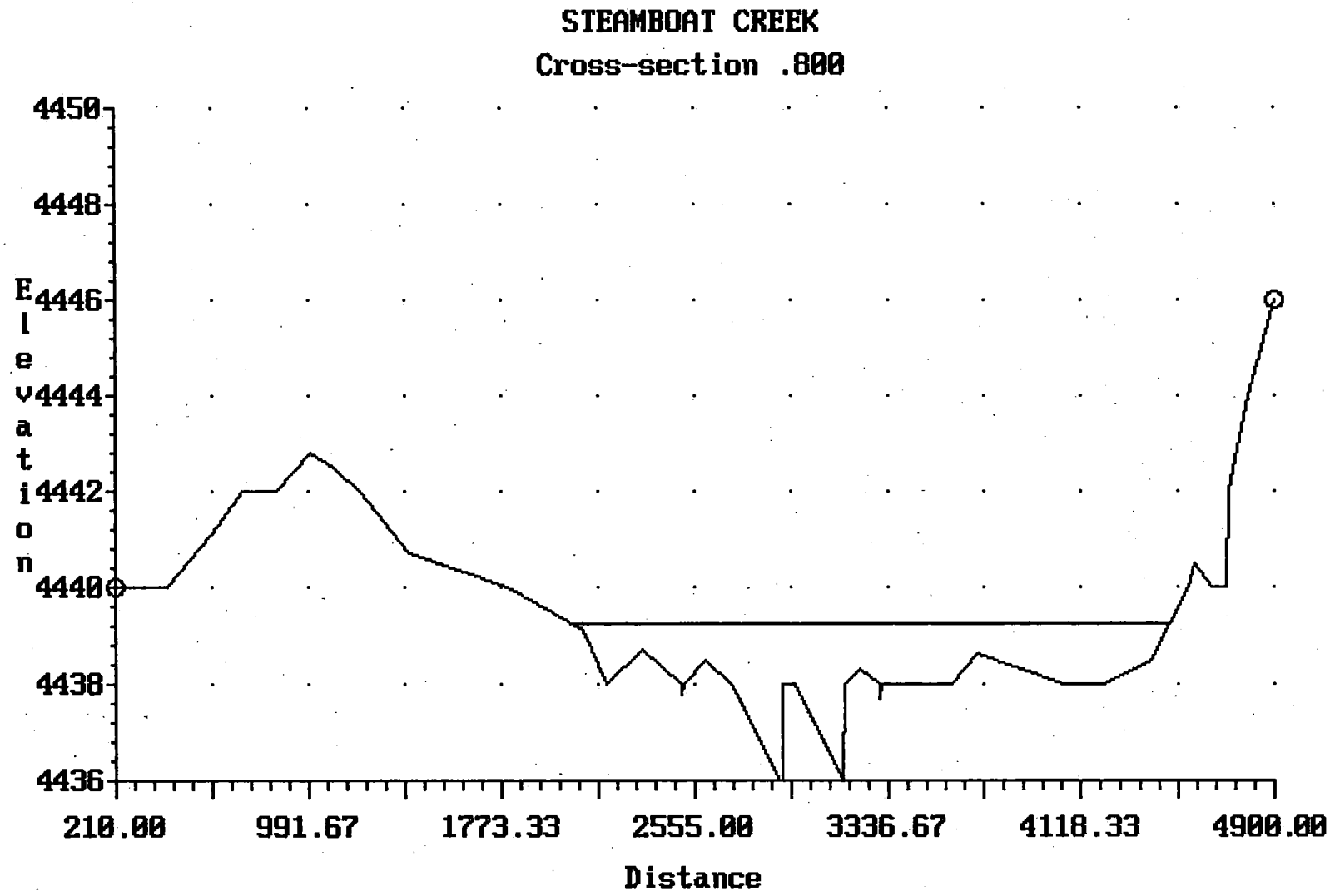
Distance


STEAMBOAT CREEK
Cross-section .800
4450
4448
4446
4444
4442
4440
4438
4436
Elevation
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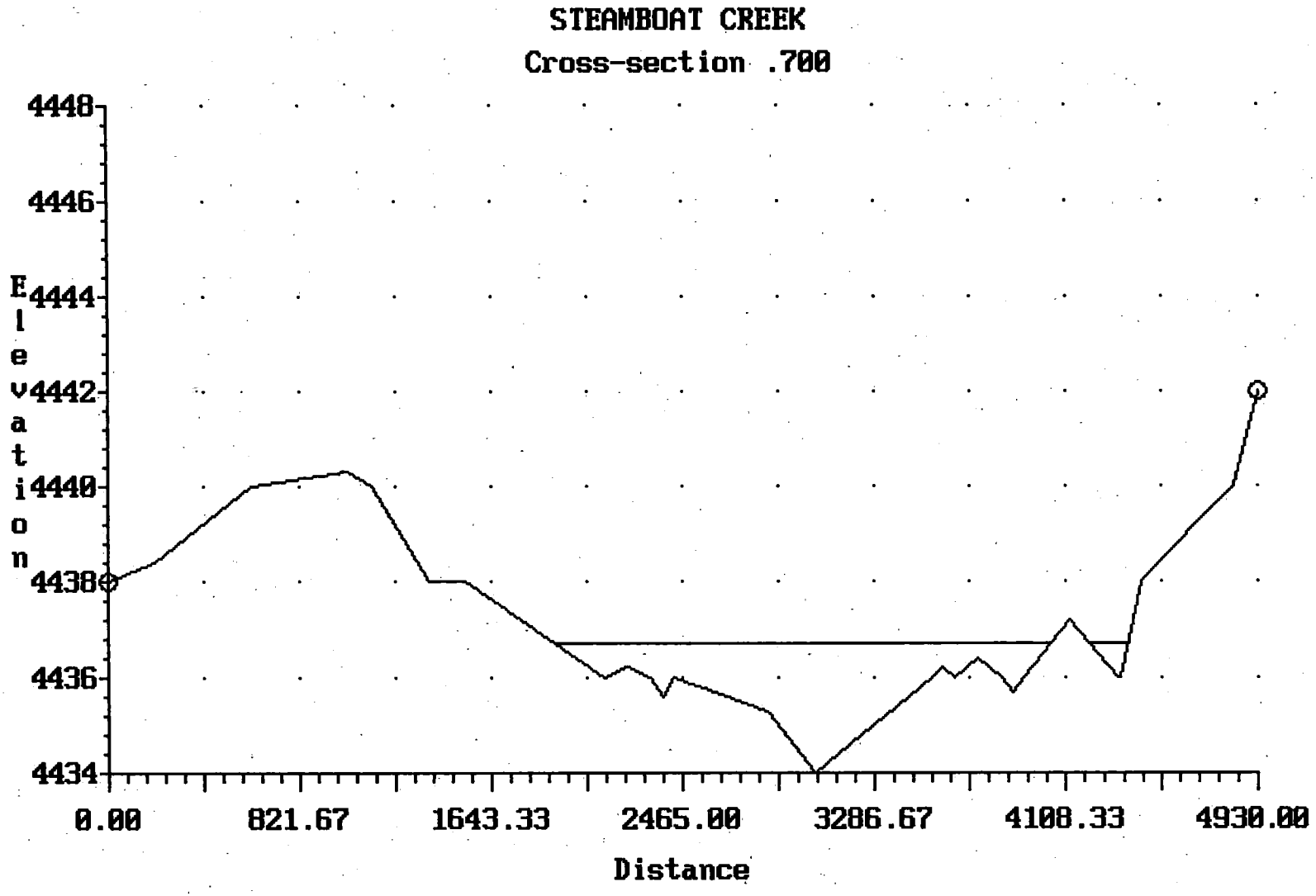
4900.00
Distance


STEAMBOAT CREEK
Cross-section .700
4448
4446
4444
4442
4440
4438
4436
4434
Elevation
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2465.00
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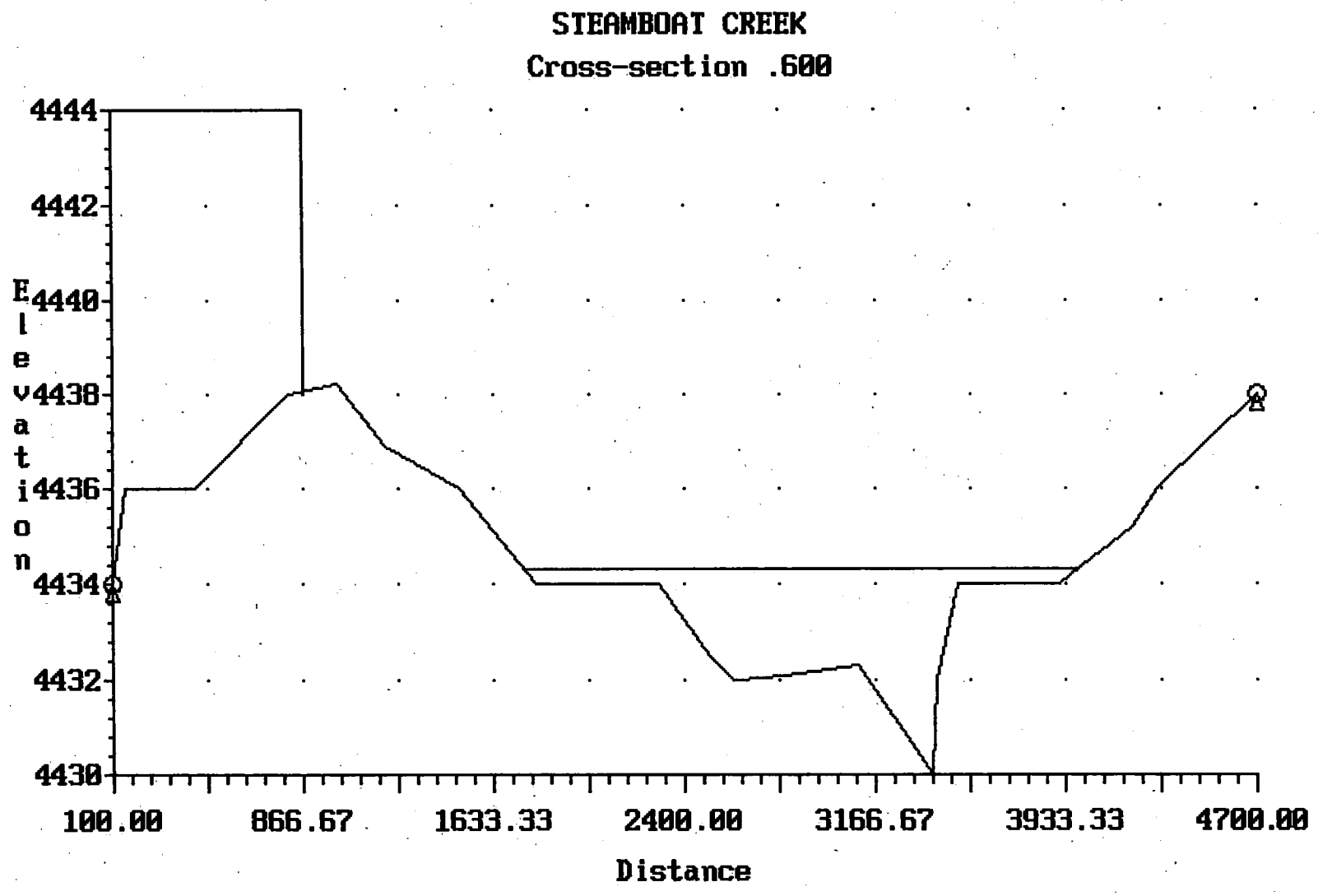
4108.33
4930.00
Distance


STEAMBOAT CREEK
Cross-section .600
4444
4442
4440
4438
4436
4434
4432
4430
Elevation
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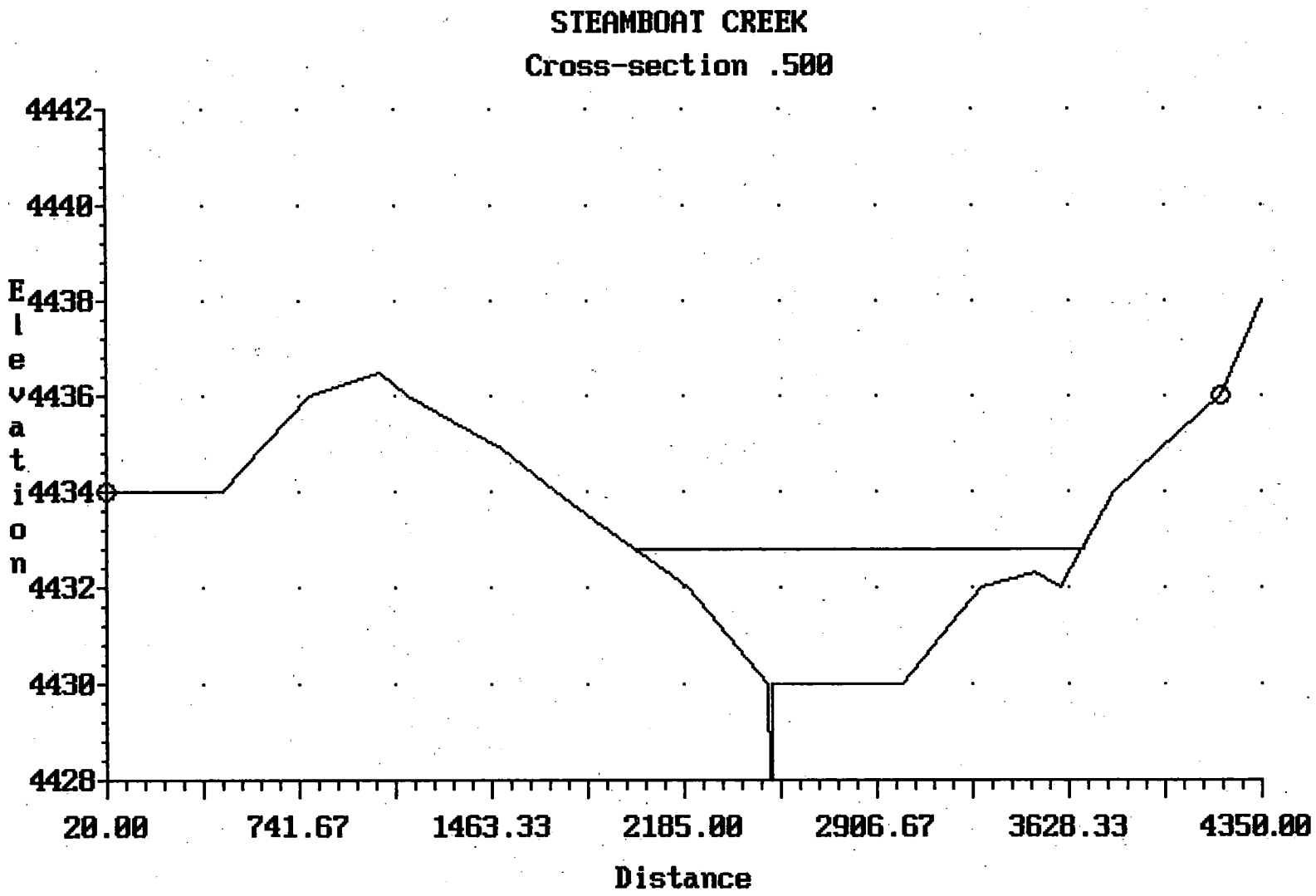
866.67
1633.33
2400.00
3166.67
3933.33
4700.00
Distance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Cross-section .500
4442
4440
4438
4436
4434
4432
4430
4428
Elevation
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2185.00
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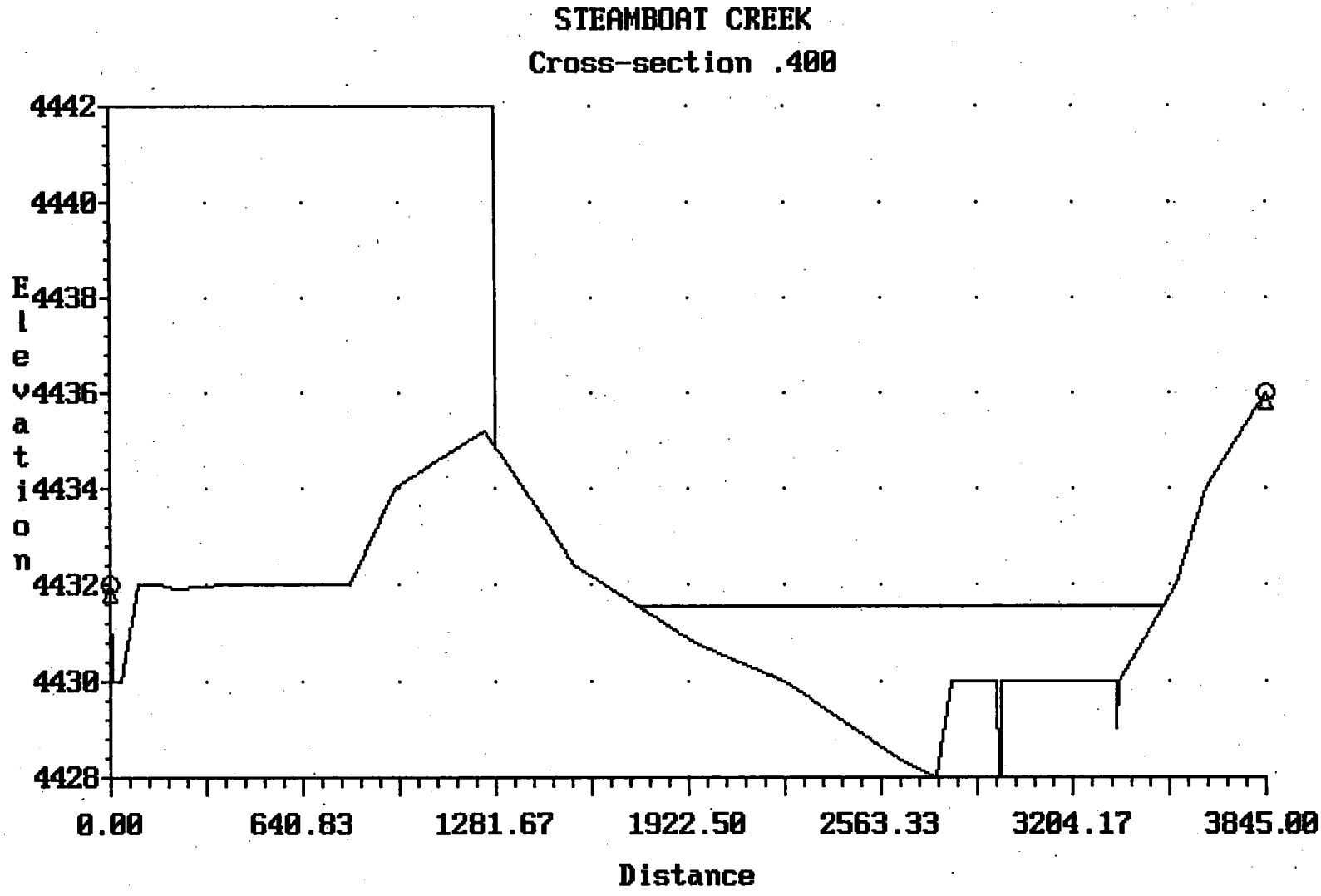
4350.00
Distance


STEAMBOAT CREEK
Cross-section .400
4442
4440
4438
4436
4434
4432
4430
4428
Elevation
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2563.33
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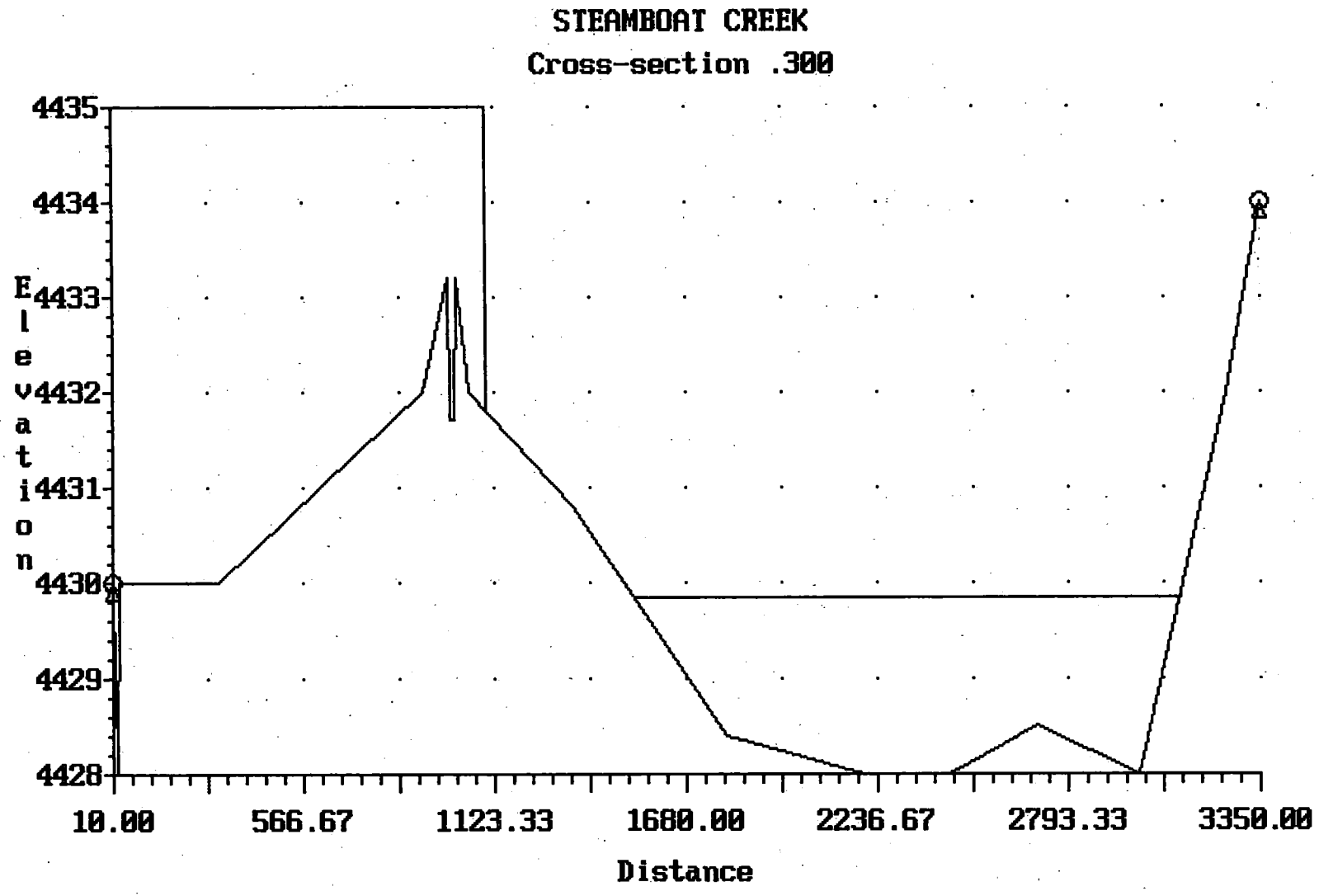
3845.00
Distance


STEAMBOAT CREEK
Cross-section .300
4435
4434
4433
4432
4431
4430
4429
4428
Elevation
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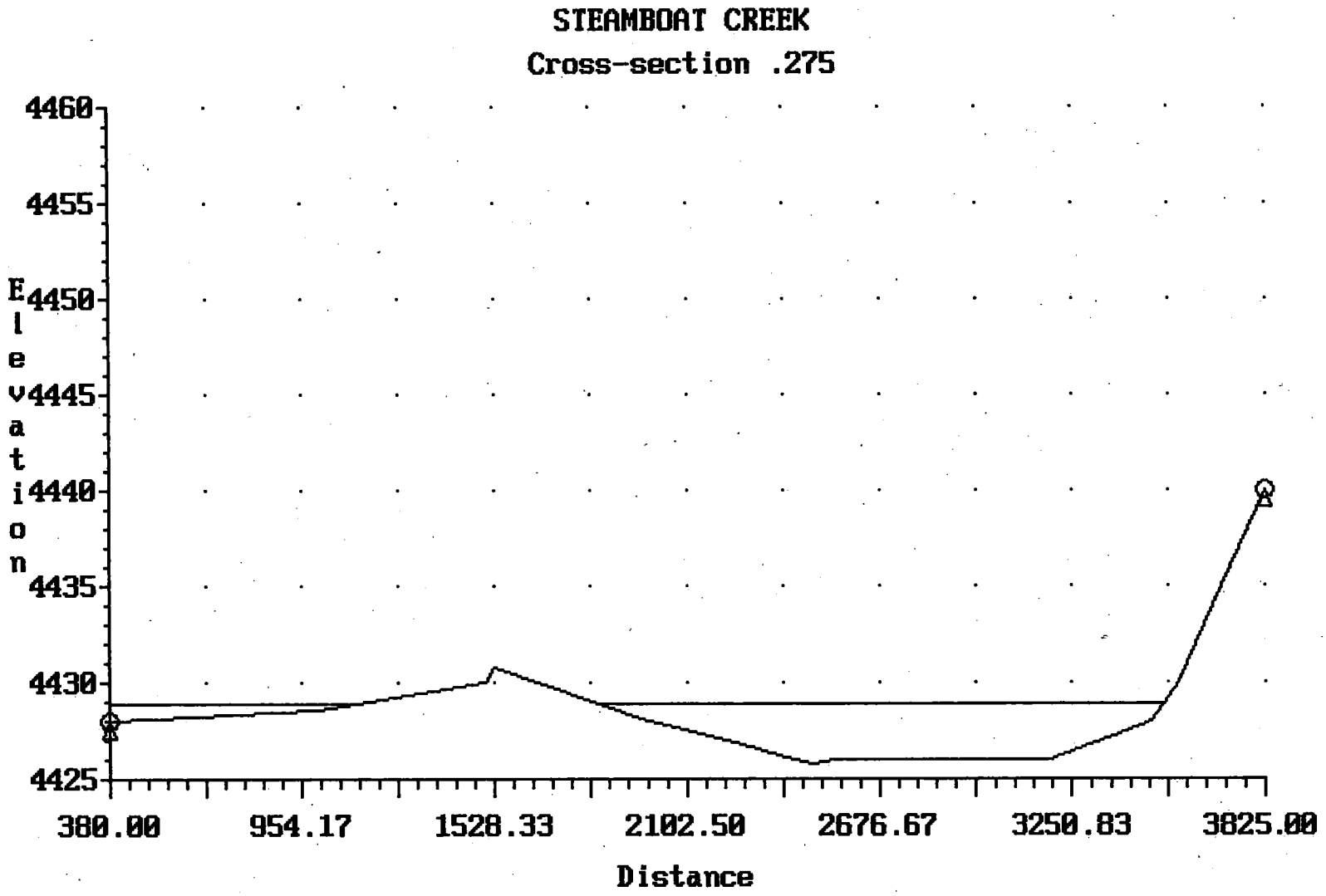
1123.33
1680.00
2236.67
2793.33
3350.00
Distance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Cross-section .275
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4455
4450
4445
4440
4435
4430
4425
Elevation
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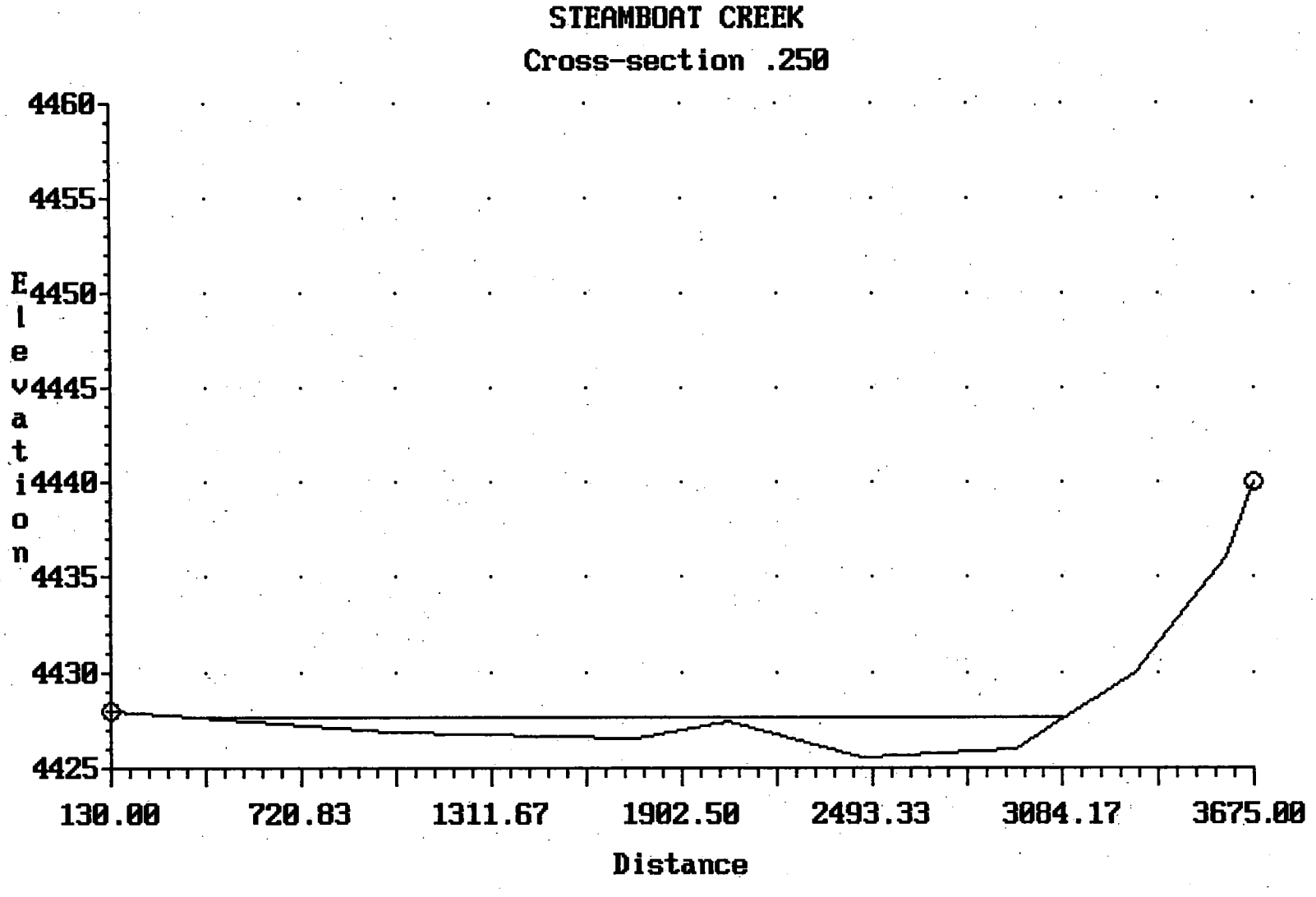
3825.00
Distance


STEAMBOAT CREEK
Cross-section .250
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4455
4450
4445
4440
4435
4430
4425
Elevation
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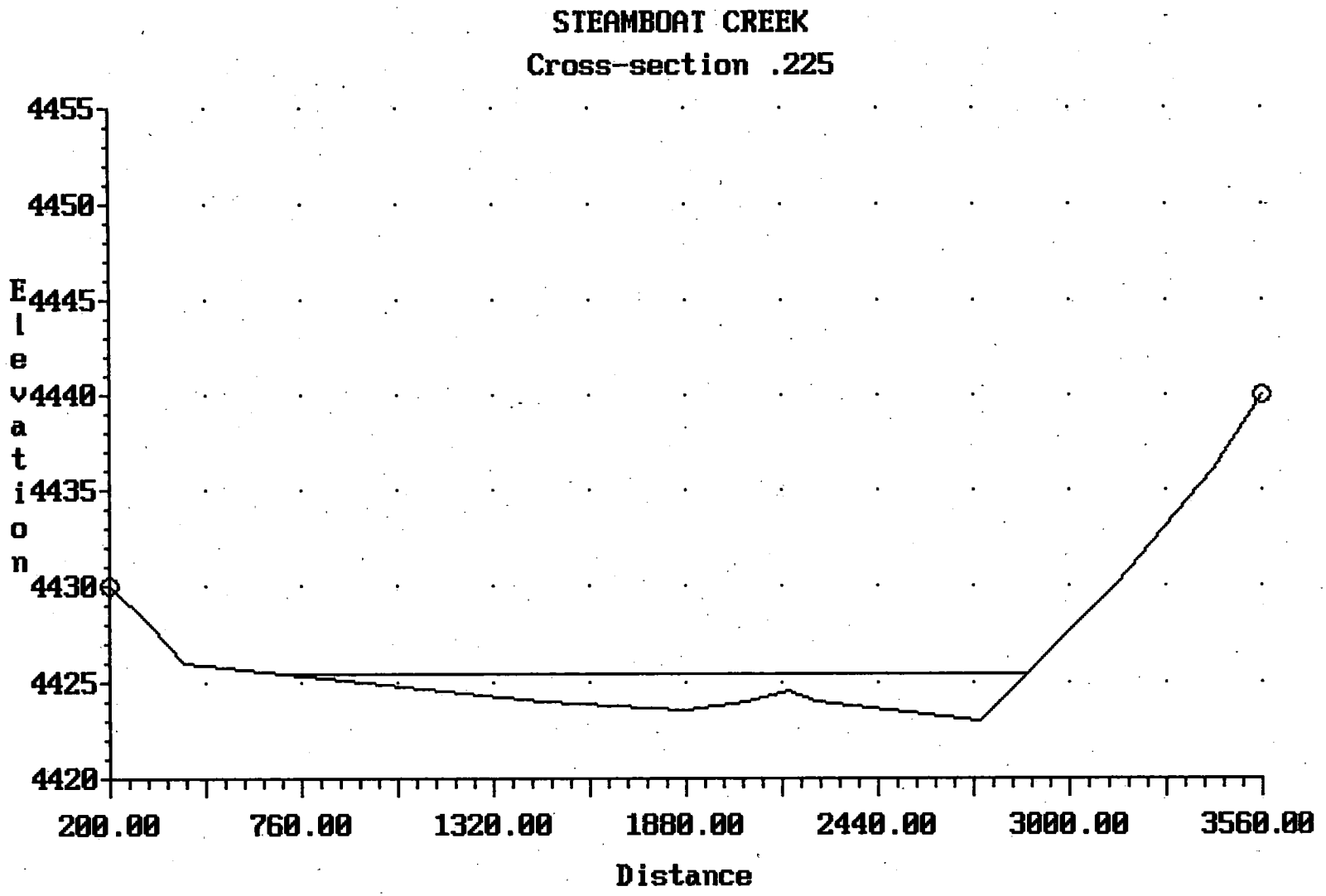
3084.17
3675.00
Distance


STEAMBOAT CREEK
Cross-section .225
4455
4450
4445
4440
4435
4430
4425
4420
Elevation
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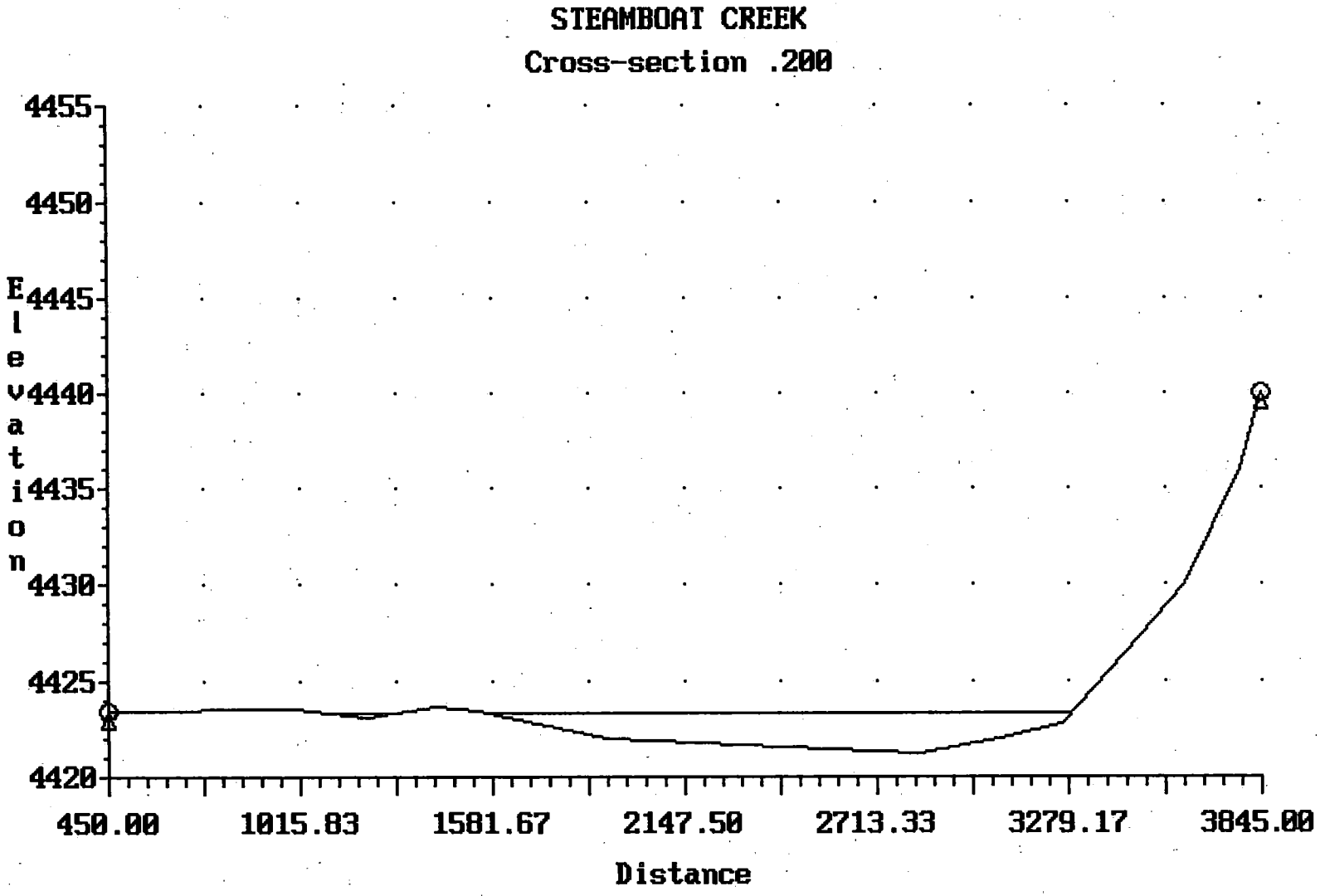
1320.00
1880.00
2440.00
3000.00
3560.00
Distance


STEAMBOAT CREEK
Cross-section .200
4455
4450
4445
4440
4435
4430
4425
4420
Elevation
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1581.67
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3279.17
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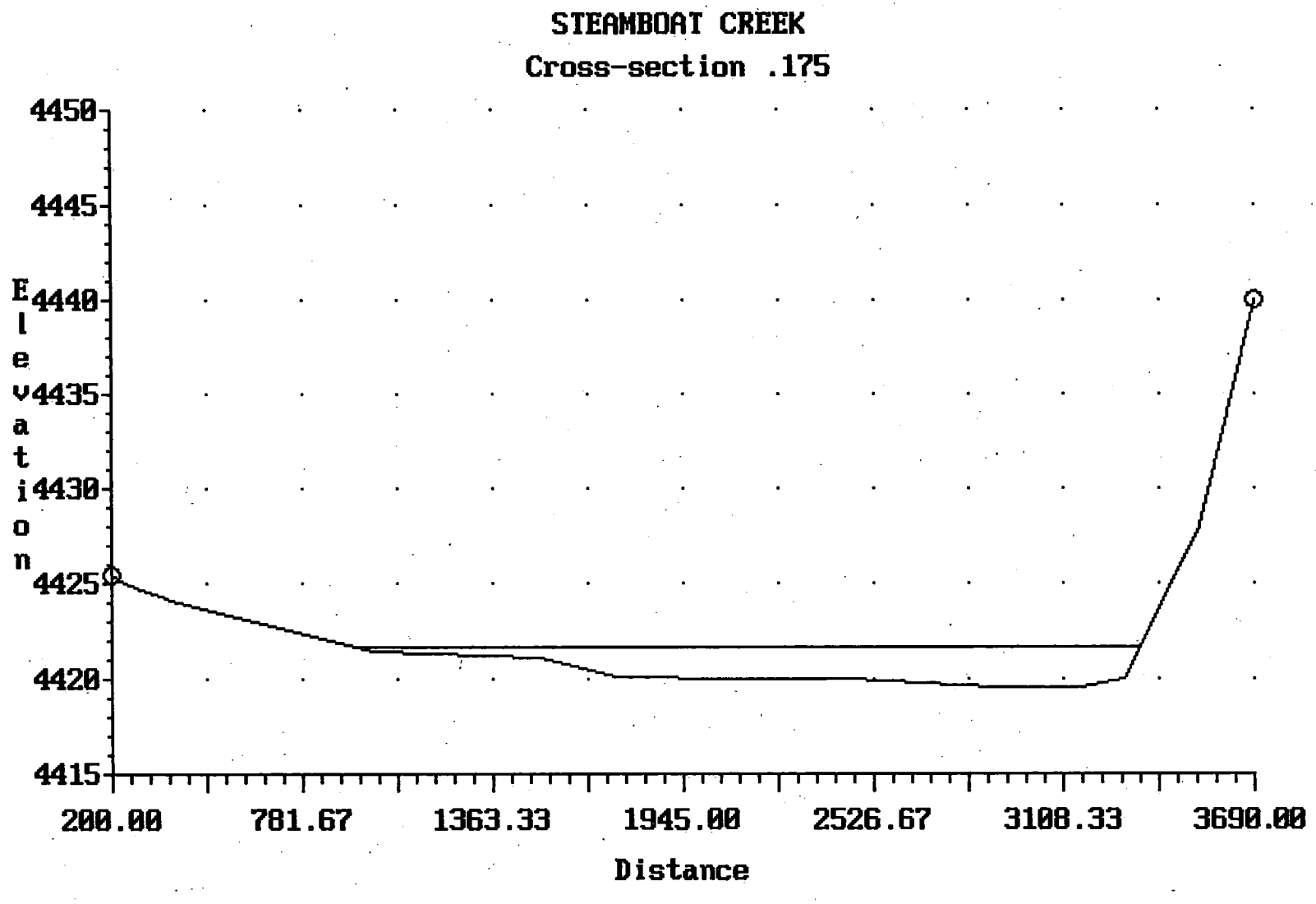
Distance


STEAMBOAT CREEK
Cross-section .175
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4445
4440
4435
4430
4425
4420
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Elevation
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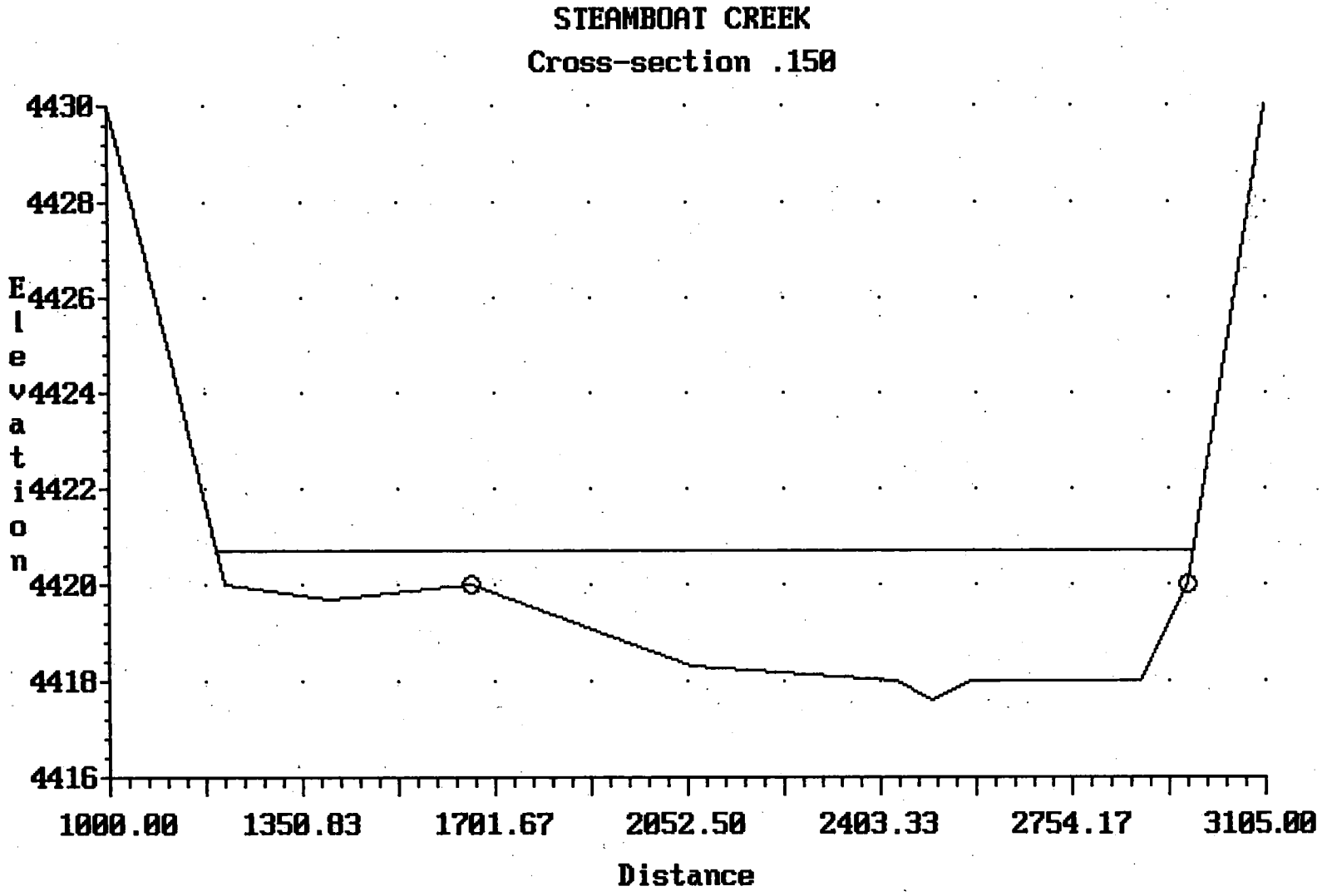
2526.67
3108.33
3690.00
Distance


STEAMBOAT CREEK
Cross-section .150
4430
4428
4426
4424
4422
4420
4418
4416
Elevation
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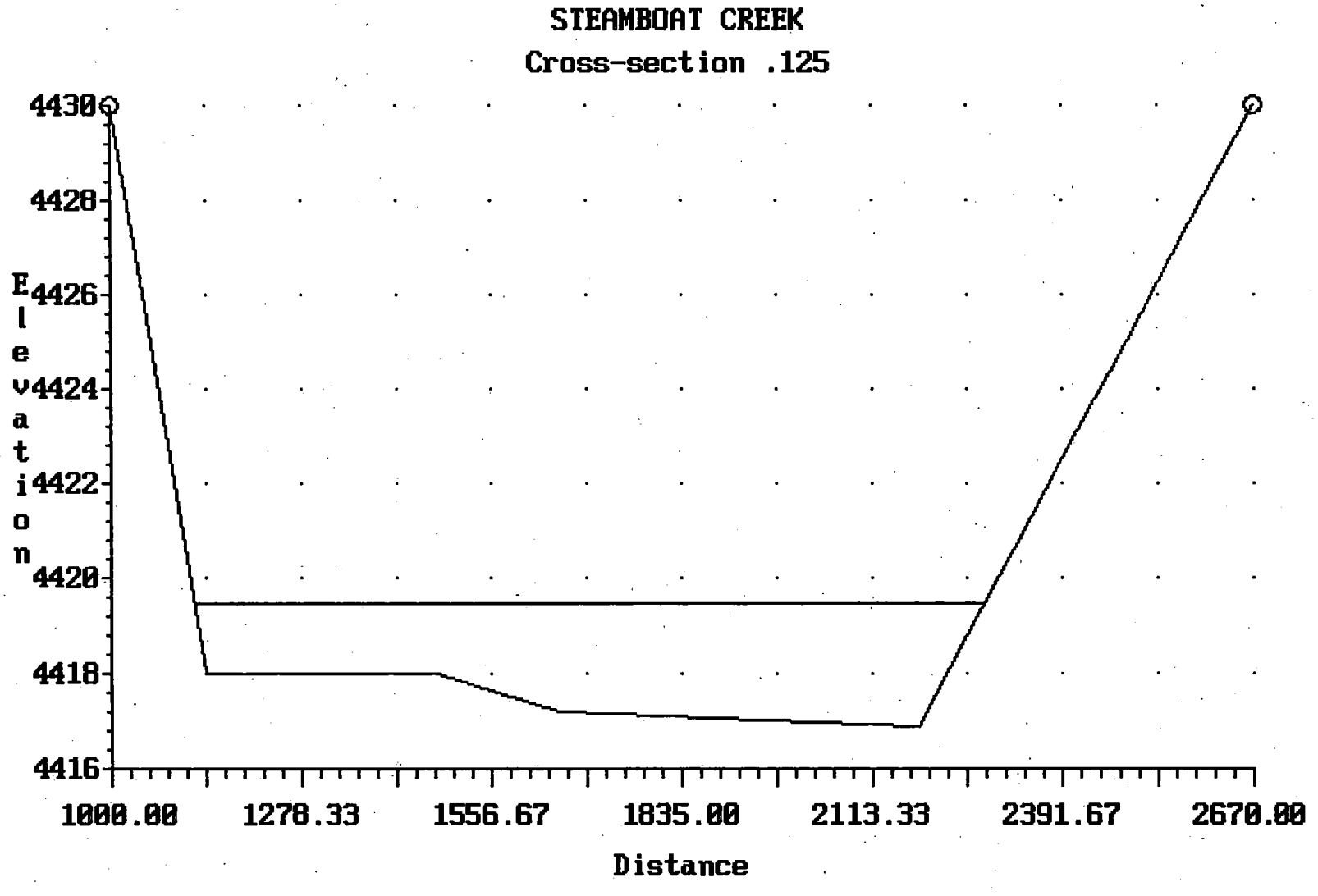
1701.67
2052.50
2403.33
2754.17
3105.00
Distance


STEAMBOAT CREEK
Cross-section .125
4430
4428
4426
4424
4422
4420
4418
4416
Elevation
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1835.00
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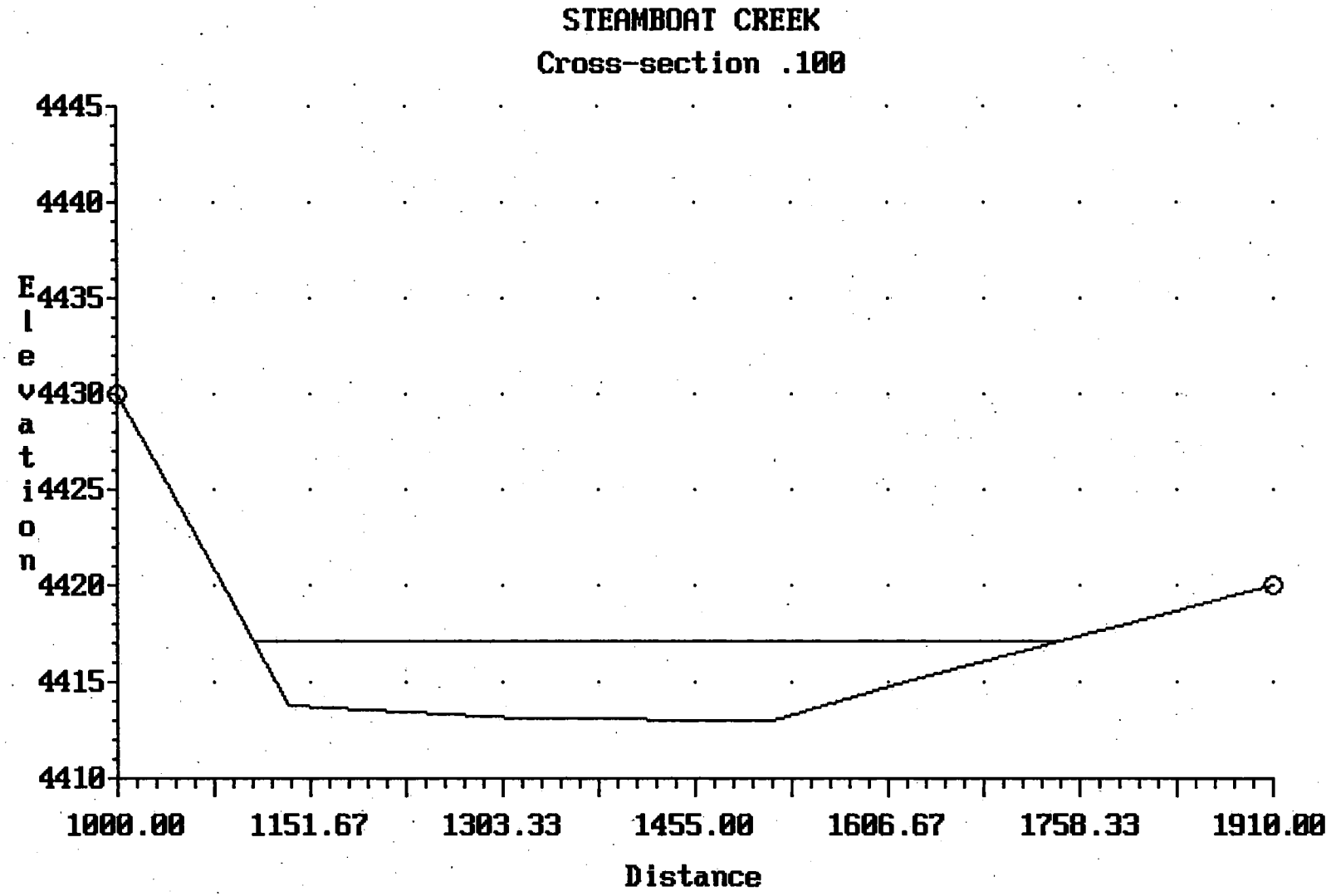
2391.67
2670.00
Distance


STEAMBOAT CREEK
Cross-section .100
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4440
4435
4430
4425
4420
4415
4410
Elevation
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1151.67
1303.33
1455.00
1606.67
1758.33
1910.00
Distance

HEC-2 PROPOSED CONDITIONS MODEL

STEAMBOAT CREEK CHANNEL MODIFICATIONS – 30CLOMR2.DAT

```
1*****************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    12SEP01    TIME   09:33:59  *
*****************************************
```

```
*****************************************
*  U.S. ARMY CORPS OF ENGINEERS           *
*  HYDROLOGIC ENGINEERING CENTER          *
*  609 SECOND STREET, SUITE D             *
*  DAVIS, CALIFORNIA 95616-4687           *
*           (916) 756-1104                *
*****************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X           X     X
X     X  X        X                 X
XXXXXXX  XXXX     X          XXXXX   XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX             XXXXXXX
```

```
1
   12SEP01      09:33:59                                                    PAGE    1


                                                    THIS RUN EXECUTED 12SEP01    09:33:59

 ************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
 ************************************


SPLIT FLOW BEING PERFORMED

SF    SPLIT FLOW ROUTINE

      SPLIT FLOW WEIR ANALYSIS

JC    BETWEEN CROSS-SECTIONS 1 & 12
JP     1       0       0       -1       0

TW    SPLIT FLOW BETWEEN 1 & 4 (RIGHT SIDE)
WS     2       1       4       -1      2.7
WC    0.  4445.5     201    4446

TW    SPLIT FLOW BETWEEN 4 & 6 (RIGHT SIDE)
WS     2       4       6       -1      2.7
WC   201    4446     415    4446

TW    SPLIT FLOW BETWEEN 6 & 7 (RIGHT SIDE)
WS     2       6       7       -1      2.7
WC   415    4446     587  4446.5

TW    SPLIT FLOW BETWEEN 7 & 9 (RIGHT SIDE)
WS     2       7       9       -1      2.7
WC   587  4446.5     901 4447.28

TW    SPLIT FLOW BETWEEN 9 & 10 (RIGHT SIDE)
WS     2       9      10       -1      2.7
WC   901 4447.28    1136 4447.88

TW    SPLIT FLOW BETWEEN 10 & 11 (RIGHT SIDE)
WS     2      10      11       -1      2.7
WC  1136 4447.88    1319 4448.33

TW    SPLIT FLOW BETWEEN 11 & 12 (RIGHT SIDE)
WS     2      11      12       -1      2.7
WC  1319 4448.33    1529    4451
1
   12SEP01      09:33:59                                                    PAGE    2


T1     STEAMBOAT CREEK  CI BW=100'    NIMBUS JOB # : 0030
T2     100-YEAR FLOODPLAIN BOUNDARY   FILE NAME: 30CLOMR2.DAT   DATE: SEPT 2001
T3      STEAMBOAT CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        2         0         0    0.0022         0         0         0      4446         0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1         0        -1

J5  LPRNT     NUMSEC                    ********REQUESTED SECTION NUMBERS********
```

-10 -10

QT	1	4200								
X1	0.5	21	20	4200	600	600	600		4400	
GR	34	20	34	100	34	260	34	455	36	785
GR	36.5	1050	36	1150	34.9	1500	34	1700	32	2200
GR	30	2500	28	2505	28	2510	30	2515	30	3000
GR	32	3300	32.3	3500	32	3600	34	3800	36	4200
GR	38	4350								
X1	0.6	24	100	4700	600	600	600		4400	
GR	34	100	36	150	36	280	36	430	38	810
GR	38.2	1000	36.9	1200	36	1500	34	1800	34	2000
GR	34	2300	32.5	2500	32	2600	32	2610	32.1	2800
GR	32.3	3100	30	3400	32	3410	34	3500	34	3900
GR	34	3910	35.2	4200	36	4300	38	4700		
X1	0.7	27	0	4930	600	600	600		4400	
GR	38	0	38.4	205	40	610	40.3	1030	40	1130
GR	38	1380	38	1530	36	2130	36.2	2230	36	2330
GR	35.6	2380	36	2430	35.3	2830	34	3030	36	3530
GR	36.2	3580	36	3630	36.4	3730	36	3830	35.7	3880
GR	36	3930	37.2	4130	36	4330	36	4340	38	4430
GR	40	4830	42	4930						
X1	0.8	43	210	4900	600	600	600		4400	
GR	40	210	40	420	41.1	600	42	720	42	860
GR	42.8	1000	42.5	1100	42	1200	40.7	1400	40	1800
GR	39.1	2100	38	2200	38.7	2350	38	2500	37.8	2505
GR	38	2510	38.5	2600	38	2700	36	2900	36	2910
GR	38	2915	38	2960	36	3150	36	3155	38	3160
GR	38.3	3220	38	3300	37.7	3305	38	3310	38	3600
GR	38.6	3700	38	4050	38	4200	38	4210	38.5	4400
GR	40	4550	40.5	4575	40	4650	40	4700	40	4710

1

GR	42	4720	44	4800	46	4900				
X1	0.9	38	45	5120	600	600	600		4400	
GR	42	45	42	180	42	250	44	580	44.7	845
GR	44	990	43.5	995	43.5	1005	44	1010	45.3	1050
GR	44.4	1300	44.8	1500	42.1	1900	41.7	2100	40.5	2500
GR	40	2800	40	2880	41	2920	41	3100	40	3120
GR	40.2	3200	40	3400	40.1	3480	40	3550	39.9	3650
GR	40	3680	40.2	3700	40	3720	39.8	3900	40	4000
GR	40.2	4100	40	4200	38.9	4240	40	4250	40	4380
GR	42	4700	44	5000	46	5120				
X1	0.94	21	885	960	240	180	110		4400	
X3	10			885	4447	960	4447			
GR	42	45	42	65	44	450	46	705	46.5	885
GR	46.3	900	46	911	44.15	927.5	46	938	46.5	960
GR	47.81	1000	44.15	1020	46.88	1050	42	2350	40	2800
GR	40.9	3520	40	3965	42.37	4675	40.18	4690	44	4950
GR	46	5170								

Berm on Bella Vista side of ditch

X1	0.95	38	885	960	20	20	20		4400	
X2										15
X3	10			885	4447.5	960	4447.5			
GR	42	70	44	470	45.6	530	46	645	46.5	885
GR	46.3	900	46	911	44.15	927.5	46	938	46.5	960
GR	46.88	1000	47.43	1170	45.49	1480	46.6	1550	45.91	1650
GR	45.52	1860	45.13	2180	42.45	2885	41.99	3010	41.68	3080
GR	38.0	3090	38.0	3095	41.43	3115	42.59	3255	43.01	3270
GR	43.39	3420	42.91	3530	43.38	3620	43.32	3980	43.23	4030
GR	43.33	4140	42.57	4310	42.86	4500	41.96	4640	42.39	4660
GR	43.17	4720	45.17	4950	47.23	5160				

Begin Steamboat Creek modifications.

NC	.03	.03	.0035							
X1	1	15	200.91	209.7	30	30	30			
CI	167	4442.2	0.03	6	6	10	10			
X2										15
X3	10			139.16	4448	195.32	4448			
GR	4445.7	81.79	4446	102.88	4446.1	113.08	4446.09	115.97	4446.1	123.7
GR	4446	138.18	4446.1	153.24	4446.16	156.89	4446.18	160.69	4446.36	177.62
GR	4446.0	200.91	4446	205.42	4445.86	206.36	4445.75	208.42	4445.26	209.7

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X1      4       35     174.89    261.97      201      201      201
CI    255   0.0025       0.03         2        2     -100     -130
X2                                                                  15
X3     10  4442.70                  185   4448.5      325   4448.5

GR 4445.7    114.95  4445.89    133.79  4445.89    135.87   4445.8   153.35  4445.85   174.89
GR 4445.9    192.48  4446.01    205.58   4446.4    231.4    4446.4   252.11  4446.68   261.97
GR   4447    278.82  4447.59    280.58     4448    281.38   4448.82   283.31     4449   283.59
GR 4449.1    287.37  4449.13    288.4   4449.13    290.13   4449.12   291.19     4449   292.35
GR 4448.3    295.17     4448    295.65  4447.06    297.27   4446.66   297.71   4445.3   299.08
GR   4445     299.4  4444.81     301.9   4444.8    305.43   4444.82   307.03     4445   309.47
GR   4445    309.56  4445.11    309.68  4447.12    312.48   4448.04   315.06   4448.1   325.46

X1      6       35     341.19    343.96      214      214      214
CI    304                                     -100     -130
X3     10  4443.24                  234                374
GR 4446.9    202.36     4447    204.63     4447    238.33   4446.97   241.95  4446.88   248.58
GR 4446.8    252.43  4446.9     270.51  4446.97    278.55     4447   286.36     4447   291.47
GR 4446.9     295.7  4446.89    299.11  4446.89    299.29     4447   307.47  4447.12   312.46
GR   4447    327.54     4447    341.19  4446.35    342.31   4445.94   342.89     4445   343.96
GR 4444.8    344.56  4444.85    349.86  4444.86    352.4      4445   353.28   4445.3   353.58
GR 4447.7    356.44     4450    359.62  4450.18    363.49   4450.22   365.5    4450.17   367.35
GR   4450    370.64  4448.82    373.41     4447    378.15   4446.7    390.3    4446.2   427.47

X1      7       30     292.99    304.86      172      172      172
CI    270   0.0025       0.03         2        2     -100     -130
X3     10  4443.67                  200                340
GR 4447.9    180.2   4447.92    183.61  4447.89    187.12   4447.87   188.58     4448   226.11
GR 4448.3    249.19  4448.37    249.32   4448.3    250.84   4448.08   285.87  4448.06   292.99
GR 4448.2    301.53  4448.2     301.8      4448    302.47    4447.3   303.66  4446.69   304.86
GR 4445.4     306.3  4445.4     314.82  4448.82    316.67      4450   318.78  4450.24   322.28
GR 4450.1    330.29     4450    331.57   4449.4    332.49      4449   333.46  4448.19    334.8
GR   4448    335.15  4447.71    336.37   4447.5    341.71      4447   350.14  4446.96   356.63

X1      9       25     243.45    327.72      314      314      314
CI    277   0.0025       0.03                        -100     -130
X3     10  4444.45                  207                347
GR 4448.5    111.1   4448.6     129.73     4449    176.14   4449.02   179.57  4448.95   223.62
GR   4449    233.38  4449.72    243.45     4450    249.09   4450.08   254.36  4450.09   270.17
GR   4448    299.33  4447.02    300.85     4446    303.28    4445.9   304.18   4445.9    315.3
GR   4446    315.87  4446.53    317.08   4447.4    318.08      4448   319.66  4448.47   320.69
GR   4449    322.09  4449.09    327.72     4449    335.55   4449.22   346.31   4449.2   355.38

X1     10       15     354.65     396.4      235      235      235
CI    410   0.0025       0.03                        -100     -130
X3     10  4445.04                  340                480
GR   4447    321.16  4449.36    325.06     4450    326.77    4450.5   348.18   4450.7   354.65
GR 4449.9     396.4  4449.63    424.14   4449.2    446.56   4449.14   450.96     4449   462.58
GR 4448.8       471  4448.82    476.66  4448.89    478.52   4448.94   485.49  4448.95   506.37
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X1     11       40     324.93    368.19      183      183      183
CI    450   0.0025       0.03                        -100     -130
X3     10  4445.50                  380                520
GR 4451.2    310.69  4451.14    312.81     4451    324.93   4450.84   325.43     4450   329.64
GR 4448.6    332.68     4448    333.47   4447.6    335.01      4447   336.14  4446.97   340.24
GR 4446.9    350.87     4447    352.33   4449.4    359.59      4450   366.49  4450.38   367.37
GR 4450.5    368.19   4450.4    371.41  4450.95    376.85   4450.91   382.29  4450.61   402.19
GR 4450.4    408.03  4450.29    417.65  4450.13    426.37      4450   431.86   4449.9   432.86
GR   4449     449.8     4449    461.75     4449    462.14   4449.19   465.17     4449   469.14
GR 4448.8    472.26  4448.61    472.66   4448.6    472.95   4448.66   474.63  4448.78   477.41
GR   4449     481.5   4449.1    489.23   4449.1    492.93   4449.07   505.38  4449.06   511.62

X1     12       35     296.59    326.22      210      210      210
CI    520   0.0025       0.03         2        2     -100     -130
X3     10  4446.02                  449.8              588.61
GR 4452.1    285.04   4452.1    288.86     4452    296.59      4451   298.78   4450.2   300.4
GR   4450    300.92  4448.25    302.65     4448    302.87   4447.75   305.03  4447.75   313.7
GR 4448.2    315.65  4448.71    317.97     4450    323.08   4451.12    324.4     4452   326.22
GR 4452.1    333.45  4452.27     365.3     4452    381.11   4451.92   383.26  4451.55   392.78
GR 4451.3    399.49   4451.1    406.61     4451    409.41   4450.68   441.73   4450.4   483.56
GR 4450.3    522.14   4450.3    525.78  4450.23    531.76   4450.14   541.65  4450.01   556.66
GR   4450    572.44  4449.94    575.48  4449.62     613.1    4449.6   623.58  4449.56   631.55

     Proposed bridge a Carat Ave

NC     0.1       0.1       0.04
X1    12.3         2        100      250      155      130      105
CI     175   0.0025       0.03         2        2     -100     -130
X3      10                    0      110     4460      240     4460
GR   4451       100     4449.8      250
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SB		1.56	3	150	130	0	850	2	4446.41	4446.26
X1	12.5	2	100	250	50	50	50			
CI	175	.0025	0.03	2	2	-100	-130			
X2	0	0	1	4454.5	4456.5	0	0	0	0	15
X3	10	0	0	110	4460	240	4460	0	0	0
GR	4451	100	4449.6	250						
X1	13	49	356.08	379.46	5	25	50			
CI	624	0.0025	0.03	2	2	-100	-130			
X3	10	4446.54		554		691				
GR	4452.1	288.39	4452.17	302.61	4452.64	318.19	4453	335.56	4453.07	351.32
GR	4453	356.08	4452	357.36	4451	359.41	4450.33	360.3	4450	360.75
GR	4449.3	361.49	4449	361.92	4448.35	364.06	4448.1	365.48	4448.1	372.4
GR	4448.7	372.89	4449	375.81	4449.53	376.59	4450	377.26	4452.6	379.1
GR	4453	379.46	4453.18	391.82	4453.11	405.79	4453	415.76	4452.47	441.31
GR	4452.1	466.92	4452.11	472.25	4452.08	477.66	4452	480.22	4452	483.34

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GR	4451	494.24	4450.9	496.96	4451.06	500.52	4451.1	533.81	4451	537.72
GR	4450.9	554.38	4450.9	556.62	4450.92	562.71	4450.55	589.53	4450.38	605.65
GR	4450.3	610.84	4449.95	652.73	4449.82	688.15	4449.84	709.7	4449.6	751.52
GR	4449.3	791.03	4449.21	813.49	4449.1	826.83	4449	845.67		
X1	14	64	238.98	267.13	188	188	188			
CI	532	0.0025	0.03	2	2	-100	-130			
X3	10	4447		463		600.15				
GR	4453.1	216.62	4453	224.55	4453.43	234.01	4453	238.98	4452.5	240.09
GR	4452	241.15	4451.59	241.9	4451	243.02	4450.39	244.1	4450	244.87
GR	4449.2	246.07	4449	246.53	4448.62	251.08	4448.62	256.32	4448.82	257.42
GR	4449	259.7	4449.41	260.77	4450	262.45	4452.5	265.32	4453.04	267.13
GR	4453.2	273.78	4453.22	292.08	4452.7	330.29	4452.2	368.76	4452.06	376.13
GR	4452.0	389.58	4452	398.27	4451.96	400.79	4451.9	408.34	4451.1	449.15
GR	4451.0	452.04	4450.93	494.37	4450.7	515.83	4450.76	535.37	4450.97	560.47
GR	4451	566.12	4450.88	575.27	4450.76	584.41	4450.73	586.49	4450.7	591.67
GR	4450.6	602.29	4450.78	636.61	4450.8	653.5	4450.81	673.79	4450.85	682.53
GR	4450.9	702.71	4451	715.52	4450.96	721.78	4450.65	742.46	4450.55	750.15
GR	4450.5	752.37	4450.47	760.16	4450.69	797.78	4450.26	836.4	4450.3	838.96
GR	4450.2	843.02	4450.16	874.98	4450.16	876.19	4450.36	903.85	4450.4	904.56
GR	4450.4	907.47	4450.33	910.59	4450.31	912.95	4450	949.22		
X1	15	62	280.08	311.78	190	190	190			
CI	655	0.0025	0.03	2	2	-100	-130			
X3	10			584.5		724.18				
GR	4453.1	242.93	4453.02	280.08	4452.92	280.79	4452	282.98	4451.5	284.03
GR	4451	285.4	4450.62	286.61	4450	287.02	4449.39	287.85	4449.1	289.67
GR	4449	289.71	4448.83	294.52	4448.81	295.3	4448.8	296.08	4448.79	297.76
GR	4448.8	298.49	4449	303.49	4449.81	304.43	4450	304.86	4451.2	306.67
GR	4454	311.78	4454.2	323.89	4454.21	325.37	4454.2	325.63	4454.07	337.88
GR	4454	342.29	4453.19	365.38	4453	371.08	4452.9	389.53	4452.89	393.5
GR	4452.8	397.3	4452.8	401.15	4452.21	440.81	4452	457.42	4452	470.11
GR	4452.1	487.12	4452.88	515.56	4453	519.6	4453	524.87	4452.78	530.29
GR	4452.6	534.06	4452.56	537.97	4452.56	538.01	4452.4	599.29	4452.31	605.02
GR	4452.4	653.64	4452	684.86	4451.98	691.59	4451.78	720.77	4451.76	765.6
GR	4451.9	781.28	4451.9	787.8	4452	824.7	4451.76	836.87	4451.96	863.81
GR	4451.9	872.3	4451.9	874.78	4451.6	909.52	4451.29	933.35	4451.06	960.32
GR	4451	972.2	4451	984.41						
X1	16	72	214.32	273.09	167	167	167			
CI	654	0.0025	0.03	2	2	-100	-130			
X3	10			583.57		723.36				
GR	4454	0	4453.43	38.07	4453.36	41.35	4453.36	41.53	4453.37	48.41
GR	4453.6	81.75	4453.7	122.66	4453.9	145.04	4454.04	160.19	4454.16	182.65
GR	4454.3	201.67	4454.43	208.58	4454.25	214.32	4454	226.1	4453.78	227.65
GR	4453	232.42	4452.37	236.45	4452	238.47	4451.6	239.01	4450	241.42
GR	4449.8	244.15	4449.12	250.84	4449.11	259.54	4449.85	260.7	4449.97	261.93
GR	4450.1	262.31	4451.6	263.46	4452.6	264.18	4452.63	265.3	4454	266.66
GR	4454.1	273.09	4454.27	283.14	4454.31	300.41	4454.3	307.14	4454.21	312.29
GR	4454.0	319.12	4454	321.94	4453.84	334.86	4453.6	356.31	4453.52	360.76
GR	4452.9	404.69	4452.89	412.01	4453.01	432.14	4454	463.3	4454	478.02

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GR	4453.1	488.72	4453	492.55	4452.8	498.92	4452.9	504.3	4453	508.81
GR	4453.1	520.64	4453.1	529.95	4453.01	541.68	4452.99	550.78	4453.09	552.63
GR	4453.0	569.37	4453	582.17	4452.67	599.34	4452.4	612.28	4452.4	615.31
GR	4452.4	681.56	4452.45	689.37	4452.47	705.4	4452.4	743.59	4452.48	760.76
GR	4452.2	810.22	4452.12	821.81	4452.12	825.29	4452.1	827.54	4452.16	837.08
GR	4452.0	875.82	4452	877.57						
X1	17	67	99.34	146.34	166	166	166			
CI	558	0.0025	0.03	2	2	-100	-130			
X3	10			487.41		627.36				
GR	4454	0	4454	3.82	4454.05	21.86	4454.07	24.93	4454.12	35.06
GR	4454.0	77.77	4454	99.34	4454	99.55	4454	99.57	4450	105.32

GR	4449.5	107.16	4449.5	118.63	4450.87	119.89	4451.8	121.36	4453	122.87
GR	4453.3	125.48	4453.67	136.91	4453.93	140.77	4454	146.34	4454.14	148.41
GR	4455	151.94	4455.27	169.38	4455.3	171.55	4455.22	176.44	4455	201.89
GR	4454.4	239.23	4454.4	239.46	4454	263.33	4453.8	275.81	4453.69	285.48
GR	4453.6	288.49	4453.72	291.49	4453.8	297.23	4453.88	306.06	4454	312.72
GR	4453.9	315.7	4454	322.55	4453.98	326.21	4453.94	328.7	4453.9	338.1
GR	4454	348.23	4454.02	353.63	4454	369.17	4453.96	380.01	4453.92	391.02
GR	4453.8	423.28	4453.8	426.47	4453.83	428.43	4453.75	443.64	4453.57	503.18
GR	4453.5	511.07	4453.46	511.52	4453.54	520.99	4453.35	573.71	4453.19	586.44
GR	4453.2	590.64	4453.16	592.19	4453	617.43	4453	633.81	4452.97	636.54
GR	4453	657.15	4452.98	660.1	4452.97	666.46	4453.03	683.86	4453.03	688.31
GR	4453	690.95	4453	694.51						
X1	19	79	70.76	148.64	267	267	267			
CI	565	0.0025	0.03	2	2	-100	-130			
X3	10			495.42		634.56				
GR	4455	0	4455.45	37.8	4455.53	44.52	4455.49	53.54	4455.27	70.76
GR	4455	89.73	4454.66	95.12	4454	104.32	4450.1	114.49	4450.1	122.01
GR	4452	122.6	4453	124.95	4453.61	125.31	4454	125.76	4454.3	135.8
GR	4454.6	143.03	4455	148.64	4455.7	150.62	4456	151.83	4456	166.28
GR	4455.8	177.28	4455.78	186.61	4455.77	194.16	4455.87	198.89	4455.93	204.28
GR	4455.8	207.31	4455.72	216.83	4455	234.5	4455	240.95	4454.96	248.68
GR	4454.9	260.49	4455	263.89	4455	268.14	4455.05	270.32	4455.09	277.37
GR	4455.1	282.96	4455.1	288.64	4455.07	304.63	4455.05	307.68	4455	311.12
GR	4455	313.2	4454.77	336.7	4454.72	342.93	4454.76	352.22	4454.68	388.83
GR	4454.6	393.34	4454.7	394.99	4454.4	440.37	4454.37	443.64	4454.18	453.52
GR	4454.0	470.11	4454.1	470.97	4454.07	476.66	4454	502.85	4453.88	512.11
GR	4453.8	517.44	4453.8	519.35	4453.82	522.98	4453.79	537.79	4453.8	540.64
GR	4453.7	550.71	4454	596.87	4454	608.58	4453.81	613.1	4453.8	613.93
GR	4453.8	614.66	4453.81	616.93	4453.9	622.09	4454	629.44	4454.01	635.37
GR	4454.0	649.24	4454	654.02	4454.06	664.32	4454.06	666.19	4454.04	671.68
GR	4454.0	677.52	4454	681.08	4454.04	683.89	4454	695.15		
X1	21	74	78.13	134.44	243	243	243			
CI	575	0.0025	0.03	2	2	-100	-130			
X3	10			503.71		645.13				
GR	4456	0	4456.1	11.81	4456.17	57.69	4456	78.13	4455	89.94
GR	4453.6	96.02	4453.5	98.35	4452.35	99.43	4450.5	100.19	4450.5	107.32
GR	4451.4	108.6	4453.48	118.19	4454.23	119.59	4455.06	123.37	4456	134.44

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GR	4456.8	150.14	4456.82	152.01	4456.78	156.12	4456.1	205.79	4456.1	210.4
GR	4456	224.04	4455.96	227.61	4455.9	236.61	4455.95	242.34	4456	244.68
GR	4455.9	250.86	4456.04	266.61	4456.1	276	4456.06	283.57	4456.06	286.95
GR	4456.1	296.72	4456.13	310.2	4456.08	319.44	4456	324.24	4455.84	330.78
GR	4455.8	333.96	4455.85	339.57	4455.87	341.48	4456	348.84	4456.51	355.21
GR	4456.9	371.84	4457.01	373.88	4456.92	379.9	4456.44	406.46	4456.4	411.78
GR	4456.1	443.69	4456	455.19	4455.93	463.59	4455.79	489.76	4455.7	503.84
GR	4455.6	508.68	4455.62	516.94	4455.6	527.4	4455.6	536.97	4455.62	538.45
GR	4455.5	548.94	4455.52	587.57	4455.42	601.01	4455	617.22	4455	626.53
GR	4455.1	642.12	4455.14	642.31	4455	664.77	4454	713.95	4454	727.02
GR	4455	736.96	4455.01	745.65	4455.01	749.45	4455	757.28	4454.78	766.23
GR	4454.5	774.39	4454.4	786.85	4454.42	834.38	4454.4	836.14		
X1	23	54	85.87	140.44	282	282	282			
CI	560	0.0025	0.03	2	2	-100	-130			
X3	10									
GR	4457.5	0	4457.41	12.93	4457.06	79.9	4457	85.87	4456.62	90.15
GR	4456	95.11	4455	100.22	4452.65	105.89	4451.11	106.85	4451.11	116.48
GR	4452.7	117.44	4455	123.45	4455.86	130.71	4457.06	140.44	4457.9	153.61
GR	4458	155.96	4457.95	164.93	4457.77	198.81	4457.59	223.91	4457.06	263.23
GR	4457.0	268.23	4457.38	311.85	4457.64	330.04	4458	350.87	4458.17	387.06
GR	4458.1	404.54	4458	423.25	4457.81	440.34	4457.23	469.11	4457.16	485.97
GR	4457.1	489.59	4457.24	528.55	4457.3	535.95	4457.35	539.64	4457.3	544.03
GR	4457.3	546.86	4457.18	563.96	4457	583.28	4456.99	586.3	4457	602.61
GR	4457.3	610.08	4457.39	613.36	4457.46	617.07	4457.5	621.73	4457.38	626.08
GR	4457.3	628.32	4458	637.13	4458	651.06	4457.26	679.02	4457.02	684.08
GR	4457	693.24	4456.42	735.28	4456.24	761.71	4456	779.98		
X1	25	73	110.59	155.09	251.01	251.01	251.01			
CI	573	0.0025	0.03	2	2	-100	-130			
X3	10									
GR	4459	0	4458.94	17.53	4458.96	31.19	4459	32.15	4458.96	39.76
GR	4458.9	48.93	4458.89	58.22	4458.9	70.24	4458.68	86.07	4458.48	94.24
GR	4458	109.96	4457.92	110.59	4457.81	111.11	4457	114.87	4456.37	115.73
GR	4455.8	116.95	4455	120.48	4454.39	121.35	4453.7	125.47	4453.27	129.01
GR	4451.4	133.19	4451.49	140.64	4453.99	142.84	4454.6	144.78	4455	147.24
GR	4455.3	147.59	4457	150.47	4457.79	154.63	4458	154.92	4458.07	155.09
GR	4459	160.42	4459.1	167.7	4459.22	181.66	4459.2	196	4459.1	196.83
GR	4459	200.01	4459	204.08	4458.84	228.58	4458.75	240.3	4458.7	242.3
GR	4458.7	247.02	4458.42	304.42	4458.87	324.91	4459	333.95	4459	357.58
GR	4458.6	380.24	4458.57	391.16	4458.32	429.19	4458.32	446.6	4458.2	472.18
GR	4458.1	490.37	4458.1	504.86	4458.01	514.94	4457.82	522	4458	554.01
GR	4458	566.97	4457.8	593.65	4458	600.5	4459	604.22	4459	616.68
GR	4458.8	617.92	4458.7	621.42	4458	632.31	4458	632.45	4457.89	657.64
GR	4457.9	662.7	4457.84	668.58	4457.78	687.54	4457.29	722.12	4457.24	733.07
GR	4457.1	750.22	4457.08	759.7	4457	771.53				

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X1	27	86	87.81	141.32	235.99	235.99	235.99			
CI	512	0.0025	0.03	2	2	-100	-130			
X3	10									
GR	4460.9	.44	4460.97	2.14	4461	12.64	4461.04	21.77	4461	25.87
GR	4461.0	28.78	4460.8	44.68	4460.28	75.41	4460	86.18	4458.89	87.81
GR	4455	98.94	4454.53	100.27	4454.57	101.96	4453.61	106.32	4451.89	112.07
GR	4451.8	116.18	4453	117.83	4453.84	120.21	4454.1	121.15	4455.34	124.25
GR	4456	125.26	4457.04	129.85	4457.63	134.12	4458	135.19	4458.58	139.02
GR	4459	141.32	4459.85	148.24	4460	149.04	4460.1	155.07	4460.06	164.05
GR	4460.0	172.01	4460	177.2	4460.01	187.9	4460.03	195.74	4460	201.91
GR	4459.9	204.6	4459.4	225.26	4459.77	244.84	4459.82	261.17	4460	272.99
GR	4460.2	273.54	4460.32	279.04	4460	281.57	4460	284.96	4460.12	292.53
GR	4460	295.21	4460	295.24	4459.92	300.51	4459.9	305.46	4459.84	311.3
GR	4459.1	355.85	4459.15	360.6	4459.1	363.15	4459.05	372.47	4459	378.75
GR	4458.9	386.96	4458.97	402.75	4459	412.04	4458.96	415.41	4458.96	418.29
GR	4459	434.64	4458.98	441.16	4459	466.07	4459.06	473.3	4459.1	482.49
GR	4459.1	485.3	4459.07	491.99	4459.07	494.39	4459.11	499.82	4459.2	513.31
GR	4459.2	517.27	4459.24	538.72	4459.3	545.11	4459.73	577.37	4459.79	585.41
GR	4460	586.69	4460	595.1	4460.7	595.41	4460.72	597.53	4460.66	598.44
GR	4460.3	599.64	4460	601.43	4459.32	611.52	4459	616.33	4458.54	645.37
GR	4458.5	648.11								

X1	29	73	117.86	178.83	255.01	255.01	255.01			
CI	475	0.0025	0.03	2	2	-100	-130			
X3	10									
GR	4463	0	4462	6.82	4461.93	10.31	4461	36.53	4460.63	43.5
GR	4460	47.66	4459.39	48.66	4459	49.17	4458.5	50.06	4458.47	50.48
GR	4458.5	51.11	4458.77	52.09	4459.3	53.09	4460	54.13	4460.15	54.64
GR	4460.3	68.36	4460.58	73.8	4460.73	85.34	4461.07	100.7	4461.2	108.38
GR	4461.1	111.84	4461	114.42	4460.2	116.84	4460	117.86	4459.7	118.26
GR	4455	130.84	4454.77	134.42	4453.1	138.77	4453.1	148.04	4454.67	150.18
GR	4455	152.11	4455.2	152.29	4456	153.52	4456.46	154.82	4457.23	159.55
GR	4458.4	168.51	4459	173.66	4460	178.83	4460.2	185.8	4460.45	192.38
GR	4461	207.52	4461.1	226.44	4461.04	232.5	4461	235.34	4461.02	237.99
GR	4461	271.43	4461	273.51	4460.9	277.3	4460.18	327.73	4460.19	330.48
GR	4461	374.41	4461.3	386.36	4461.49	392.69	4461.62	398.75	4462	413.4
GR	4462.1	420.84	4462.3	431.08	4462.3	434.67	4462.32	439.48	4462.3	441.97
GR	4462.1	457.22	4461.95	464.44	4461.92	468.57	4461.9	479.59	4461.78	498.09
GR	4461	608.91	4460.82	623.37	4460.78	628.68	4460.8	632.5	4460.74	639.91
GR	4460.5	656.64	4460.25	676.8	4460	691.24				

X1	31	72	127.29	173.08	250.04	250.04	250.04			
CI	395	0.0025	0.03	2	2	-100	-130			
X3	10									
GR	4462	0	4461.67	13.3	4461.66	13.47	4461.65	14.5	4461.65	14.75
GR	4461.6	17.5	4461.56	46.78	4461.4	86.29	4461.39	95.47	4461.31	101.57
GR	4461.1	120.08	4461.1	124.49	4460.86	125.44	4460	127.29	4459.23	129.66
GR	4457.2	136.13	4456.81	137.26	4455.7	138.94	4455	140.55	4453.4	145.81
GR	4453.4	157.14	4454.11	158	4455	161.86	4455.67	163.6	4457	164.27
GR	4457.4	164.93	4458	166.94	4458.67	168.58	4459.31	171	4459.47	171.11
GR	4460	173.08	4460.48	173.95	4460.6	174.49	4461	178.36	4461.19	183.59

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GR	4461.6	194.4	4462	202.39	4462.15	208.46	4462.85	228.66	4462.88	235.7
GR	4462.9	250.46	4463.07	257.47	4463.2	266.12	4463.36	270.01	4464	307.09
GR	4464.3	310.81	4464.65	312.38	4465	313.62	4465	321.1	4464	321.41
GR	4464	325.82	4464.34	328.92	4464	331.44	4464.17	333.56	4464.33	342.78
GR	4464	356.54	4464.11	362.86	4464	367.37	4463.96	374.18	4463.85	381.25
GR	4463.6	399.06	4463.55	408.06	4463.2	424.29	4463	451.9	4462.87	456.33
GR	4462.8	466.34	4462.11	513.17	4462.1	519.37	4462.11	525.06	4462.1	534.54
GR	4462.0	545.1	4462	566.87						

X1	33	65	76.21	130.82	196.02	195.02	199			
CI	260	0.0025	0.03	2	2	-100	-130			
X3	10									
GR	4463.1	0	4463	36.52	4463.07	47.46	4463	60.1	4462.7	61.26
GR	4462.1	64.25	4461.53	68.99	4461	72.44	4460	76.21	4459.13	79.28
GR	4458.8	81.38	4458	82.85	4457	84.06	4456.7	85.2	4456.31	87.41
GR	4456	88.09	4455.41	90.89	4454.6	93.28	4453.7	97.13	4453.7	107.62
GR	4455	110.42	4457.02	111.83	4457	113.7	4458	116.81	4458.09	118.86
GR	4458.2	119.98	4458.56	122.98	4459.53	127.78	4460	130.09	4460.3	130.82
GR	4460.4	131.61	4460.57	137.88	4461	146.06	4461.09	146.9	4462	151.93
GR	4462.4	154.47	4463	161.67	4463.95	196.67	4464	199.22	4464.2	202.47
GR	4465	216.44	4465.13	218.64	4465	221.17	4465.1	230.54	4465	231.78
GR	4464.6	234.23	4465	238.08	4465.2	242.7	4465.21	245.81	4465	249.16
GR	4464.5	259.01	4464	271.87	4463.76	294.4	4463.49	311.3	4463.4	313.42
GR	4463.3	317.42	4463.1	338.26	4463.1	360.95	4463.19	396.06	4463.18	399.42
GR	4463.2	402.49	4463.18	408.89	4463.1	419.45	4463.12	423.75	4463	444.2

X1	34	51	94.64	143.43	118.02	115.02	118.02			
CI	205	0.0025	0.03	2	2	-100	-130			
X3	10	4453.57								
GR	4463.9	0	4463	42.44	4462.88	51.84	4462.8	56.88	4462.84	57.83
GR	4462.8	62.57	4463	76.89	4463	80.37	4463.04	83.18	4463.02	87.7
GR	4463	89.18	4462.6	90.21	4462	92.41	4461.84	93.16	4461	94.64

GR	4460.6	95.56	4455.88	99.17	4455	100.03	4454	103.75	4453.8	110.79
GR	4454	113.88	4454.61	120.46	4455	122.86	4456	126.31	4456.86	127.37
GR	4457.0	127.84	4458	132.39	4458.86	136.21	4459.22	136.84	4460.8	141.71
GR	4461	143.43	4461.29	143.66	4462	146.52	4462.13	150.81	4463	162.78
GR	4463.2	170.29	4464	187.15	4464.66	188.97	4465	190.86	4466	191.74
GR	4466	197.33	4465	197.69	4465	202.57	4465	202.64	4466	203.93
GR	4466	208.18	4465	213.74	4464.4	251.24	4464.57	318.55	4464.6	319.94
GR	4464.5	381.68								
X1	35	55	101.78	165.32	87	99	95			
CI	150	0.0025	0.03	2	2	-100	-130			
X3	10	4453.8								
GR	4464.5	0	4464.02	34.66	4464.05	43.11	4464.04	50.25	4464	52.53
GR	4464.0	56.84	4464	63	4463.83	78.25	4463	90.94	4462.69	92.33
GR	4462	97.77	4461.57	98.78	4461	101.78	4460.25	103.57	4459	108.44
GR	4458.1	112.58	4457.78	114.42	4457	117.45	4456	120.5	4455.15	123.46
GR	4454.5	128.84	4454.52	145.66	4455.38	148.72	4456	153.1	4457	158.34
GR	4458.0	160.26	4459.18	161.87	4459.72	164.37	4461	165.32	4461.49	168.35
GR	4462	170.18	4462.39	174.8	4463.13	179.61	4464	182.6	4464.5	185.41

GR	4465	186.9	4465.91	192.1	4466	192.43	4466	198.96	4465.66	199.52
GR	4465.4	202.14	4466	206.09	4466.09	207.18	4466.14	209.46	4466.1	214.71
GR	4466	215.87	4465.34	252.98	4465.37	255.67	4465.61	288.88	4465.56	294.24
GR	4465.6	300.29	4465.47	310.46	4465.45	315.59	4465.2	324.22	4465	337.35
X1	36	42	117.62	183.08	100.03	160.02	136.99			
CI	130	0.0025	0.03	2	2	-100	-130			
X3	10	4454.15								
GR	4465	0	4464.22	40.4	4464.19	42.02	4464.2	43.36	4464.35	106.11
GR	4464.4	109.14	4464.6	111.5	4464.09	114.49	4463	117.62	4462.33	120.06
GR	4461.6	122.02	4461	123.92	4460.3	127.88	4460	128.99	4459.79	130.6
GR	4459.1	135.53	4459	136.09	4458.9	137.57	4458	147.4	4457	148.49
GR	4456.5	149.82	4456	150.94	4455	154.24	4455	168.52	4459.32	176.04
GR	4460	177.47	4460.81	178	4463	183.08	4463.75	184.65	4464.7	192.38
GR	4465	193.08	4466	199.95	4466	217.67	4466.5	219.32	4467	220.41
GR	4467.2	222.11	4467.46	222.89	4467.53	223.05	4467.54	224.12	4467.48	225.58
GR	4467.3	226.83	4467	227.8						
X1	38	47	82.49	168.92	210.5	210.5	210.5			
CI	172	0.0025	0.03	2	2	-100	-130			
X3	10	4454.67								
GR	4465.2	0	4465.67	56.77	4465.73	62.09	4465.87	69.61	4465.79	72.78
GR	4465.5	75.31	4465.59	76.55	4465.56	77.78	4465.46	78.79	4464.4	82.49
GR	4464	83.99	4463.83	85.59	4463.58	91.52	4463	101.74	4462.53	105.71
GR	4462	109.69	4461	114.9	4460	122.27	4459	126.97	4458.59	128.59
GR	4458	131.63	4457.3	137.12	4457.17	137.93	4456.86	138.53	4456.72	139.23
GR	4456	143.88	4455.9	147.71	4455.68	150.35	4456	161.75	4458.08	165.62
GR	4460	166.91	4463.12	167.94	4464.58	168.92	4465.01	169.82	4465	172.36
GR	4464.8	175.62	4464	182.06	4463.85	183.26	4463.42	186.08	4463	188.47
GR	4463	192.78	4464	199.9	4465	201.44	4465.3	204.75	4466	208.14
GR	4466	230.28	4466	260						
X1	40	52	57.53	111.45	247.1	247.1	247.1			
CI	182	0.0046	0.03	2	2	-100	-130			
X3	10	4455.29								
GR	4468.5	0	4468	3.44	4467.87	4.9	4467	7.11	4466.6	9.01
GR	4466.6	16.1	4467.51	22.24	4467.43	26.77	4467	34.64	4466.37	54.96
GR	4466	56.38	4465.8	57.53	4465	58.09	4462.02	64.75	4460	68.91
GR	4456.3	74.99	4456.36	86.77	4459.61	88.49	4460	89.03	4460.23	91.47
GR	4461	98.59	4461.71	101.2	4462	102.52	4462.3	103.23	4463	105.32
GR	4463.4	106.15	4464	106.79	4464.51	108.25	4465	108.75	4465	108.79
GR	4465.6	109.93	4466.33	111.45	4466.36	112.79	4466.78	122.33	4466.72	126.47
GR	4466.6	140.91	4466.7	158.97	4466.65	181.09	4466.61	203.07	4466.69	211.91
GR	4466.7	216.31	4466.76	218.24	4467	232.38	4467.43	233.47	4468	235.68
GR	4468.1	237.4	4468.14	239.63	4468	241.62	4467.86	242.14	4467	243.66
GR	4466	250.49	4467.26	266.84						

X1	42	48	114.64	179.24	234.8	229.5	232.1			
CI	175		0.03	2	2	-100	-130			
X3	10	4455.87								
GR	4468	0	4467.91	13.84	4467.7	32.96	4467.6	44.4	4467.08	54.57
GR	4467.0	56.21	4467.35	64.06	4467.17	92.56	4467.1	96.45	4467.12	102.17
GR	4467	114.64	4466.52	115.62	4465	118.61	4464.99	118.62	4464	118.83
GR	4463	121.4	4462	126.71	4461.82	128.87	4461.35	133.51	4460.94	136.99
GR	4460	138.51	4459.44	139.74	4457.17	145.08	4457.2	160.32	4457.88	162.66
GR	4460.4	166.45	4460.69	167.27	4462.35	170.96	4464.06	175.02	4465	176.48
GR	4466.2	178.72	4467	179.24	4467.51	202.86	4467.64	211.76	4467.6	215.44
GR	4467.6	217.66	4467.98	226.83	4467.99	231	4467.72	233.15	4467.9	234.54
GR	4467	235.64	4466.07	239.97	4466.16	240.41	4468	241.01	4468.69	242.44
GR	4469	243.15	4469.13	245.61	4469.13	260				
X1	45	51	69.4	180.7	320.2	320.2	320.2			

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CI      283                0.03         2            2          -100         -130
X3       10
GR   4469.2          0     4469         69.4      4465          73.5         4460        74.8      4458.9         76.8
GR   4458.9       83.8     4459         85.7    4459.8         102.7         4460       123.2        4462        130.7
GR      4463      141.7     4465        146.6      4466         150.7         4467       154.8        4468        169.8
GR      4469      180.7  4469.07        187.1   4469.21        203.85       4469.3      209.81      4469.3       221.25
GR   4469.2     246.18   4469.2        250.93    4469.2        256.43      4469.24      283.12      4469.3       285.92
GR   4469.2     288.16     4469        309.59   4468.24        314.21         4468      315.47     4468.49       315.93
GR      4469     316.74  4469.29        327.93   4469.29        334.41         4469      342.91        4469       357.45
GR   4468.8     363.52  4468.77        365.03   4468.77        365.54       4468.8      367.74        4469       371.32
GR   4469.0     373.43  4469.17        378.04    4469.4        385.43      4469.25      396.94     4469.28       401.61
GR   4469.2     409.04  4469.28        410.53      4470        424.79       4469.6      444.61      4469.2       459.21
GR      4469     508.21

X1       47         66    20.37        125.79       212         248.5          233
CI      156                0.03             2         2          -100         -130
X3       10    4457.25
GR   4470.4          0     4470         20.37    4469.13         25.57      4468.83       27.46        4468        33.72
GR      4467      36.07  4466.9          36.2      4466         36.77      4465.21       40.95        4465        41.92
GR   4464.9       43.1     4464         51.72    4463.49         58.6       4463.34       62.37        4463        67.85
GR      4462      70.38     4461          72.9    4460.54        84.86      4460.31          92     4460.93       103.14
GR   4460.5     107.93     4461        113.91    4461.71       116.06       4462.6       117.9     4462.95       118.29
GR   4463.0     118.58   4464.6        121.22       4465        122.4      4469.13      125.26        4470        125.79
GR      4470     127.18  4470.17        145.59       4470       151.12       4469.2      151.91        4469        152.33
GR      4469     157.41     4470        160.59       4470        160.6       4470.4      170.69     4470.25       173.08
GR      4470     180.84  4469.85        181.72       4470       183.27         4470      183.96     4470.11       189.15
GR      4470     195.06     4470        196.29     4469.9       198.36      4469.03      209.69        4469        211.04
GR   4469.0     213.99  4469.12           218     4469.2       222.76      4469.25       224.5        4470        234.25
GR   4469.6     246.31  4469.64        246.84   4469.58        247.39      4469.53       248.8     4469.55       249.56
GR   4469.6     251.34   4469.6         251.9   4469.63        254.35      4469.67      256.59     4469.78       260.29
GR      4470     264.69

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   12SEP01      09:33:59                                                                                    PAGE   13

X1       51         65   127.69        245.27      402.2          430          416
CI      162                0.03             2         2          -100         -130
X3       10
GR   4472.8          0     4473         24.79      4473         26.44      4473.07       28.25      4473.5         39.5
GR   4473.6      42.23  4473.63         45.28    4473.6         46.28      4473.68       58.53     4473.67       60.35
GR   4473.7      61.91  4473.64         64.09   4473.58         67.12       4473.2       93.49        4473       106.11
GR   4472.2     113.92   4472.2        114.71   4472.57        118.65      4472.59       119.8     4472.47       121.64
GR      4472     125.03  4471.07        126.89   4470.86        127.69      4470.78      128.93        4470       135.33
GR   4469.1     137.19  4468.38        138.35   4466.28        141.67         4466      142.16     4465.88       143.03
GR      4465     148.46  4464.58         149.5   4464.17        151.19       4464        152.49     4463.54       153.86
GR      4463     155.42  4462.85         156.7    4462.4        157.61      4462.17      158.07        4462       161.33
GR      4462     169.19     4463        172.82   4463.53        174.04      4464.61      176.39     4465.47       178.93
GR      4466     179.97   4466.6        184.29      4467        188.64       4467.4      192.36        4468       200.71
GR   4468.7     208.53     4469        212.14   4469.66        219.81         4470      223.82     4470.49       238.01
GR   4470.7     245.27   4470.6        250.38   4470.79        252.85      4470.74      257.85     4470.98       259.51
GR      4471     266.09  4470.93        269.84   4470.97        275.09         4471      279.77     4471.98       292.09

X1       54         53     68.6        172.34      304.4         302.5        303.7
CI      115                0.03             2         2          -100         -130
X3       10
GR   4474.8          0  4473.62         40.48   4473.57         43.35      4473.56       47.55        4474        61.31
GR   4473.7       65.4     4474          66.1   4474.01         68.6       4473.78       71.17        4473        74.26
GR      4471      85.59  4470.74         86.48      4470         88.19         4469       89.04        4468        90.75
GR   4467.1         95  4465.11        108.29   4464.9         108.86         4464      109.71     4463.55       111.77
GR   4463.4     115.08  4463.54        118.18   4463.68        119.25         4464      123.08      4465.2       126.14
GR      4466     127.81  4466.25         128.9      4467        131.4         4468      136.78        4468        136.8
GR      4469     151.33  4469.73        154.43      4470       155.28       4470.6      158.68     4470.6        158.69
GR      4471     159.81  4471.22        160.12      4472       162.01         4473      165.64     4473.94       170.28
GR   4474.1     172.34     4475        179.62   4474.71        195.37      4474.73      201.79     4474.14       212.32
GR   4474.0     217.31   4474.1        222.17    4474.1         226.9      4474.11      235.22        4474       250.93
GR   4474.0     259.16  4474.85        276.97      4475        283.12

      Channel modifications end here.

X1       55         22      2.8            99       176         115.04       143.04
CI      110     0.0025     0.03             1         1            .01          .01
X3       10
GR      4475          0     4474          2.8      4473          4.7         4472        8.6      4471.4         20.2
GR      4471       30.8     4470          34.2      4469         35.8         4468       39.4        4467        42.1
GR      4466       43.6     4465            46    4464.1           47       4464.1         55        4465          58
GR      4466         60     4467            77      4468         88.6         4470         92        4473          95
GR      4474         99  4474.7            111

X1       56         19     79.6            136       120        94.98          108
X3       10
GR      4477          0  4476.22            33      4476           55         4475       79.6        4470          89
GR      4469       90.2     4468          93.1      4467         93.9         4466       95.2        4465          97
GR   4464.6        105     4465           113      4466          120         4468        126        4470       130.9
GR      4471        133     4474           136      4475          149         4476        155

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X1	57	20	7	109	78.03	230.04	174.96			
X3	10									
GR	4478	0	4477	7	4475	10	4470	15	4469	21
GR	4468	31	4467	34	4466.1	41	4467	51	4468	54
GR	4469	62	4470	71	4471	75	4472	78	4474	82
GR	4474.6	86	4474	91	4475	106	4476	109	4477	123
X1	58	57	6.5	108.74	198	99	168.03			
X3	10									
GR	4478	0	4477.2	.91	4477.16	4	4476.77	6.5	4475	7.92
GR	4474.3	8.45	4473	12.68	4471.89	16.78	4471	20.42	4470.4	23.37
GR	4470	25.08	4469.35	26.39	4469	26.76	4468	31.02	4467.02	41.12
GR	4467	44.85	4467	47.75	4467.34	51.68	4468	54.54	4468.7	57.23
GR	4469	58.06	4469.69	70.78	4470	75.59	4470.19	77.04	4470.54	77.57
GR	4471	81.23	4471.68	83.35	4472	85.1	4472.56	85.58	4473	86.86
GR	4473.4	88.05	4473.62	90.21	4473.43	90.77	4473.36	91.42	4473	92.74
GR	4472.8	93.61	4472.7	94.84	4472.65	95.78	4472.63	96.38	4472.64	97.23
GR	4473	98.79	4473.38	99.92	4474	101.43	4474.26	102.08	4475	103.55
GR	4475.8	104.26	4476	104.45	4477	108.74	4477.3	117.71	4477.23	126.59
GR	4477.2	127.84	4477.83	145.13	4478	148.21	4478.41	150.36	4479	152.22
GR	4479.3	154.86	4479.35	155.87						
X1	59	53	36.45	145.21	112	128.03	136.99			
X3	10									
GR	4480	0	4480	2.33	4480.08	15.54	4480.07	17.76	4480	20.14
GR	4480	28.48	4479	34.76	4478	36.45	4477.44	37.35	4477.3	39.83
GR	4474.1	44.11	4474.23	46.34	4473	46.97	4471.52	47.92	4471	48.88
GR	4470.6	50.51	4470	53.21	4469.41	54.24	4469	54.59	4468.4	57.59
GR	4468.1	58.12	4468.22	58.84	4469	60.36	4470	62.77	4470.28	71.3
GR	4470.0	75.48	4469.88	80.89	4469.92	85.54	4470.05	88.46	4470	95.57
GR	4470	106.03	4469	110.33	4467.1	114.83	4467.1	127.26	4468.75	128.59
GR	4469.5	129.43	4469.71	130.41	4471	131.17	4471.4	131.73	4472	132.89
GR	4472.5	135.11	4473	136.69	4475	139.66	4475.78	140.75	4476	140.98
GR	4476.1	141.62	4477	142.83	4477.4	143.23	4478	143.88	4478.8	145.21
GR	4479	146.41	4479.64	154.12	4480	157.88				
X1	60	54	0	167.6	106.02	88.98	111			
X3	10									
GR	4478.0	0	4476.55	4.4	4474	12.3	4473	13.71	4472.7	13.71
GR	4472	16.76	4471.67	17.82	4471	21.24	4471.1	25.74	4471	28.36
GR	4471	39.36	4470.8	43.56	4470.8	46.72	4470.6	50.29	4470.38	53.43
GR	4471	56.42	4472	60.42	4472.47	73.54	4472.6	76.95	4472.52	78.74
GR	4472.5	81.03	4472.47	97.66	4472.11	105.45	4472.19	106.5	4472.2	108.15
GR	4472.3	109.38	4472.38	111.08	4472.26	112.58	4471.9	115.12	4471.38	116.09
GR	4471	117.51	4470.27	119.4	4470	120.33	4469	121.3	4468.67	126.7
GR	4467.3	145.77	4467.33	153.25	4469	156.58	4470	157.96	4470.6	158.48
GR	4474.7	163.06	4475.12	163.41	4477	164.79	4477.84	167.6	4478	167.74
GR	4478.3	168.68	4478.78	171.27	4478.87	172.74	4478.6	179.41	4478.7	182.56
GR	4479.2	188.67	4479	189.16	4480	202.55	4480.23	204.07		

X1	61	48	4.77	187.62	94.98	102	105			
X3	10									
GR	4479	0	4478	4.77	4477.11	7.8	4476.7	9.62	4476	11.61
GR	4475.5	12.62	4475	14.3	4474.47	18.11	4474	18.9	4473.54	21.01
GR	4473.3	25.39	4473.23	28.24	4473	31.06	4472.5	44.39	4472.44	46.74
GR	4472.3	49.78	4472.39	50.67	4473	66.62	4473.44	81.29	4473.42	93.81
GR	4473.2	102.75	4473	110.32	4472	119.46	4471.74	122.28	4471	131.54
GR	4470	143.47	4469.12	152.06	4468.9	153.5	4468.72	156.95	4467.89	161.59
GR	4467.8	170.32	4468.7	172.16	4469	172.49	4469.82	172.67	4470.83	174.22
GR	4471.0	174.58	4472	176.37	4473.1	179.66	4474	183.42	4475.1	183.57
GR	4475.3	184.94	4478	186.54	4478.2	186.64	4478.96	187.62	4479.63	216.51
GR	4480	216.87	4480.5	220.68	4480.68	222.68				
X1	62	50	13.42	161.87	100.03	133	126.98			
X3	10									
GR	4480	0	4480.76	7.91	4480.84	9.69	4479.21	13.42	4478.26	16.21
GR	4476.3	23.02	4472.54	26.39	4472.21	28.78	4470	32.11	4468.7	44.27
GR	4468.7	54.87	4469.65	56.54	4470	57.23	4470.6	57.38	4471	57.82
GR	4471.5	60.15	4472	65.98	4472.5	70.49	4472.84	72.76	4473	73.42
GR	4473.8	81.26	4474	82.69	4474.23	83.54	4475	86.59	4475.16	94.36
GR	4475.2	98.05	4475	98.47	4475	98.48	4474.7	103.61	4474.66	107.1
GR	4474.7	108.87	4474.45	114.97	4474.4	117.23	4474.23	118.53	4474.26	120.03
GR	4474	123.98	4473.81	126.33	4474	130.4	4474.22	140.58	4475	157.48
GR	4478.2	161.87	4480	164.95	4480.2	174.06	4480.33	181.75	4480.79	199.16
GR	4481	213.11	4481.27	217.97	4481.33	219.75	4481.29	222.48	4481	226.43
X1	63	21	0	221	109.02	81	103.98			
X3	10									
GR	4480	0	4475	12	4474	16	4474	25.2	4474.33	31.9
GR	4474	38.8	4474	51.8	4475	60	4475.2	66	4475	72
GR	4474	77.7	4469.5	83.75	4469.5	95.01	4471	101	4472	123
GR	4473	125	4474	152	4474	199	4474	206	4475	209
GR	4480	221								

X1	64	68	0	209.67	95.04	162	146			
X3	10									
GR	4480	0	4479	4.68	4478.66	5.55	4478.15	6.54	4478	6.98
GR	4477.2	10.81	4477.19	12.04	4477	12.49	4476.5	15.37	4476	18.52
GR	4475.8	19.63	4475.34	27.18	4475	30.92	4475	38.49	4475.3	55.16
GR	4475.4	59.14	4475.5	60.42	4475.51	63.17	4475.48	64.44	4475.44	64.72
GR	4475.4	66.54	4475.45	67.94	4475.52	83.85	4475.48	85.37	4475.45	88.38
GR	4475.4	90.21	4475.36	94.46	4475.25	100.28	4475.08	107.28	4475	110.34
GR	4474.7	116.13	4474	125.18	4473.63	137.43	4473	156.36	4472.4	159.6
GR	4472	163.01	4471.26	166.43	4470.3	171.29	4470.3	181.06	4471.02	183.66
GR	4471.0	187.33	4471	188.66	4471	198.65	4471.7	202.54	4472	203.42
GR	4472.8	205.14	4473.2	206.11	4474	206.2	4474.71	206.79	4476.01	207.15
GR	4478.1	208.81	4479	209.17	4480	209.67	4480.21	210.13	4481	210.63
GR	4481.1	214.28	4481	220.44	4481.22	233.74	4481.13	239.47	4481.11	244.86
GR	4481.1	248.08	4481.2	251.21	4481.17	253.97	4481.03	261.87	4481	263.21
GR	4481	270.39	4481.28	276.03	4481.3	278.34				

X1	65	38	0	139.31	102	105	103.98			
X3	10									
GR	4480	0	4479.09	4.26	4478.77	4.72	4478	6.08	4477	10.06
GR	4476.5	10.12	4476	10.63	4475.7	21.6	4475.56	26.92	4475	37.58
GR	4474.3	53.99	4474	63.48	4473.38	76.83	4473	85.11	4472	98.4
GR	4471.5	103.21	4470.9	108.55	4470.9	125.05	4471.5	125.87	4472	127.12
GR	4473	127.43	4473.21	127.99	4474	129.45	4474.74	131.64	4475	133.1
GR	4476	134.88	4477.4	135.79	4478.01	136.14	4480	139.31	4481	140.16
GR	4482	140.29	4482.29	154.89	4482.33	157.31	4482.3	158.14	4482.56	165.79
GR	4483	184.32	4483.12	187.61	4483.01	198.08				

X1	66	50	40.82	196.98	127.04	191.04	160			
X3	10									
GR	4482.8	0	4482.7	1.04	4482.68	3.91	4482	40.82	4481.1	42.06
GR	4480.9	42.27	4480.73	43.34	4479.02	43.99	4477.27	45.28	4475.7	46.61
GR	4474	46.7	4473	48.54	4472.56	56.79	4471.9	70.1	4471.9	78.94
GR	4473.0	82.67	4473.9	88.85	4474.14	90.16	4475	95.45	4475.23	102.8
GR	4475.7	114.72	4475.75	125.79	4476	142.19	4476.4	146.12	4477	149.46
GR	4477.3	154.47	4477.16	170.5	4477	173.92	4476.5	177.35	4476	181.83
GR	4476	187.86	4477	190.75	4477.74	191.4	4480	192.38	4480.25	193.18
GR	4481	195.56	4481.7	196.14	4482	196.98	4482.28	197.36	4483	197.69
GR	4483.5	199.75	4484	205.62	4484.09	210.08	4484.1	214.92	4484	219.08
GR	4483.8	220.04	4483.76	225.64	4484	227.33	4484.17	228.62	4485	237.52

X1	67	54	1.71	175.39	199.98	102.96	171.54			
X3	10									
GR	4483.1	0	4483	1.06	4482.86	1.71	4482.26	3.43	4481.6	4.91
GR	4480.4	9.6	4480	10.25	4479.87	10.28	4478.8	12.51	4478	14.6
GR	4477	16.89	4476.55	21.71	4476	26.35	4475.69	29.56	4475.39	31.07
GR	4475	33.44	4474	35.43	4473.22	62.43	4472.78	70.57	4472.76	85.35
GR	4474	87.94	4474.5	88.66	4475	89.29	4475.93	93.8	4476.11	95
GR	4477	104.82	4478	107.2	4478.46	108.97	4479.4	114.46	4479.38	115.41
GR	4479	118.73	4478.9	120.9	4478.1	132.08	4478.05	135.07	4478.16	142.53
GR	4478.1	143.33	4478.22	147.97	4478.3	150.06	4478.44	152.92	4478.51	156.45
GR	4478.6	157.82	4479	161.98	4480.03	166.61	4481	171.49	4481.46	172.62
GR	4482	174.26	4482.85	175.39	4483.25	176.42	4483.8	178.88	4484	180.11
GR	4484.2	182.45	4484.59	184.48	4485	187.78	4485	190.29		

X1	68	39	2.74	138.35	100	100	100			
X3	10									
GR	4484	0	4483.13	2.03	4483	2.74	4482.45	5.12	4482	6.11
GR	4481.5	10.07	4481.31	12.66	4481	15.19	4480.74	20.4	4480	28.66
GR	4479.7	31.03	4479	34.74	4478.19	40.46	4477.82	42.68	4477	45.44
GR	4476.8	48.94	4476.87	50.69	4477	52.82	4477	73.16	4476	90.88
GR	4475.7	92.5	4475	94.17	4473.33	98.08	4473.34	128.02	4474.43	129.48
GR	4474.8	131.17	4477.16	132.97	4480	135.92	4481.01	136.77	4482.2	137.28
GR	4483	138.35	4484	140.08	4484	144.15	4483.84	148.9	4483.27	159.12
GR	4483.4	175.52	4483.23	185.29	4483.2	193.16	4483.09	196.26		

X1	69	46	21.15	187.13	100	100	100			
X3	10									
GR	4484	0	4483.67	8.74	4483.7	9.73	4483.5	20.07	4483.52	21.15
GR	4483.5	21.77	4483	25.7	4482.5	28.51	4482.38	29.03	4482	30.25
GR	4481	40.36	4480.9	46.72	4480	81.07	4479.91	81.57	4479	88.06
GR	4478.3	90.43	4478	92.4	4477.6	101.46	4477	119.02	4476	123.29
GR	4475.4	124.75	4475	125.73	4474.71	126.33	4474.62	126.64	4474.5	127.8
GR	4474.4	128.22	4474.39	128.88	4474.35	130.19	4474.4	130.44	4474.6	130.74
GR	4474.7	132.99	4474.19	145.6	4473.8	149.6	4473.8	159.87	4474.48	165.94
GR	4474.8	171.43	4475	178.68	4478.8	181.72	4480	183.12	4482.58	187.13
GR	4485	190.23	4485.06	193.8	4485.2	203.95	4485.05	229.92	4485	235.06
GR	4484.8	240.88								

X1	70	60	0	94.29	100	100	100

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X3       10
GR   4483.4         0    4482.35       3.45    4482.29       3.99     4482.3        4.1    4481.35       6.15
GR     4481      6.17    4480.54       7.21       4480       9.58     4479.1        9.6       4478      14.32
GR   4477.2     16.89       4477      17.31    4476.55      17.72    4476.23      18.37       4476       18.7
GR   4475.6     24.35       4475      39.55     4474.9      41.37    4474.26      45.77    4474.23       48.3
GR   4474.2     50.46    4474.23      62.09    4474.26      63.96    4474.31      65.65    4474.68      66.59
GR   4474.9     69.71       4475      70.77    4475.76      71.29       4476      71.59    4476.41      73.06
GR     4477     75.55    4477.2        75.8       4478      78.05    4478.31      78.69       4479      80.77
GR   4479.3     80.98       4480      81.89    4480.48      83.28       4481      86.35    4481.53       86.7
GR     4482     90.03    4482.33      90.98       4483      94.29       4484      97.76     4484.2      98.68
GR     4485    100.46    4485.29     101.56       4486     106.17    4486.08      108.7     4486.1     109.91
GR     4486    116.86     4484.9     125.12    4484.74     130.21    4484.76     131.91       4485     137.01
GR   4485.0    138.17     4485.1      138.8    4485.55     145.67       4486     149.26     4486.1     153.17


X1       71        54      24.93     119.81        100        100        100
X3       10
GR     4485         0    4484.5        5.77       4484      19.62    4482.52       22.7    4482.44      24.93
GR   4481.5     25.08       4480      25.19    4479.72      25.78       4479      27.48    4478.69      27.88
GR     4478     28.97    4477.63      29.56       4477      29.82    4476.34      31.84       4476      32.16
GR   4475.2     34.08     4474.6      34.51     4474.6       55.9     4475.3      58.47       4476      62.45
GR   4476.4     65.13    4476.35      69.16     4476.4      70.74       4477      77.41    4477.78      83.18
GR     4478     85.42     4478.3       92.8     4478.5      98.52    4478.52     100.06    4478.57     105.01
GR     4479    107.68     4479.9     111.98       4480     112.94     4480.5     115.04    4480.77     116.43
GR     4481    118.14     4481.9     119.61       4482     119.81    4482.15      125.38    4482.15     132.94
GR   4481.8    138.18    4481.59     139.99    4481.16      142.9       4481     143.73     4480.7      145.78
GR     4481    147.84    4481.81      148.3       4482     148.41    4482.56      149.29       4483     150.08
GR   4483.7    150.46       4484     150.53     4484.1      150.83       4485     153.17
  T1   STEAMBOAT CREEK  2ND PROF BW=130'              NIMBUS JOB # : 0030
  T2   100-YEAR FLOODPLAIN BOUNDARY                   FILE NAME: 30CLOMR2.DAT
  T3    STEAMBOAT CREEK
  J1   0       2       0       0  0.0022       0       0       0    4446       0
  J2   2       0      -1                                        7
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   12SEP01      09:33:59                                                                    PAGE   18


1553 STARTING NC CARD OMITTED
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1553 STARTING NC CARD OMITTED
FLOW DISTRIBUTION FOR SECNO=        .95          CWSEL=    4446.68

STA=      885.      960.
  PER Q=    100.0
   AREA=     62.5
    VEL=      5.4
  DEPTH=       .8

FLOW DISTRIBUTION FOR SECNO=       1.00          CWSEL=    4447.07

STA=      139.      195.
  PER Q=    100.0
   AREA=    184.9
    VEL=      1.8
  DEPTH=      3.3

FLOW DISTRIBUTION FOR SECNO=       4.00          CWSEL=    4447.11

STA=      185.      316.
  PER Q=    100.0
   AREA=    494.6
    VEL=      2.4
  DEPTH=      3.8

FLOW DISTRIBUTION FOR SECNO=      12.50          CWSEL=    4451.46

STA=      110.      250.
  PER Q=    100.0
   AREA=    569.9
    VEL=      7.4
  DEPTH=      4.4

1
   12SEP01      09:33:59                                                                    PAGE   19


                                                                  THIS RUN EXECUTED 12SEP01     09:34:02

 ************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
 ************************************


NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST


STEAMBOAT CREEK
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SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	.500	.00	.00	.00	4428.00	336.21	4430.22	4430.22	4430.31	.00	2.44	137.66	79607.58
*	.600	600.00	.00	.00	4430.00	336.21	4431.09	4431.09	4431.36	.00	4.20	80.01	79133.40
*	.700	600.00	.00	.00	4434.00	336.21	4434.70	4434.70	4434.88	.00	3.38	99.42	73484.45
*	.800	600.00	.00	.00	4436.00	336.21	4436.85	4436.85	4437.09	.00	3.92	85.83	76100.78
*	.900	600.00	.00	.00	4438.90	336.21	4440.10	4440.10	4440.17	.00	2.24	149.79	57343.22
*	.940	110.00	.00	.00	4444.15	336.21	4446.69	4446.69	4447.12	.00	5.28	63.65	84427.02
*	.950	20.00	.00	.00	4444.15	336.21	4446.68	4446.68	4447.13	.00	5.38	62.51	81943.05
*	1.000	30.00	.00	.00	4442.20	336.21	4447.07	.00	4447.13	2.79	1.82	184.91	201.21
*	4.000	201.00	.00	.00	4442.70	1180.32	4447.11	.00	4447.20	3.98	2.39	494.56	591.40
	6.000	214.00	.00	.00	4443.24	1839.71	4447.06	.00	4447.37	15.10	4.46	413.41	473.50
	7.000	172.00	.00	.00	4443.67	2225.76	4447.19	.00	4447.73	29.21	5.89	377.87	411.81
	9.000	314.00	.00	.00	4444.45	2762.98	4448.05	.00	4448.85	42.18	7.16	385.71	425.42
	10.000	235.00	.00	.00	4445.04	3312.48	4448.92	.00	4449.89	46.53	7.90	420.39	485.60
	11.000	183.00	.00	.00	4445.50	3930.70	4449.60	.00	4450.81	53.82	8.84	446.66	535.77
	12.000	210.00	.00	.00	4446.02	4200.00	4450.73	.00	4451.75	37.97	8.11	525.62	681.64
	12.300	105.00	.00	.00	4446.29	4200.00	4451.25	.00	4452.13	34.70	7.55	556.29	713.04
	12.500	50.00	4456.50	4454.50	4446.41	4200.00	4451.46	.00	4452.30	32.16	7.37	569.93	740.56

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	13.000	50.00	.00	.00	4446.54	4200.00	4451.56	.00	4452.45	30.01	7.60	574.65	766.68
	14.000	188.00	.00	.00	4447.01	4200.00	4452.15	.00	4452.99	27.51	7.41	592.59	800.71
	15.000	190.00	.00	.00	4447.48	4200.00	4452.69	.00	4453.51	27.22	7.31	585.99	804.99
	16.000	167.00	.00	.00	4447.90	4200.00	4453.15	.00	4453.96	26.46	7.24	589.80	816.53
	17.000	166.00	.00	.00	4448.31	4200.00	4453.60	.00	4454.40	26.17	7.19	589.96	820.98
	19.000	267.00	.00	.00	4448.98	4200.00	4454.30	.00	4455.09	25.55	7.14	594.07	830.89
	21.000	243.00	.00	.00	4449.59	4200.00	4454.93	.00	4455.71	25.64	7.11	590.90	829.43
	23.000	282.00	.00	.00	4450.29	4200.00	4455.65	.00	4456.43	25.32	7.08	593.32	834.72
	25.000	251.01	.00	.00	4450.92	4200.00	4456.29	.00	4457.07	25.33	7.08	593.21	834.46
	27.000	235.99	.00	.00	4451.51	4200.00	4456.89	.00	4457.66	25.20	7.07	594.21	836.66
	29.000	255.01	.00	.00	4452.15	4200.00	4457.53	.00	4458.30	25.06	7.06	595.28	838.99
	31.000	250.04	.00	.00	4452.77	4200.00	4458.16	.00	4458.93	24.97	7.05	595.99	840.54
	33.000	199.00	.00	.00	4453.27	4200.00	4458.65	.00	4459.42	24.93	7.04	596.28	841.18
	34.000	118.02	.00	.00	4453.57	4200.00	4458.95	.00	4459.72	24.93	7.04	596.31	841.18
	35.000	95.00	.00	.00	4453.80	4200.00	4459.18	.00	4459.96	25.01	7.05	595.69	839.89
	36.000	136.99	.00	.00	4454.15	4200.00	4459.53	.00	4460.30	24.96	7.05	596.09	840.69
	38.000	210.50	.00	.00	4454.67	4200.00	4460.05	.00	4460.82	25.02	7.05	595.58	839.63
	40.000	247.10	.00	.00	4455.81	4200.00	4460.57	.00	4461.58	37.82	8.05	521.46	682.97
	42.000	232.10	.00	.00	4456.88	4200.00	4461.41	.00	4462.53	44.64	8.49	494.48	628.61
	45.000	320.20	.00	.00	4458.35	4200.00	4462.84	.00	4463.98	46.22	8.59	489.00	617.76
	47.000	233.00	.00	.00	4459.42	4200.00	4463.91	.00	4465.06	46.21	8.59	489.06	617.87
	51.000	416.00	.00	.00	4461.33	4200.00	4465.84	.00	4466.98	46.02	8.58	489.70	619.13
	54.000	303.70	.00	.00	4462.73	4200.00	4467.23	.00	4468.37	45.75	8.56	490.61	620.94
*	55.000	143.04	.00	.00	4464.10	4200.00	4472.25	4472.25	4474.42	91.67	11.83	355.15	438.67
*	56.000	108.00	.00	.00	4464.60	4200.00	4473.09	4473.09	4476.07	82.39	13.84	303.46	462.72

*	57.000	174.96	.00	.00	4466.10	4200.00	4475.90	.00	4476.85	27.71	7.80	538.38	797.85

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	58.000	168.03	.00	.00	4467.00	4200.00	4476.47	.00	4477.23	19.13	6.99	601.19	960.29
	59.000	136.99	.00	.00	4467.10	4200.00	4476.86	.00	4477.45	13.54	6.16	681.95	1141.39
	60.000	111.00	.00	.00	4467.30	4200.00	4477.27	.00	4477.55	7.07	4.26	986.35	1579.66
	61.000	105.00	.00	.00	4467.80	4200.00	4477.32	.00	4477.64	10.02	4.58	917.46	1326.55
*	62.000	126.98	.00	.00	4468.70	4200.00	4476.89	.00	4477.88	46.28	8.00	525.14	617.39
*	63.000	103.98	.00	.00	4469.50	4200.00	4477.77	.00	4478.11	13.35	4.70	894.07	1149.47
	64.000	146.00	.00	.00	4470.30	4200.00	4477.89	.00	4478.35	20.60	5.44	772.02	925.27
*	65.000	103.98	.00	.00	4470.90	4200.00	4477.58	.00	4478.66	47.49	8.35	503.19	609.46
	66.000	160.00	.00	.00	4471.90	4200.00	4478.38	.00	4479.55	64.83	8.65	485.30	521.64
	67.000	171.54	.00	.00	4472.76	4200.00	4479.54	.00	4480.54	51.68	8.01	524.58	584.25
*	68.000	100.00	.00	.00	4473.33	4200.00	4479.48	4479.48	4481.38	91.25	11.05	380.07	439.67
*	69.000	100.00	.00	.00	4473.80	4200.00	4481.05	.00	4481.99	43.50	7.75	541.74	636.79
*	70.000	100.00	.00	.00	4474.20	4200.00	4480.38	4480.38	4482.68	83.49	12.17	345.10	459.64
	71.000	100.00	.00	.00	4474.60	4200.00	4481.99	.00	4483.27	43.04	9.08	462.75	640.20

STEAMBOAT CREEK

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	.500	336.21	4430.22	.00	.00	-15.78	566.21	.00
*	.600	336.21	4431.09	.00	.87	.00	147.22	600.00
*	.700	336.21	4434.70	.00	3.61	.00	283.38	600.00
*	.800	336.21	4436.85	.00	2.15	.00	185.90	600.00
*	.900	336.21	4440.10	.00	3.24	.00	1145.28	600.00
*	.940	336.21	4446.69	.00	6.59	.00	75.00	110.00
*	.950	336.21	4446.68	.00	-.02	.00	75.00	20.00
*	1.000	336.21	4447.07	.00	.40	.00	56.16	30.00
*	4.000	1180.32	4447.11	.00	.04	.00	128.82	201.00
	6.000	1839.71	4447.06	.00	-.05	.00	127.66	214.00
	7.000	2225.76	4447.19	.00	.13	.00	114.12	172.00
	9.000	2762.98	4448.05	.00	.86	.00	114.39	314.00
	10.000	3312.48	4448.92	.00	.87	.00	127.78	235.00
	11.000	3930.70	4449.60	.00	.68	.00	119.84	183.00
	12.000	4200.00	4450.73	.00	1.13	.00	138.81	210.00
	12.300	4200.00	4451.25	.00	.51	.00	130.00	105.00
	12.500	4200.00	4451.46	.00	.21	.00	130.00	50.00
	13.000	4200.00	4451.56	.00	.11	.00	137.00	50.00
	14.000	4200.00	4452.15	.00	.59	.00	137.15	188.00
	15.000	4200.00	4452.69	.00	.54	.00	139.68	190.00
	16.000	4200.00	4453.15	.00	.46	.00	139.79	167.00
	17.000	4200.00	4453.60	.00	.45	.00	133.63	166.00
	19.000	4200.00	4454.30	.00	.70	.00	139.14	267.00
	21.000	4200.00	4454.93	.00	.63	.00	121.36	243.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	23.000	4200.00	4455.65	.00	.72	.00	121.44	282.00
	25.000	4200.00	4456.29	.00	.64	.00	121.43	251.01
	27.000	4200.00	4456.89	.00	.60	.00	121.46	235.99
	29.000	4200.00	4457.53	.00	.64	.00	121.50	255.01
	31.000	4200.00	4458.16	.00	.63	.00	121.52	250.04
	33.000	4200.00	4458.65	.00	.50	.00	121.53	199.00
	34.000	4200.00	4458.95	.00	.29	.00	121.55	118.02
	35.000	4200.00	4459.18	.00	.24	.00	121.51	95.00
	36.000	4200.00	4459.53	.00	.34	.00	121.54	136.99
	38.000	4200.00	4460.05	.00	.52	.00	121.51	210.50
	40.000	4200.00	4460.57	.00	.52	.00	119.04	247.10
	42.000	4200.00	4461.41	.00	.84	.00	118.13	232.10
	45.000	4200.00	4462.84	.00	1.43	.00	117.95	320.20
	47.000	4200.00	4463.91	.00	1.08	.00	117.95	233.00
	51.000	4200.00	4465.84	.00	1.92	.00	117.97	416.00
	54.000	4200.00	4467.23	.00	1.40	.00	118.00	303.70
*	55.000	4200.00	4472.25	.00	5.02	.00	86.63	143.04
*	56.000	4200.00	4473.09	.00	.84	.00	51.91	108.00
*	57.000	4200.00	4475.90	.00	2.81	.00	100.01	174.96
	58.000	4200.00	4476.47	.00	.57	.00	99.75	168.03
	59.000	4200.00	4476.86	.00	.39	.00	102.22	136.99
	60.000	4200.00	4477.27	.00	.41	.00	163.49	111.00
	61.000	4200.00	4477.32	.00	.04	.00	179.05	105.00
*	62.000	4200.00	4476.89	.00	-.43	.00	139.09	126.98
*	63.000	4200.00	4477.77	.00	.89	.00	210.31	103.98
	64.000	4200.00	4477.89	.00	.12	.00	201.16	146.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	65.000	4200.00	4477.58	.00	-.31	.00	128.19	103.98
	66.000	4200.00	4478.38	.00	.80	.00	147.22	160.00
	67.000	4200.00	4479.54	.00	1.16	.00	153.44	171.54
*	68.000	4200.00	4479.48	.00	-.06	.00	103.19	100.00
*	69.000	4200.00	4481.05	.00	1.57	.00	144.84	100.00
*	70.000	4200.00	4480.38	.00	-.67	.00	75.09	100.00
	71.000	4200.00	4481.99	.00	1.60	.00	94.78	100.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= .500 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO= .600 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .600 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .600 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= .700 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .700 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY

```
CAUTION SECNO=       .700  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=       .800  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=       .800  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=       .800  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=       .900  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=       .900  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=       .900  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=       .940  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=       .940  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=       .940  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=       .950  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=       .950  PROFILE=  1  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      1.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      4.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     55.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     55.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     55.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=     56.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     56.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     56.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=     57.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     62.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     63.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     65.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=     68.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     68.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     68.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=     69.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
1
   12SEP01      09:33:59                                                    PAGE   26


CAUTION SECNO=     70.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     70.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=     70.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
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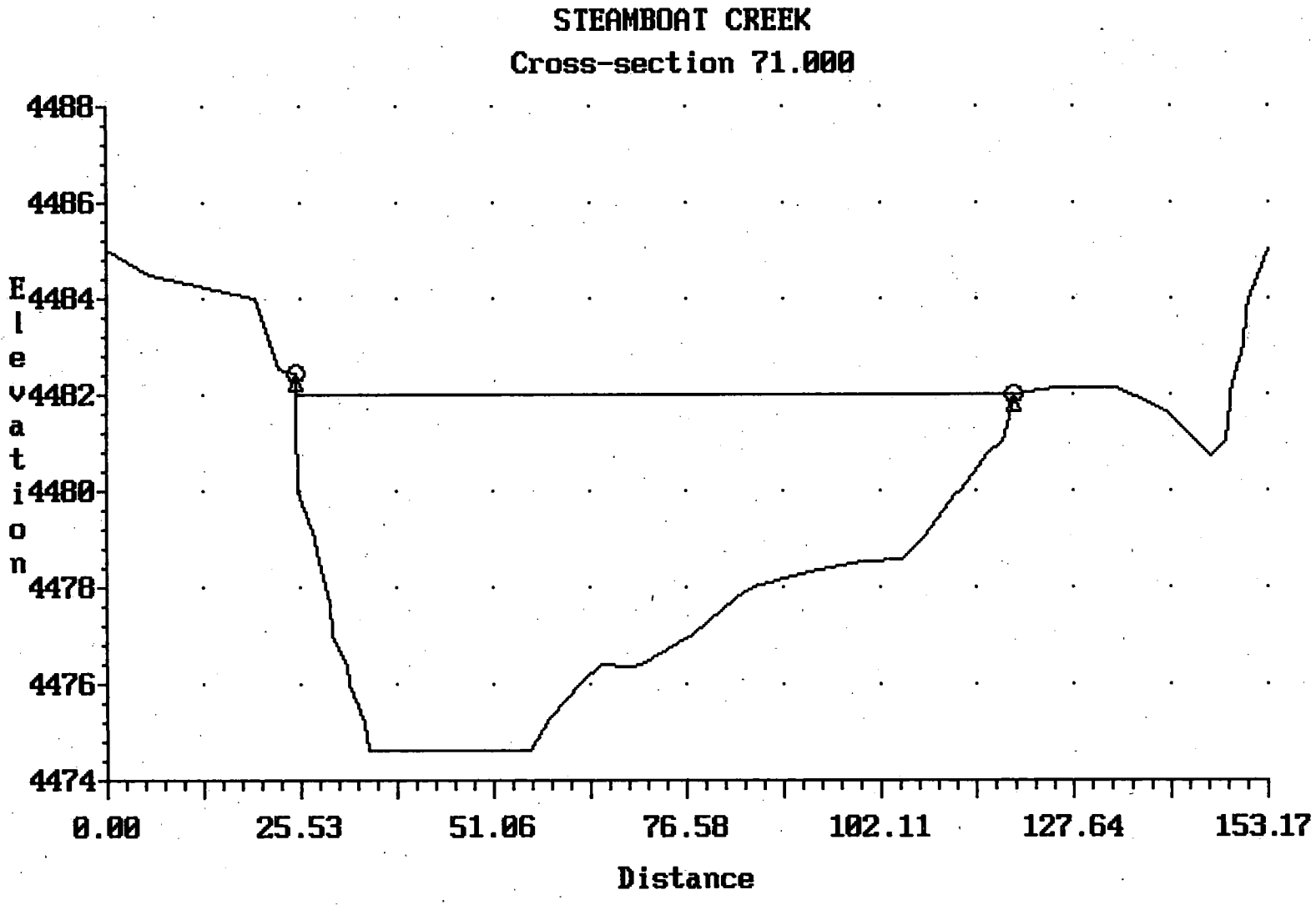
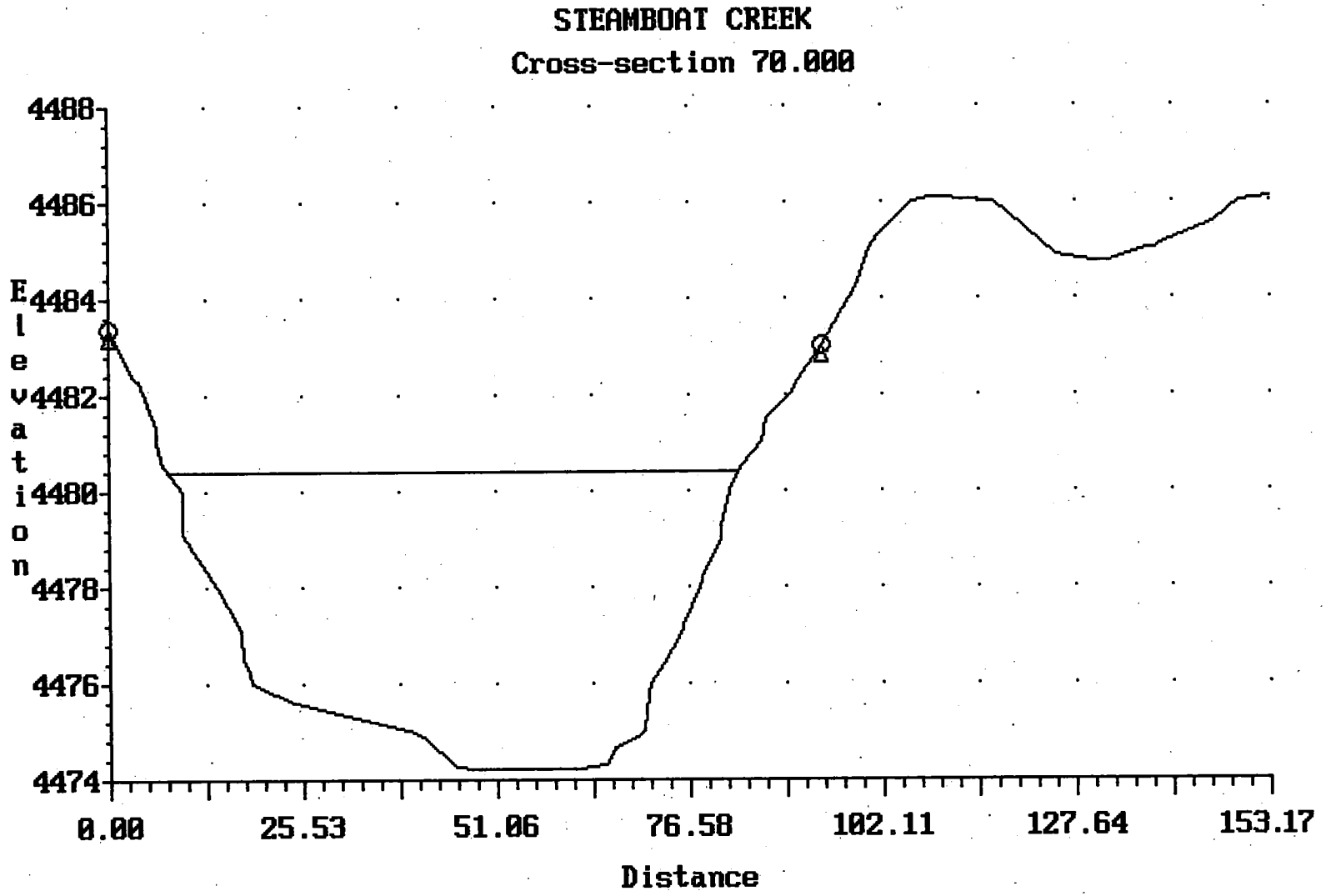

STEAMBOAT CREEK
Cross-section 71.000
4488
4486
4484
4482
4480
4478
4476
4474
Elevation
0.00
25.53
51.06
76.58
102.11
127.64
153.17
Distance


STEAMBOAT CREEK
Cross-section 70.000
4488
4486
4484
4482
4480
4478
4476
4474
Elevation
0.00
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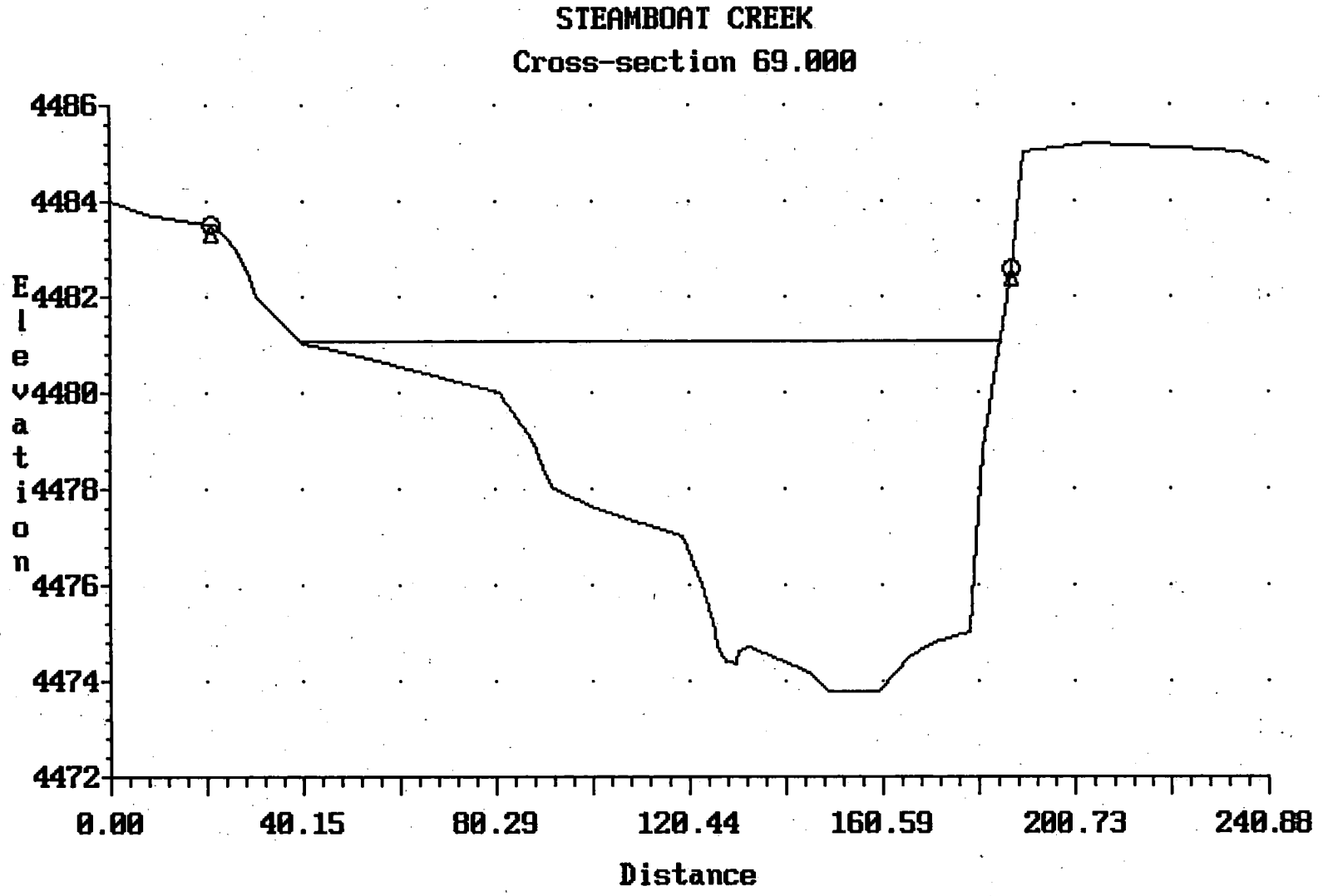
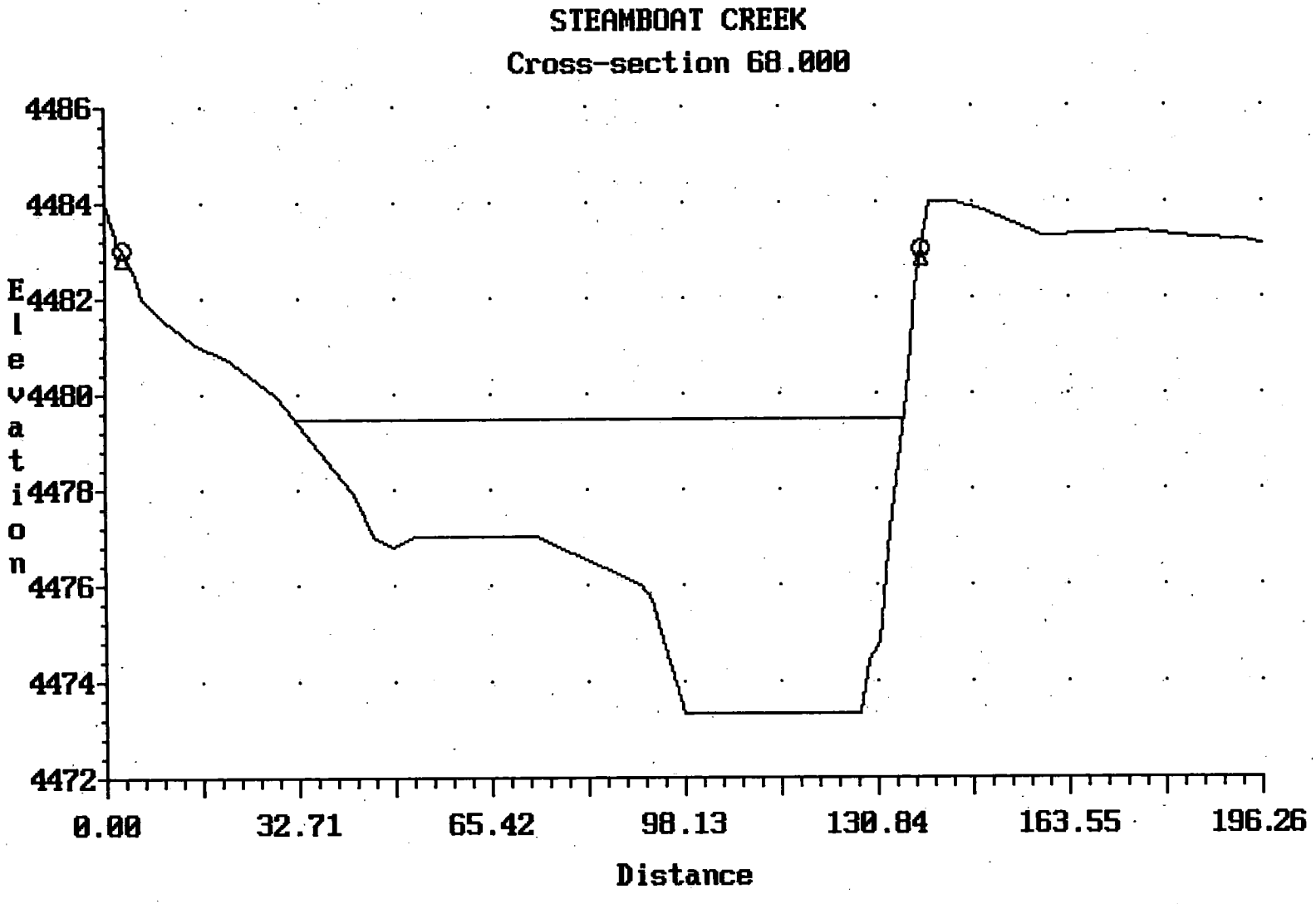
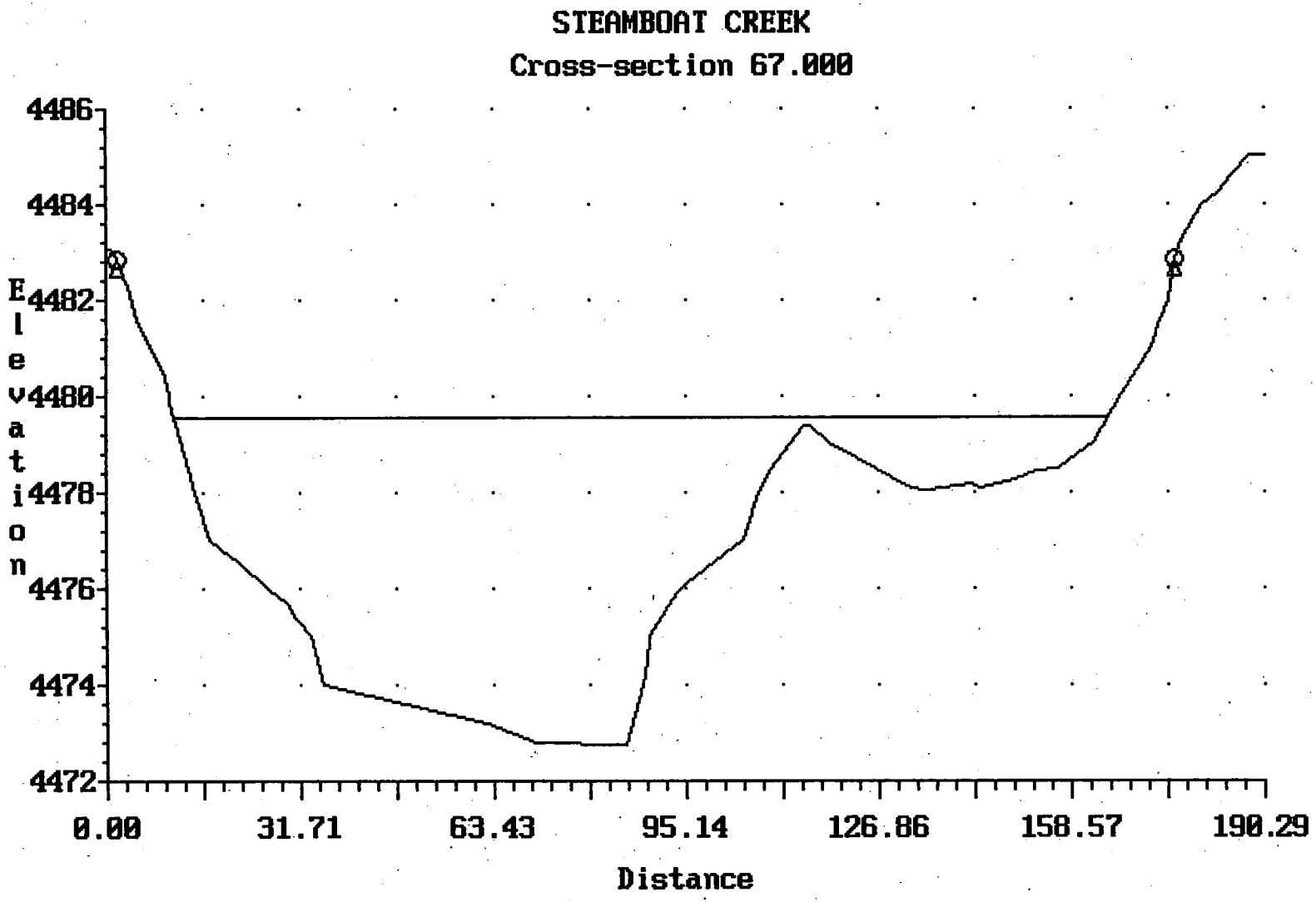
51.06
76.58
102.11
127.64
153.17
Distance


STEAMBOAT CREEK
Cross-section 69.000
4486
4484
4482
4480
4478
4476
4474
4472
Elevation
0.00
40.15
80.29
120.44
160.59
200.73
240.88
Distance


STEAMBOAT CREEK
Cross-section 68.000
4486
4484
4482
4480
4478
4476
4474
4472
Elevation
0.00
32.71
65.42
98.13
130.84
163.55
196.26
Distance


STEAMBOAT CREEK
Cross-section 67.000
4486
4484
4482
4480
4478
4476
4474
4472
Elevation
0.00
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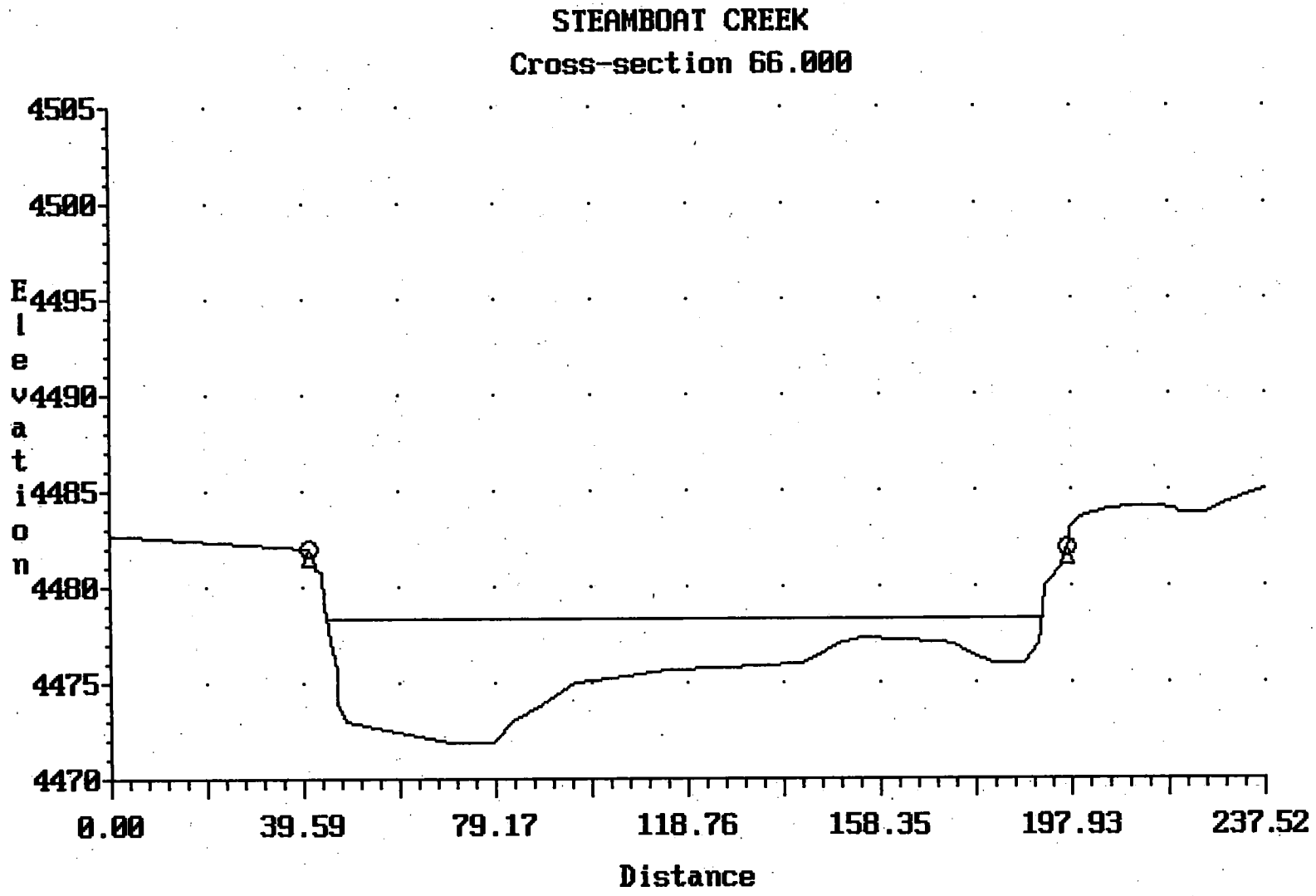
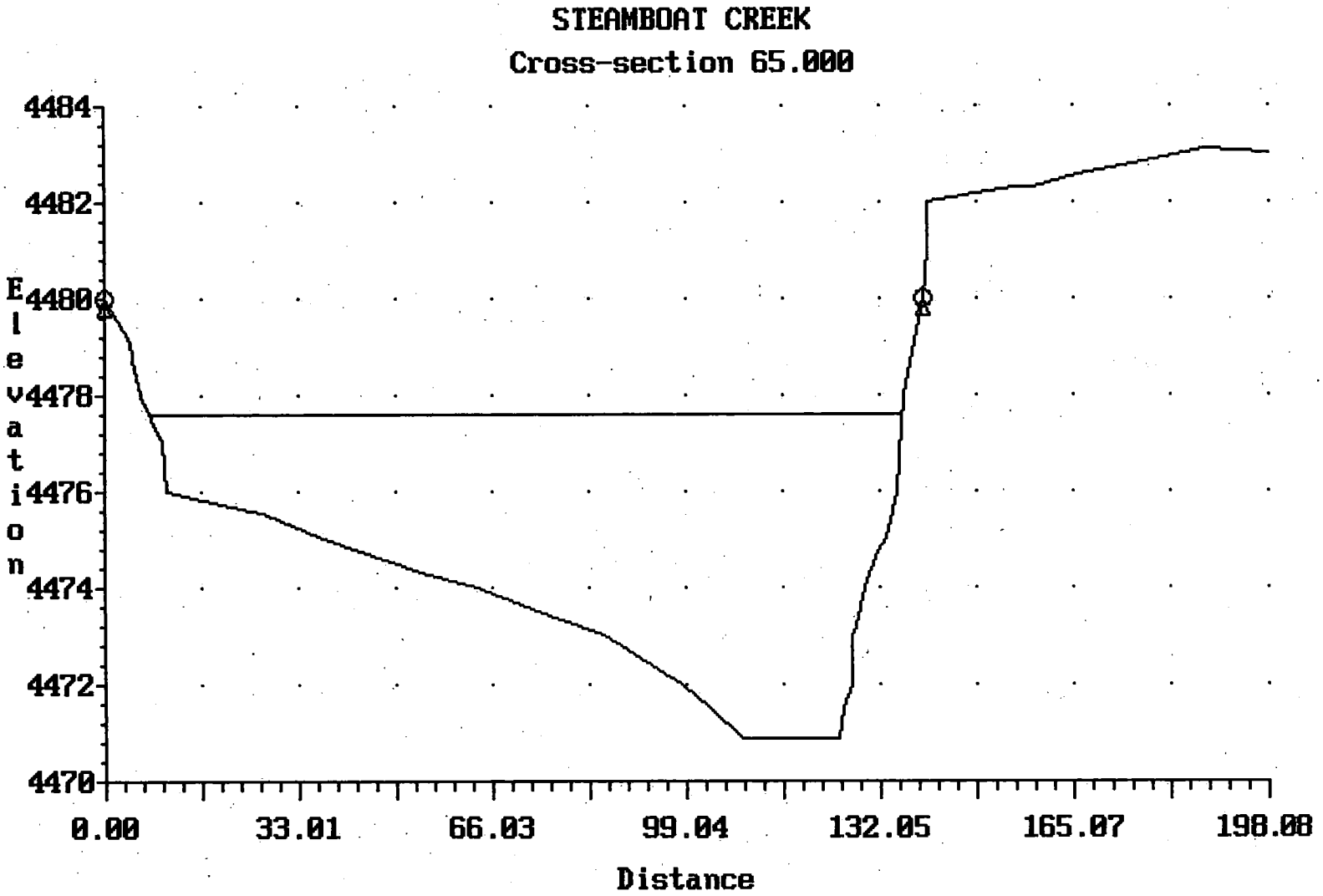
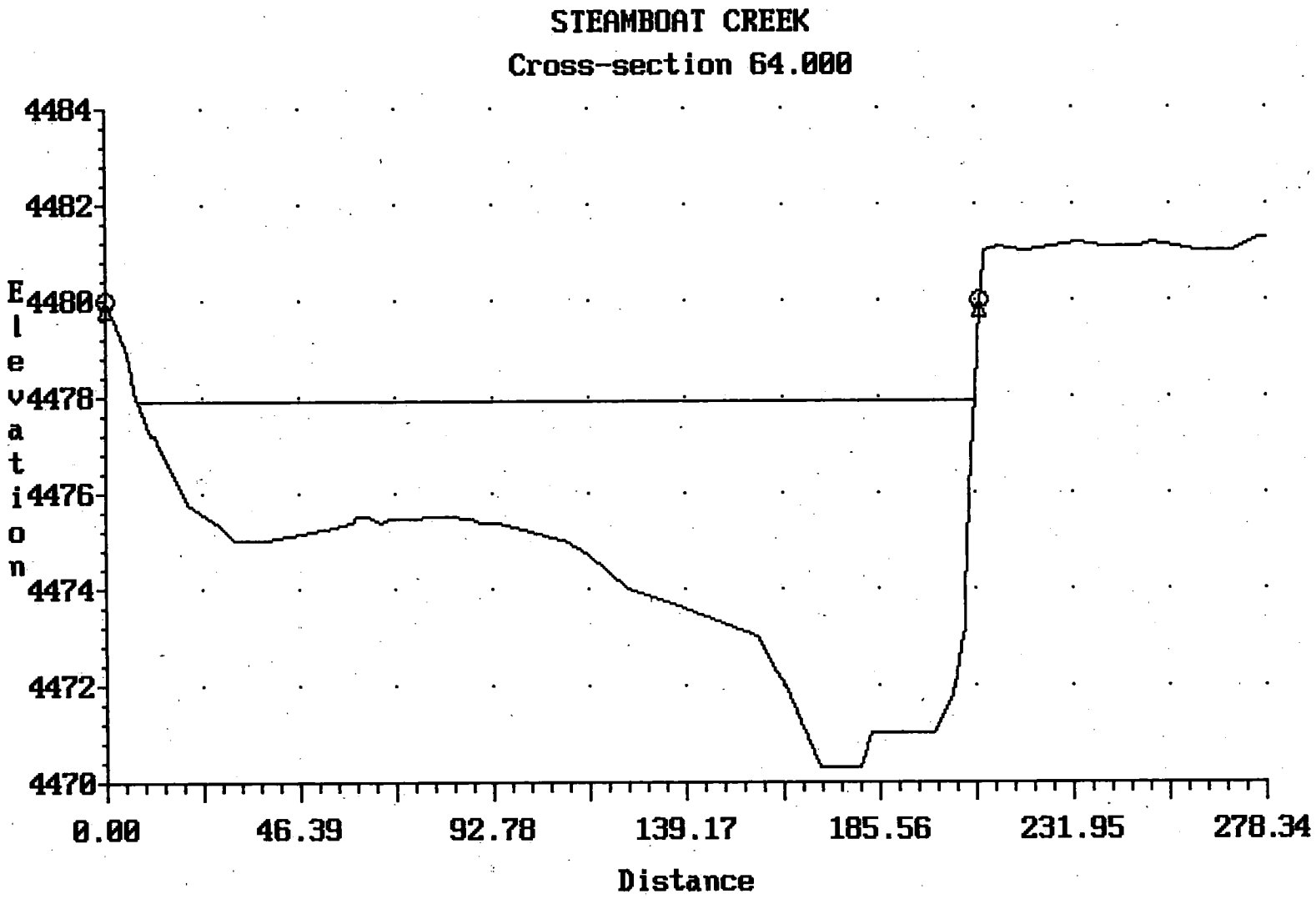
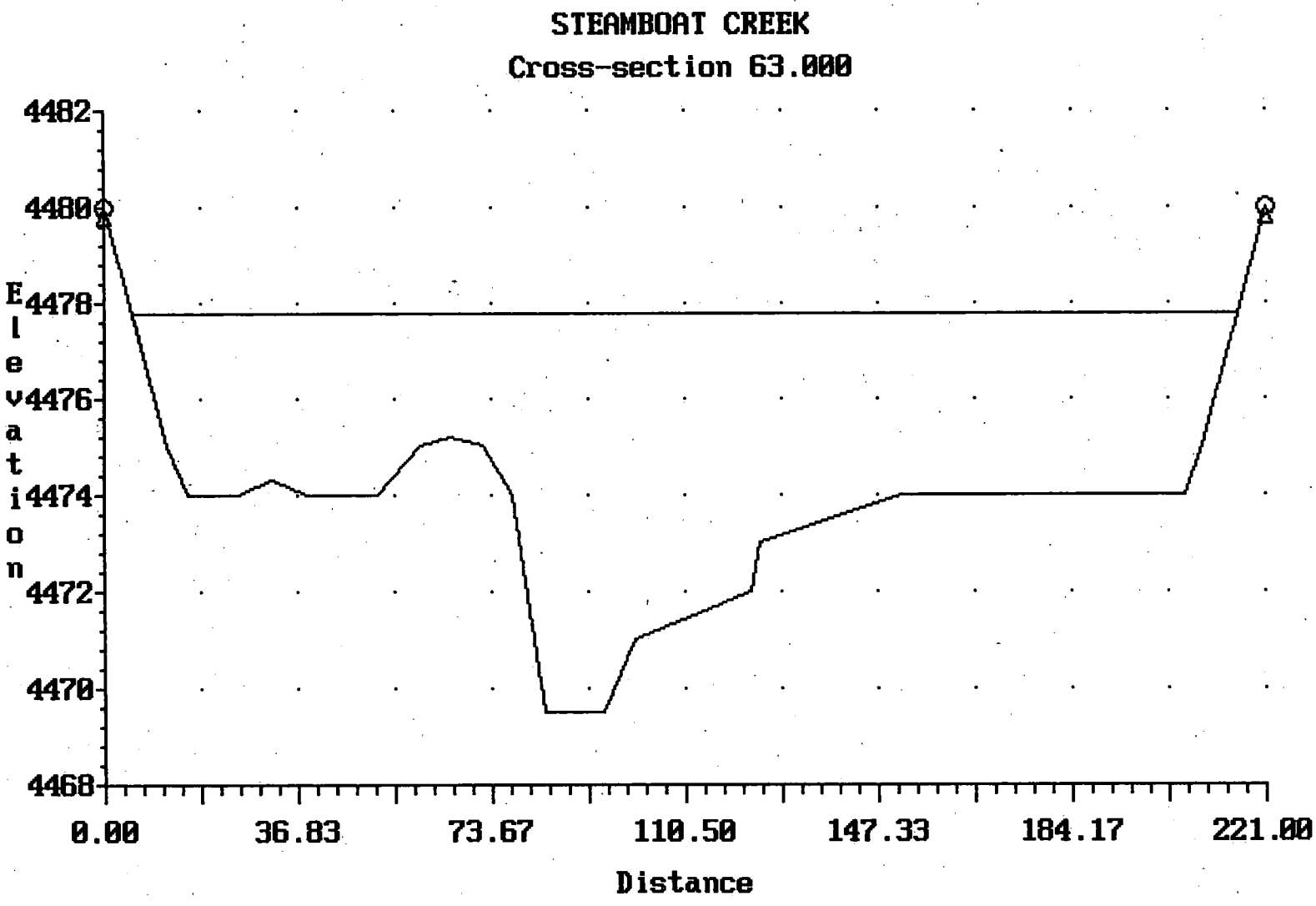
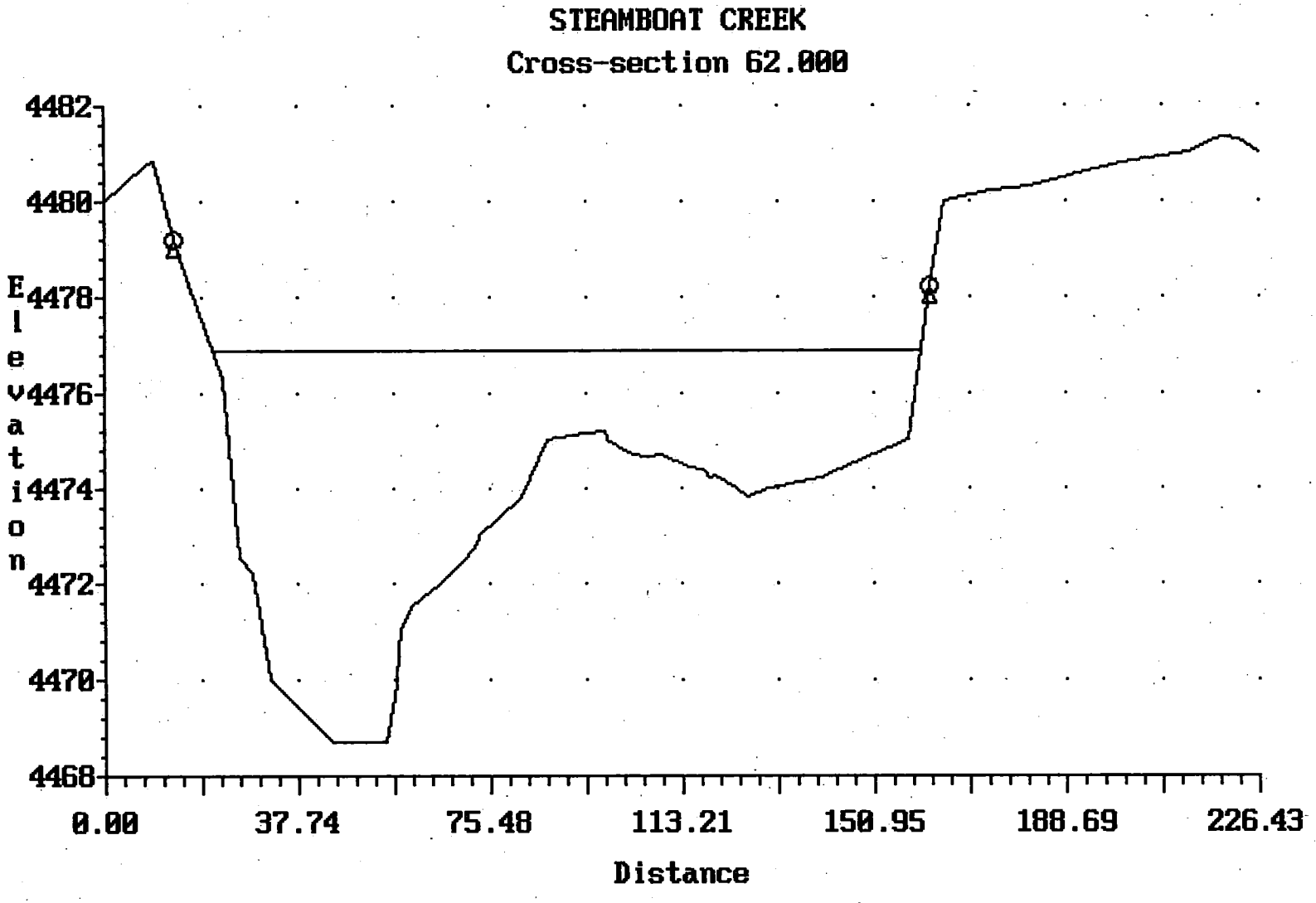
63.43
95.14
126.86
158.57
190.29
Distance

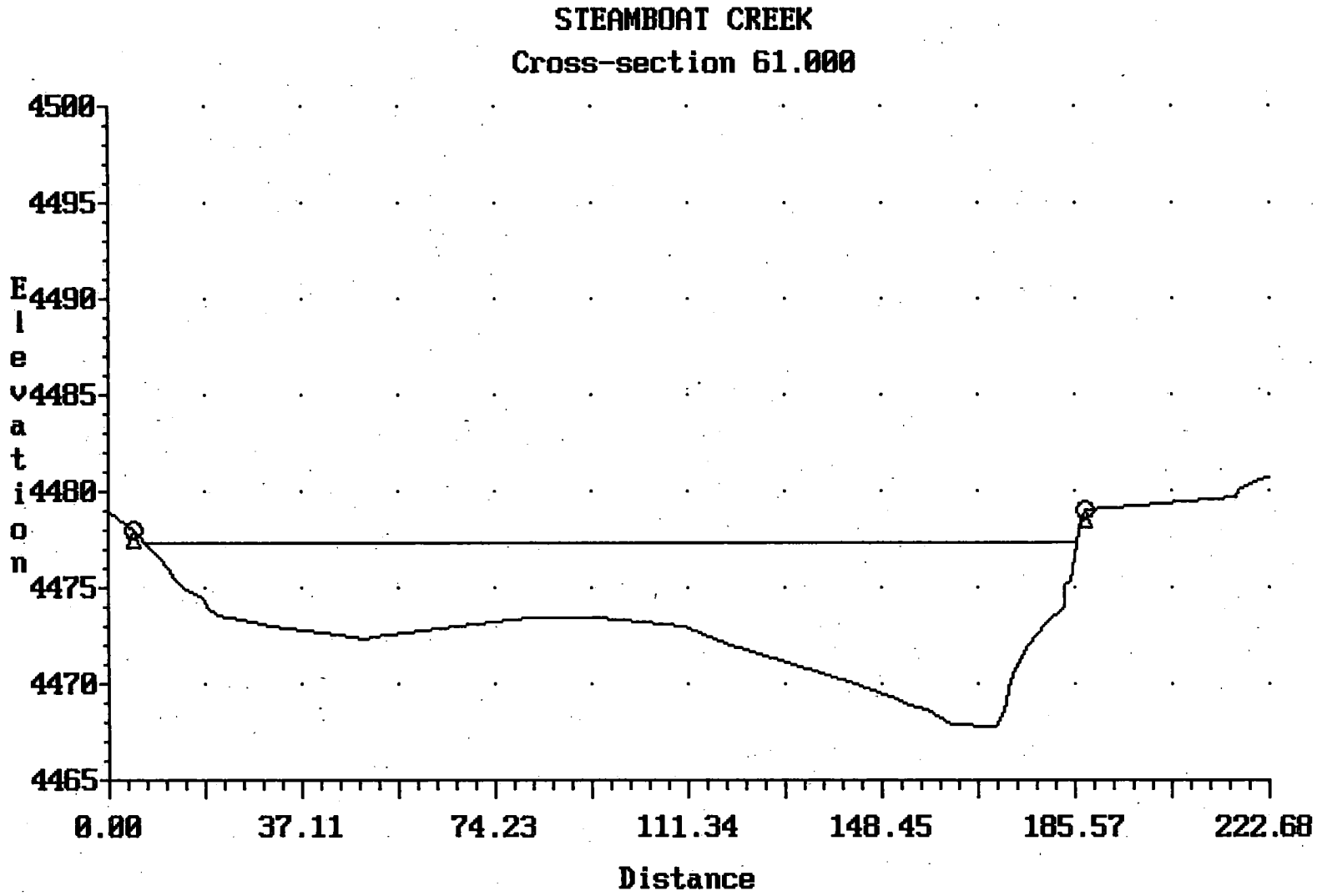

STEAMBOAT CREEK
Cross-section 66.000
4505
4500
4495
4490
4485
4480
4475
4470
Elevation
0.00
39.59
79.17
118.76
158.35
197.93
237.52
Distance

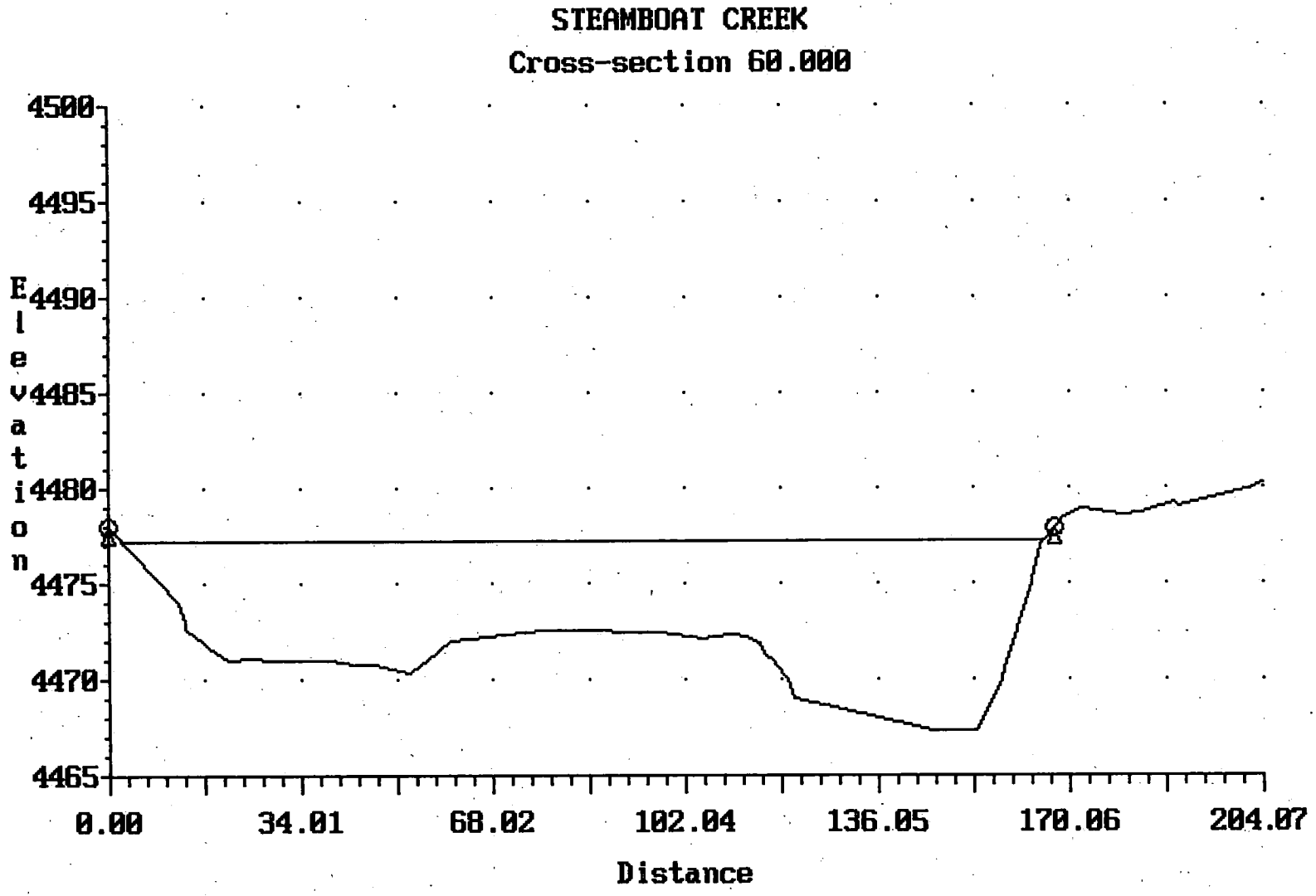

STEAMBOAT CREEK
Cross-section 65.000
4484
4482
4480
4478
4476
4474
4472
4470
Elevation
0.00
33.01
66.03
99.04
132.05
165.07
198.08
Distance

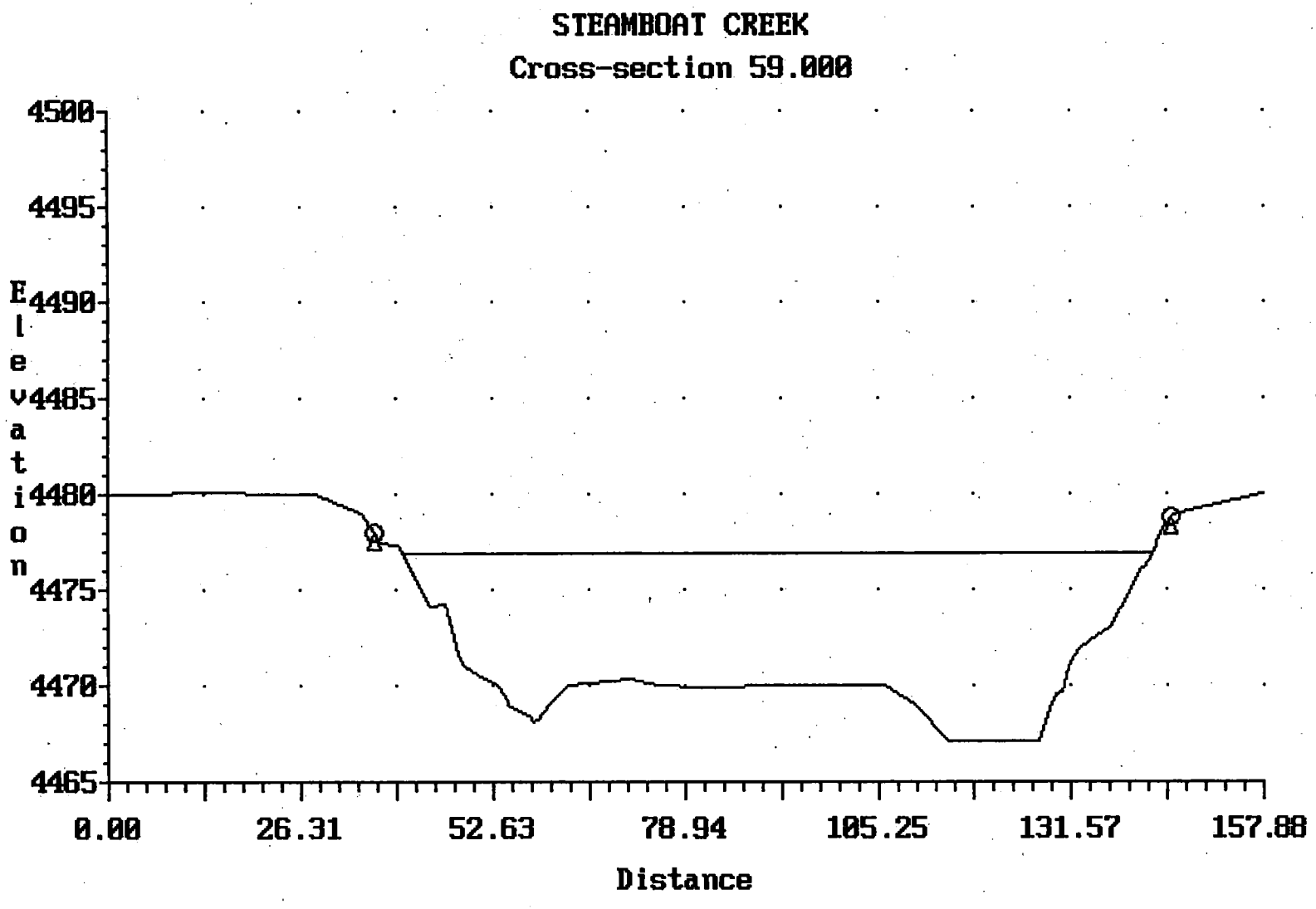

STEAMBOAT CREEK
Cross-section 64.000
4484
4482
4480
4478
4476
4474
4472
4470
Elevation
0.00
46.39
92.78
139.17
185.56
231.95
278.34
Distance

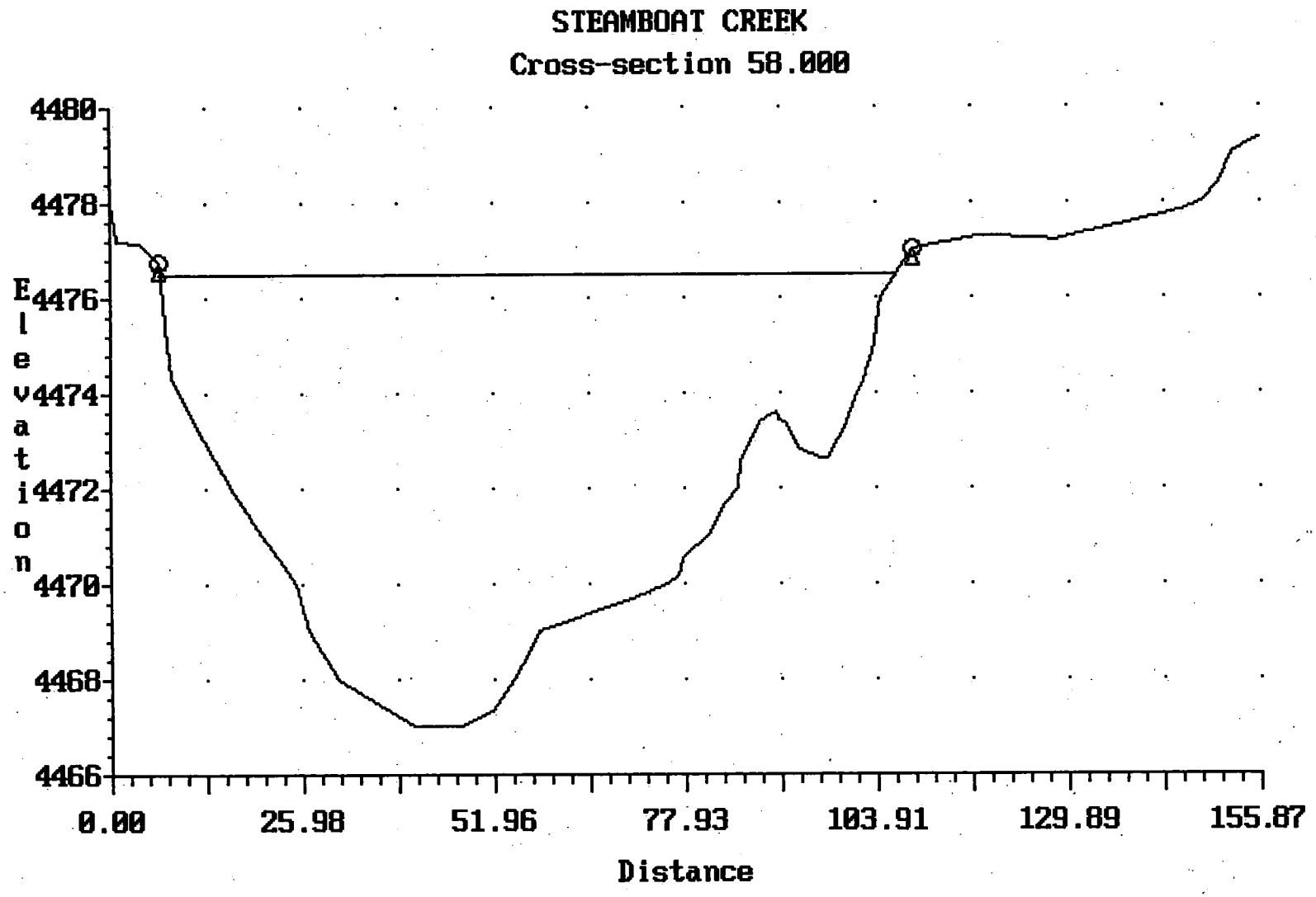

STEAMBOAT CREEK
Cross-section 63.000
4482
4480
4478
4476
4474
4472
4470
4468
Elevation
0.00
36.83
73.67
110.50
147.33
184.17
221.00
Distance

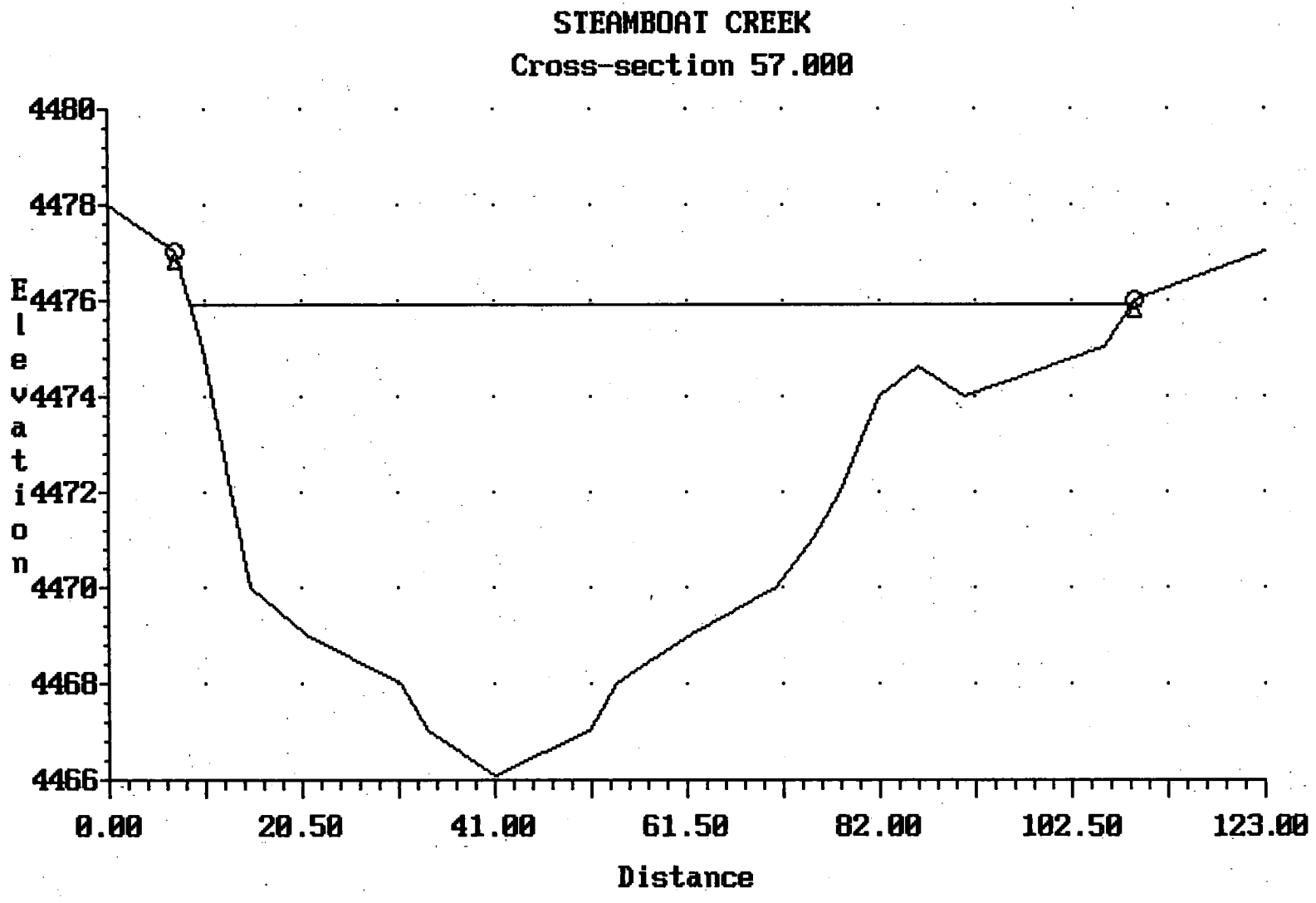

STEAMBOAT CREEK
Cross-section 62.000
4482
4480
4478
4476
4474
4472
4470
4468
Elevation
0.00
37.74
75.48
113.21
150.95
188.69
226.43
Distance

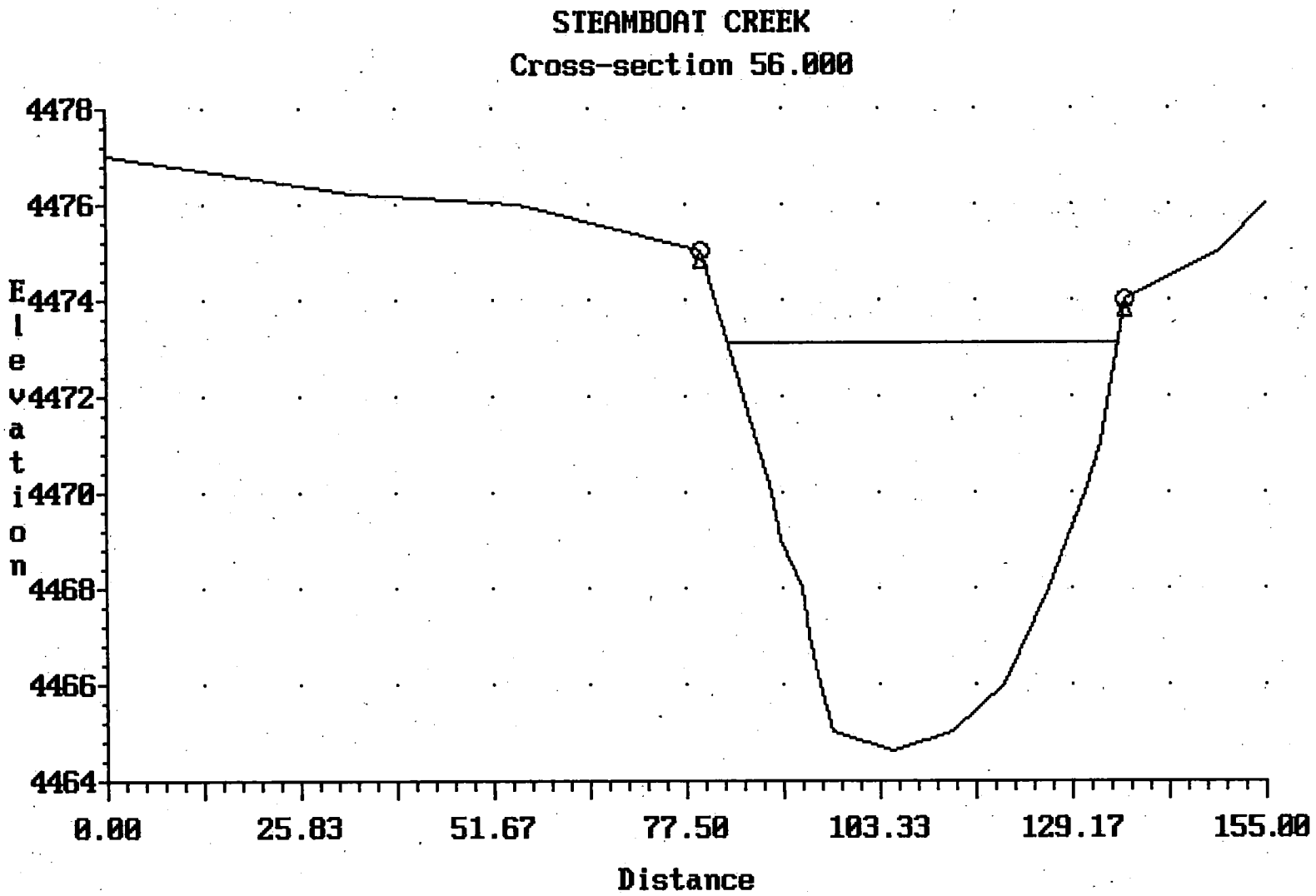

STEAMBOAT CREEK
Cross-section 61.000
4500
4495
4490
4485
4480
4475
4470
4465
Elevation
0.00
37.11
74.23
111.34
148.45
185.57
222.68
Distance

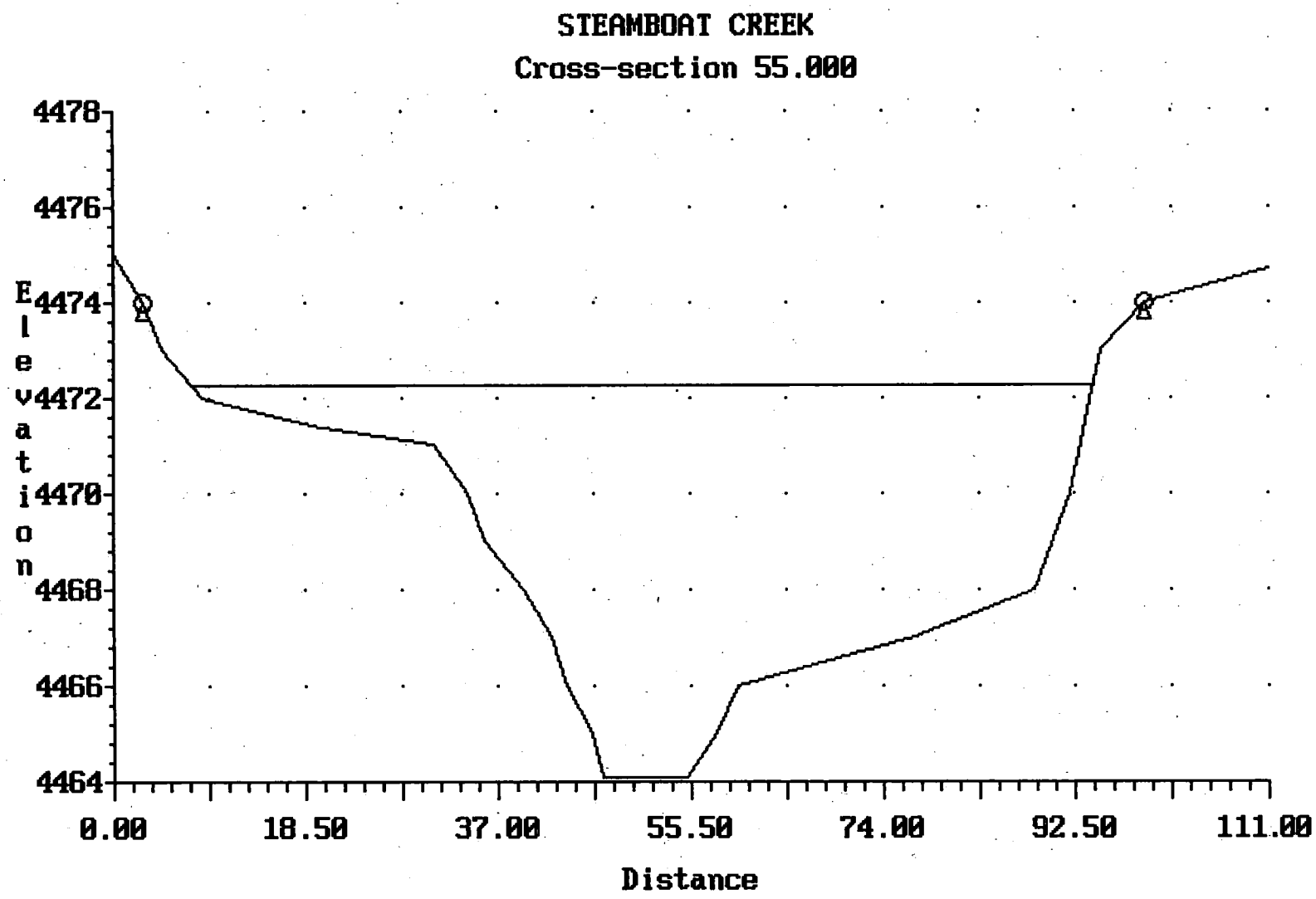

STEAMBOAT CREEK
Cross-section 60.000
4500
4495
4490
4485
4480
4475
4470
4465
Elevation
0.00
34.01
68.02
102.04
136.05
170.06
204.07
Distance

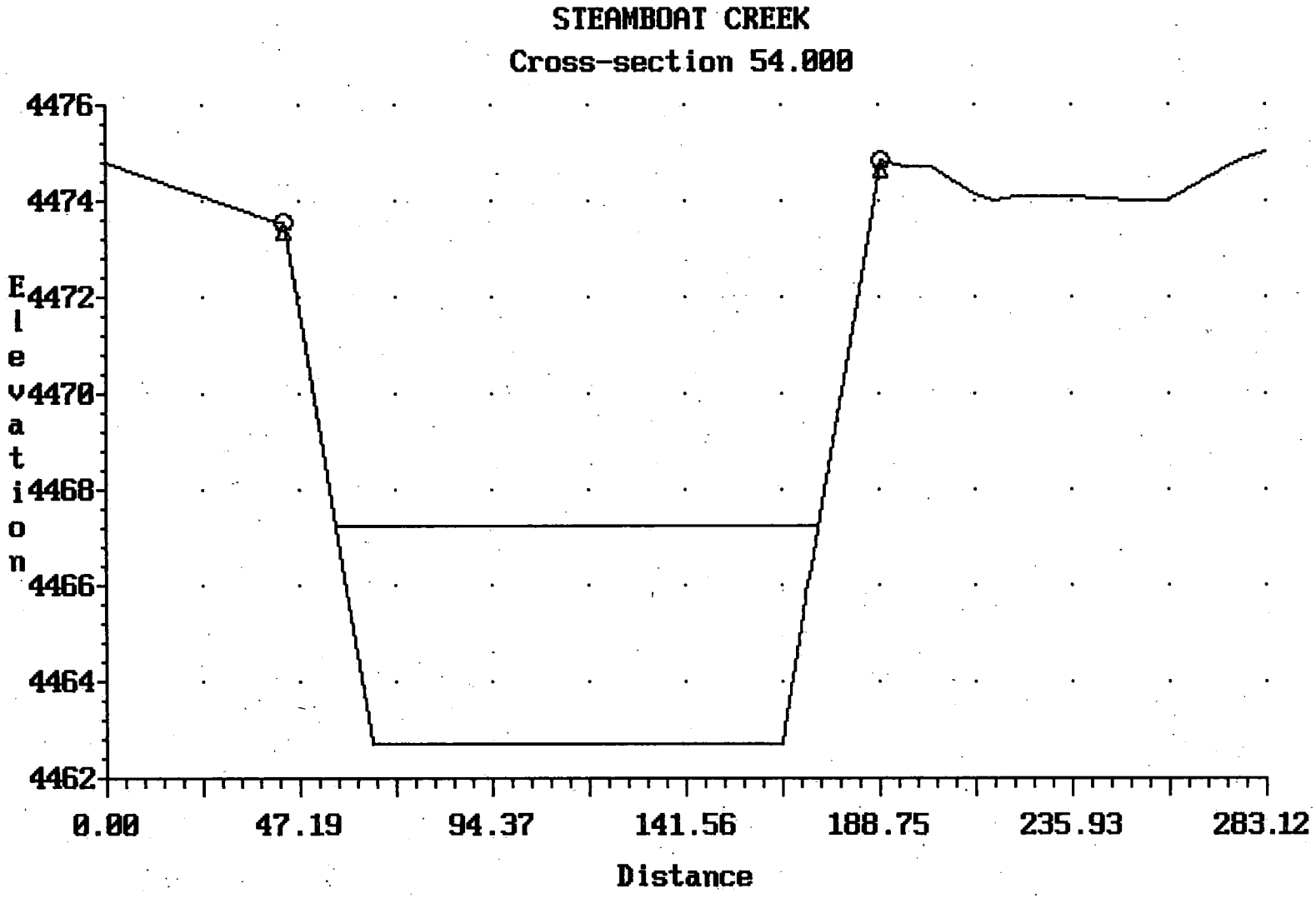

STEAMBOAT CREEK
Cross-section 59.000
4500
4495
4490
4485
4480
4475
4470
4465
Elevation
0.00
26.31
52.63
78.94
105.25
131.57
157.88
Distance

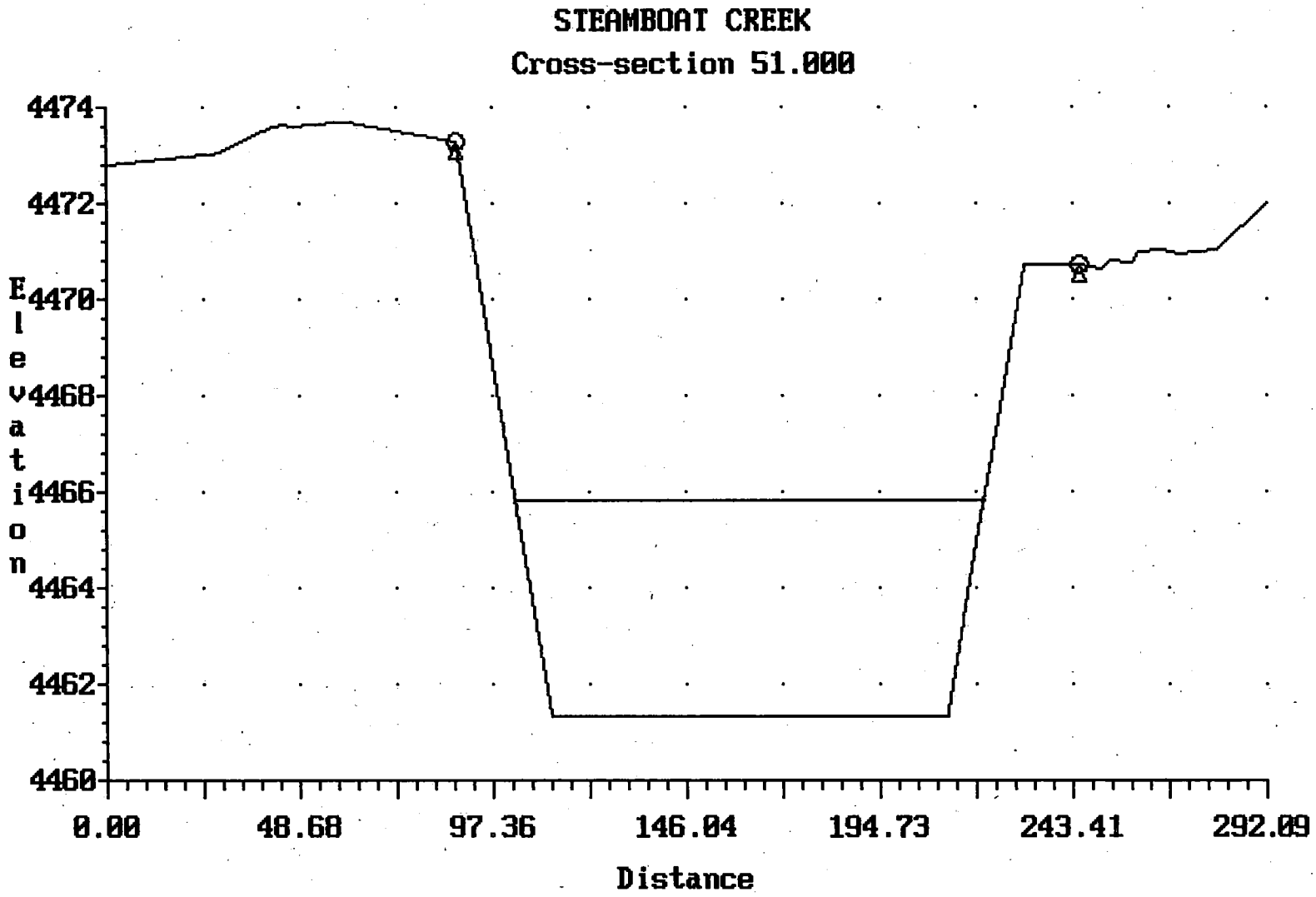

STEAMBOAT CREEK
Cross-section 58.000
4480
4478
4476
4474
4472
4470
4468
4466
Elevation
0.00
25.98
51.96
77.93
103.91
129.89
155.87
Distance

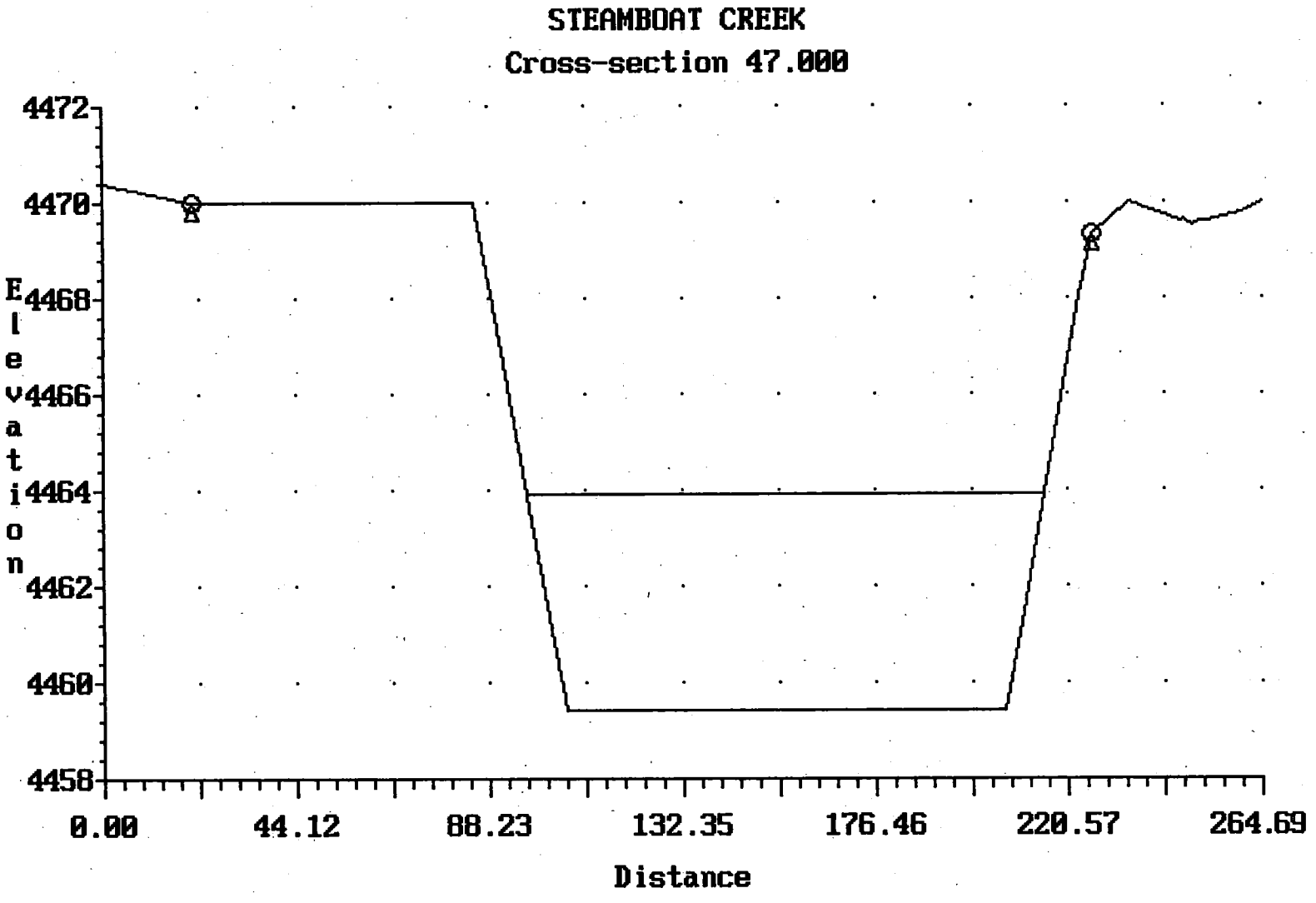

STEAMBOAT CREEK
Cross-section 57.000
4480
4478
4476
4474
4472
4470
4468
4466
Elevation
0.00
20.50
41.00
61.50
82.00
102.50
123.00
Distance

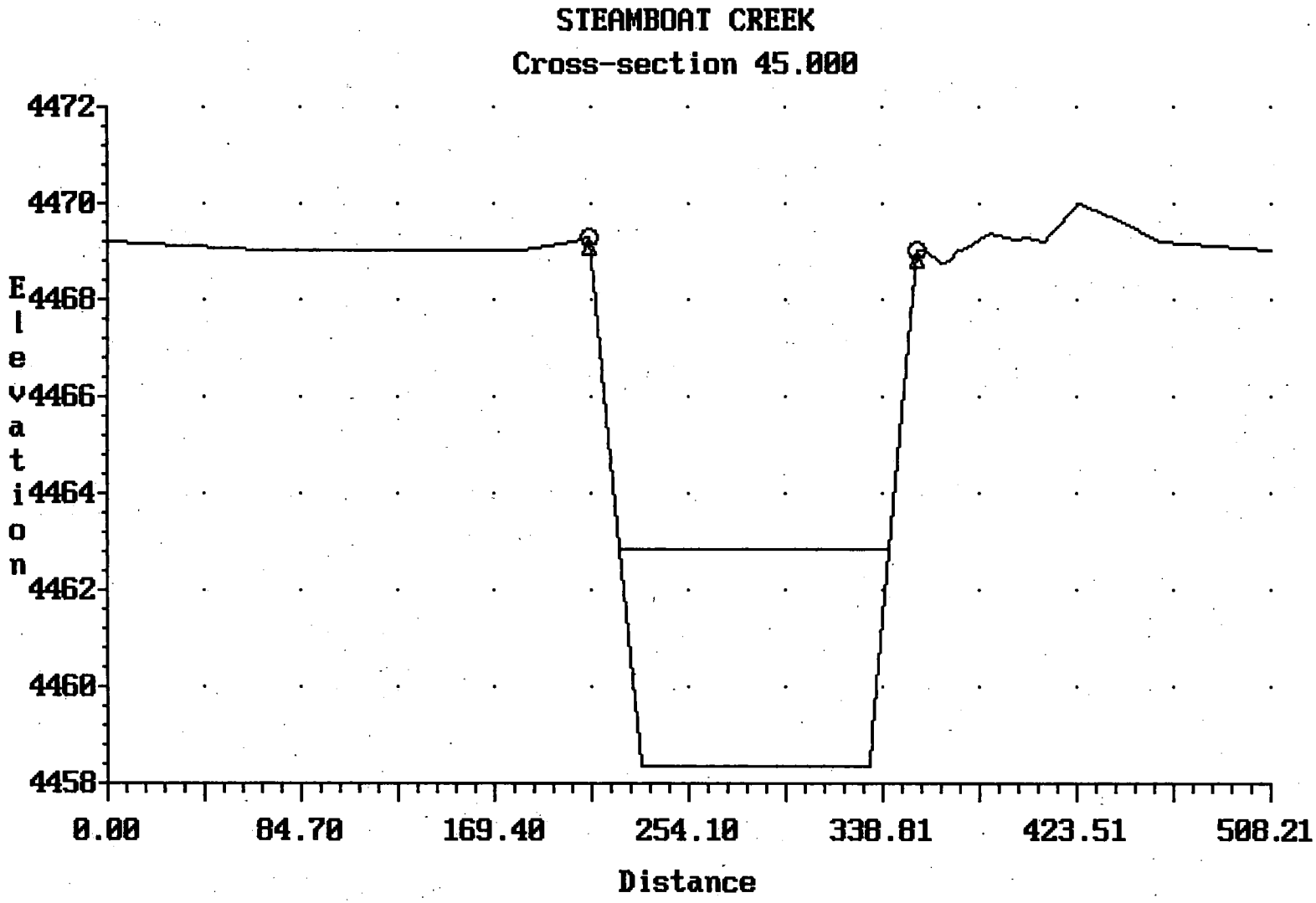

STEAMBOAT CREEK
Cross-section 56.000
4478
4476
4474
4472
4470
4468
4466
4464
Elevation
0.00
25.83
51.67
77.50
103.33
129.17
155.00
Distance

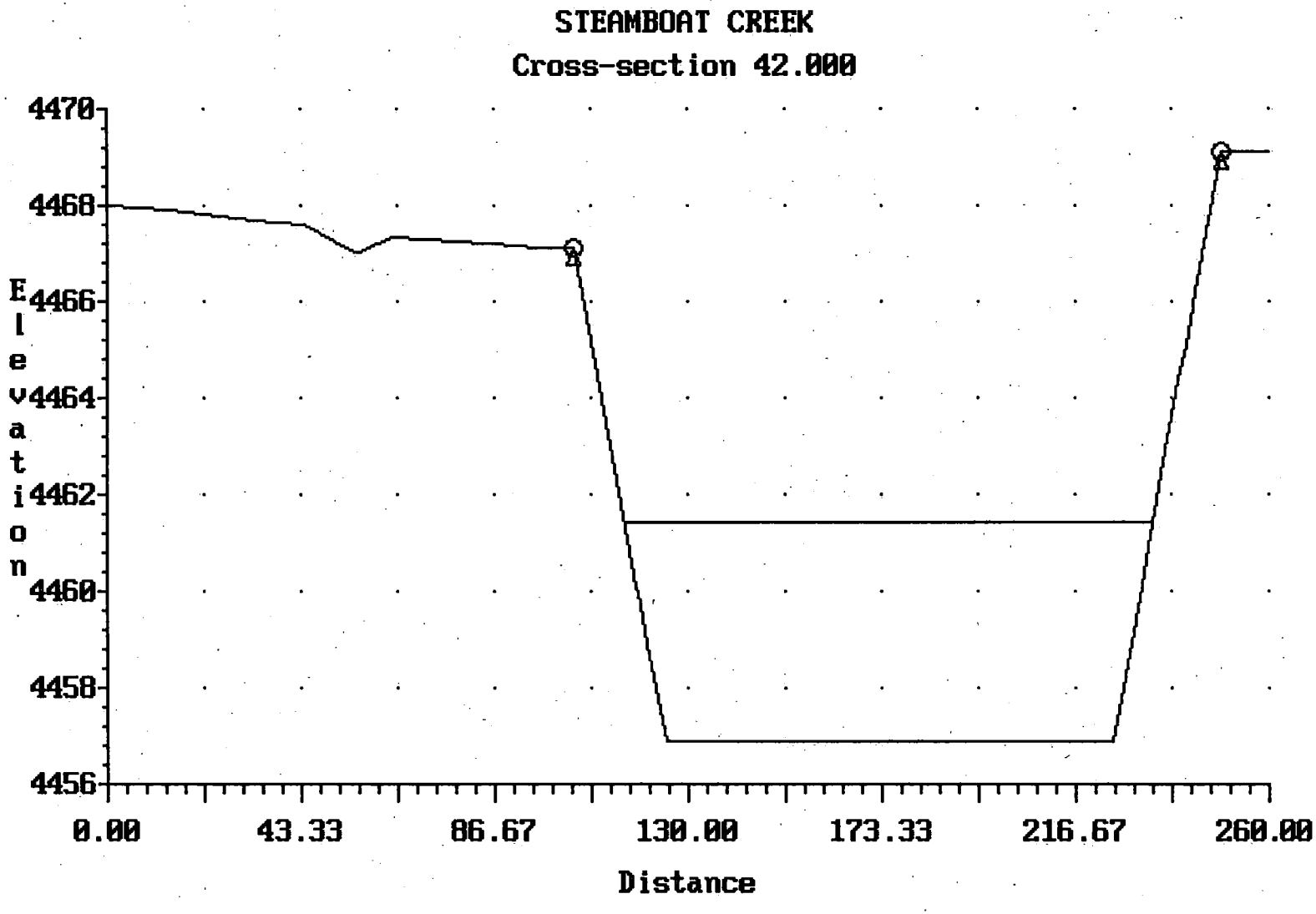

STEAMBOAT CREEK
Cross-section 55.000
4478
4476
4474
4472
4470
4468
4466
4464
Elevation
0.00
18.50
37.00
55.50
74.00
92.50
111.00
Distance

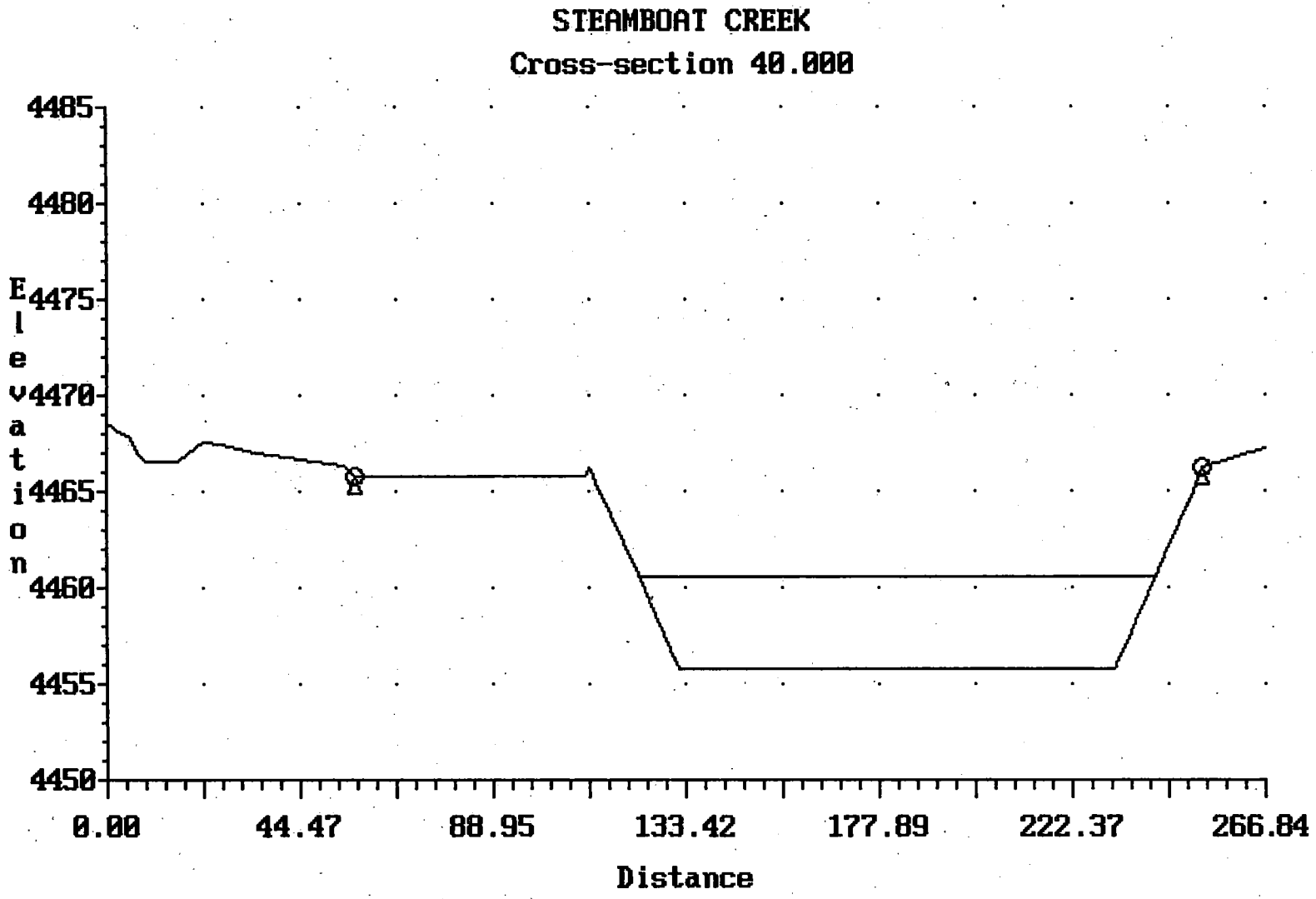

STEAMBOAT CREEK
Cross-section 54.000
4476
4474
4472
4470
4468
4466
4464
4462
Elevation
0.00
47.19
94.37
141.56
188.75
235.93
283.12
Distance

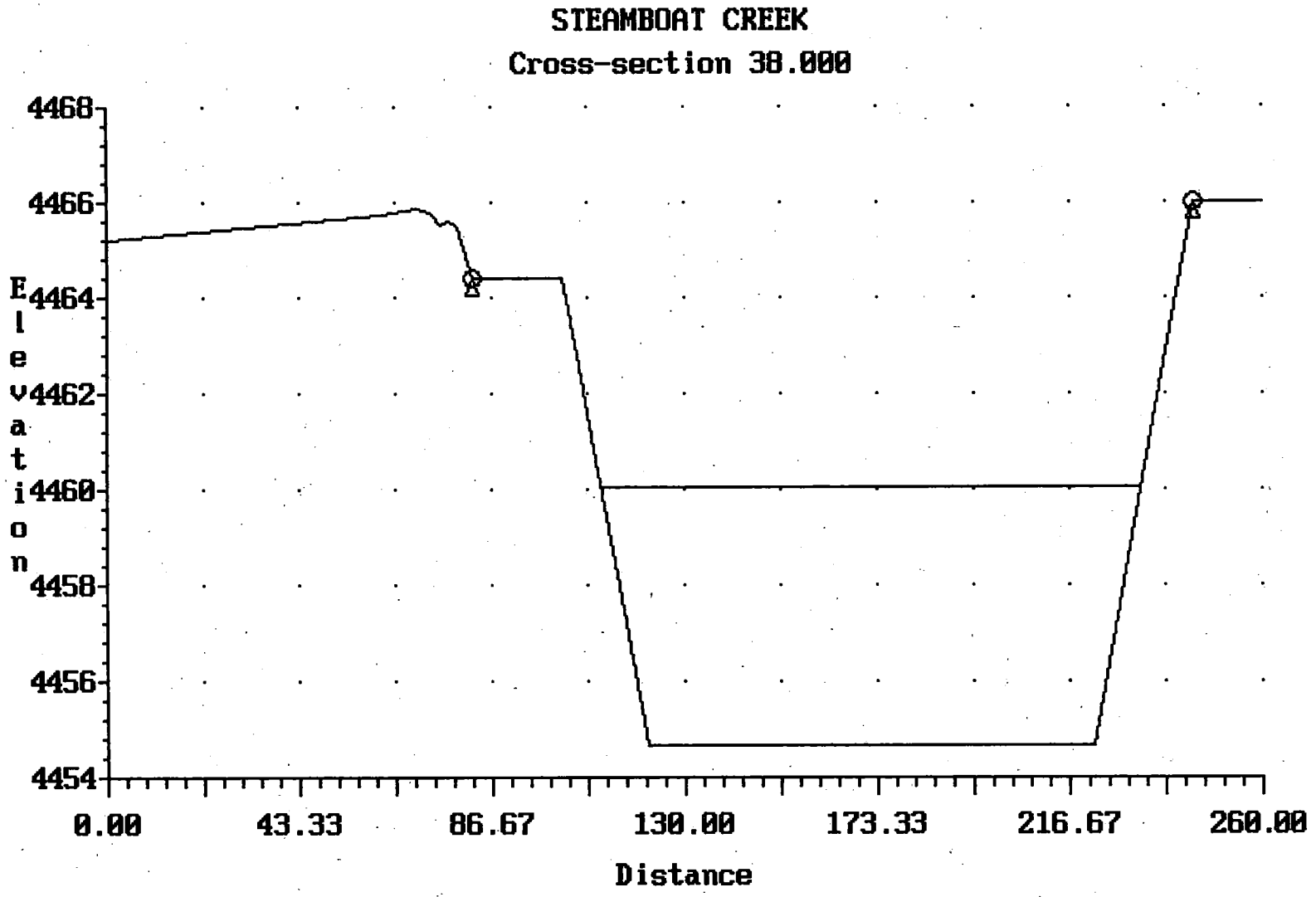

STEAMBOAT CREEK
Cross-section 51.000
4474
4472
4470
4468
4466
4464
4462
4460
Elevation
0.00
48.68
97.36
146.04
194.73
243.41
292.09
Distance

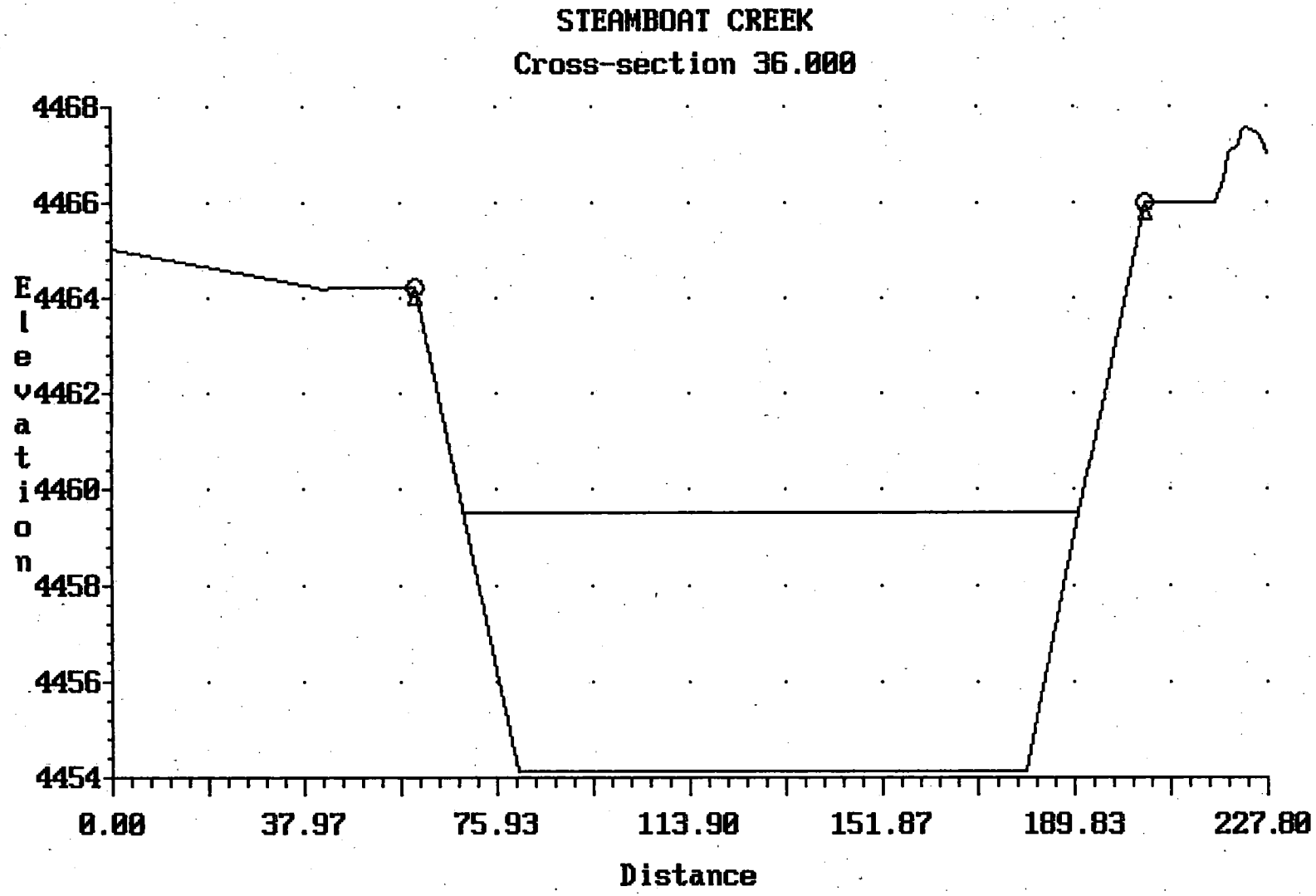

STEAMBOAT CREEK
Cross-section 47.000
4472
4470
4468
4466
4464
4462
4460
4458
Elevation
0.00
44.12
88.23
132.35
176.46
220.57
264.69
Distance

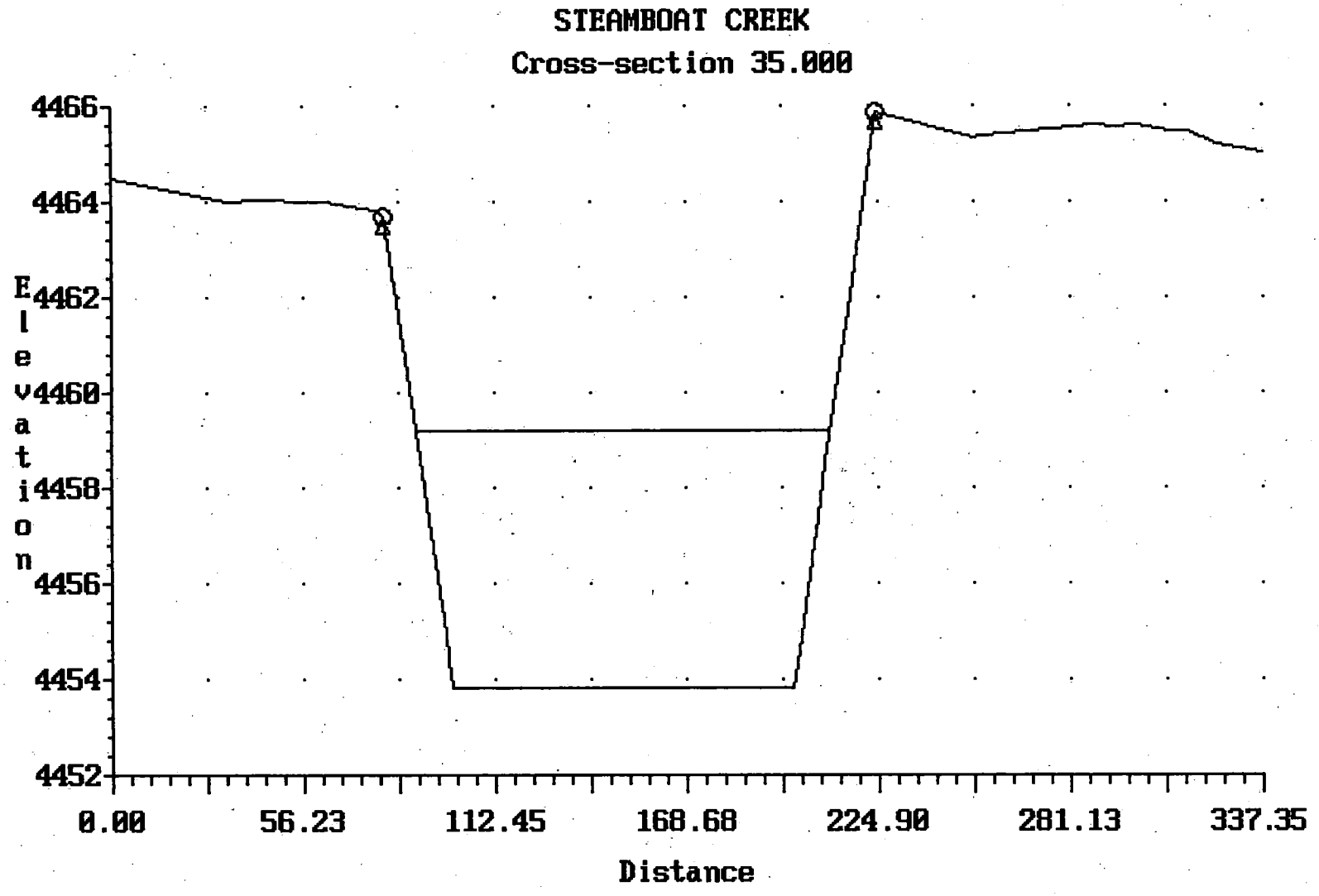

STEAMBOAT CREEK
Cross-section 45.000
4472
4470
4468
4466
4464
4462
4460
4458
Elevation
0.00
84.70
169.40
254.10
338.81
423.51
508.21
Distance

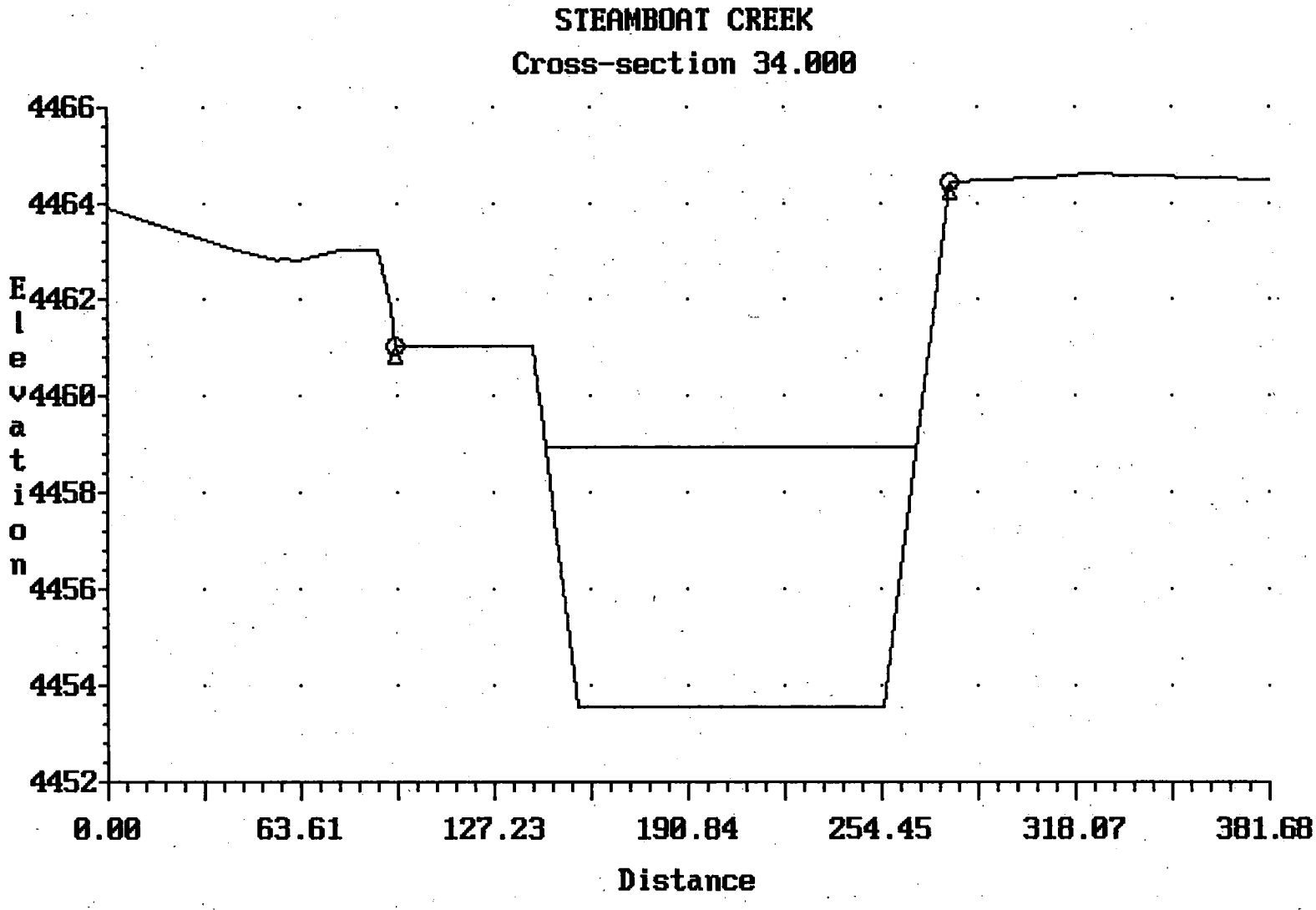

STEAMBOAT CREEK
Cross-section 42.000
4470
4468
4466
4464
4462
4460
4458
4456
Elevation
0.00
43.33
86.67
130.00
173.33
216.67
260.00
Distance

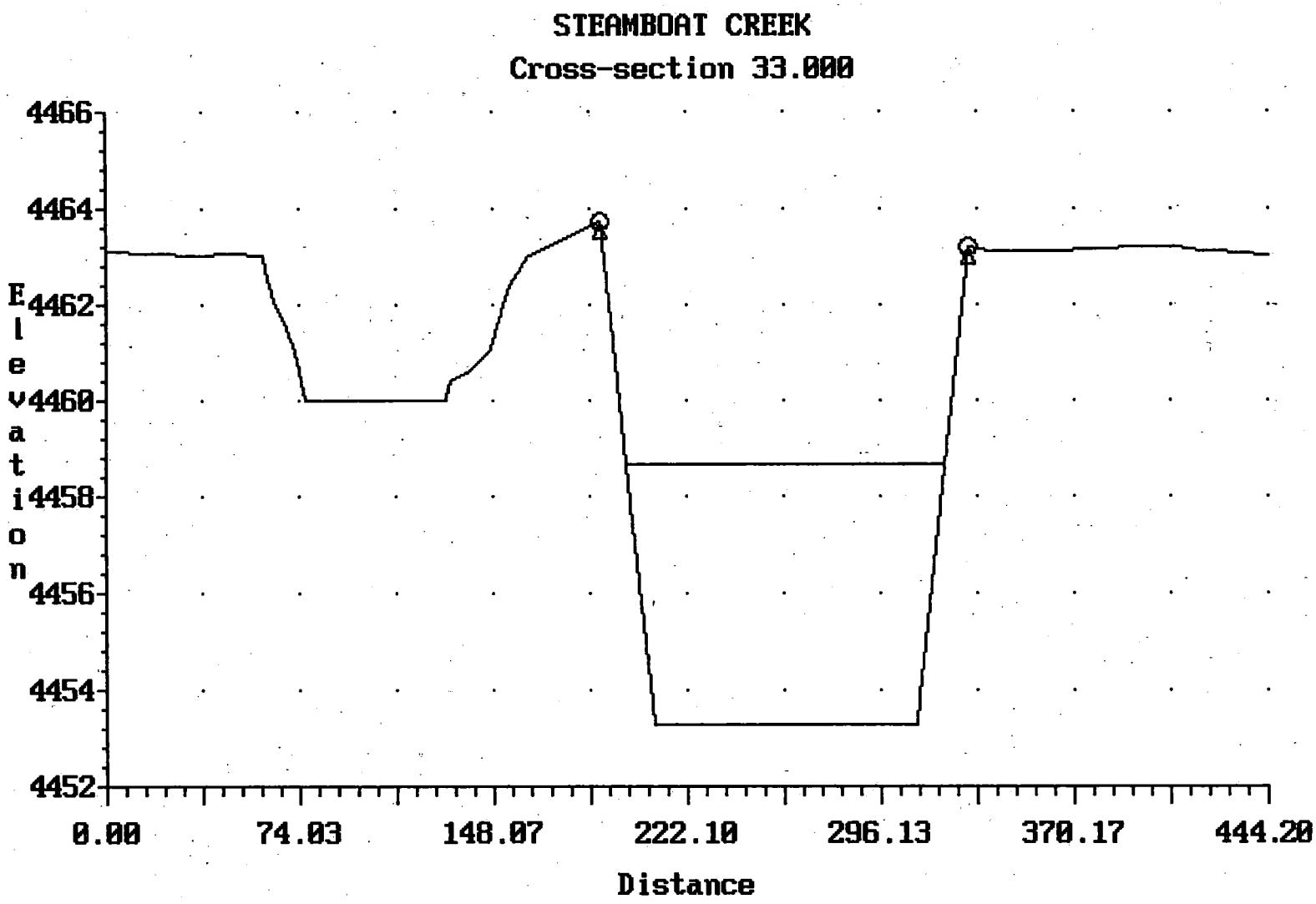

STEAMBOAT CREEK
Cross-section 40.000
4485
4480
4475
4470
4465
4460
4455
4450
Elevation
0.00
44.47
88.95
133.42
177.89
222.37
266.84
Distance

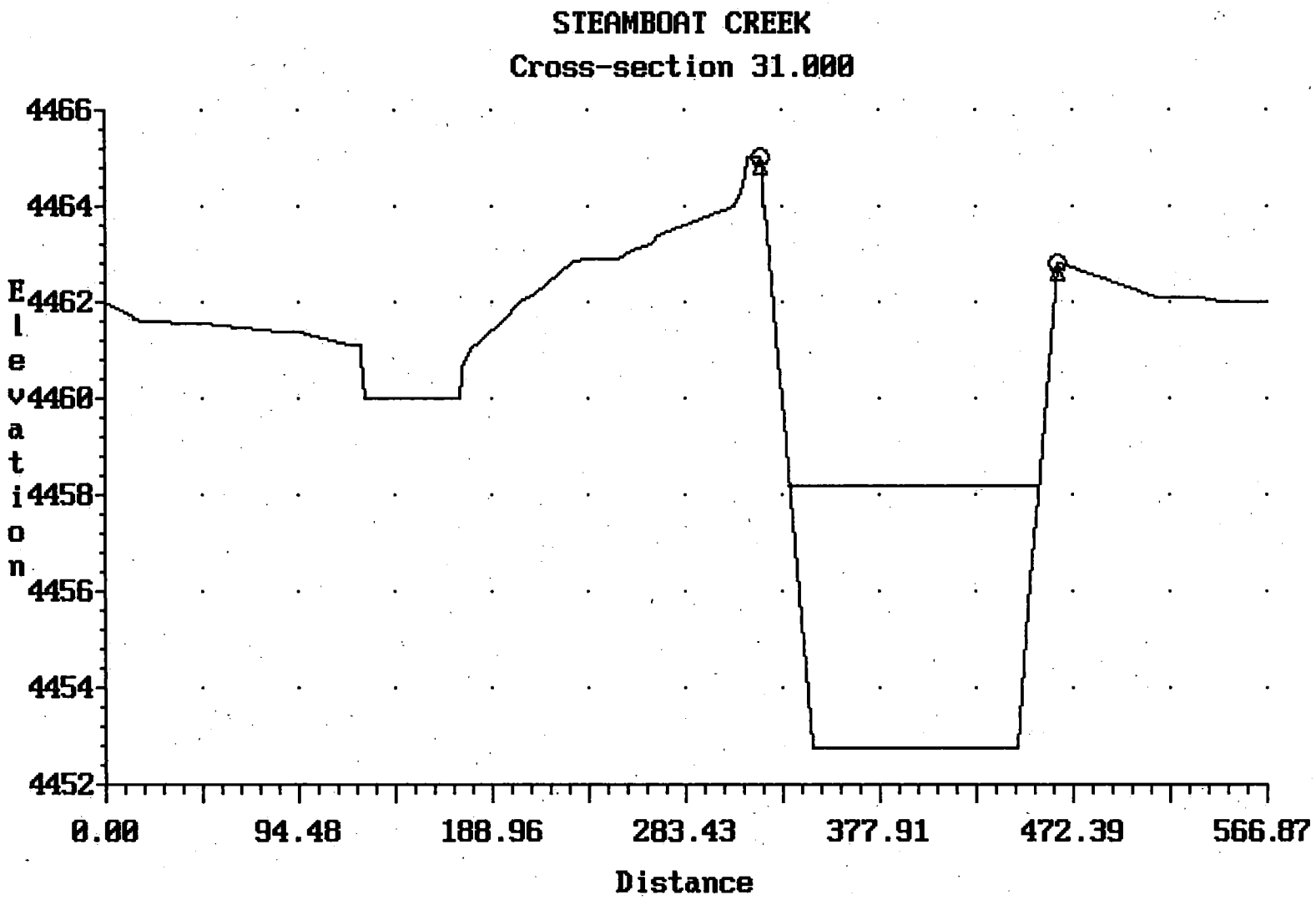

STEAMBOAT CREEK
Cross-section 38.000
4468
4466
4464
4462
4460
4458
4456
4454
Elevation
0.00
43.33
86.67
130.00
173.33
216.67
260.00
Distance

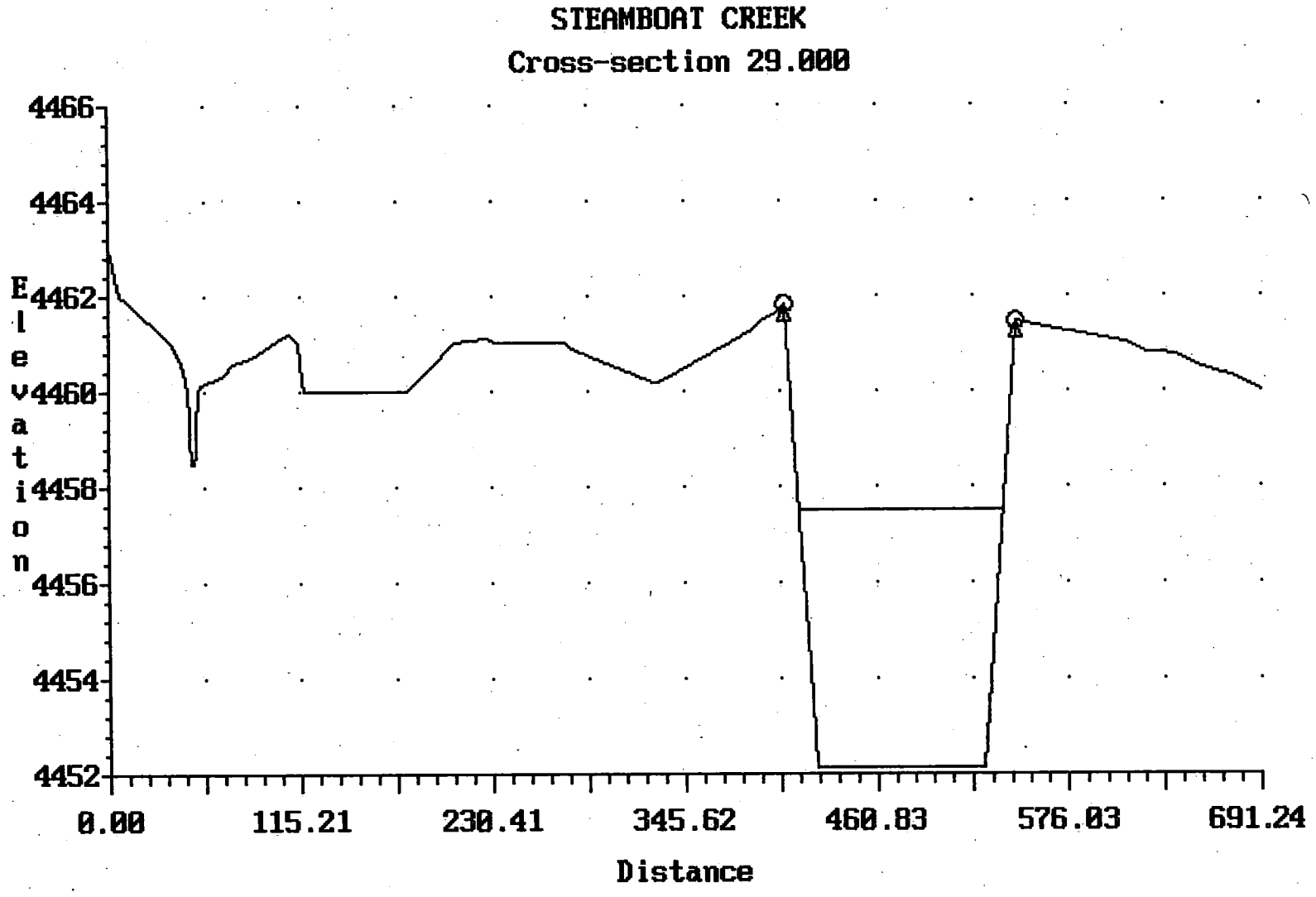

STEAMBOAT CREEK
Cross-section 36.000
4468
4466
4464
4462
4460
4458
4456
4454
Elevation
0.00
37.97
75.93
113.90
151.87
189.83
227.80
Distance

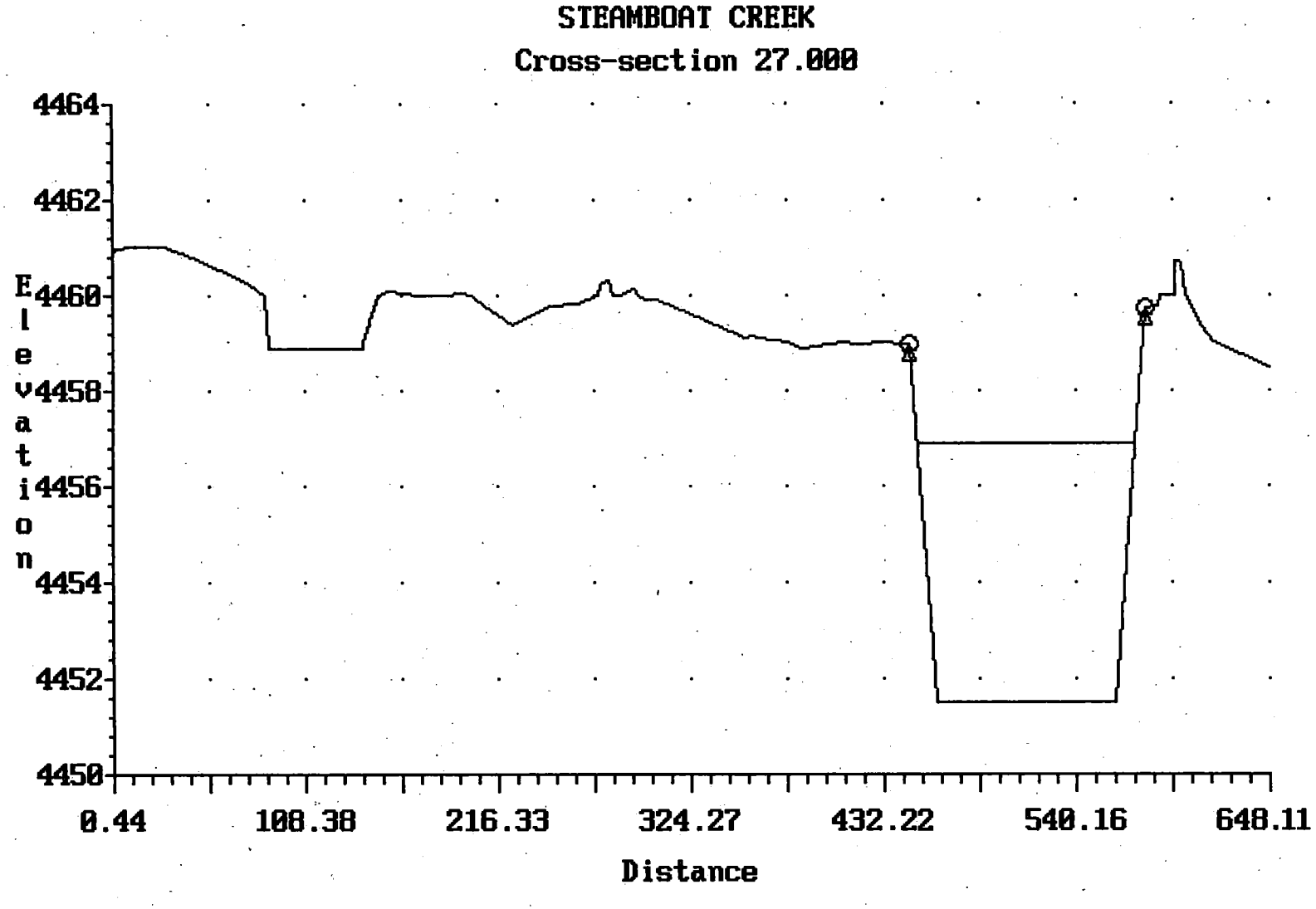

STEAMBOAT CREEK
Cross-section 35.000
4466
4464
4462
4460
4458
4456
4454
4452
Elevation
0.00
56.23
112.45
168.68
224.90
281.13
337.35
Distance

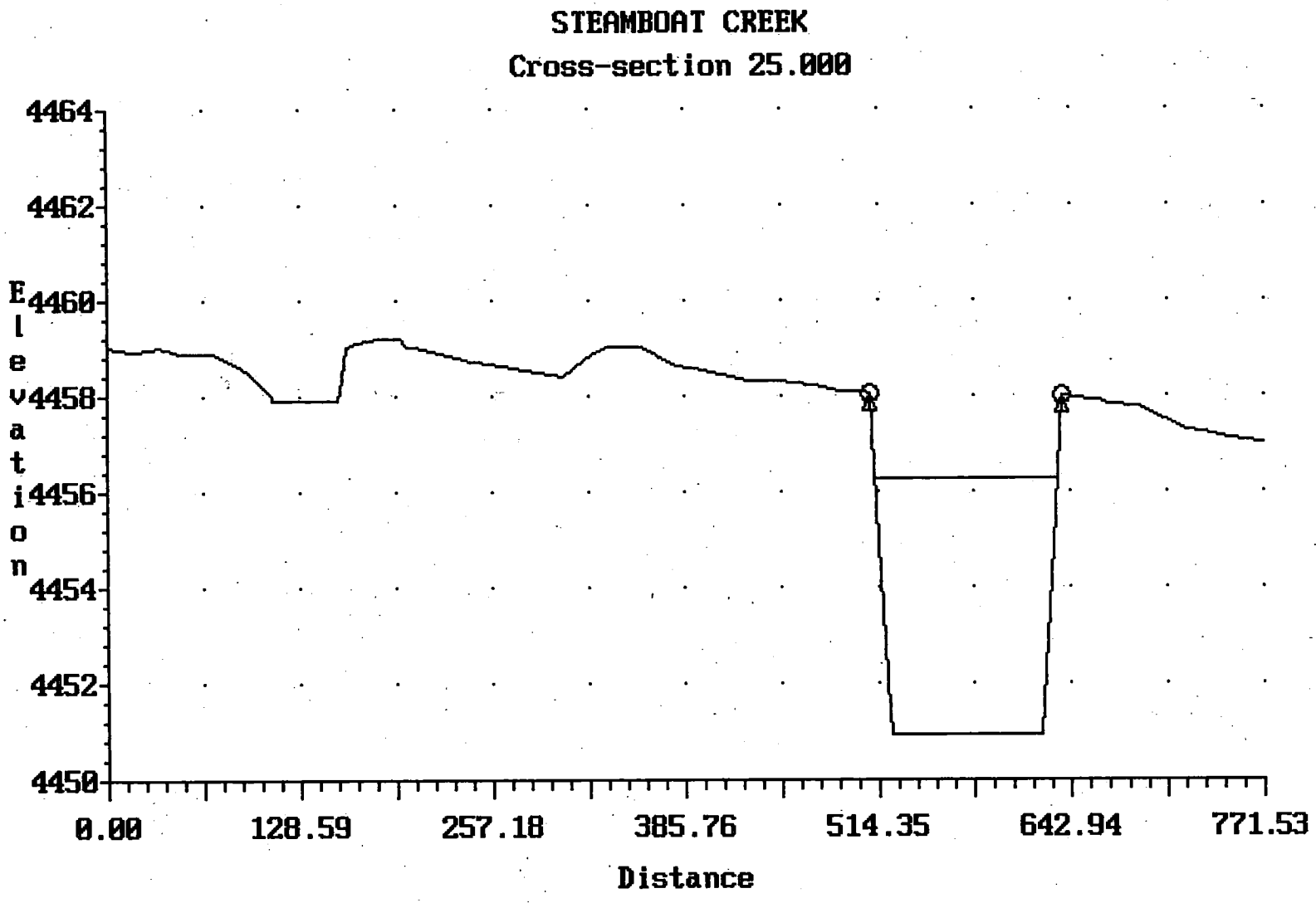

STEAMBOAT CREEK
Cross-section 34.000
4466
4464
4462
4460
4458
4456
4454
4452
Elevation
0.00
63.61
127.23
190.84
254.45
318.07
381.68
Distance

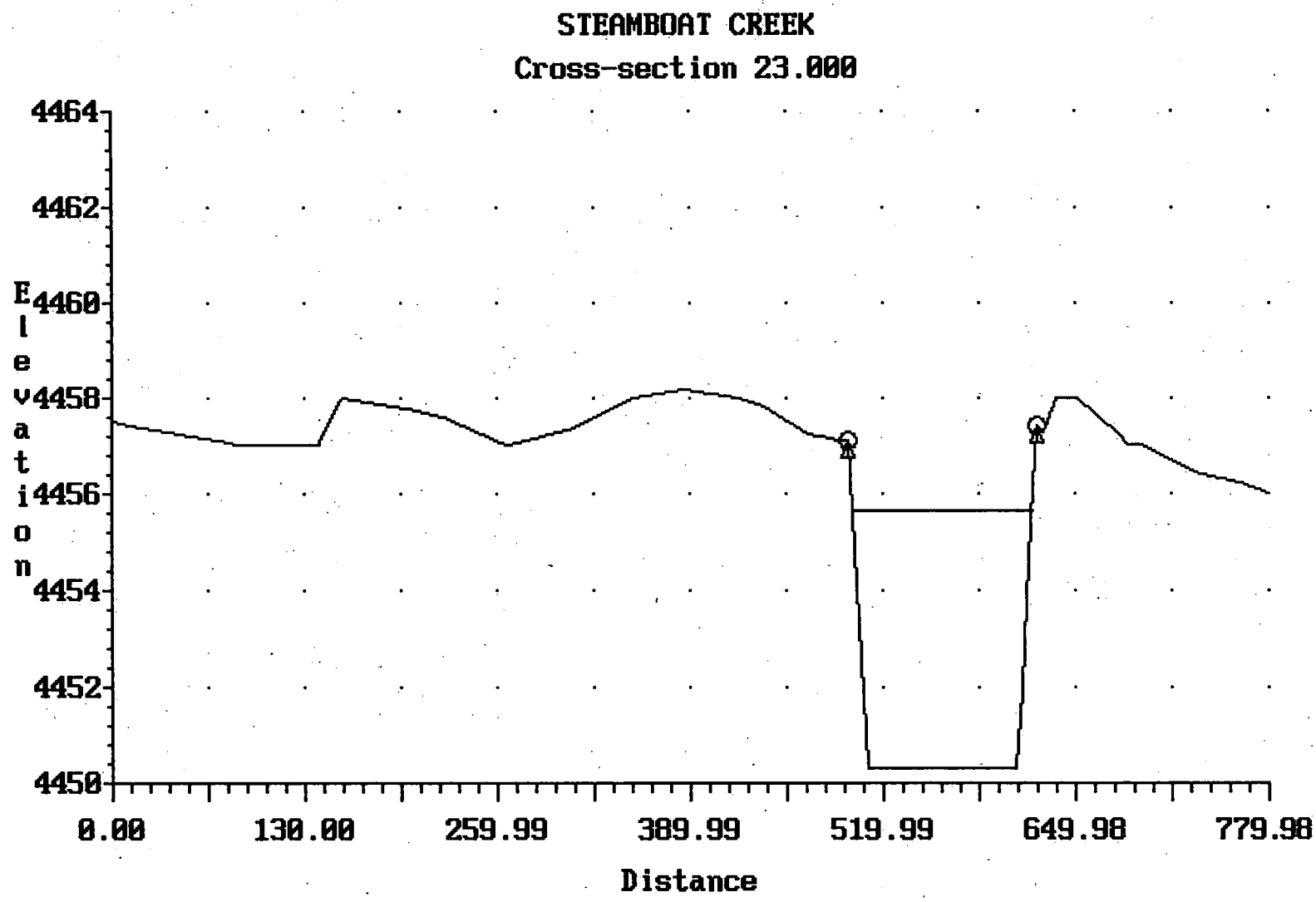

STEAMBOAT CREEK
Cross-section 33.000
4466
4464
4462
4460
4458
4456
4454
4452
Elevation
0.00
74.03
148.07
222.10
296.13
370.17
444.20
Distance

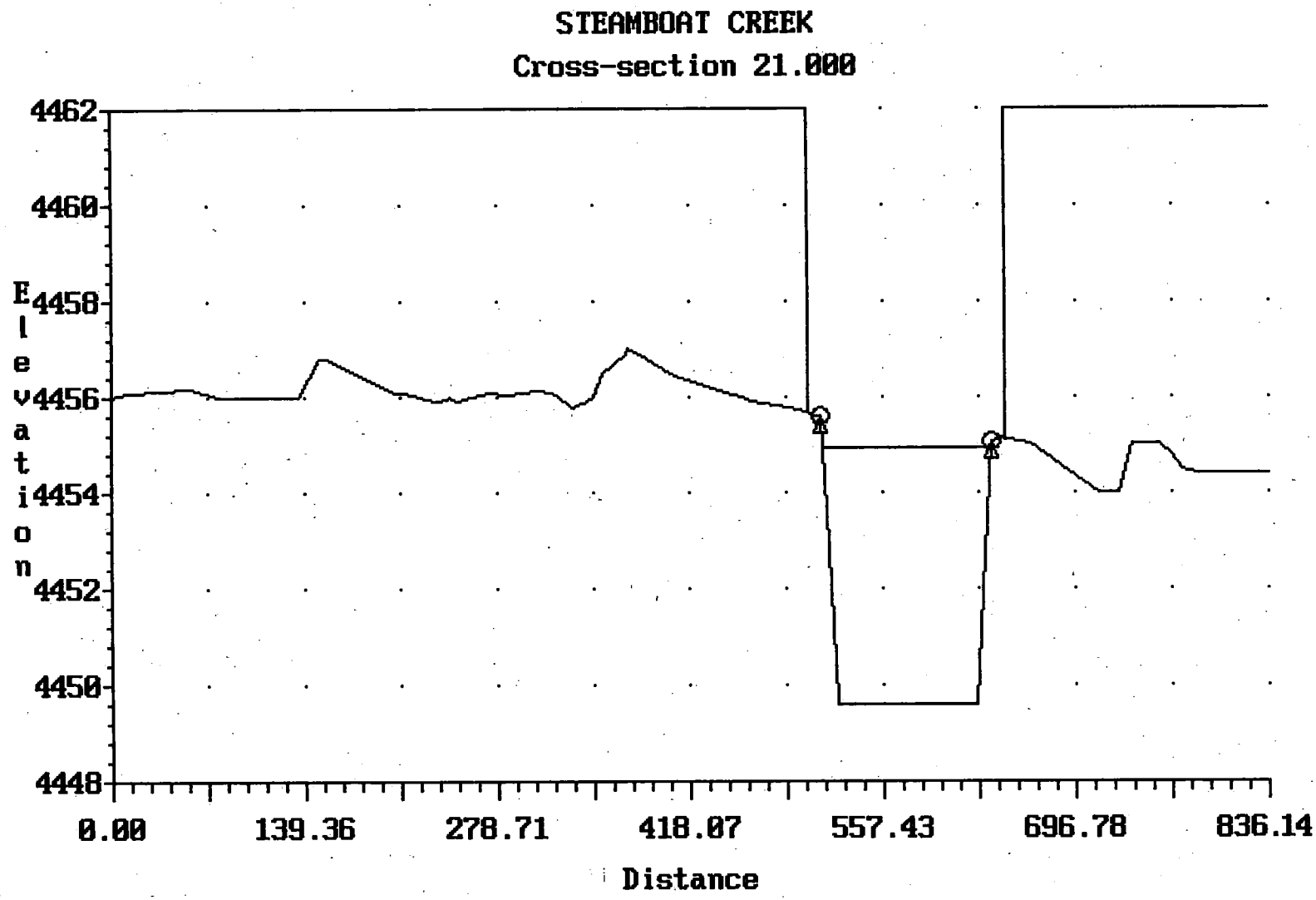

STEAMBOAT CREEK
Cross-section 31.000
Elevation
4466
4464
4462
4460
4458
4456
4454
4452
0.00
94.48
188.96
283.43
377.91
472.39
566.87
Distance

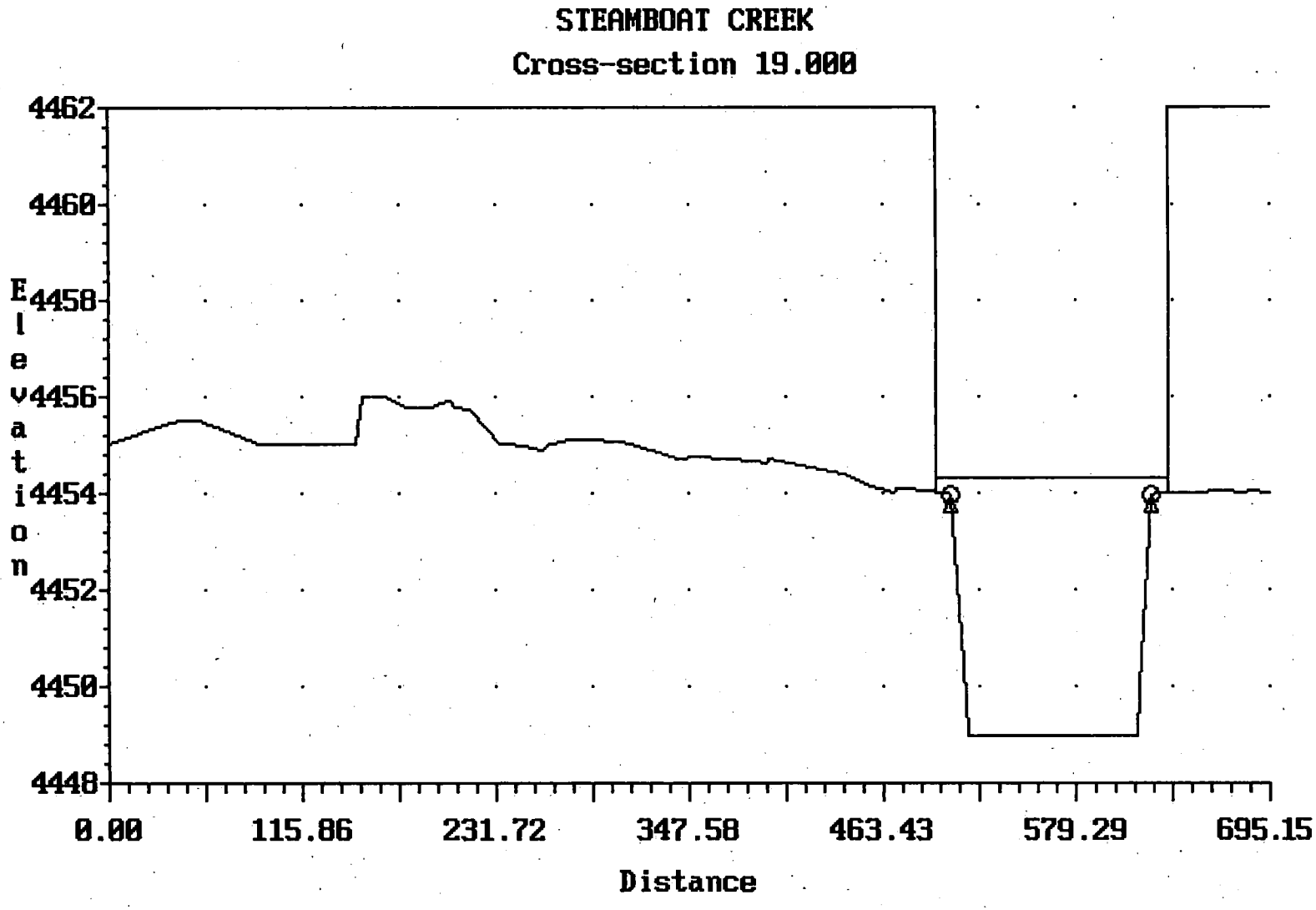

STEAMBOAT CREEK
Cross-section 29.000
4466
4464
4462
4460
4458
4456
4454
4452
Elevation
0.00
115.21
230.41
345.62
460.83
576.03
691.24
Distance

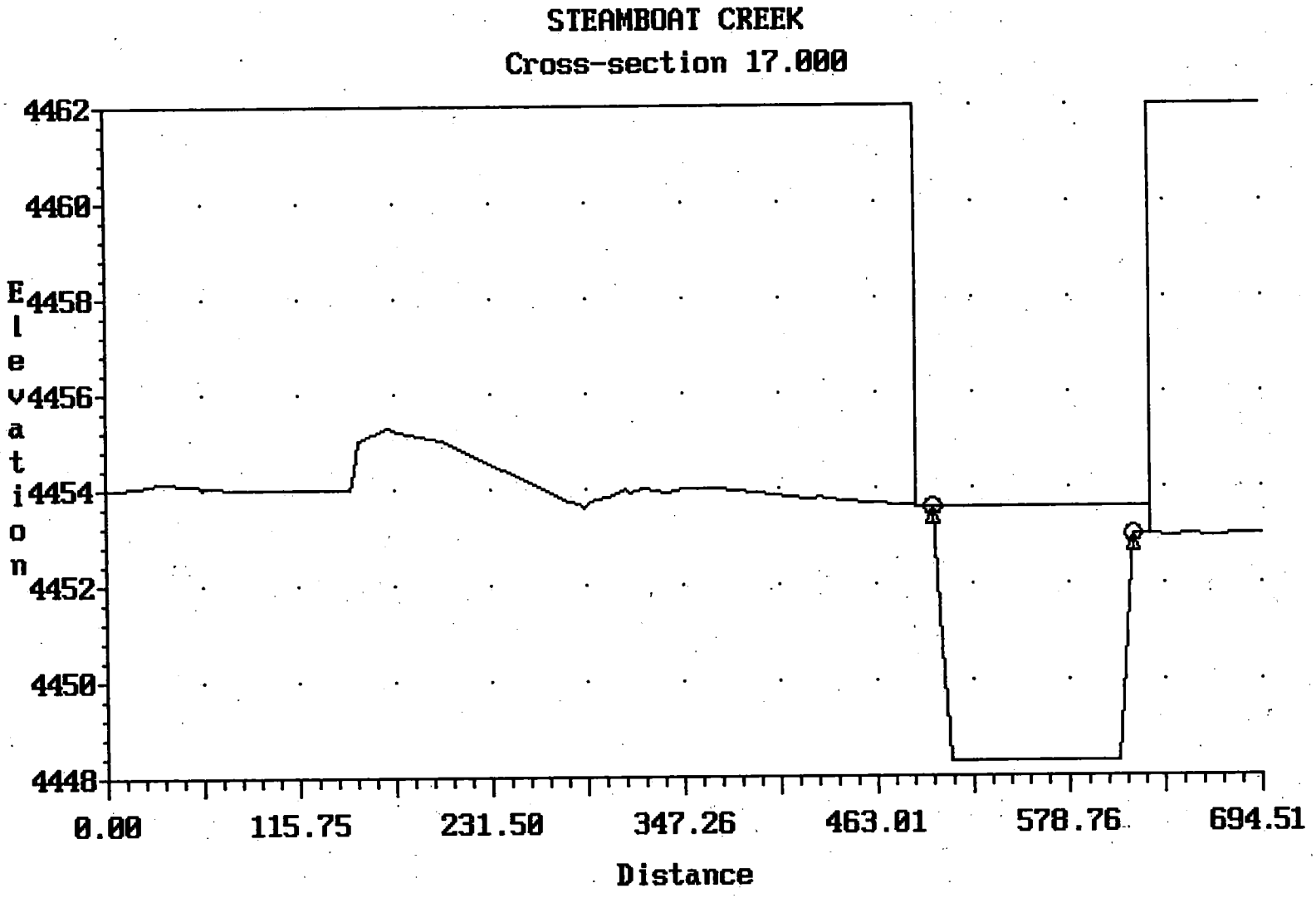

STEAMBOAT CREEK
Cross-section 27.000
4464
4462
4460
4458
4456
4454
4452
4450
Elevation
0.44
108.38
216.33
324.27
432.22
540.16
648.11
Distance

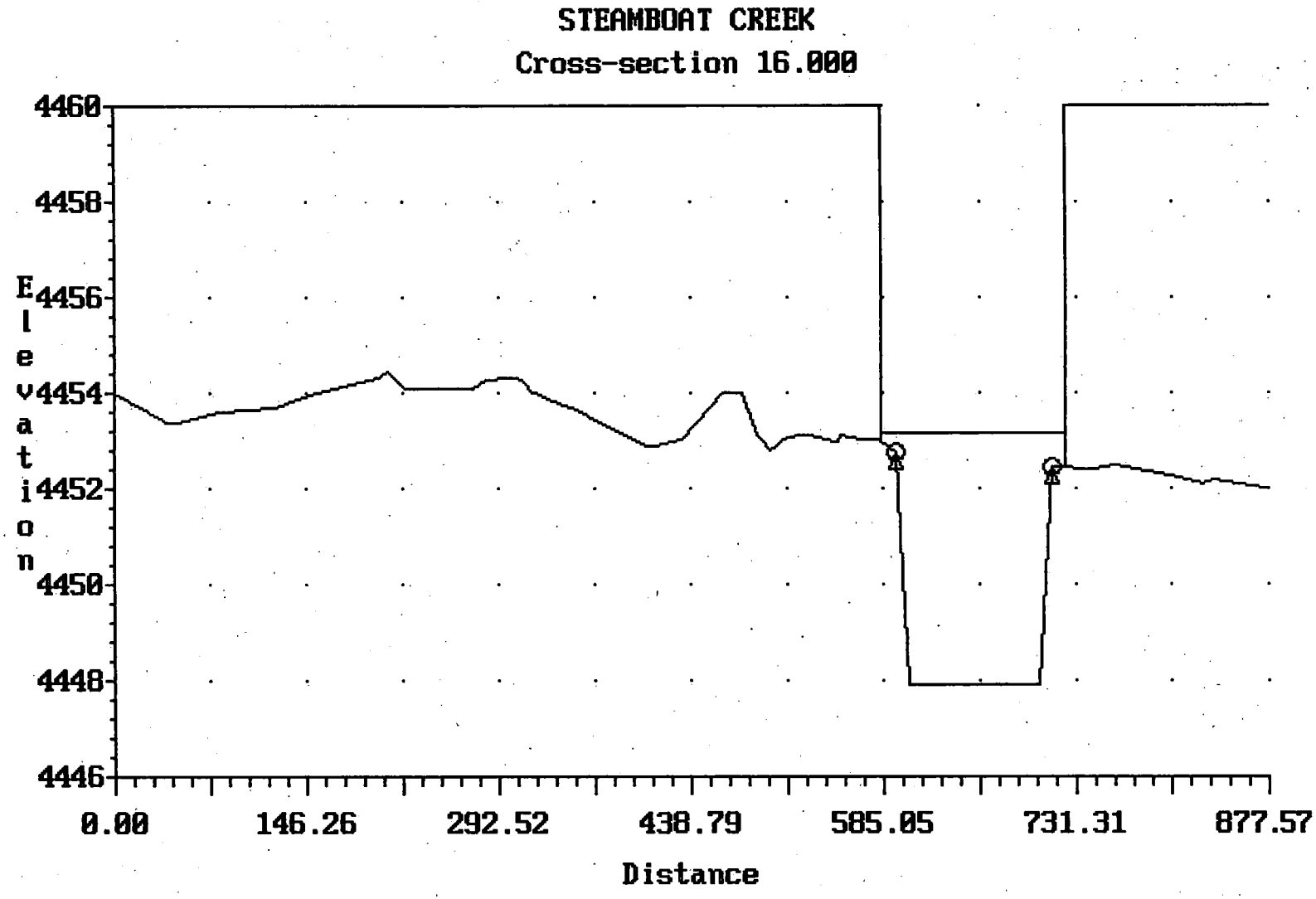

STEAMBOAT CREEK
Cross-section 25.000
4464
4462
4460
4458
4456
4454
4452
4450
Elevation
0.00
128.59
257.18
385.76
514.35
642.94
771.53
Distance

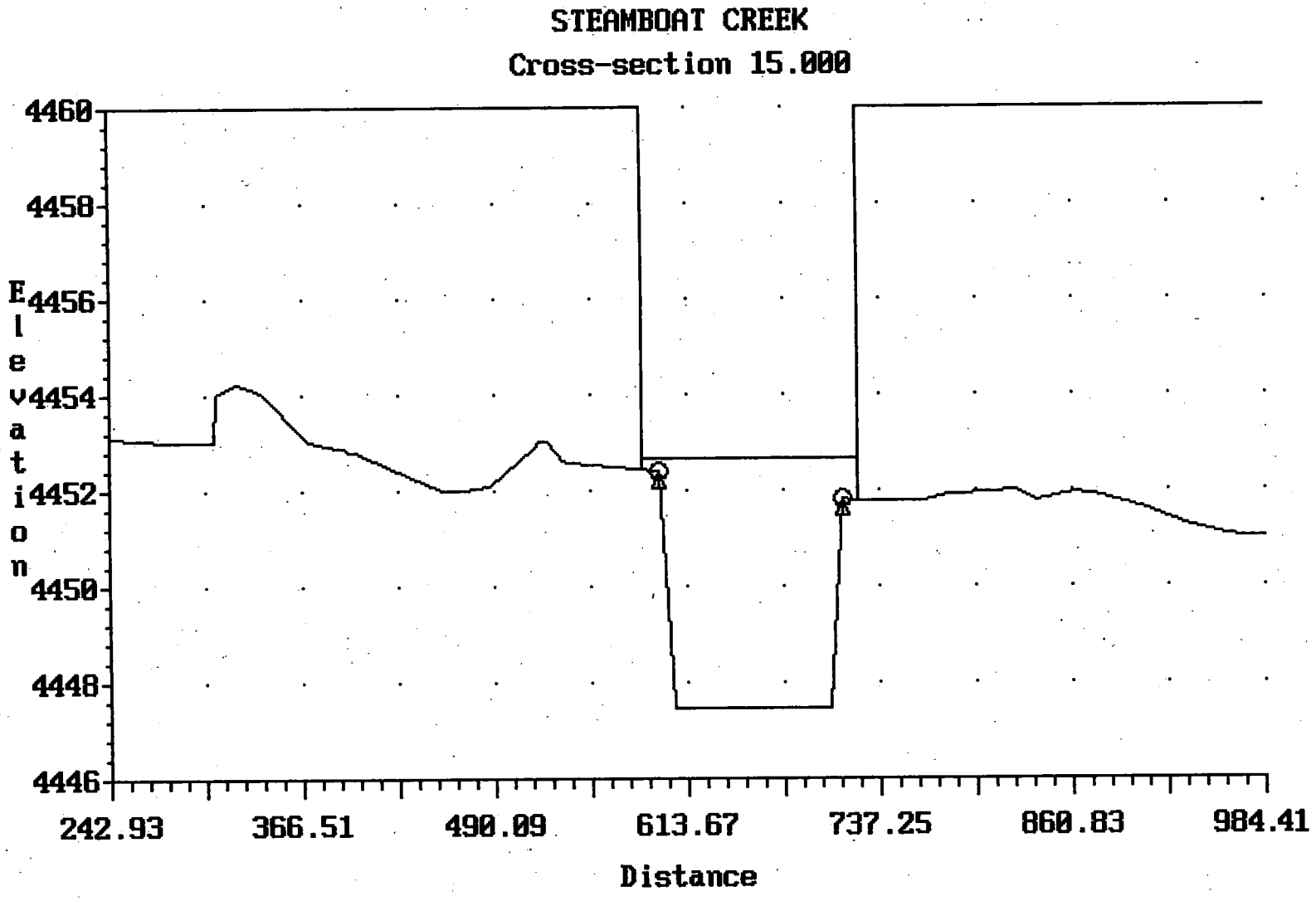

STEAMBOAT CREEK
Cross-section 23.000
4464
4462
4460
4458
4456
4454
4452
4450
Elevation
0.00
130.00
259.99
389.99
519.99
649.98
779.98
Distance

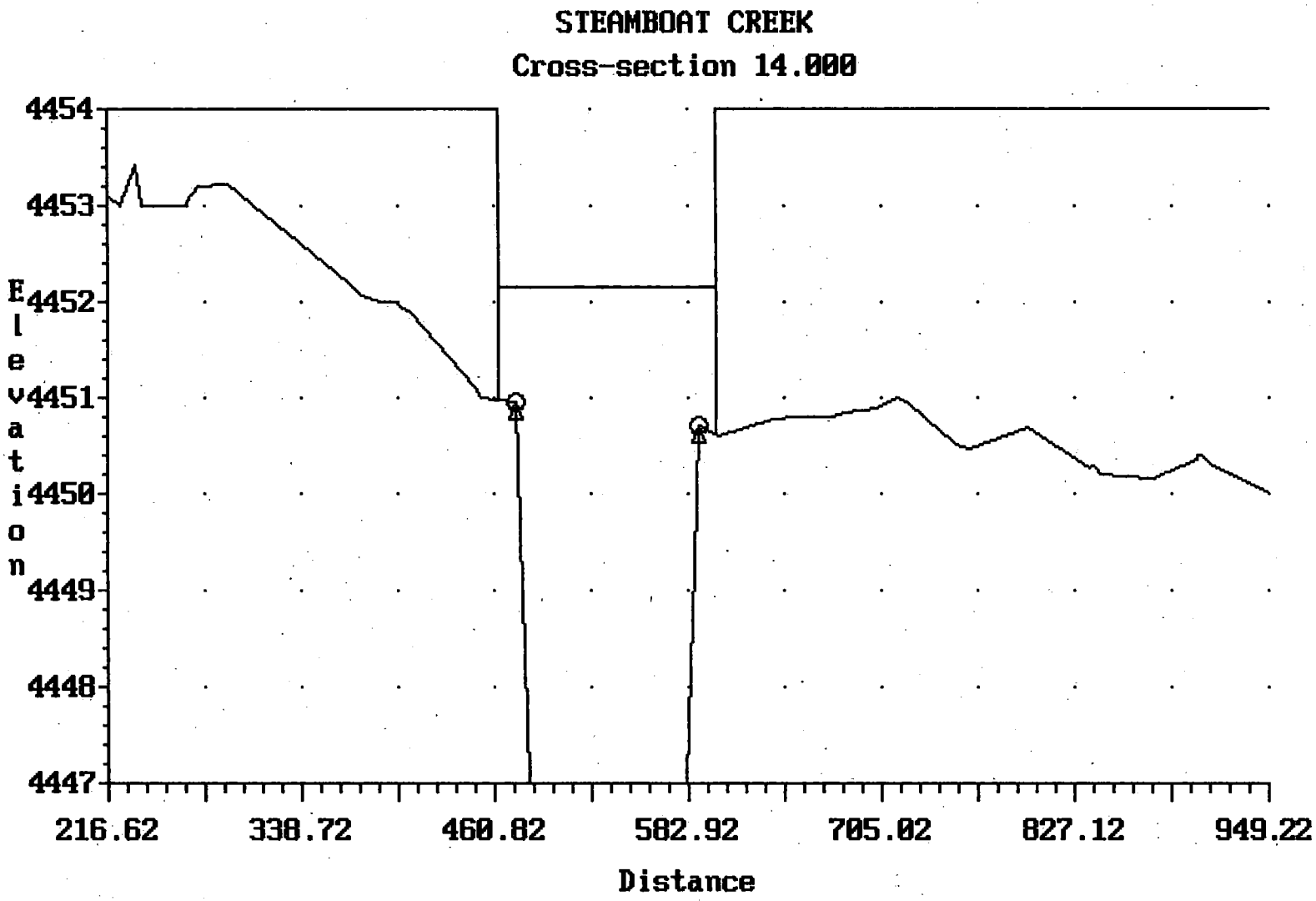

STEAMBOAT CREEK
Cross-section 21.000
4462
4460
4458
4456
4454
4452
4450
4448
Elevation
0.00
139.36
278.71
418.07
557.43
696.78
836.14
Distance

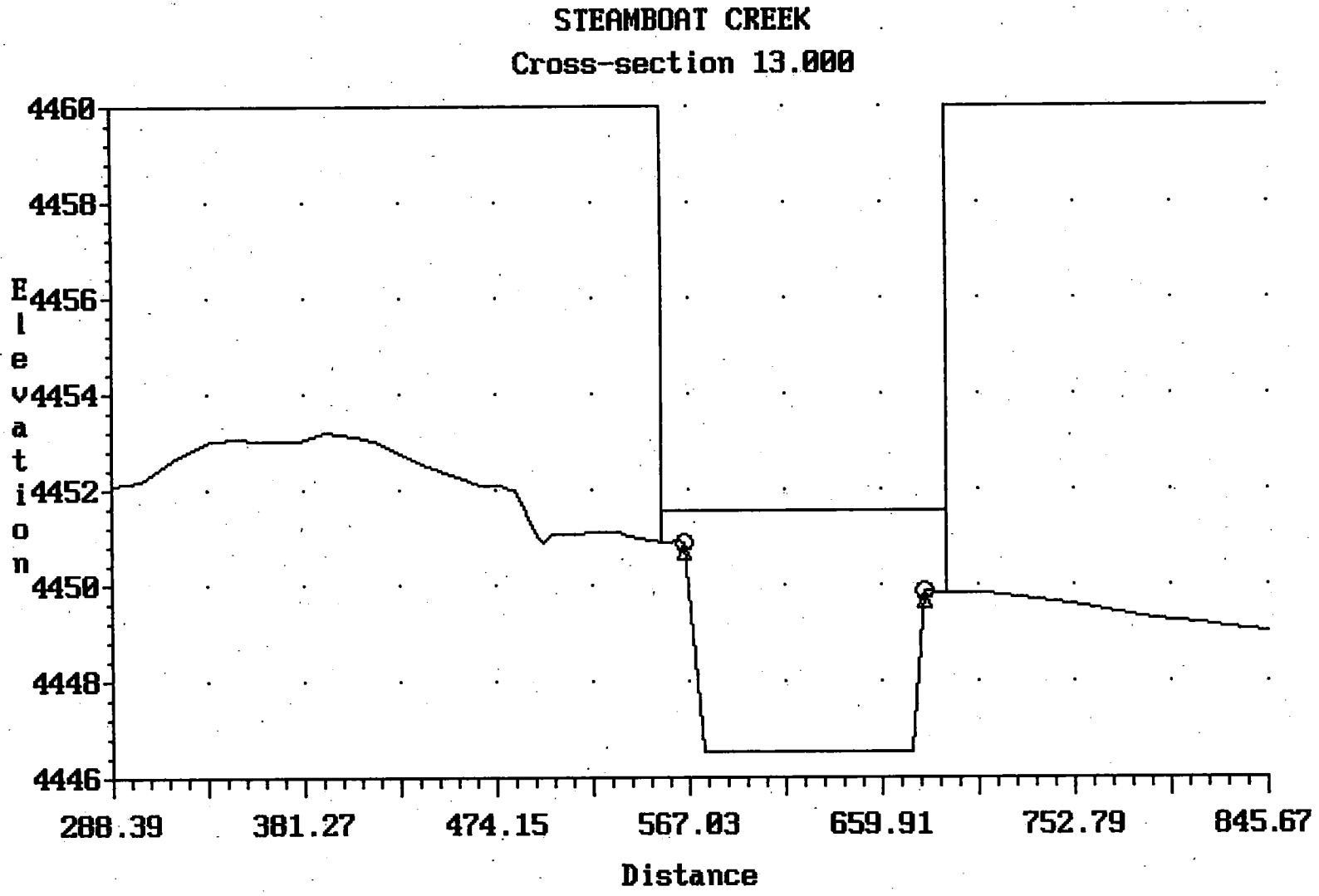

STEAMBOAT CREEK
Cross-section 19.000
4462
4460
4458
4456
4454
4452
4450
4448
Elevation
0.00
115.86
231.72
347.58
463.43
579.29
695.15
Distance

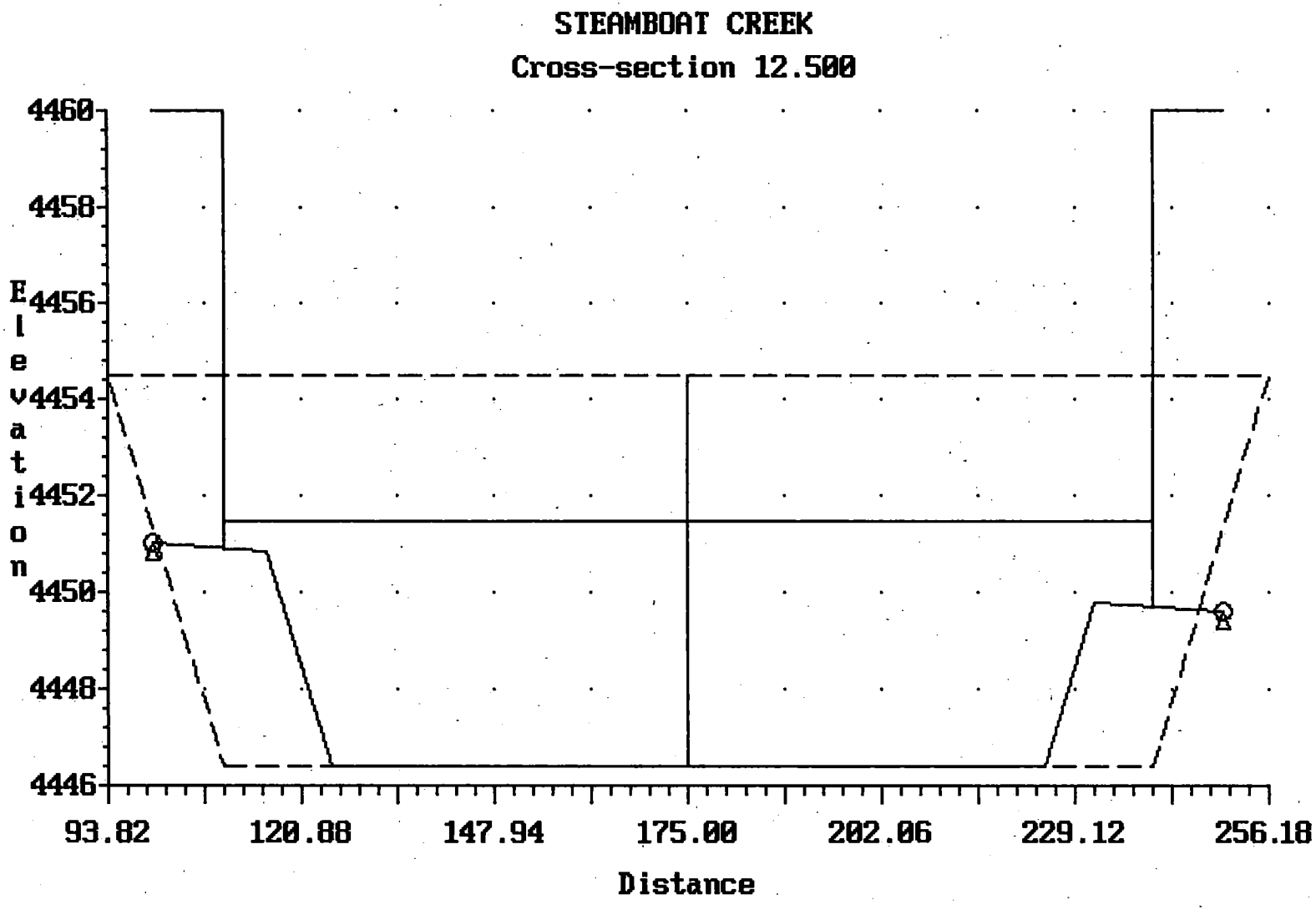

STEAMBOAT CREEK
Cross-section 17.000
4462
4460
4458
4456
4454
4452
4450
4448
Elevation
0.00
115.75
231.50
347.26
463.01
578.76
694.51
Distance

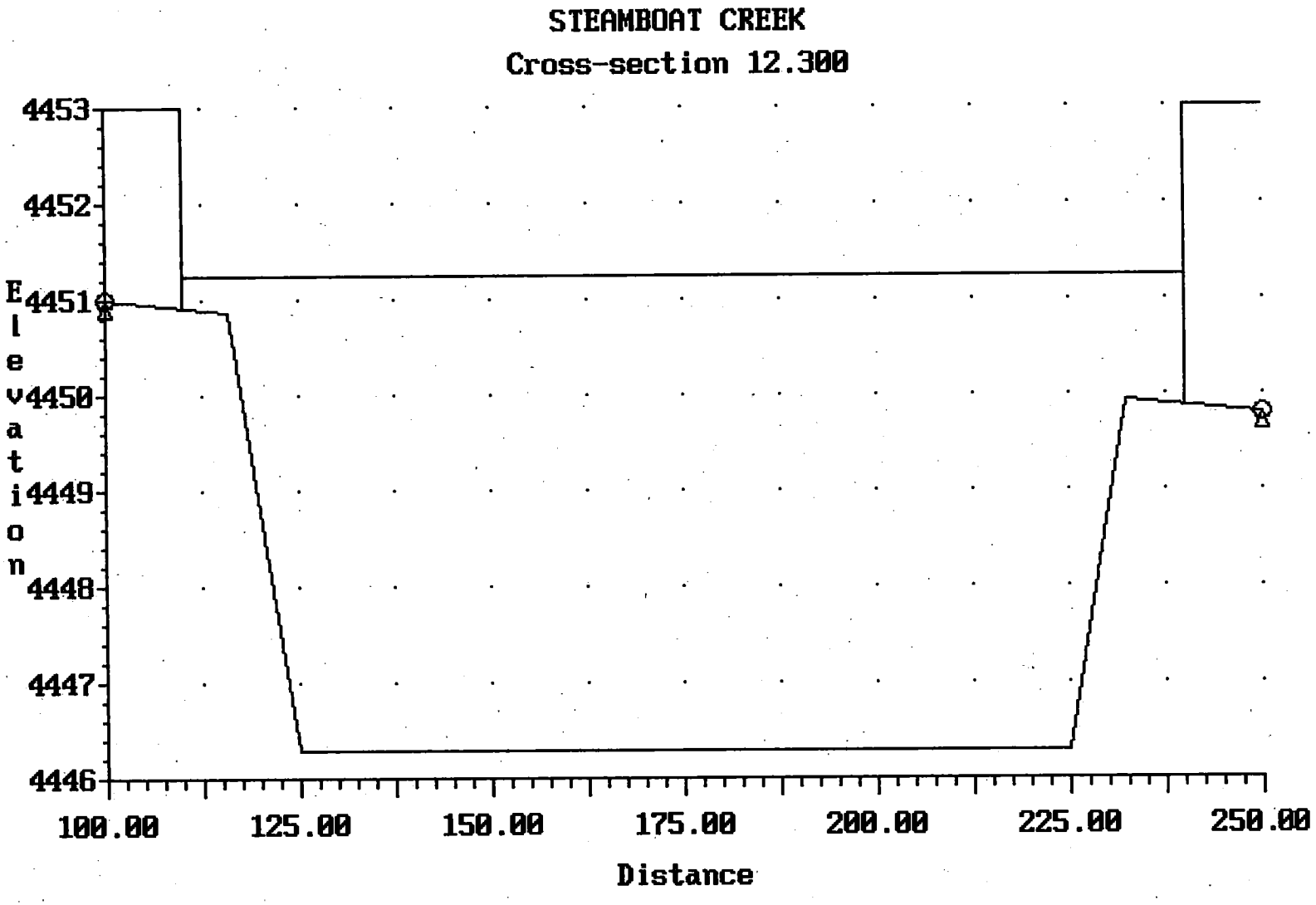

STEAMBOAT CREEK
Cross-section 16.000
4460
4458
4456
4454
4452
4450
4448
4446
Elevation
0.00
146.26
292.52
438.79
585.05
731.31
877.57
Distance

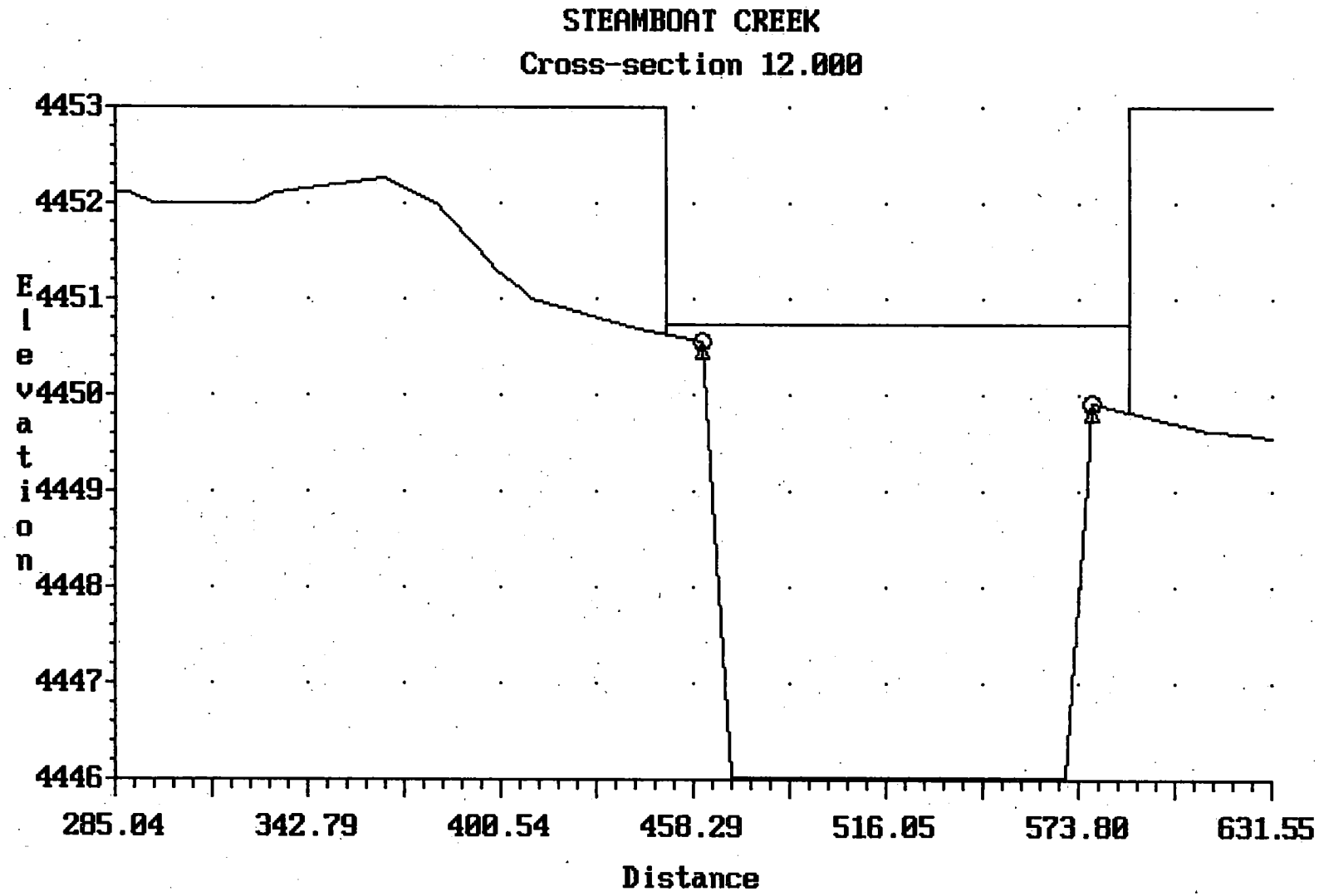

STEAMBOAT CREEK
Cross-section 15.000
4460
4458
4456
4454
4452
4450
4448
4446
Elevation
242.93
366.51
490.09
613.67
737.25
860.83
984.41
Distance

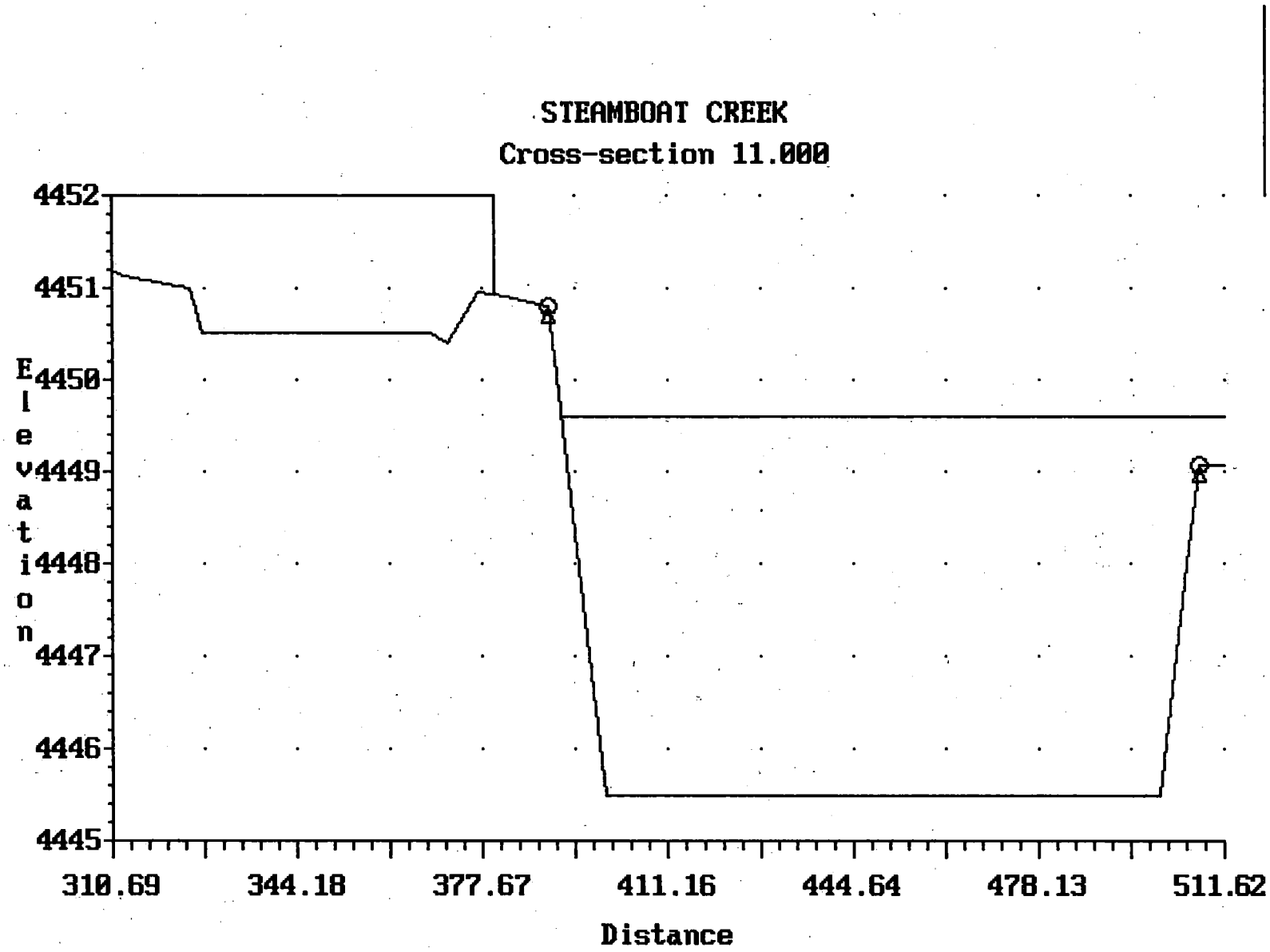

STEAMBOAT CREEK
Cross-section 14.000
4454
4453
4452
4451
4450
4449
4448
4447
Elevation
216.62
338.72
460.82
582.92
705.02
827.12
949.22
Distance

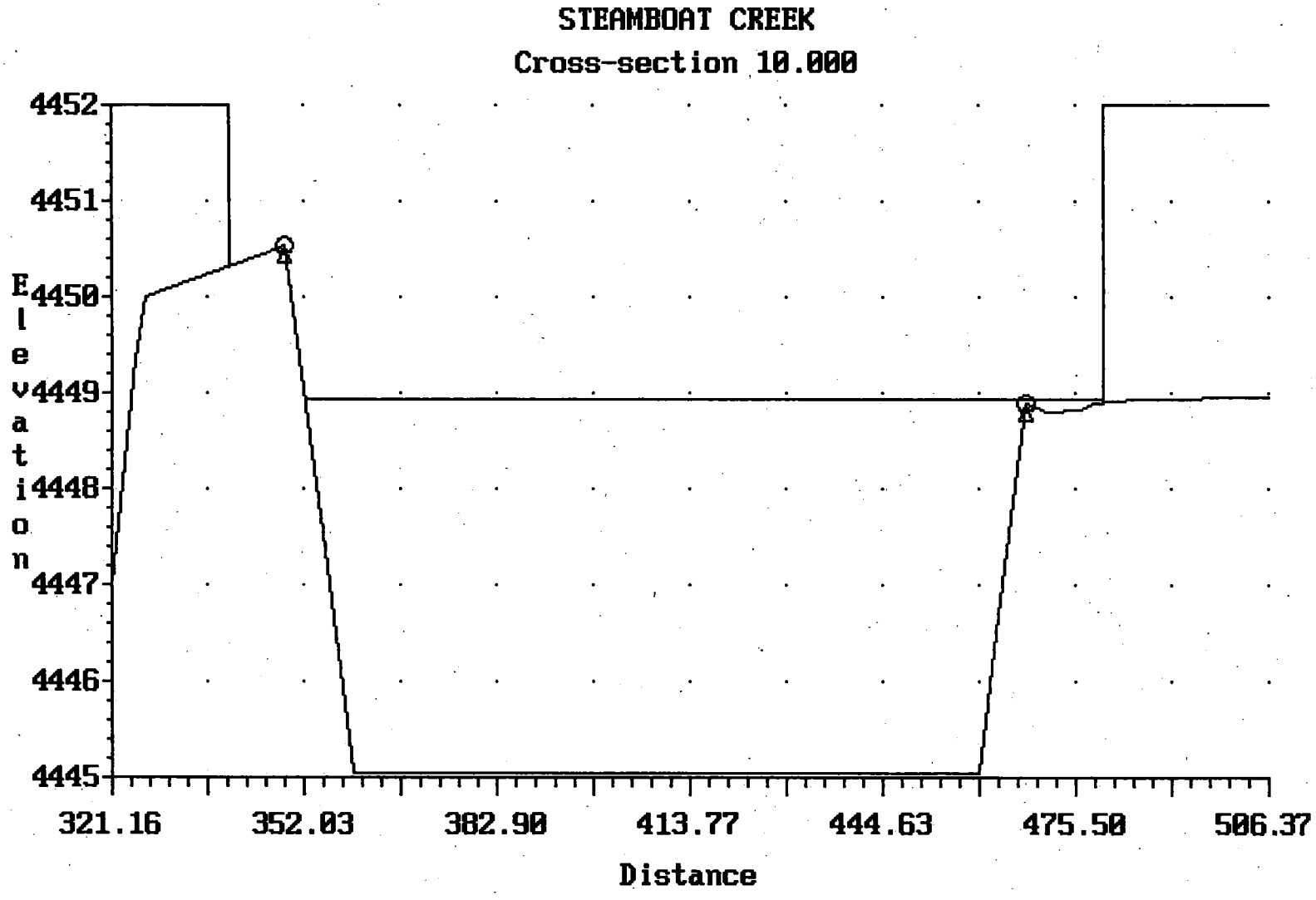

STEAMBOAT CREEK
Cross-section 13.000
4460
4458
4456
4454
4452
4450
4448
4446
Elevation
288.39
381.27
474.15
567.03
659.91
752.79
845.67
Distance

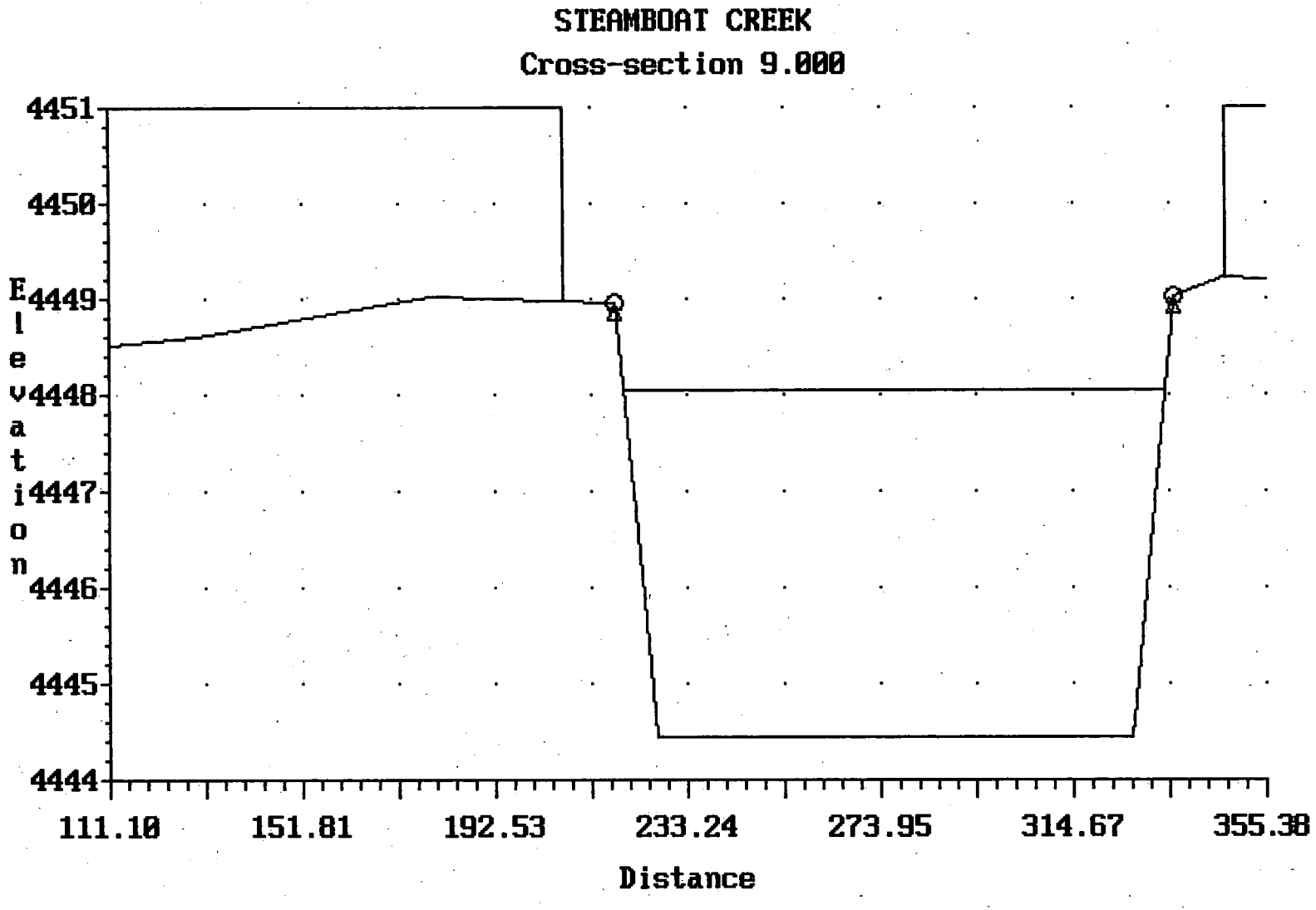

STEAMBOAT CREEK
Cross-section 12.500
4460
4458
4456
4454
4452
4450
4448
4446
Elevation
93.82
120.88
147.94
175.00
202.06
229.12
256.18
Distance

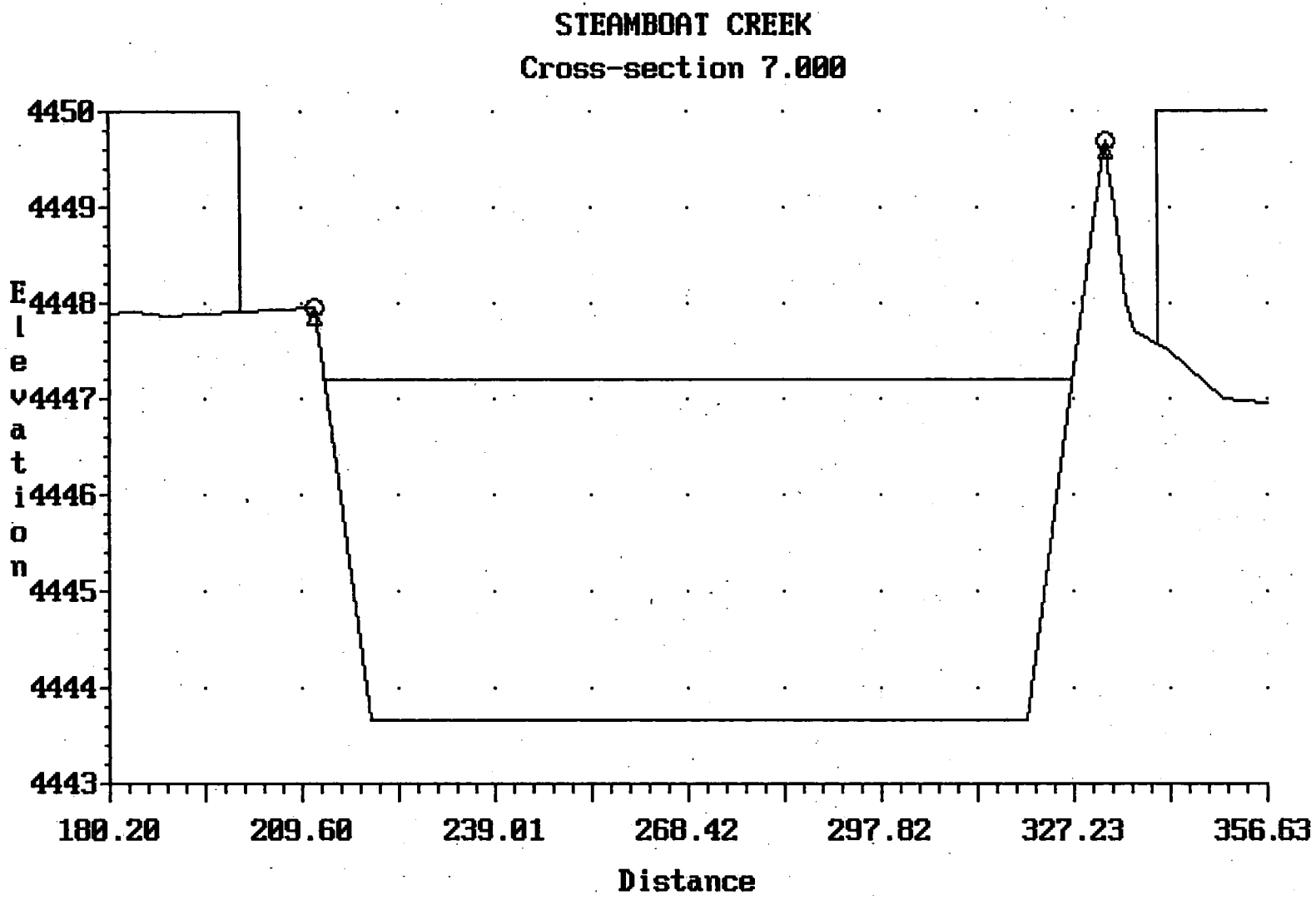

STEAMBOAT CREEK
Cross-section 12.300
4453
4452
4451
4450
4449
4448
4447
4446
Elevation
100.00
125.00
150.00
175.00
200.00
225.00
250.00
Distance

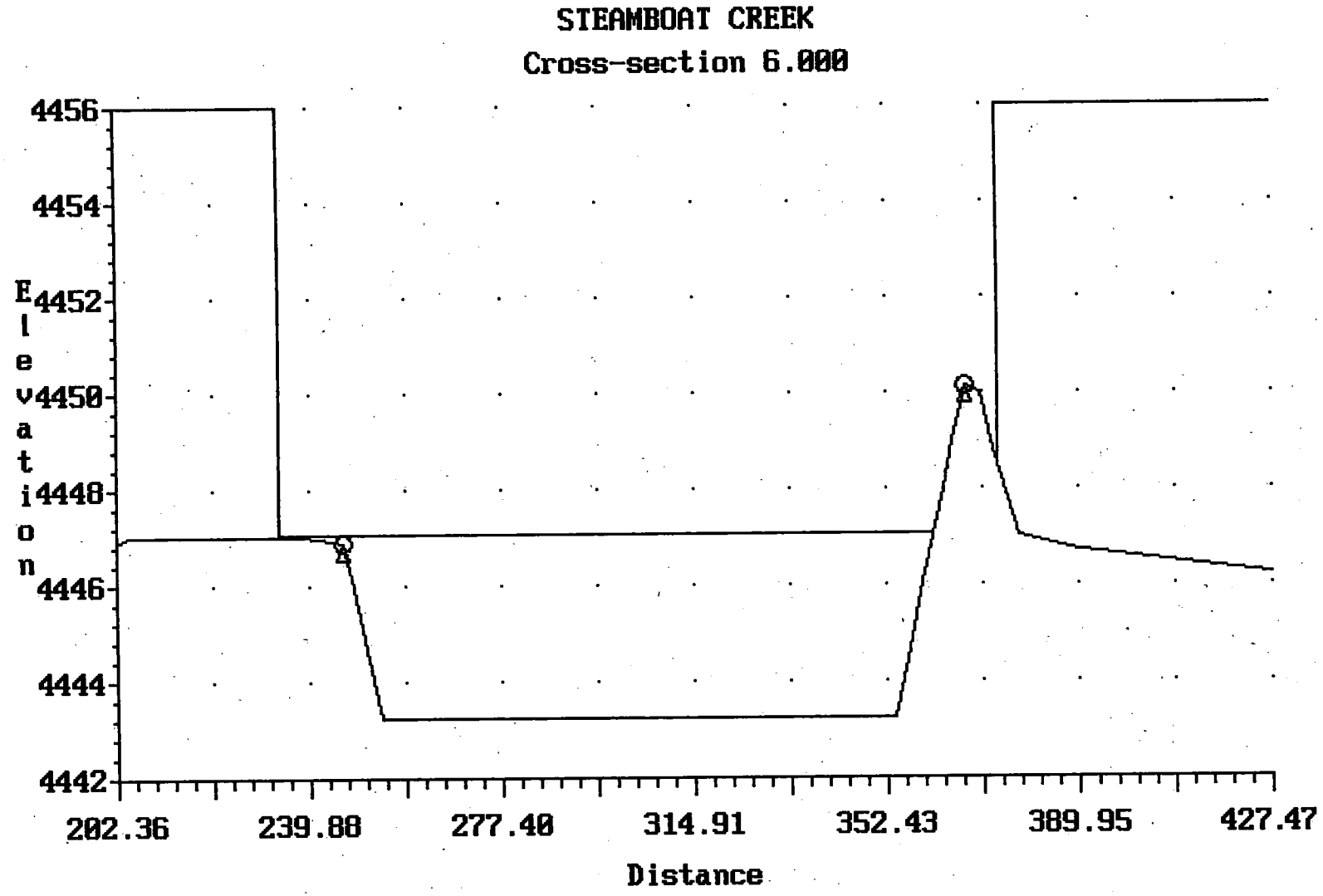

STEAMBOAT CREEK
Cross-section 12.000
4453
4452
4451
4450
4449
4448
4447
4446
Elevation
285.04
342.79
400.54
458.29
516.05
573.80
631.55
Distance

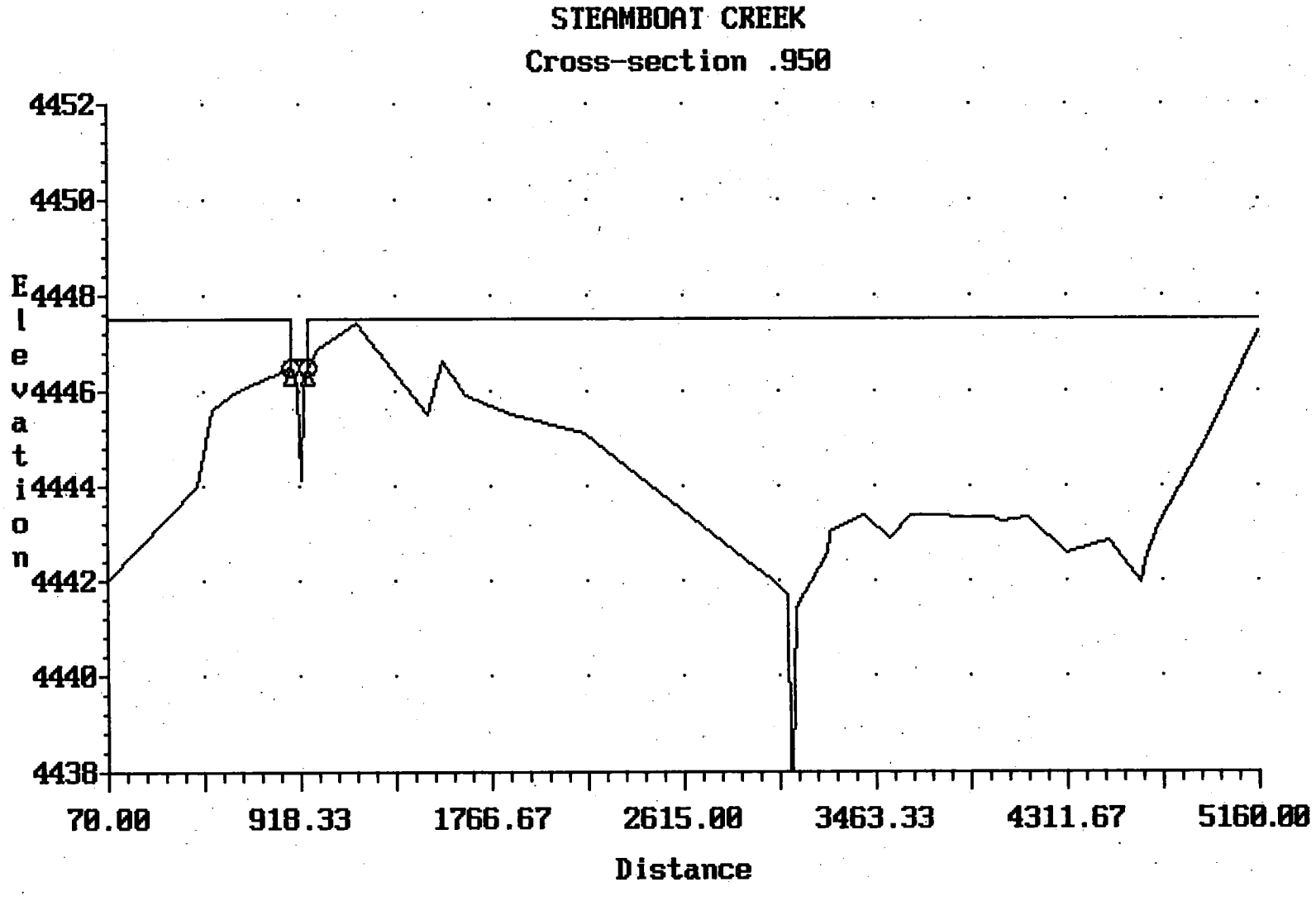

STEAMBOAT CREEK
Cross-section 11.000
4452
4451
4450
4449
4448
4447
4446
4445
Elevation
310.69
344.18
377.67
411.16
444.64
478.13
511.62
Distance

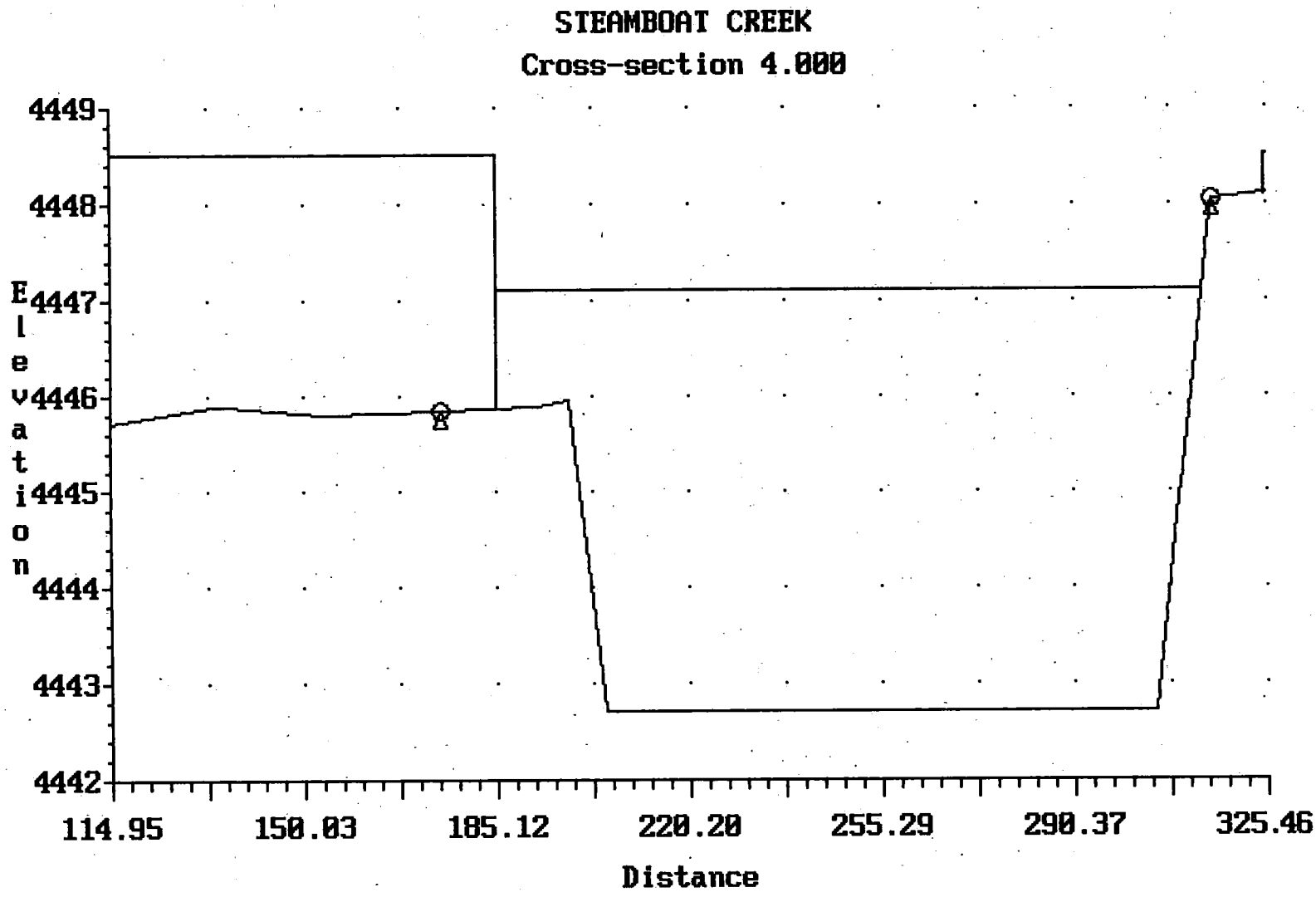

STEAMBOAT CREEK
Cross-section 10.000
4452
4451
4450
4449
4448
4447
4446
4445
Elevation
321.16
352.03
382.90
413.77
444.63
475.50
506.37
Distance

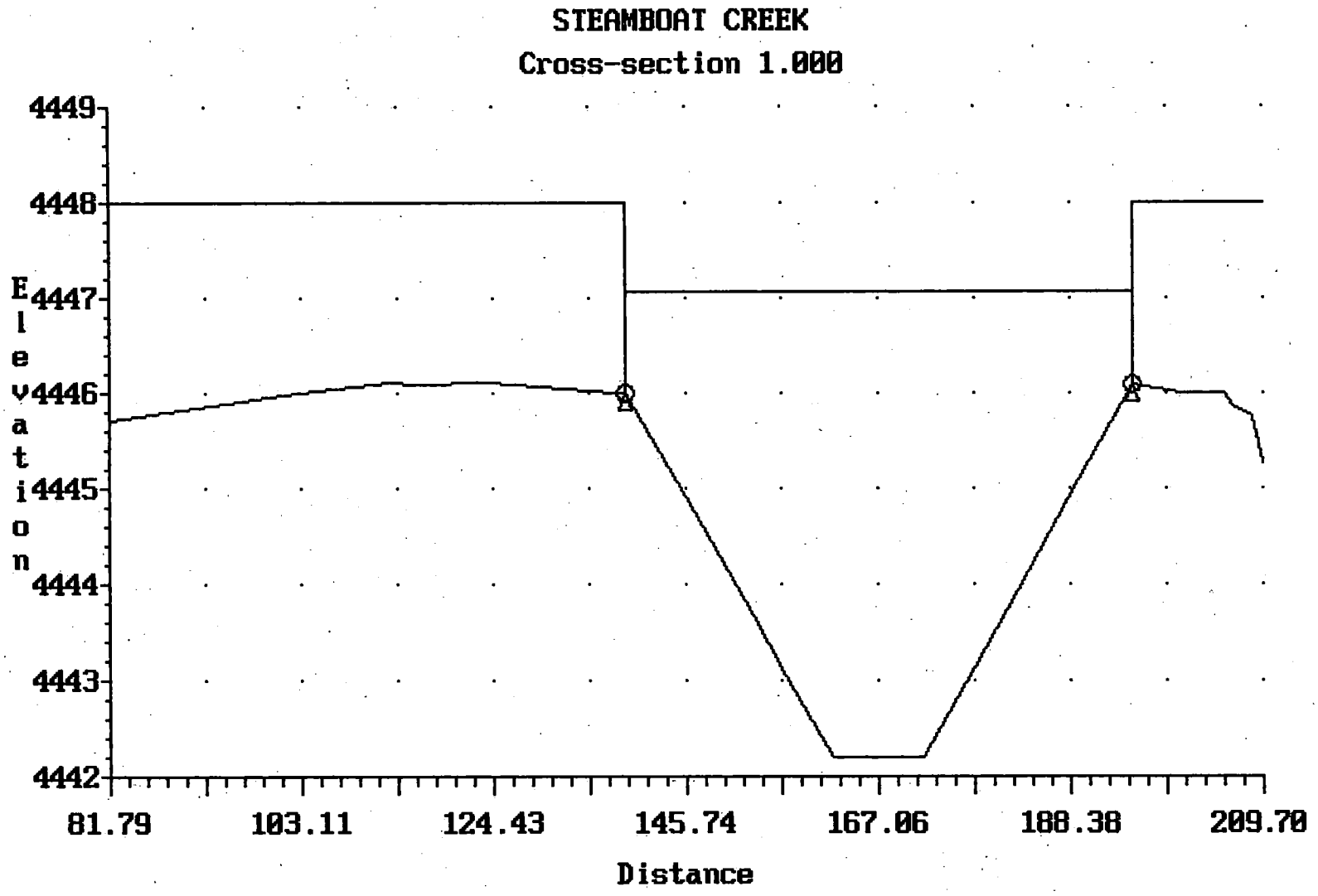

STEAMBOAT CREEK
Cross-section 9.000
4451
4450
4449
4448
4447
4446
4445
4444
Elevation
111.10
151.81
192.53
233.24
273.95
314.67
355.38
Distance

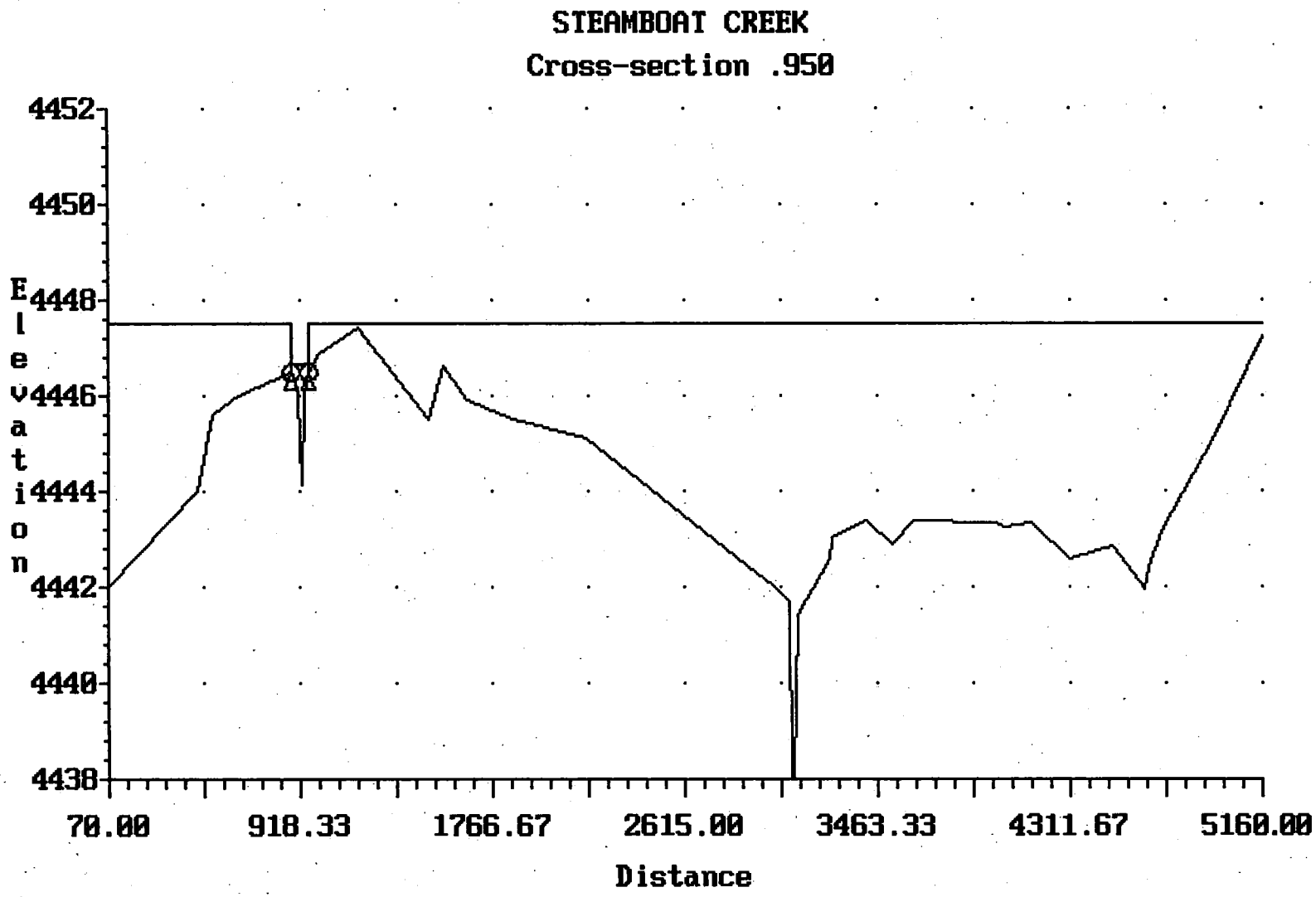

STEAMBOAT CREEK
Cross-section 7.000
4450
4449
4448
4447
4446
4445
4444
4443
Elevation
180.20
209.60
239.01
268.42
297.82
327.23
356.63
Distance

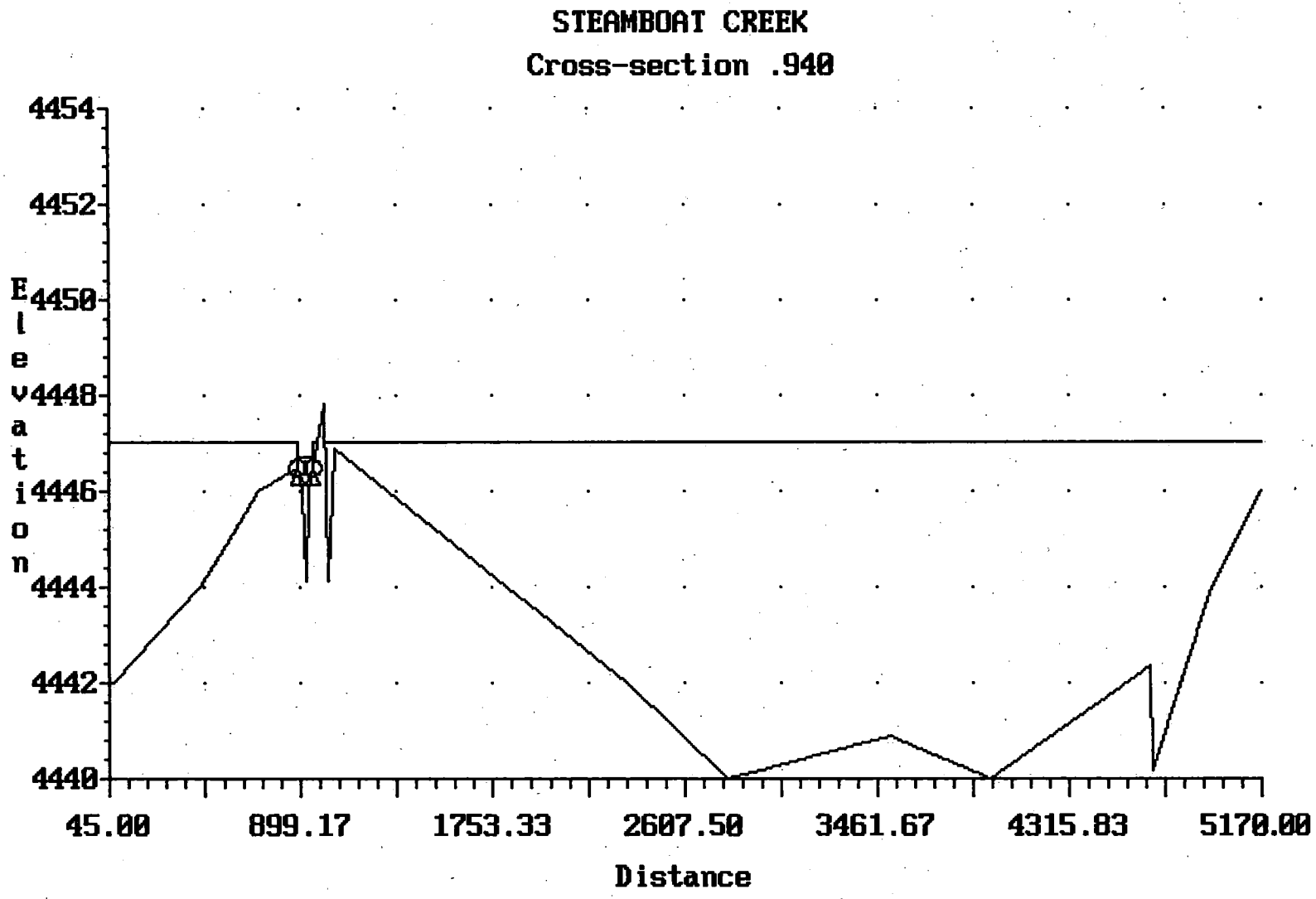

STEAMBOAT CREEK
Cross-section 6.000
4456
4454
4452
4450
4448
4446
4444
4442
Elevation
202.36
239.88
277.40
314.91
352.43
389.95
427.47
Distance

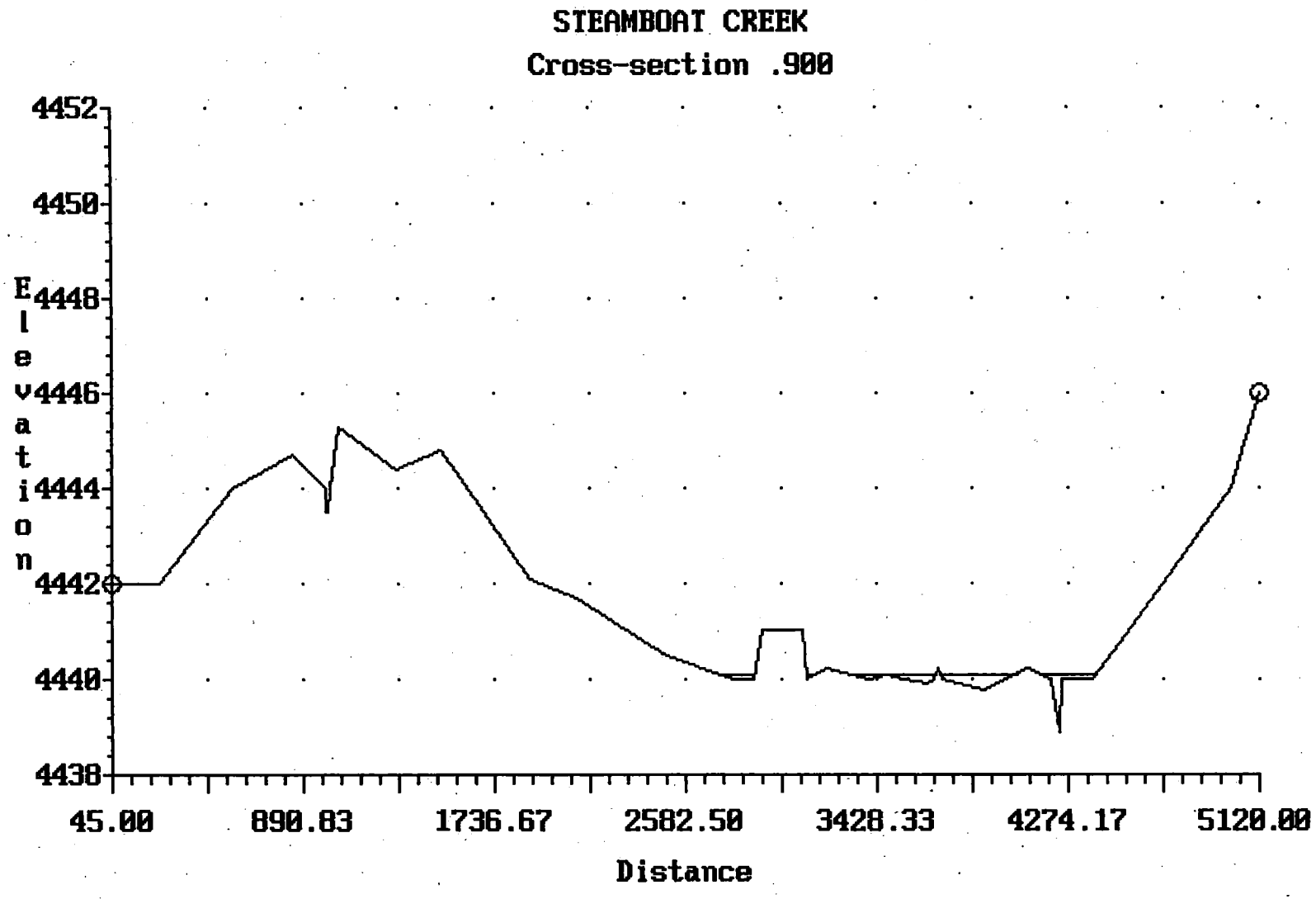

STEAMBOAT CREEK
Cross-section .950
4452
4450
4448
4446
4444
4442
4440
4438
Elevation
70.00
918.33
1766.67
2615.00
3463.33
4311.67
5160.00
Distance

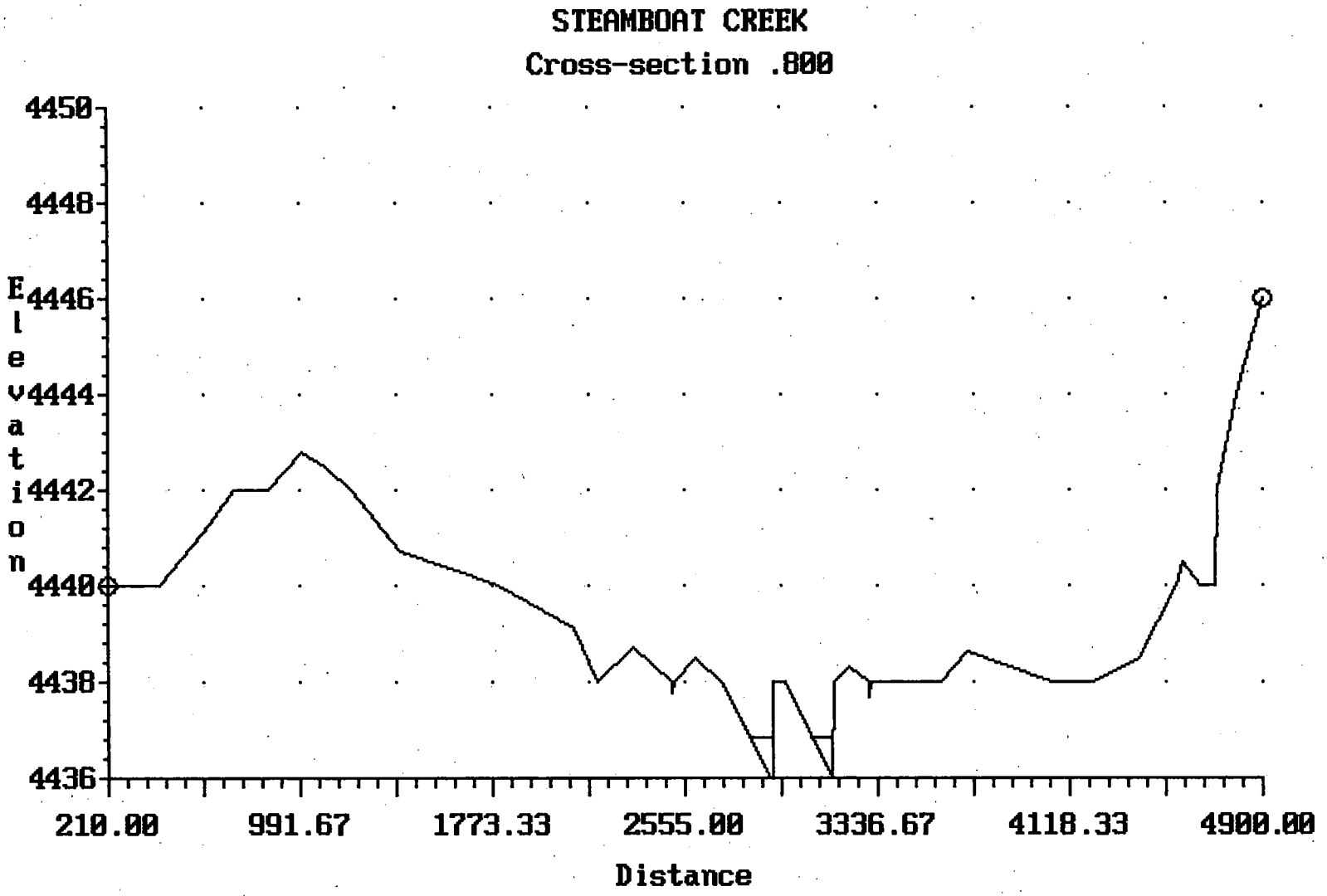

STEAMBOAT CREEK
Cross-section 4.000
4449
4448
4447
4446
4445
4444
4443
4442
Elevation
114.95
150.03
185.12
220.20
255.29
290.37
325.46
Distance

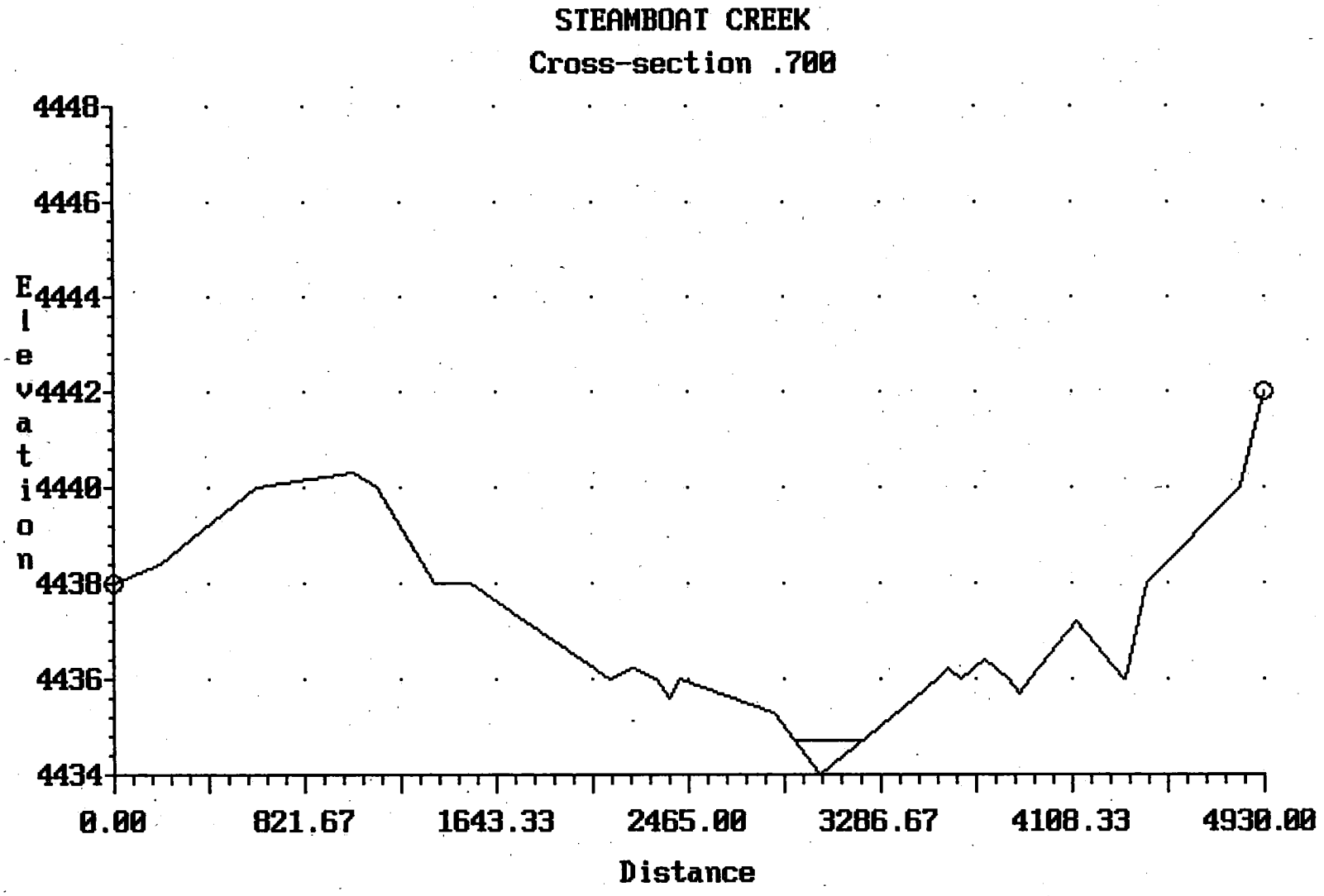

STEAMBOAT CREEK
Cross-section 1.000
4449
4448
4447
4446
4445
4444
4443
4442
Elevation
81.79
103.11
124.43
145.74
167.06
188.38
209.70
Distance

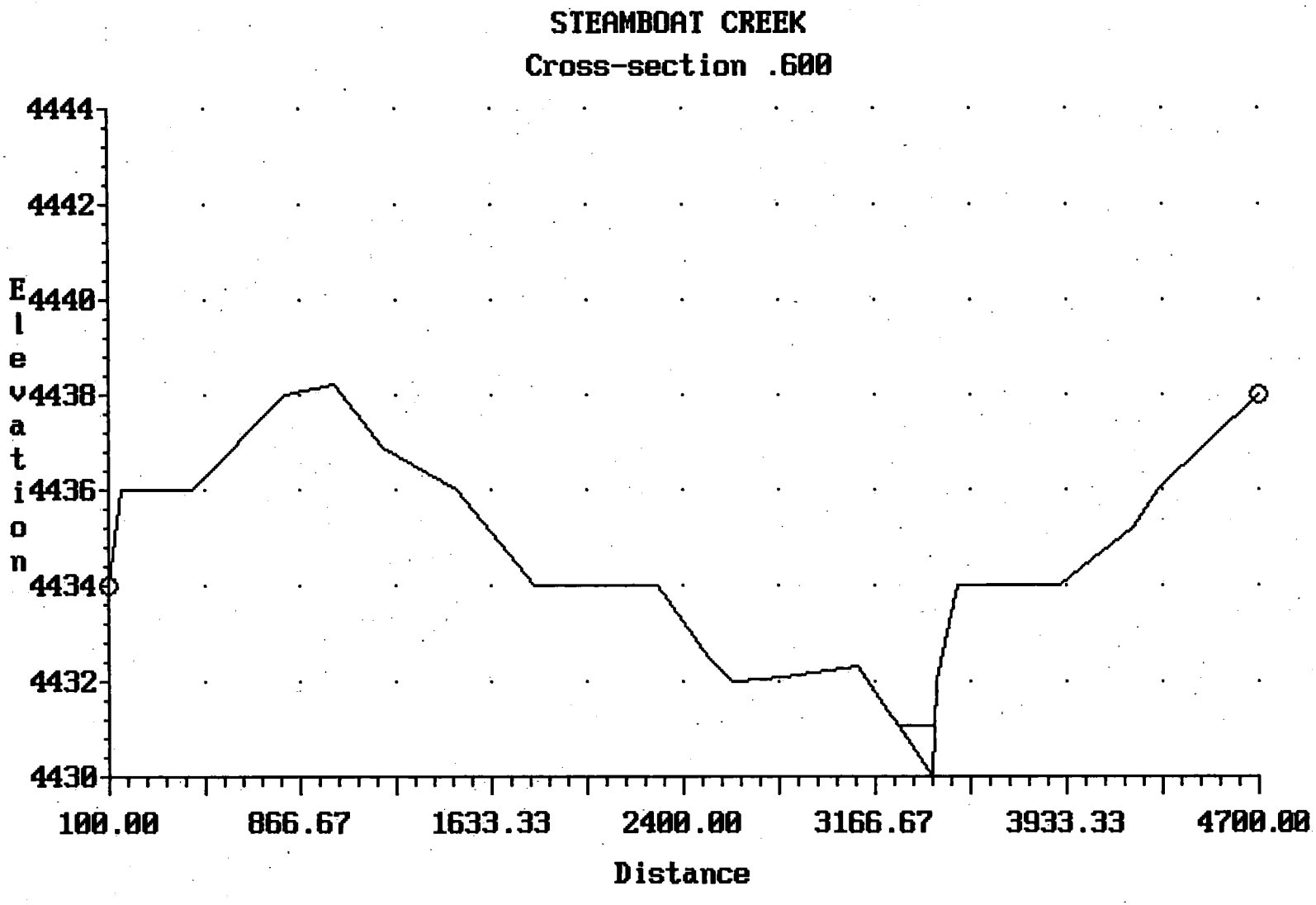

STEAMBOAT CREEK
Cross-section .950
4452
4450
4448
4446
4444
4442
4440
4438
Elevation
70.00
918.33
1766.67
2615.00
3463.33
4311.67
5160.00
Distance

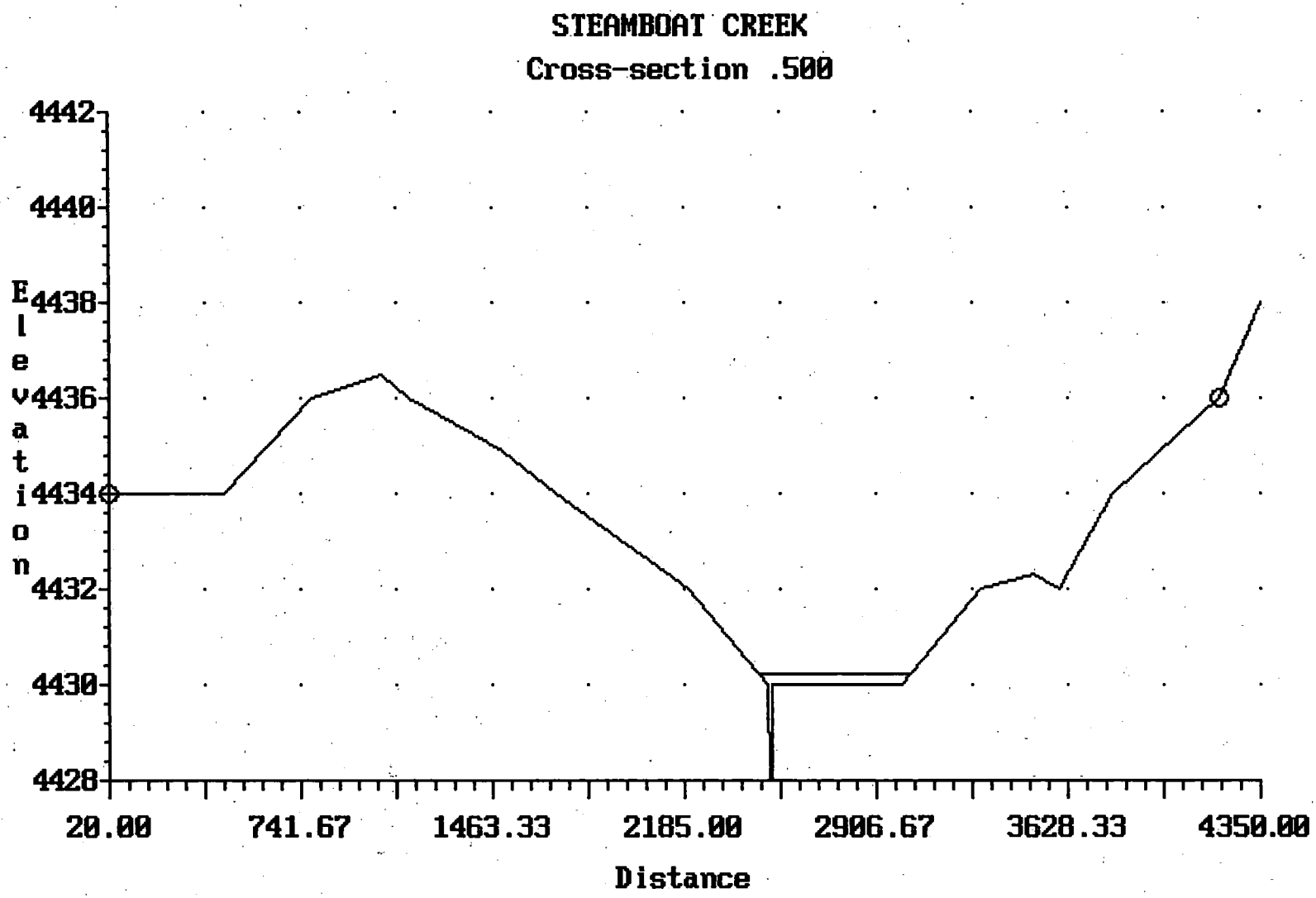

STEAMBOAT CREEK
Cross-section .940
4454
4452
4450
4448
4446
4444
4442
4440
Elevation
45.00
899.17
1753.33
2607.50
3461.67
4315.83
5170.00
Distance


STEAMBOAT CREEK
Cross-section .900
4452
4450
4448
4446
4444
4442
4440
4438
Elevation
45.00
890.83
1736.67
2582.50
3428.33
4274.17
5120.00
Distance


STEAMBOAT CREEK
Cross-section .800
4450
4448
4446
4444
4442
4440
4438
4436
Elevation
210.00
991.67
1773.33
2555.00
3336.67
4118.33
4900.00
Distance


STEAMBOAT CREEK
Cross-section .700
4448
4446
4444
4442
4440
4438
4436
4434
Elevation
0.00
821.67
1643.33
2465.00
3286.67
4108.33
4930.00
Distance


STEAMBOAT CREEK
Cross-section .600
4444
4442
4440
4438
4436
4434
4432
4430
Elevation
100.00
866.67
1633.33
2400.00
3166.67
3933.33
4700.00
Distance


STEAMBOAT CREEK
Cross-section .500
4442
4440
4438
4436
4434
4432
4430
4428
Elevation
20.00
741.67
1463.33
2185.00
2906.67
3628.33
4350.00
Distance

HEC-2 PROPOSED CONDITIONS MODEL

DETENTION BASIN FLOW TO BELLA VISTA RANCH – CHANNELIZED FLOW TO SHEET FLOW – 30CLOMR3.DAT

```
1*****************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    12SEP01    TIME   17:05:10  *
*****************************************
```

```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*        (916) 756-1104             *
*************************************
```

```
X     X  XXXXXXX   XXXXX             XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X           XXXXX    XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX            XXXXXXX
```


THIS RUN EXECUTED 12SEP01 17:05:10

```
************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************
```

```
T1 DAMONTE RANCH              NIMBUS JOB #: 0030     DATE: SEPT 2001
T2 PROPOSED CONDITIONS OUT OF FLOOD CTRL FACILITIES  FILE NAME: 30CLOMR3.DAT
T3      E. CHANNEL STREAMBOAT PKWY

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        2         0         0     .0012                                    4441.0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

       1         0        -1

J5  LPRNT     NUMSEC                    ********REQUESTED SECTION NUMBERS********

     -10       -10


NC      .040      .040      .040        .1        .3
QT         1      2450

X1       0.5        21        20      4200         0         0         0                 4400
X2                                                                                        15
GR        34        20        34       100        34       260        34       455      36      785
GR      36.5      1050        36      1150      34.9      1500        34      1700      32     2200
GR        30      2500        28      2505        28      2510        30      2515      30     3000
GR        32      3300      32.3      3500        32      3600        34      3800      36     4200
GR        38      4350

X1       0.6        24       100      4700       600       600       600                 4400
X2                                                                                        15
GR        34       100        36       150        36       280        36       430      38      810
GR      38.2      1000      36.9      1200        36      1500        34      1800      34     2000
GR        34      2300      32.5      2500        32      2600        32      2610    32.1     2800
GR      32.3      3100        30      3400        32      3410        34      3500      34     3900
GR        34      3910      35.2      4200        36      4300        38      4700

X1       0.7        27         0      4930       600       600       600                 4400
X2                                                                                        15
GR        38         0      38.4       205        40       610      40.3      1030      40     1130
GR        38      1380        38      1530        36      2130      36.2      2230      36     2330
GR      35.6      2380        36      2430      35.3      2830        34      3030      36     3530
GR      36.2      3580        36      3630      36.4      3730        36      3830    35.7     3880
GR        36      3930      37.2      4130        36      4330        36      4340      38     4430
GR        40      4830        42      4930
```



```
X1       0.8        43       210      4900       600       600       600                 4400
X2                                                                                        15
GR        40       210        40       420      41.1       600        42       720      42      860
GR      42.8      1000      42.5      1100        42      1200      40.7      1400      40     1800
GR      39.1      2100        38      2200      38.7      2350        38      2500    37.8     2505
GR        38      2510      38.5      2600        38      2700        36      2900      36     2910
GR        38      2915        38      2960        36      3150        36      3155      38     3160
```

```
GR    38.3      3220        38      3300      37.7      3305        38      3310        38      3600
GR    38.6      3700        38      4050        38      4200        38      4210      38.5      4400
GR      40      4550      40.5      4575        40      4650        40      4700        40      4710
GR      42      4720        44      4800        46      4900

X1     0.9        38        45      5120       600       600       600                4400
X2                                                                                       15
GR      42        45        42       180        42       250        44       580      44.7       845
GR      44       990      43.5       995      43.5      1005        44      1010      45.3      1050
GR    44.4      1300      44.8      1500      42.1      1900      41.7      2100      40.5      2500
GR      40      2800        40      2880        41      2920        41      3100        40      3120
GR    40.2      3200        40      3400      40.1      3480        40      3550      39.9      3650
GR      40      3680      40.2      3700        40      3720      39.8      3900        40      4000
GR    40.2      4100        40      4200      38.9      4240        40      4250        40      4380
GR      42      4700        44      5000        46      5120

   Cross-sections at Bella Vista Ranch ditch.

X1    0.94        16        45      5170       240       180       110                4400
X2                                                                                       15
GR      42        45        42        65        44       450        46       705      46.5       885
GR   47.81      1000     44.15      1020     46.88      1050        42      2350        40      2800
GR    40.9      3520        40      3965     42.37      4675     40.18      4690        44      4950
GR      46      5170

X1    0.95        13      4500      4720        20        20        20                4400
X2                                                                                       15
X3                                  3820      4446
GR   43.39      3420     42.91      3530     43.38      3620     43.32      3980     43.23      4030
GR   43.33      4140     42.57      4310     42.86      4500     41.96      4640     42.39      4660
GR   43.17      4720     45.17      4950     47.23      5160

   DAMONTE NORTH PROPERTY BOUNDARY

X1       1        19      5010      6045       300       300       300
CI    5550    4442.7     0.040         5         5       950
X2                                                                                       15
X3                                  5010    4445.5
GR    4443      4975      4442      4990      4442      5010    4441.7      5020    4442.2      5075
GR  4442.1      5270    4442.2      5300      4442      5315    4441.4      5317      4442      5320
GR  4442.2      5330    4442.2      5360      4442      5385    4442.1      5410    4442.2      5450
1
   12SEP01    17:05:10                                                                  PAGE    3

GR    4443      5630      4444      5785      4445      6045      4449      6400

X1    1.05         5      1100      2000       300       300       300
CI      -1    4442.7     0.040         5         5       950
GR  4445.5      1000    4445.5      1100    4444.5      1500      4445      2000      4446      2075

X1    1.10         5      1100      1825       650       650       650
CI              0.00217   0.040         5         5       500
GR    4449      1000      4449      1100      4449      1500      4449      1825      4449      1850

X1    1.20         5      1350      1640       650       650       650
CI                                                       300
GR    4450      1000      4450      1350      4450      1363      4450      1640      4450      1665

X1    1.25         5      1100      1533       700       700       700
CI                0.003                                  400
GR    4450      1000      4450      1100      4450      1110    4450.5      1533      4451      1550

X1    1.30         4      1250      1425       625       625       625
CI                                                       100
GR    4455      1000      4455      1250      4455      1425      4455      1450

NC                                    .3        .5

   INSERT FOR 5-4'X 12' RCBC

X1    1.31         5    1289.5    1385.5        35        35        35
CI                                                       .01
X3      10                          1289.5                 1385.6
GR    4459      1200      4459    1289.5    4449.59    1289.6    4449.59    1385.5      4459    1385.6

SC   5.012        .3      2.60         0         4        12       100       9.2    4450.0    4449.59

X1    1.32         5    1289.5    1385.5       153       153       153
X2                          2      4454      4459
X3      10                          1289.5                 1385.6
GR    4459      1200      4459    1289.5      4450    1289.6      4450    1385.5      4459    1385.6

NC                                    .1        .3
```

```
X1     1.33          4     1225.5     1476.5          25          25          25
GR     4458     1225.5      4450     1305.5        4450     1396.5        4458     1476.5
```


SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .50 CWSEL= 4431.91

STA= 2214. 4200.
PER Q= 100.0
AREA= 1521.3
VEL= 1.6
DEPTH= 1.4

FLOW DISTRIBUTION FOR SECNO= .60 CWSEL= 4432.98

STA= 2435. 4700.
PER Q= 100.0
AREA= 1104.8
VEL= 2.2
DEPTH= 1.1

FLOW DISTRIBUTION FOR SECNO= .70 CWSEL= 4435.95

STA= 2337. 4930.
PER Q= 100.0
AREA= 875.5
VEL= 2.8
DEPTH= .7

FLOW DISTRIBUTION FOR SECNO= .80 CWSEL= 4438.69

STA= 2137. 4900.
PER Q= 100.0
AREA= 1615.6
VEL= 1.5
DEPTH= .7

FLOW DISTRIBUTION FOR SECNO= .90 CWSEL= 4440.76

STA= 2413. 5120.
PER Q= 100.0
AREA= 1252.9
VEL= 2.0
DEPTH= .7

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .94 CWSEL= 4441.23

STA= 2523. 5170.
PER Q= 100.0
AREA= 1345.9
VEL= 1.8
DEPTH= .7

FLOW DISTRIBUTION FOR SECNO= .95 CWSEL= 4443.54

STA=	3820.	3980.	4030.	4140.	4310.	4500.	4720.	4762.
PER Q=	2.4	1.1	2.4	14.7	28.8	50.0	.5	
AREA=	32.9	13.2	28.4	100.1	156.5	230.8	7.8	
VEL=	1.8	2.1	2.1	3.6	4.5	5.3	1.7	
DEPTH=	.2	.3	.3	.6	.8	1.0	.2	

FLOW DISTRIBUTION FOR SECNO= 1.00 CWSEL= 4444.31

STA= 5010. 6045.
PER Q= 100.0
AREA= 1929.4
VEL= 1.3
DEPTH= 1.9

THIS RUN EXECUTED 12SEP01 17:05:10

****

HEC-2 WATER SURFACE PROFILES

Version 4.6.2: May 1991

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

E. CHANNEL STREAMBOAT PK

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	.500	.00	.00	.00	4428.00	2450.00	4431.91	.00	4431.95	11.81	1.61	1521.33	713.06
*	.600	600.00	.00	.00	4430.00	2450.00	4432.98	.00	4433.06	32.01	2.22	1104.75	433.05
*	.700	600.00	.00	.00	4434.00	2450.00	4435.95	4435.57	4436.07	88.57	2.80	875.45	260.32
*	.800	600.00	.00	.00	4436.00	2450.00	4438.69	.00	4438.72	26.34	1.52	1615.57	477.37
	.900	600.00	.00	.00	4438.90	2450.00	4440.76	.00	4440.82	48.12	1.96	1252.86	353.20
	.940	110.00	.00	.00	4440.00	2450.00	4441.23	.00	4441.29	37.72	1.82	1345.89	398.90
*	.950	20.00	.00	.00	4441.96	2450.00	4443.54	4443.54	4443.86	191.15	5.30	569.66	177.21
*	1.000	300.00	.00	.00	4441.40	2450.00	4444.31	.00	4444.34	5.02	1.27	1929.40	1093.92
	1.050	300.00	.00	.00	4442.70	2450.00	4444.48	.00	4444.51	6.94	1.43	1712.31	930.30
*	1.100	650.00	.00	.00	4444.11	2450.00	4445.41	.00	4445.62	73.46	3.74	654.34	285.84
*	1.200	650.00	.00	.00	4445.52	2450.00	4447.97	.00	4448.13	23.63	3.20	766.03	504.01
	1.250	700.00	.00	.00	4447.62	2450.00	4449.68	.00	4449.81	24.21	2.90	843.39	497.95
*	1.300	625.00	.00	.00	4449.50	2450.00	4452.15	.00	4453.18	154.05	8.17	299.73	197.39
	1.310	35.00	.00	.00	4449.59	2450.00	4452.59	.00	4453.71	126.25	8.51	287.94	218.04
*	1.320	153.00	4459.00	4454.00	4450.00	2450.00	4455.85	.00	4456.15	14.13	4.36	561.92	651.87
	1.330	25.00	.00	.00	4450.00	2450.00	4456.08	.00	4456.19	7.22	2.65	923.69	911.79

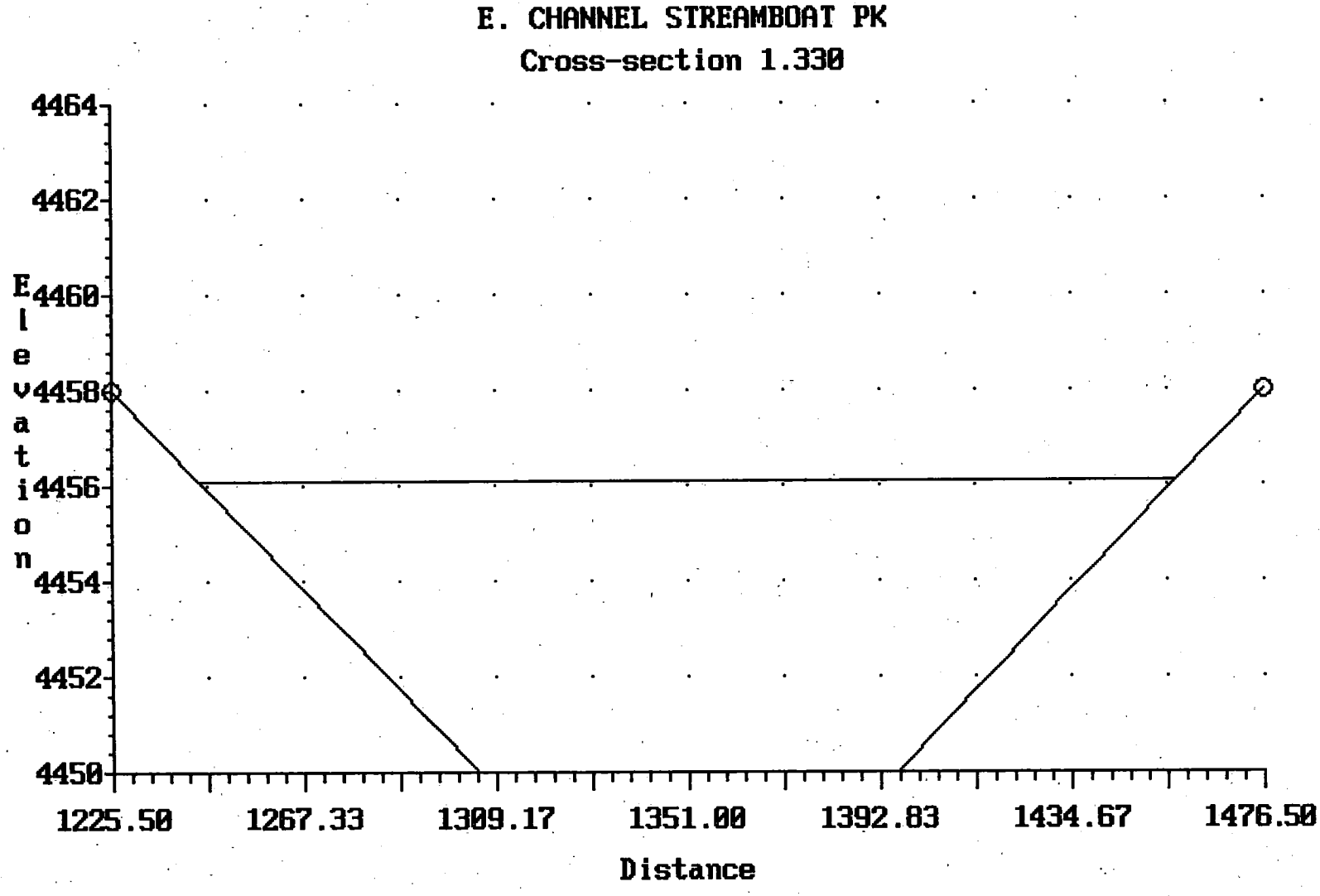
E. CHANNEL STREAMBOAT PK

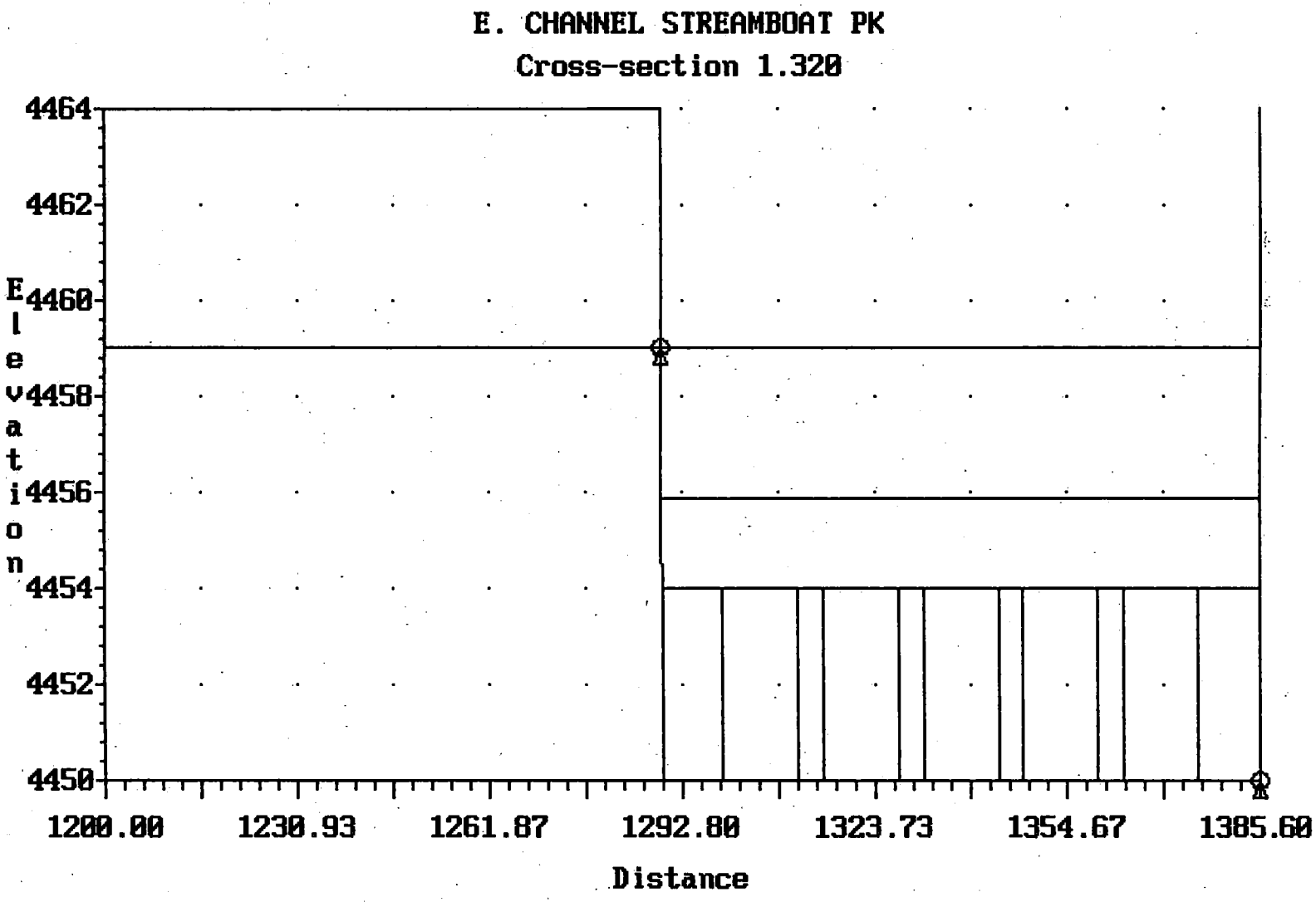
SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	.500	2450.00	4431.91	.00	.00	-9.09	1072.75	.00
*	.600	2450.00	4432.98	.00	1.07	.00	1019.05	600.00
*	.700	2450.00	4435.95	.00	2.96	.00	1222.48	600.00
*	.800	2450.00	4438.69	.00	2.74	.00	2276.71	600.00
	.900	2450.00	4440.76	.00	2.07	.00	1895.07	600.00
	.940	2450.00	4441.23	.00	.48	.00	1888.56	110.00
*	.950	2450.00	4443.54	.00	2.30	.00	942.40	20.00
*	1.000	2450.00	4444.31	.00	.77	.00	1023.04	300.00
	1.050	2450.00	4444.48	.00	.17	.00	967.86	300.00
*	1.100	2450.00	4445.41	.00	.92	.00	512.92	650.00
*	1.200	2450.00	4447.97	.00	2.57	.00	324.53	650.00
	1.250	2450.00	4449.68	.00	1.70	.00	420.56	700.00
*	1.300	2450.00	4452.15	.00	2.47	.00	126.47	625.00
	1.310	2450.00	4452.59	.00	.44	.00	95.96	35.00
*	1.320	2450.00	4455.85	.00	3.26	.00	96.03	153.00
	1.330	2450.00	4456.08	.00	.23	.00	212.67	25.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=       .600  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=       .700  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=       .800  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=       .950  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=       .950  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=       .950  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=      1.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.100  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.200  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.300  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.320  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
```


E. CHANNEL STREAMBOAT PK
Cross-section 1.330
4464
4462
4460
4458
4456
4454
4452
4450
Elevation
1225.50
1267.33
1309.17
1351.00
1392.83
1434.67
1476.50
Distance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Cross-section 1.320
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4462
4460
4458
4456
4454
4452
4450
Elevation
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1261.87
1292.80
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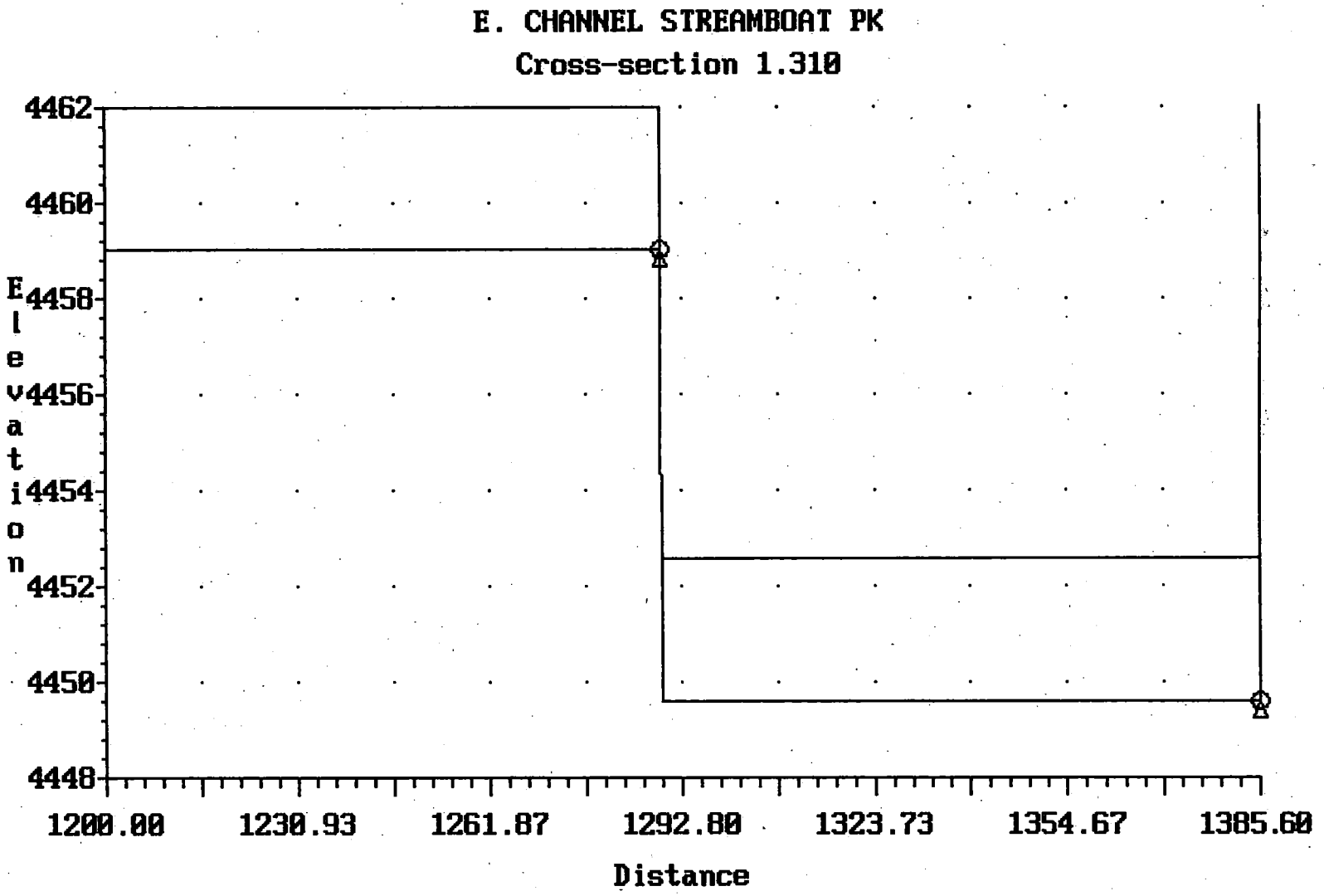
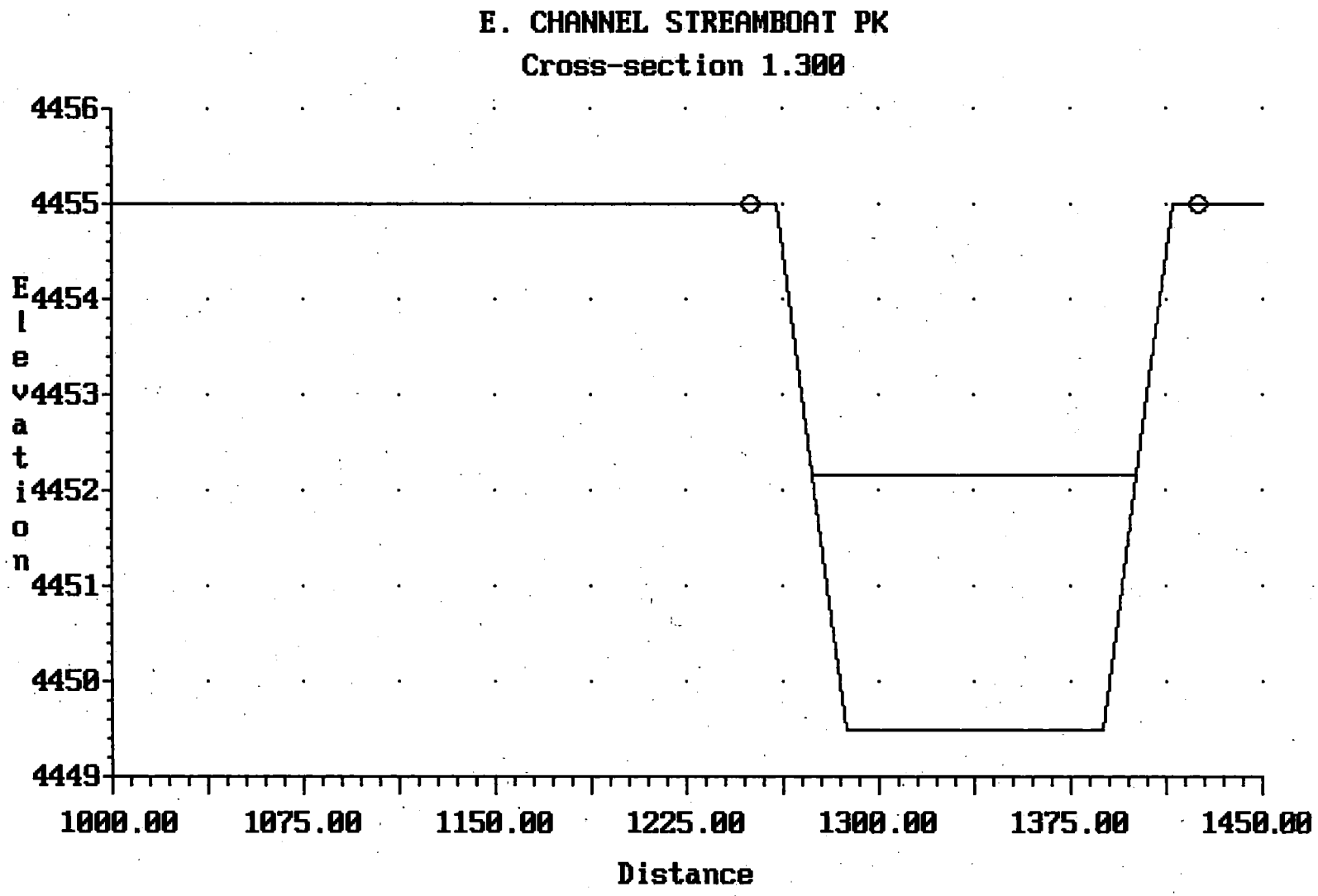
1385.60
Distance


E. CHANNEL STREAMBOAT PK
Cross-section 1.310
4462
4460
4458
4456
4454
4452
4450
4448
Elevation
1200.00
1230.93
1261.87
1292.80
1323.73
1354.67
1385.60
Distance


E. CHANNEL STREAMBOAT PK
Cross-section 1.300
4456
4455
4454
4453
4452
4451
4450
4449
Elevation
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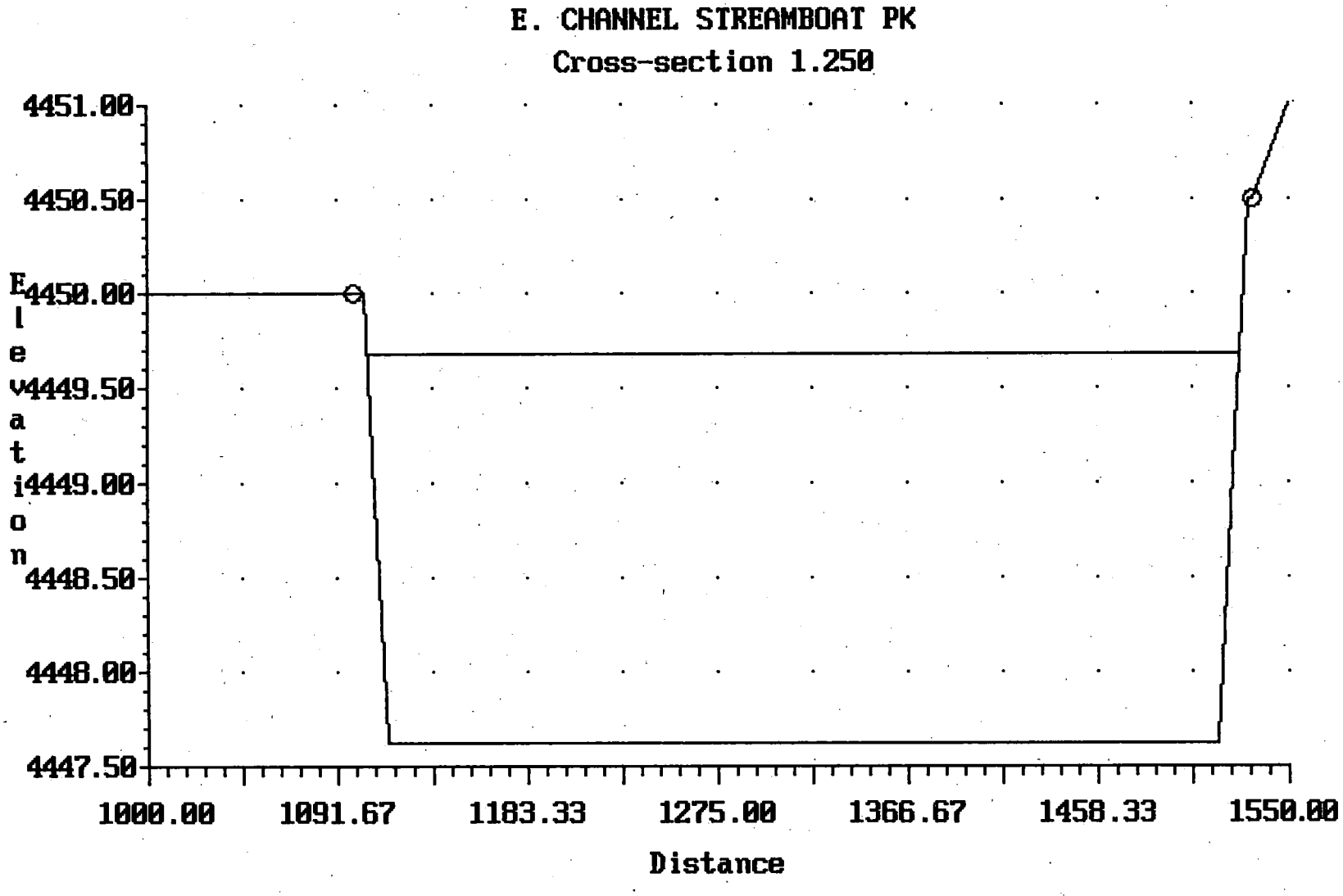
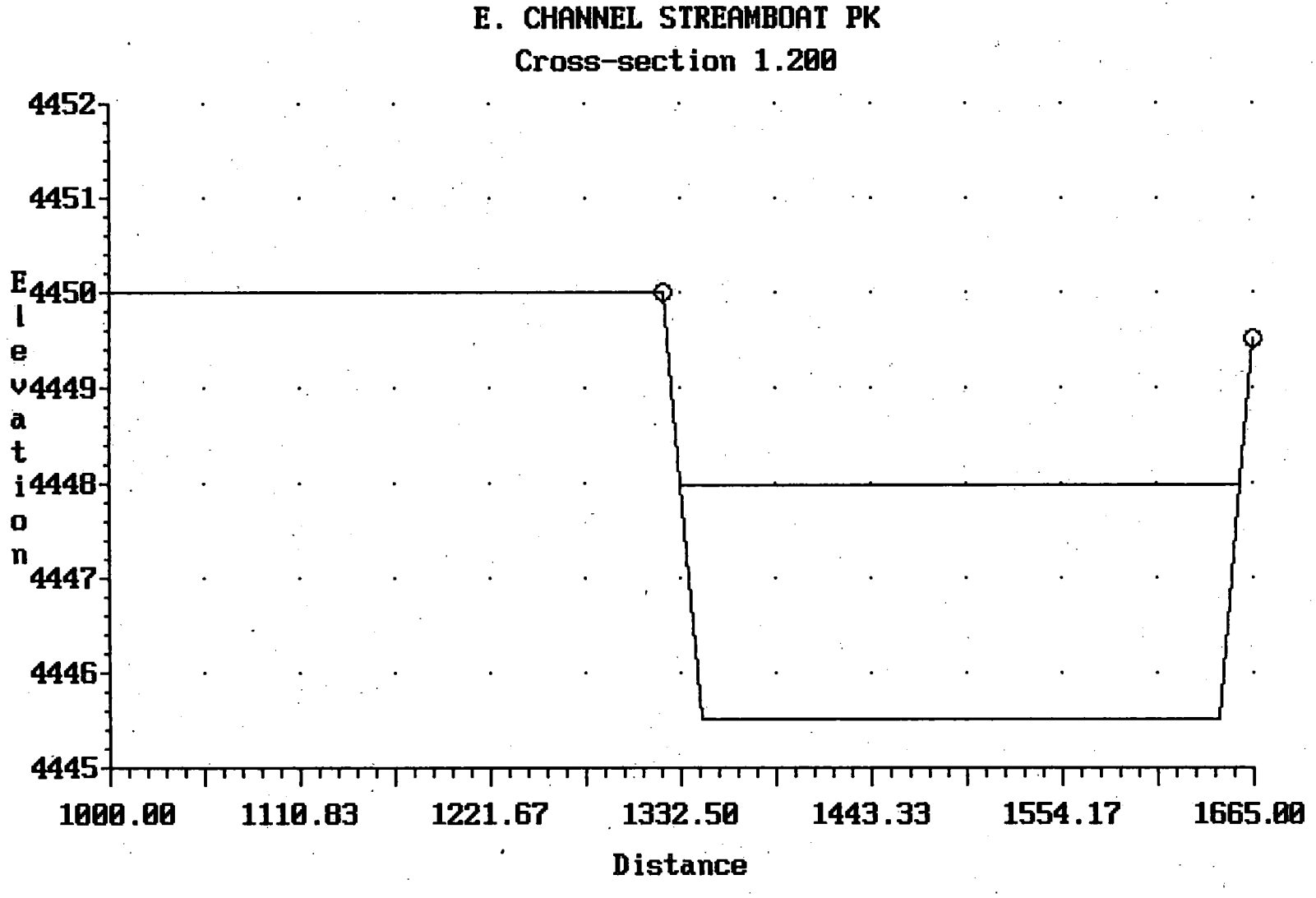
1075.00
1150.00
1225.00
1300.00
1375.00
1450.00
Distance


E. CHANNEL STREAMBOAT PK
Cross-section 1.250
4451.00
4450.50
4450.00
4449.50
4449.00
4448.50
4448.00
4447.50
Elevation
1000.00
1091.67
1183.33
1275.00
1366.67
1458.33
1550.00
Distance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Cross-section 1.200
4452
4451
4450
4449
4448
4447
4446
4445
Elevation
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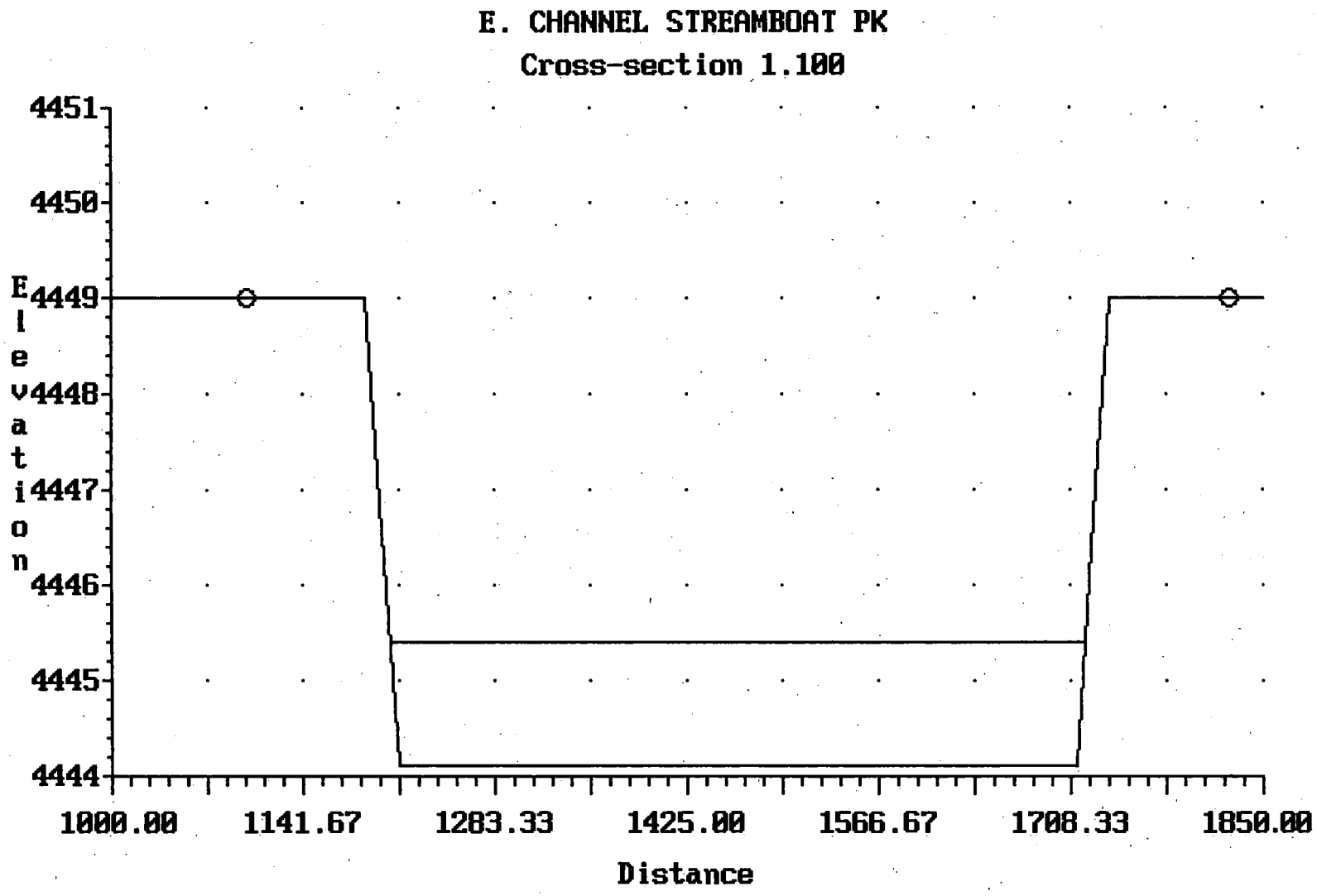
1221.67
1332.50
1443.33
1554.17
1665.00
Distance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Cross-section 1.100
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4450
4449
4448
4447
4446
4445
4444
Elevation
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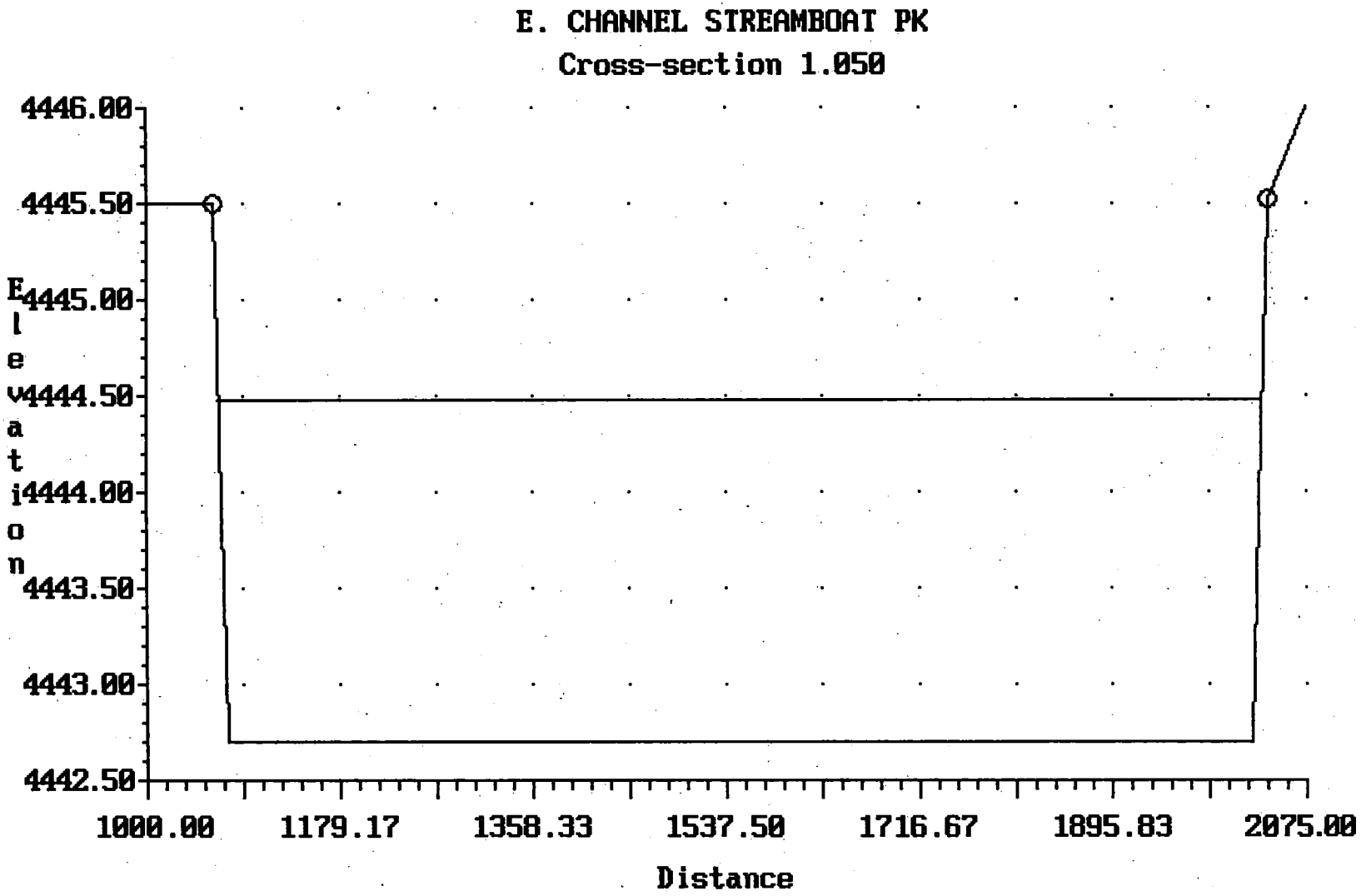
1141.67
1283.33
1425.00
1566.67
1708.33
1850.00
Distance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Cross-section 1.050
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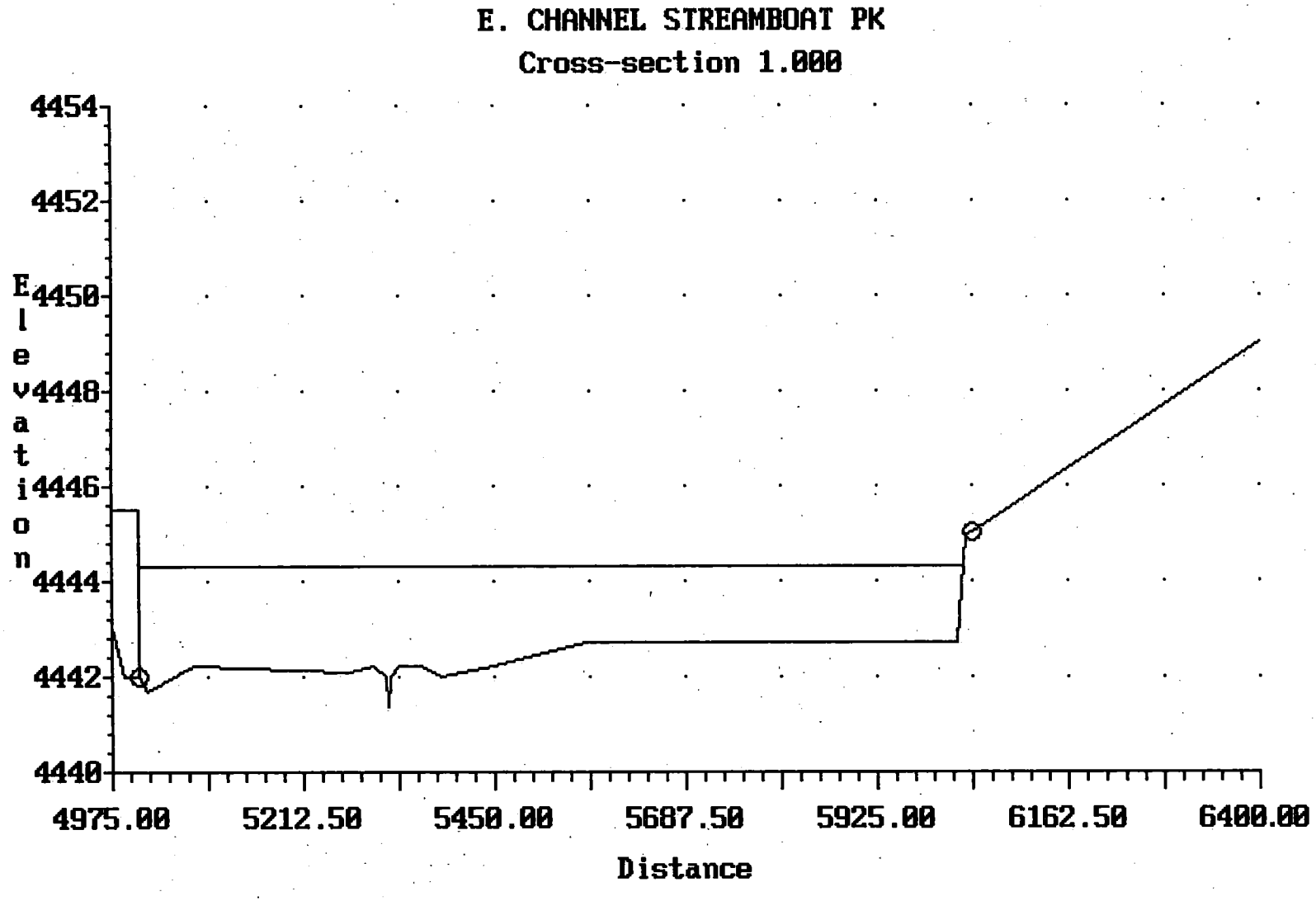
4445.50
4445.00
4444.50
4444.00
4443.50
4443.00
4442.50
Elevation
1000.00
1179.17
1358.33
1537.50
1716.67
1895.83
2075.00
Distance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Cross-section 1.000
4454
4452
4450
4448
4446
4444
4442
4440
Elevation
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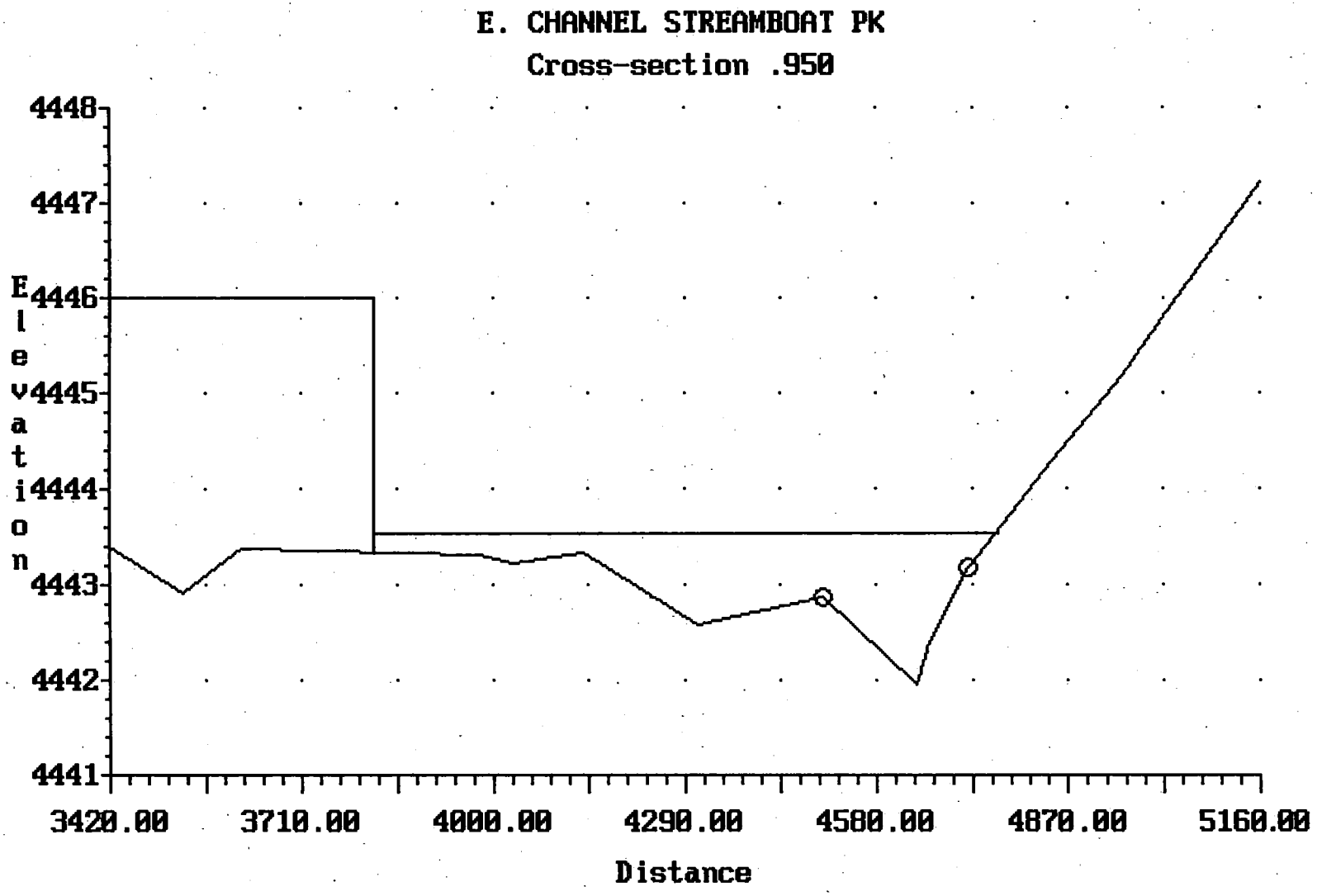
5212.50
5450.00
5687.50
5925.00
6162.50
6400.00
Distance


E. CHANNEL STREAMBOAT PK
Cross-section .950
4448
4447
4446
4445
4444
4443
4442
4441
Elevation
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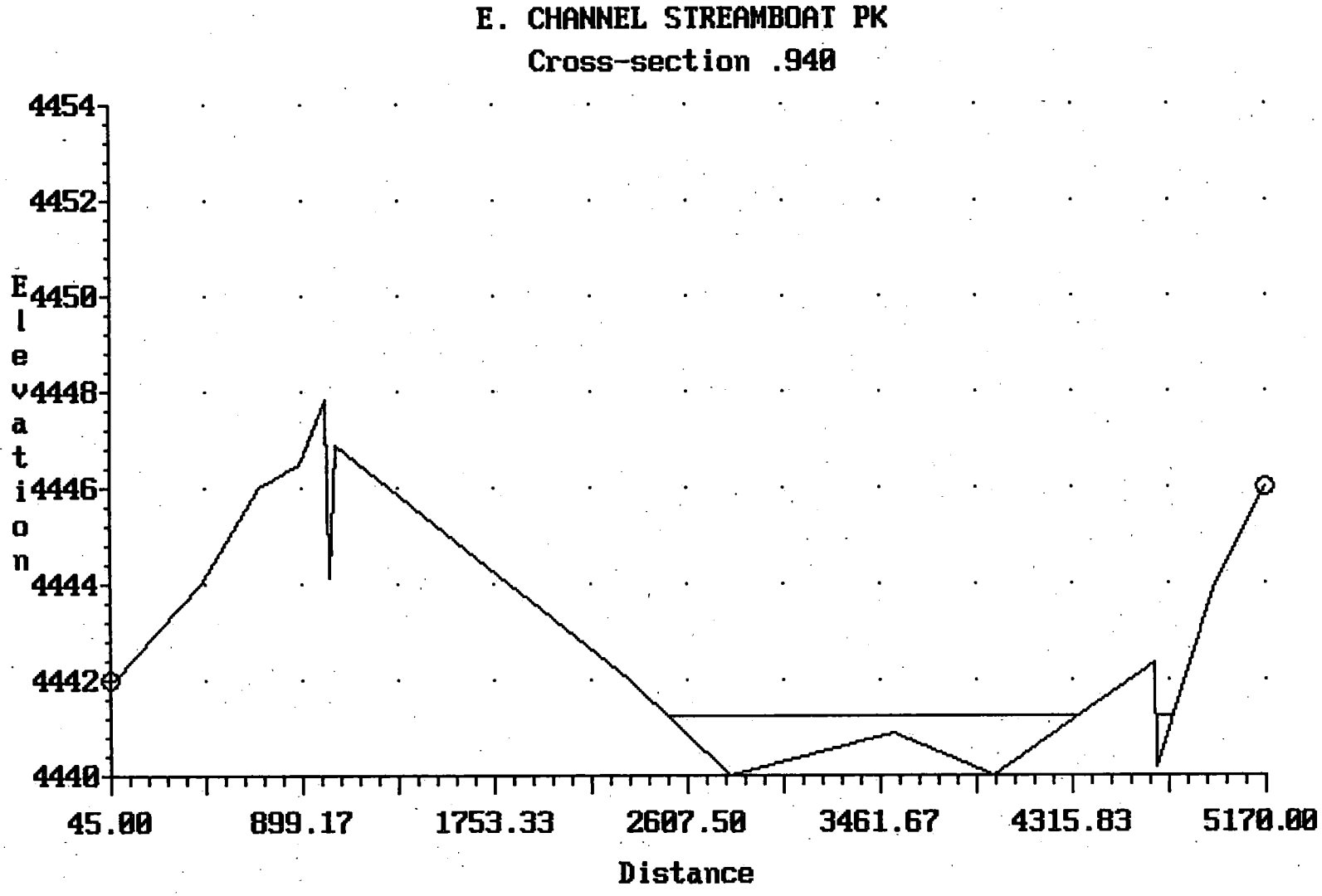
3710.00
4000.00
4290.00
4580.00
4870.00
5160.00
Distance


E. CHANNEL STREAMBOAT PK
Cross-section .940
4454
4452
4450
4448
4446
4444
4442
4440
Elevation
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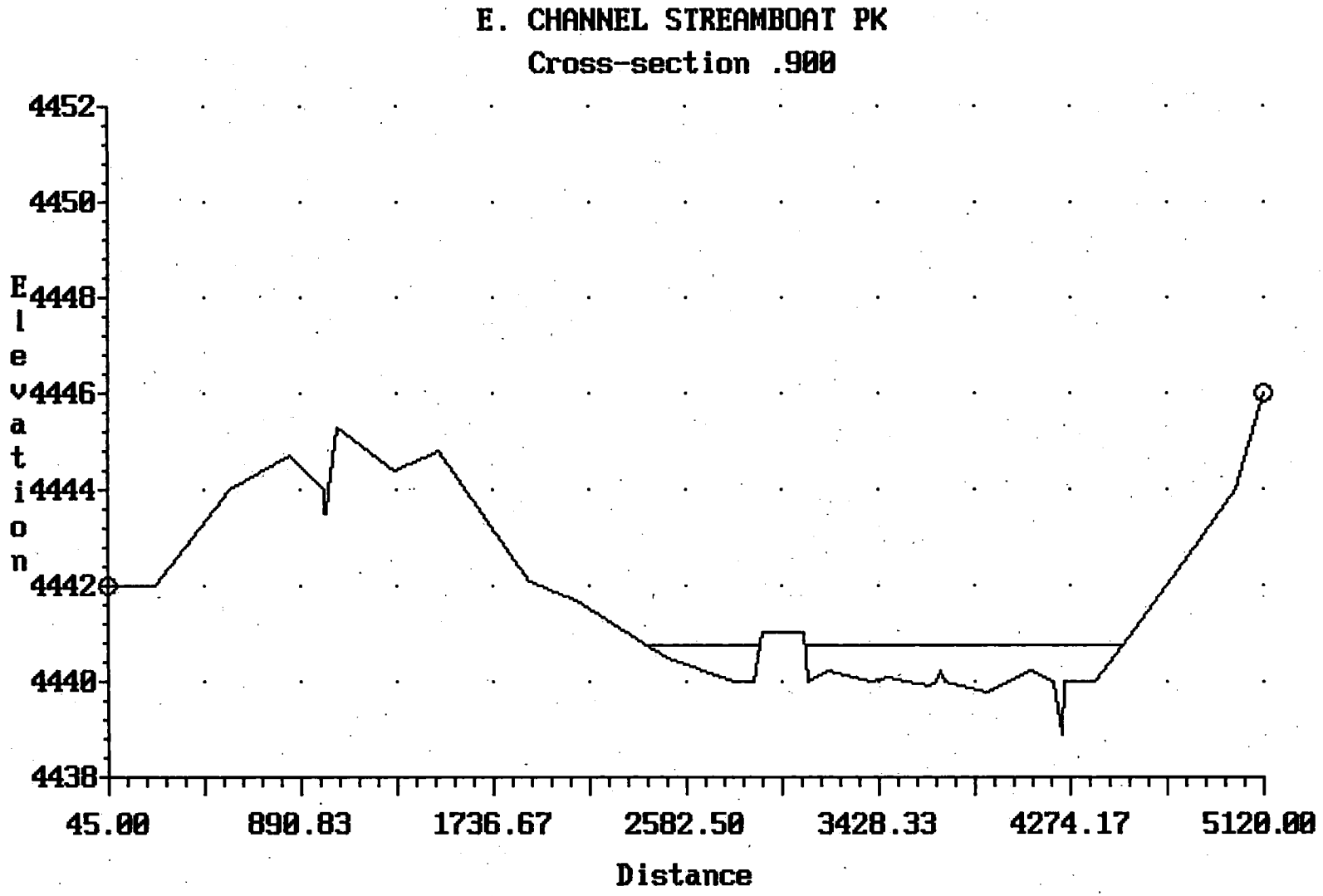
1753.33
2607.50
3461.67
4315.83
5170.00
Distance


E. CHANNEL STREAMBOAT PK
Cross-section .900
4452
4450
4448
4446
4444
4442
4440
4438
Elevation
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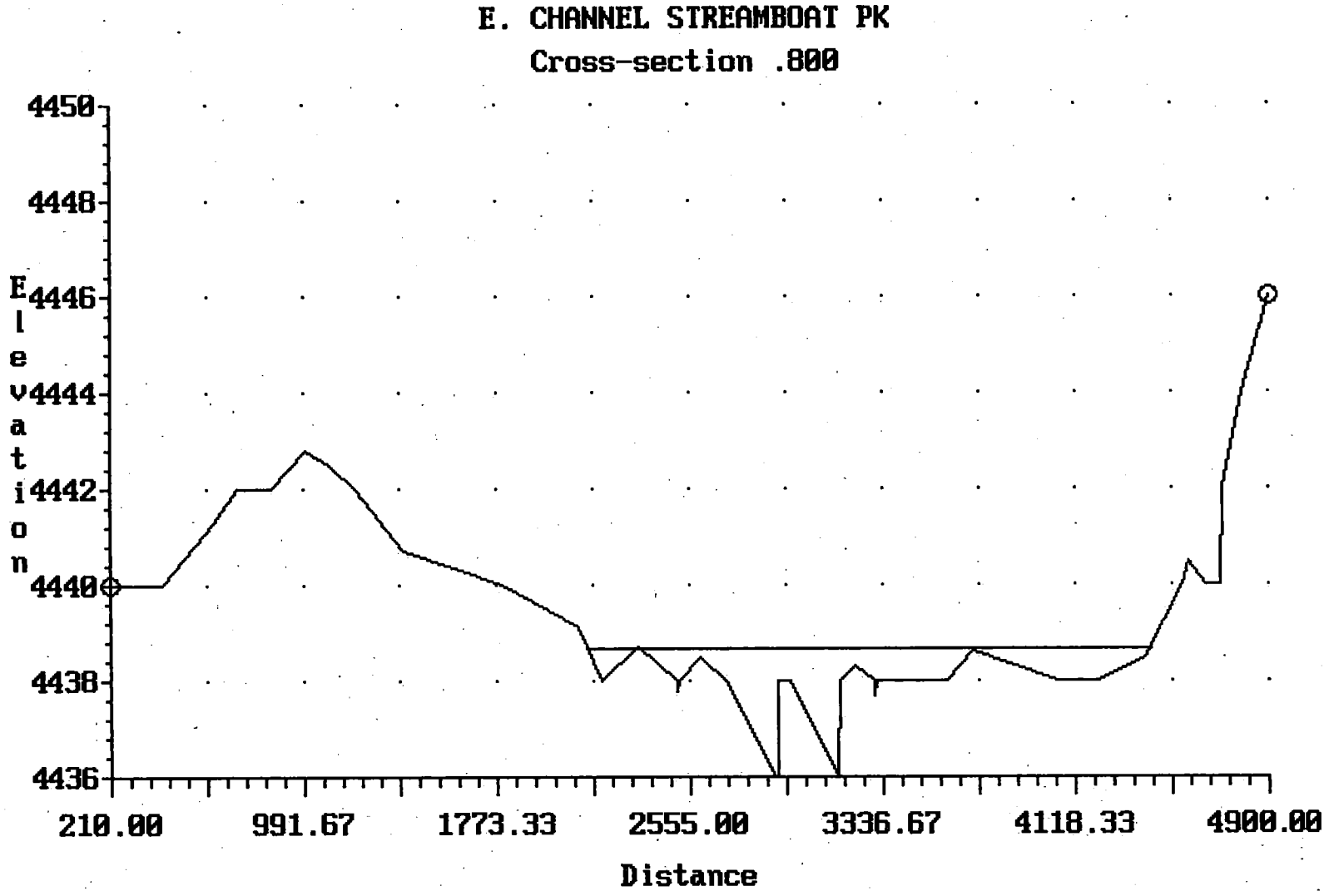
1736.67
2582.50
3428.33
4274.17
5120.00
Distance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Cross-section .800
4450
4448
4446
4444
4442
4440
4438
4436
Elevation
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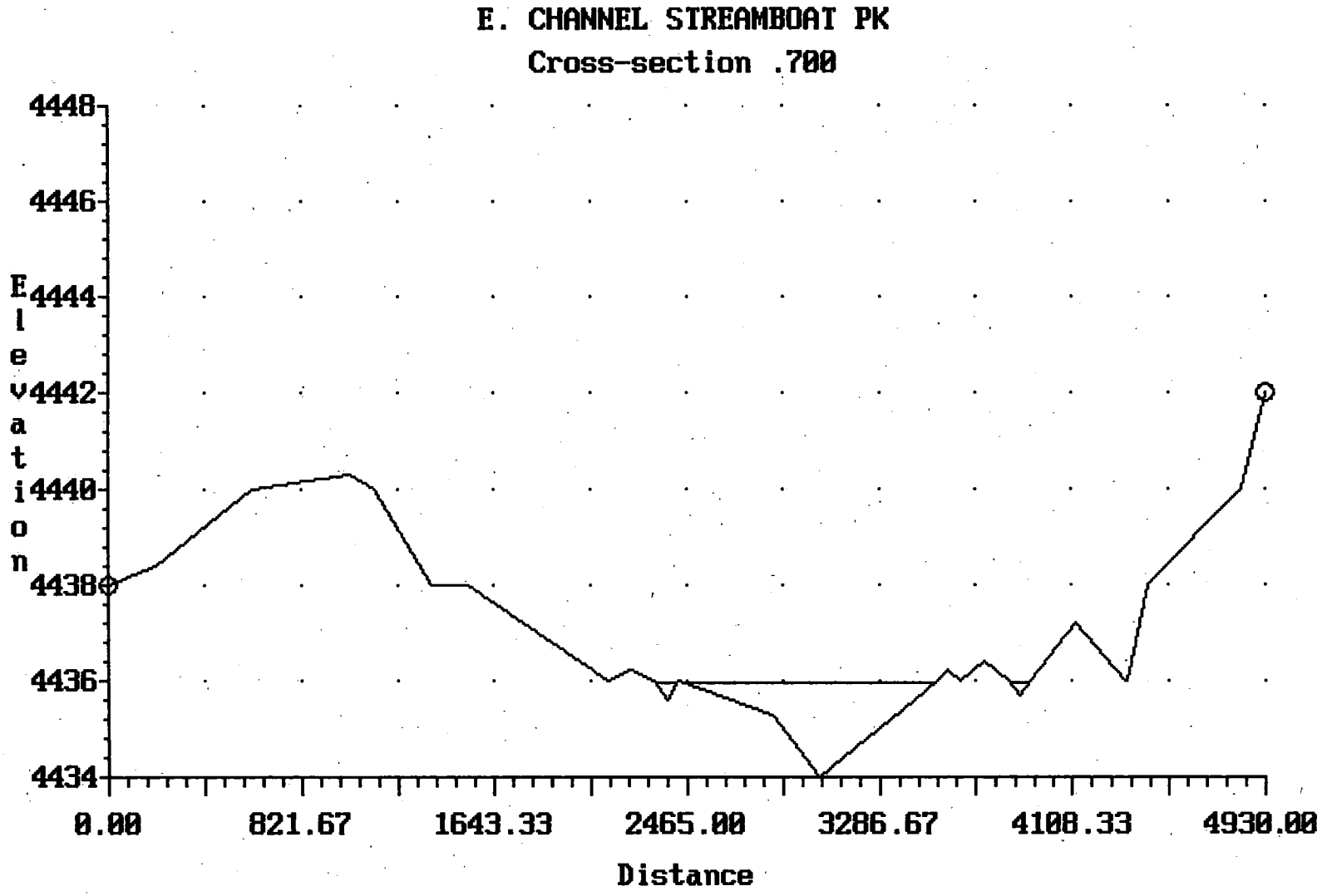
991.67
1773.33
2555.00
3336.67
4118.33
4900.00
Distance


E. CHANNEL STREAMBOAT PK
Cross-section .700
4448
4446
4444
4442
4440
4438
4436
4434
Elevation
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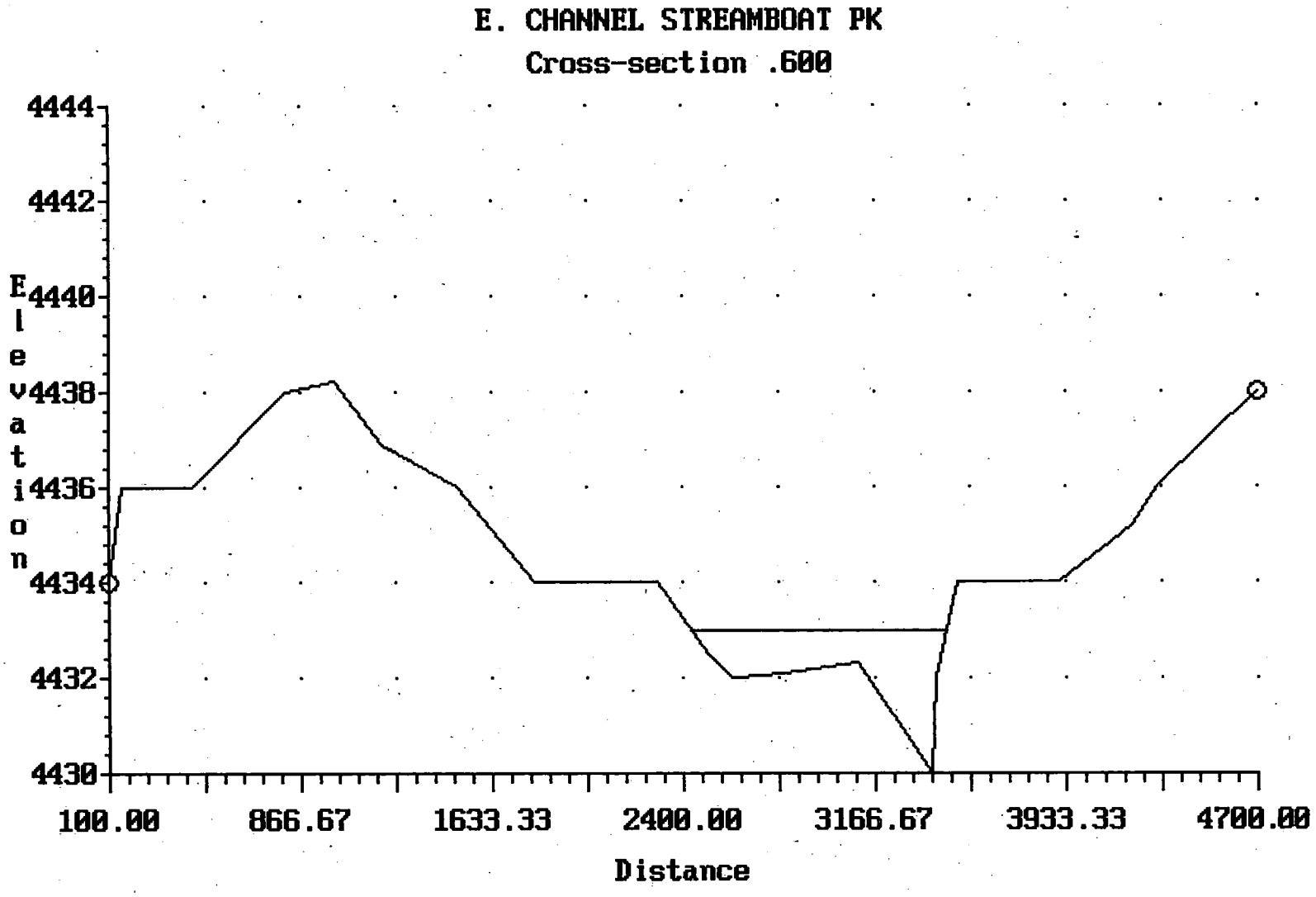
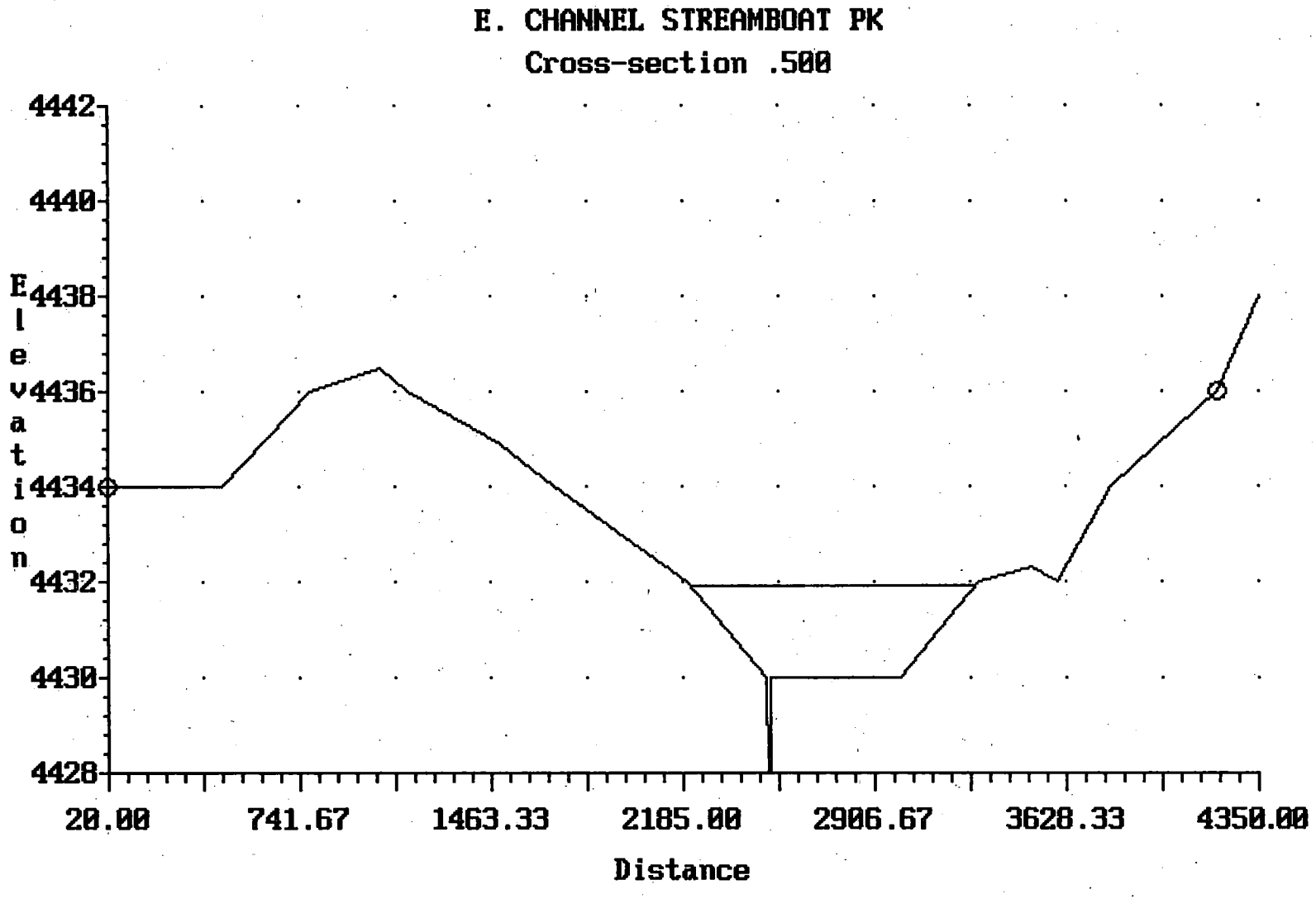
1643.33
2465.00
3286.67
4108.33
4930.00
Distance


E. CHANNEL STREAMBOAT PK
Cross-section .600
4444
4442
4440
4438
4436
4434
4432
4430
Elevation
100.00
866.67
1633.33
2400.00
3166.67
3933.33
4700.00
Distance


E. CHANNEL STREAMBOAT PK
Cross-section .500
4442
4440
4438
4436
4434
4432
4430
4428
Elevation
20.00
741.67
1463.33
2185.00
2906.67
3628.33
4350.00
Distance

HEC-2 PROPOSED CONDITIONS MODEL

STEAMBOAT CREEK CHANNEL FLOW TO BELLA VISTA RANCH – CHANNELIZED FLOW TO SHEET FLOW – 30CLOMR4.DAT

```
1*****************************************
*  HEC-2 WATER SURFACE PROFILES           *
*                                         *
*  Version   4.6.2;  May 1991             *
*                                         *
*  RUN DATE    12SEP01    TIME   10:53:03  *
*****************************************
```

```
*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  HYDROLOGIC ENGINEERING CENTER    *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616-4687     *
*          (916) 756-1104           *
*************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
```


THIS RUN EXECUTED 12SEP01   10:53:03

```
*************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
*************************************
```

```
SPLIT FLOW BEING PERFORMED

SF    SPLIT FLOW ROUTINE

      SPLIT FLOW WEIR ANALYSIS
      ALONG NORTH PROPERTY LINE BTWN DAMONTE/ BUTLER

JC    BETWEEN CROSS-SECTIONS .94 & 4
JP     1       0       0       -1       0

TW    SPLIT FLOW BETWEEN .94 & .95 (LEFT SIDE)
WS    11      .94     .95      -1      2.7
WC   500  4445.8     545    4446     575  4446.4     600    4446     620  4445.2
WC   635    4446     677  4446.7     720    4446     750  4445.9     780    4446
WC   850  4446.4

TW    SPLIT FLOW BTWN SEC .95 & 4  (LEFT SIDE)
WS     7     .95       4       -1      2.7
WC   850  4446.4     955  4446.7    1086  4446.6    1178  4446.9    1267  4446.6
WC  1330    4447    1380  4447.1
```



```
T1     STEAMBOAT CREEK                NIMBUS JOB # : 0030
T2     100-YEAR FLOODPLAIN BOUNDARY   FILE NAME: 30CLOMR4.DAT   DATE: SEPT 2001
T3      STEAMBOAT CREEK
T3      REV X-SECT .94 THRU 12 W/ SF ANALYSIS FROM .94 THRU 1

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        2         0         0    0.0022         0         0         0      4446         0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1         0        -1                                                                    15


QT        1      3865
NC      .03       .03      .030

   Cross-sections at Bella Vista Ranch ditch.

X1      0.94        17       510      1000         0         0         0
X3        10
GR    4445.8       510    4443.8       581    4443.1       640    4443.5       652      4443       671
GR      4442       678    4441.5       684      4442       691      4443       693    4443.5       723
GR    4443.5       787    4443.2       835    4443.6       857      4443       920    4442.5       925
GR    4442.9       930    4443.6      1000


X1      0.95        30       395       900       235       235       235
X3        10
GR      4445       350    4444.5       395    4444.3       452    4444.2       510    4444.4       558
```

GR	4444	590	4443.6	595	4444	608	4444.8	620	4444	640
GR	4443.9	652	4444	663	4444.3	690	4444.3	720	4443	740
GR	4443.6	760	4444	795	4444.2	805	4444	816	4443	822
GR	4442.8	830	4443	837	4444	840	4444.3	865	4444	900
GR	4443.7	923	4444	945	4444.2	960	4444	975	4443.5	1000
QT	1	3020								
X1	4	9	200	640	380	500	455			
X3	10									
GR	4445.8	200	4445.9	260	4445.8	320	4445.7	382	4445.4	450
GR	4445.1	510	4445.6	640	4446	670	4446	1000		
QT	1	1975								
X1	7	19	512	972	300	150	240			
X3	10									
GR	4446.4	250	4446.6	440	4446.4	508	4446.4	512	4446	762
GR	4445.2	767	4446	778	4446.5	795	4446	812	4446	842
GR	4446	866	4445.6	894	4446	972	4445.9	989	4445.8	1092
GR	4445.9	1142	4445.9	1200	4446	1212	4446.4	1336		

QT	1	1440								
X1	9	22	260	813	213	213	213			
X3	10									
GR	4450	260	4449	260.5	4448	290	4447.9	305	4448	320
GR	4448.2	335	4448	381	4447.7	462	4447	583	4447	621
GR	4446.8	631	4447	641	4447.7	663	4447.4	714	4447.3	769
GR	4447	813	4446.7	906	4447	1056	4447.1	1073	4447.3	1281
GR	4447.4	1336	4448	1513						
QT	1	890								
X1	10	13	362	686	160	160	160			
X3	10									
GR	4449	362	4448.5	385	4448.7	530	4448	589	4447.4	603
GR	4448	624	4448.2	686	4448	703.15	4447.5	1028	4447.7	1183
GR	4447.7	1238	4447.8	1408	4448	1459				
QT	1	270								
X1	11	17	465	717	104	104	104			
X3	10									
GR	4449	462	4449.2	465	4449	469	4448.6	473	4448.8	477
GR	4449	522	4448.7	594	4448.3	648	4448.5	711	4448.5	717
GR	4448.4	718.97	4448.4	721.43	4448	741.01	4448	818	4447.9	917
GR	4447.8	980	4448	1186						
QT	1	5								
X1	12	18	500	706.5	150	150	150			
X3	10									
GR	4449.6	500	4449.3	540	4449	575	4449	615	4448.99	650
GR	4449.2	661.99	4449.04	687.83	4449	693.69	4448.68	706.5	4448.54	712.22
GR	4448.4	716.93	4448.43	725.19	4448.5	761.96	4448.62	803.51	4448.3	850
GR	4448.4	896	4448.3	943	4449	1045				

FLOW SPREADING FROM STEAMBOAT CREEK ONTO BELLA VISTA RANCH BEGINS AFTER
PROPOSED BRIDGED AT CARAT AVE

TW SPLIT FLOW BETWEEN .94 & .95 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
.00	9.76	200.00	.00	9.76	200.00	1	4445.560	4446.065	.940	.950

TW SPLIT FLOW BTWN SEC .95 & 4 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
.00	5.49	200.00	.00	15.26	200.00	1	4446.065	4446.964	.950	4.000

TW SPLIT FLOW BETWEEN .94 & .95 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
4.88	9.63	65.44	4.88	9.63	65.44	2	4445.557	4446.063	.940	.950

TW SPLIT FLOW BTWN SEC .95 & 4 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
2.75	5.55	67.55	7.63	15.18	66.21	2	4446.063	4446.965	.950	4.000

TW SPLIT FLOW BETWEEN .94 & .95 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
7.26	9.58	27.62	7.26	9.58	27.62	3	4445.556	4446.063	.940	.950

TW SPLIT FLOW BTWN SEC .95 & 4 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
4.15	5.50	28.10	11.40	15.08	27.80	3	4446.063	4446.965	.950	4.000

TW SPLIT FLOW BETWEEN .94 & .95 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
9.53	9.51	.27	9.53	9.51	.27	4	4445.554	4446.061	.940	.950

TW SPLIT FLOW BTWN SEC .95 & 4 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
5.46	5.47	.18	14.99	14.98	.10	4	4446.061	4446.965	.950	4.000

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

*SECNO .940
3280 CROSS SECTION .94 EXTENDED 1.95 FEET

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 4445.80 ELREA= 4443.60

.940	4.05	4445.55	.00	4446.00	4445.78	.22	.00	.00	4445.80
3850.0	.0	3850.0	.0	.0	1011.9	.0	.0	.0	4443.60
.00	.00	3.80	.00	.000	.030	.000	.000	4441.50	518.72
.002205	0.	0.	0.	0	0	5	.00	481.28	1000.00

FLOW DISTRIBUTION FOR SECNO= .94 CWSEL= 4445.55

STA=	519.	1000.							
PER Q=	100.0								
AREA=	1011.9								
VEL=	3.8								
DEPTH=	2.1								

*SECNO .950
3280 CROSS SECTION .95 EXTENDED 2.56 FEET

.950	3.26	4446.06	.00	.00	4446.20	.14	.43	.00	4444.50
3859.5	134.3	3039.0	686.2	59.0	999.8	216.1	6.2	3.1	4444.00
.02	2.28	3.04	3.17	.030	.030	.030	.000	4442.80	350.00
.001516	235.	235.	235.	3	0	0	.00	650.00	1000.00

FLOW DISTRIBUTION FOR SECNO= .95 CWSEL= 4446.06

STA=	350.	395.	900.	923.	945.	960.	975.	1000.
PER Q=	3.5	78.7	4.3	4.1	2.3	2.3	4.7	
AREA=	59.0	999.8	50.9	48.7	29.4	29.4	57.8	
VEL=	2.3	3.0	3.3	3.3	3.0	3.0	3.2	
DEPTH=	1.3	2.0	2.2	2.2	2.0	2.0	2.3	

*SECNO 4.000

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3280 CROSS SECTION 4.00 EXTENDED 1.17 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .56

4.000	1.86	4446.96	.00	.00	4447.12	.15	.91	.00	4445.80
3020.0	.0	2080.1	939.9	.0	620.1	354.9	18.2	10.8	4445.60
.06	.00	3.35	2.65	.000	.030	.030	.000	4445.10	200.00
.002913	380.	455.	500.	3	0	0	.00	800.00	1000.00

FLOW DISTRIBUTION FOR SECNO= 4.00 CWSEL= 4446.96

```
STA=     200.      640.      670.     1000.
  PER Q=     68.9       3.4      27.7
   AREA=    620.1      35.1     319.8
    VEL=      3.4       3.0       2.6
  DEPTH=      1.4       1.2       1.0

*SECNO 7.000
3280 CROSS SECTION      7.00 EXTENDED       .97 FEET

    7.000      2.18   4447.38       .00       .00   4447.42       .03       .30       .00   4446.40
   1975.0     264.9     909.1     801.0     229.3     600.9     505.4      23.8      15.5   4446.00
      .10      1.16      1.51      1.58      .030      .030      .030      .000   4445.20    250.00
  .000653      300.      240.      150.         2         0         0       .00   1086.00   1336.00


FLOW DISTRIBUTION FOR SECNO=      7.00          CWSEL=   4447.38

STA=     250.      440.      508.      512.      972.      989.     1092.     1142.     1200.     1212.     1336.
  PER Q=      9.7       3.5        .2      46.0       2.0      13.3       6.5       7.1       1.4      10.3
   AREA=    166.0      59.4       3.9     600.9      24.2     156.9      76.2      85.5      17.1     145.5
    VEL=      1.2       1.2       1.2       1.5       1.6       1.7       1.7       1.6       1.6       1.4
  DEPTH=       .9        .9       1.0       1.3       1.4       1.5       1.5       1.5       1.4       1.2

*SECNO 9.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
1
   12SEP01      10:53:03                                                                                PAGE    7

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      4450.00 ELREA=      4447.00

    9.000       .78   4447.58   4447.58       .00   4447.81       .23       .31       .00   4450.00
   1440.0        .0     296.1    1143.9        .0     104.7     283.5      28.0      20.3   4447.00
      .12       .00      2.83      4.04      .000      .030      .030      .000   4446.80    482.59
  .013674      213.      213.      213.        20        22         0       .00    882.87   1389.43


FLOW DISTRIBUTION FOR SECNO=      9.00          CWSEL=   4447.58

STA=     483.      813.      906.     1056.     1073.     1281.     1336.     1389.
  PER Q=     20.6      22.2      35.8       2.4      16.8       1.9        .4
   AREA=    104.7      68.0     109.6       9.0      79.3      12.7       4.8
    VEL=      2.8       4.7       4.7       3.8       3.0       2.2       1.2
  DEPTH=       .3        .7        .7        .5        .4        .2        .1

*SECNO 10.000
3280 CROSS SECTION     10.00 EXTENDED       .45 FEET

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.91

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      4449.00 ELREA=      4448.20

   10.000      1.05   4448.45       .00       .00   4448.48       .03       .68       .00   4449.00
    890.0        .0      58.6     831.4        .0      56.1     551.3      29.8      23.6   4448.20
      .15       .00      1.04      1.51      .000      .030      .030      .000   4447.40    551.31
  .001428      160.      160.      160.        10         0         0       .00    907.69   1459.00


FLOW DISTRIBUTION FOR SECNO=     10.00          CWSEL=   4448.45

STA=     551.      686.      703.     1028.     1183.     1238.     1408.     1459.
  PER Q=      6.6        .6      37.5      24.7       7.1      19.6       3.9
   AREA=     56.1       6.0     226.5     131.3      41.1     118.5      27.9
    VEL=      1.0        .9       1.5       1.7       1.5       1.5       1.2
  DEPTH=       .4        .3        .7        .8        .7        .7        .5

1
   12SEP01      10:53:03                                                                                PAGE    8

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 11.000
3280 CROSS SECTION     11.00 EXTENDED       .58 FEET

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .49
```

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 4449.20 ELREA= 4448.50

11.000	.29	4448.58	.00	.00	4448.60	.01	.11	.00	4449.20	
270.0	.0	6.0	264.0	.0	17.4	302.5	30.9	25.3	4448.50	
.18	.00	.34	.87	.000	.030	.030	.000	4448.30	609.87	
.000547	104.	104.	104.	2	0	0	.00	576.13	1186.00	

FLOW DISTRIBUTION FOR SECNO= 11.00 CWSEL= 4448.58

STA=	610.	717.	719.	721.	741.	818.	917.	980.	1186.
PER Q=	2.2	.0	.1	1.7	13.4	19.8	16.1	46.7	
AREA=	17.4	.3	.4	7.5	44.8	62.6	46.2	140.6	
VEL=	.3	.3	.4	.6	.8	.9	.9	.9	
DEPTH=	.2	.1	.2	.4	.6	.6	.7	.7	

*SECNO 12.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 4449.60 ELREA= 4448.68

12.000	.00	4448.68	4448.68	.00	4448.68	.00	.07	.00	4449.60
5.0	.0	.0	5.0	.0	.0	69.3	31.6	26.8	4448.68
.76	.00	.00	.07	.000	.000	.030	.000	4448.68	706.32
.000013	150.	150.	150.	20	22	0	.00	292.73	999.05

FLOW DISTRIBUTION FOR SECNO= 12.00 CWSEL= 4448.68

STA=	706.	707.	712.	717.	725.	762.	804.	850.	896.	943.	999.
PER Q=	.0	.3	1.3	3.3	10.5	4.6	13.8	26.5	27.0	12.8	
AREA=	.0	.4	1.0	2.2	8.1	5.2	10.4	15.4	15.7	10.8	
VEL=	.0	.0	.1	.1	.1	.0	.1	.1	.1	.1	
DEPTH=	.0	.1	.2	.3	.2	.1	.2	.3	.3	.2	

TW SPLIT FLOW BETWEEN .94 & .95 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
9.51	9.51	.01	9.51	9.51	.01	5	4445.554	4446.061	.940	.950

TW SPLIT FLOW BTWN SEC .95 & 4 (LEFT SIDE)

ASQ	QCOMP	ERRAC	TASQ	TCQ	TABER	NITER	DSWS	USWS	DSSNO	USSNO
5.47	5.47	.00	14.98	14.98	.00	5	4446.061	4446.965	.950	4.000

THIS RUN EXECUTED 12SEP01 10:53:03

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.2: May 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

REV X-SECT .94 THRU 12 W

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*FS	VCH	AREA	.01K
	.940	.00	.00	.00	4441.50	3850.02	4445.55	.00	4445.78	22.05	3.80	1011.93	819.96
	.950	235.00	.00	.00	4442.80	3859.53	4446.06	.00	4446.20	15.16	3.04	1274.95	991.15
*	4.000	455.00	.00	.00	4445.10	3020.00	4446.96	.00	4447.12	29.13	3.35	974.99	559.53
	7.000	240.00	.00	.00	4445.20	1975.00	4447.38	.00	4447.42	6.53	1.51	1335.60	772.70
*	9.000	213.00	.00	.00	4446.80	1440.00	4447.58	4447.58	4447.81	136.74	2.83	388.13	123.14
*	10.000	160.00	.00	.00	4447.40	890.00	4448.45	.00	4448.48	14.28	1.04	607.42	235.53
*	11.000	104.00	.00	.00	4448.30	270.00	4448.58	.00	4448.60	5.47	.34	319.84	115.45
*	12.000	150.00	.00	.00	4448.68	5.00	4448.68	4448.68	4448.68	.13	.00	69.26	13.89

REV X-SECT .94 THRU 12 W

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	.940	3850.02	4445.55	.00	.00	-.45	481.28	.00
	.950	3859.53	4446.06	.00	.51	.00	650.00	235.00
*	4.000	3020.00	4446.96	.00	.90	.00	800.00	455.00
	7.000	1975.00	4447.38	.00	.42	.00	1086.00	240.00
*	9.000	1440.00	4447.58	.00	.20	.00	882.87	213.00
*	10.000	890.00	4448.45	.00	.87	.00	907.69	160.00
*	11.000	270.00	4448.58	.00	.14	.00	576.13	104.00
*	12.000	5.00	4448.68	.00	.10	.00	292.73	150.00

SUMMARY OF ERRORS AND SPECIAL NOTES

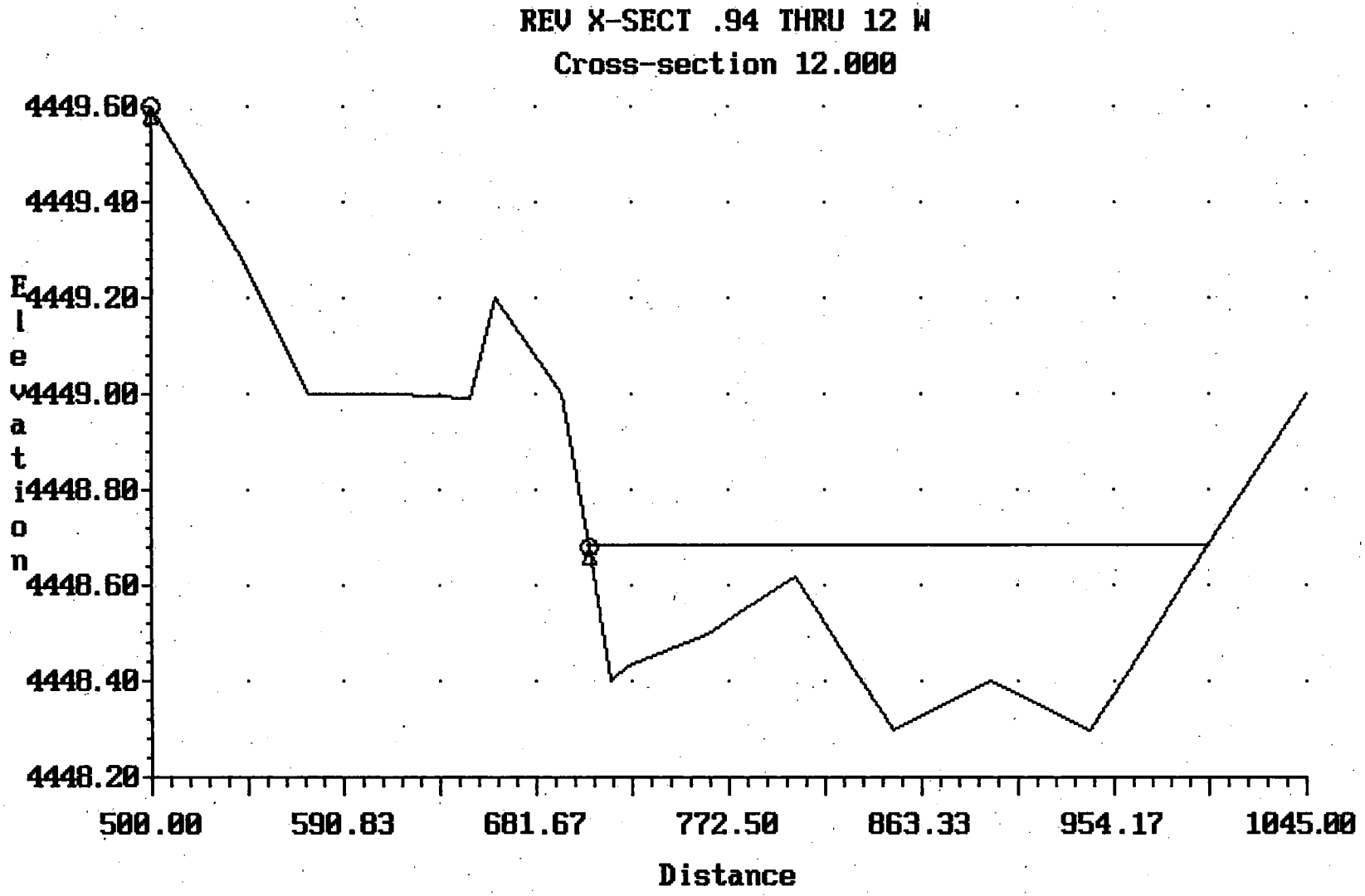
WARNING SECNO= 4.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 9.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 9.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 9.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 10.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 11.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 12.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 12.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 12.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL


REV X-SECT .94 THRU 12 W
Cross-section 12.000
4449.60
4449.40
4449.20
4449.00
4448.80
4448.60
4448.40
4448.20
Elevation
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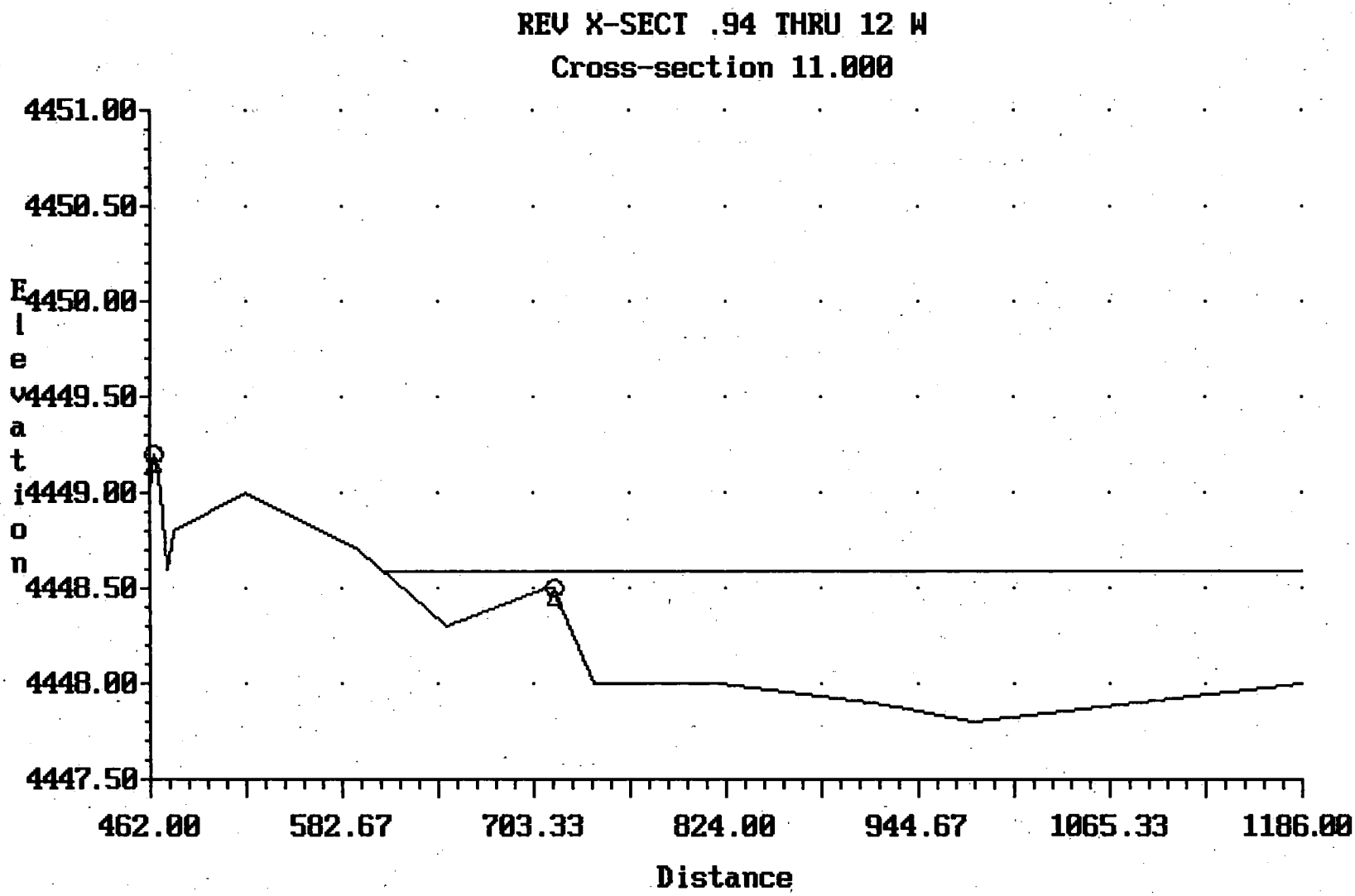
590.83
681.67
772.50
863.33
954.17
1045.00
Distance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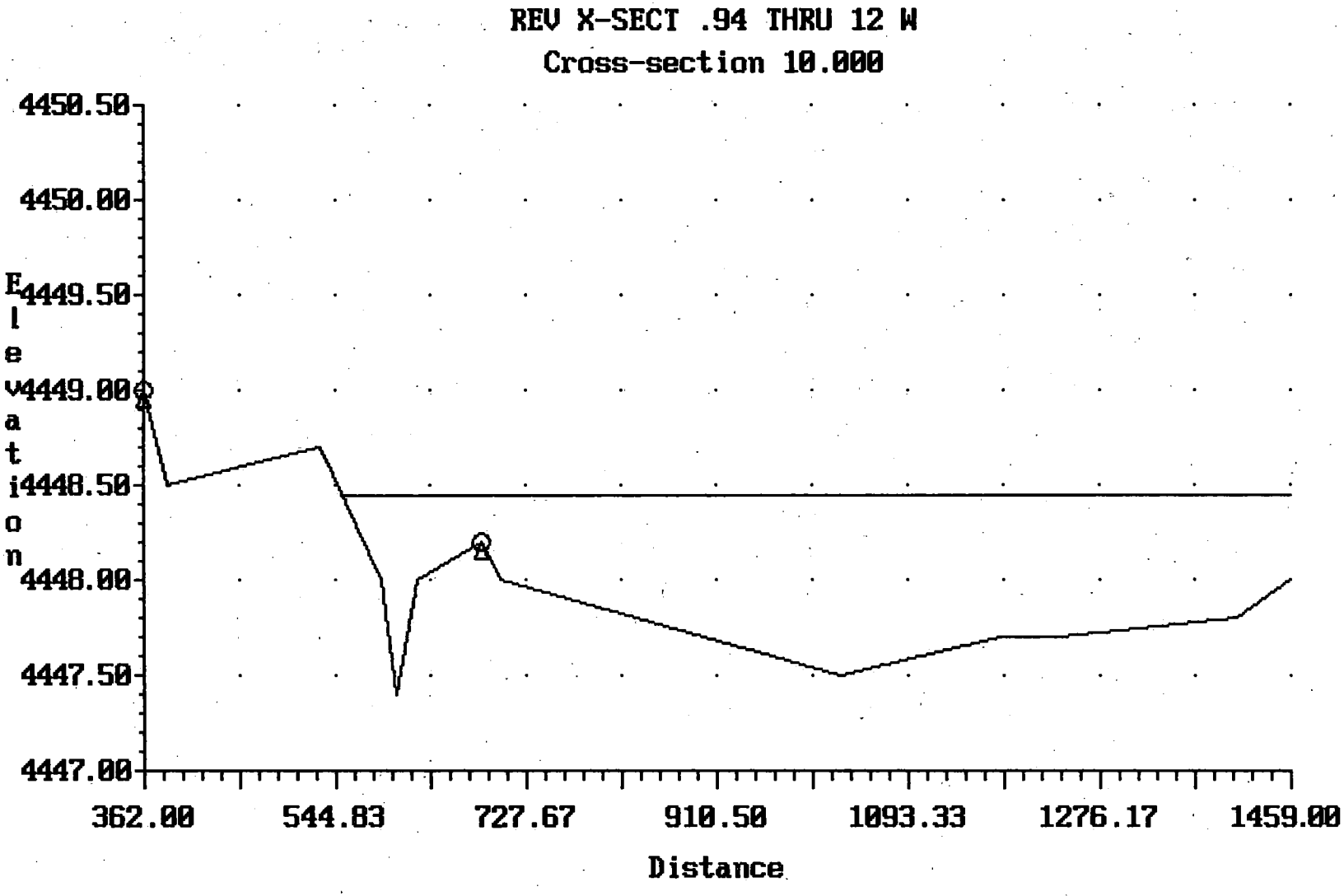
Cross-section 11.000
4451.00
4450.50
4450.00
4449.50
4449.00
4448.50
4448.00
4447.50
Elevation
462.00
582.67
703.33
824.00
944.67
1065.33
1186.00
Distance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Cross-section 10.000
4450.50
4450.00
4449.50
4449.00
4448.50
4448.00
4447.50
4447.00
Elevation
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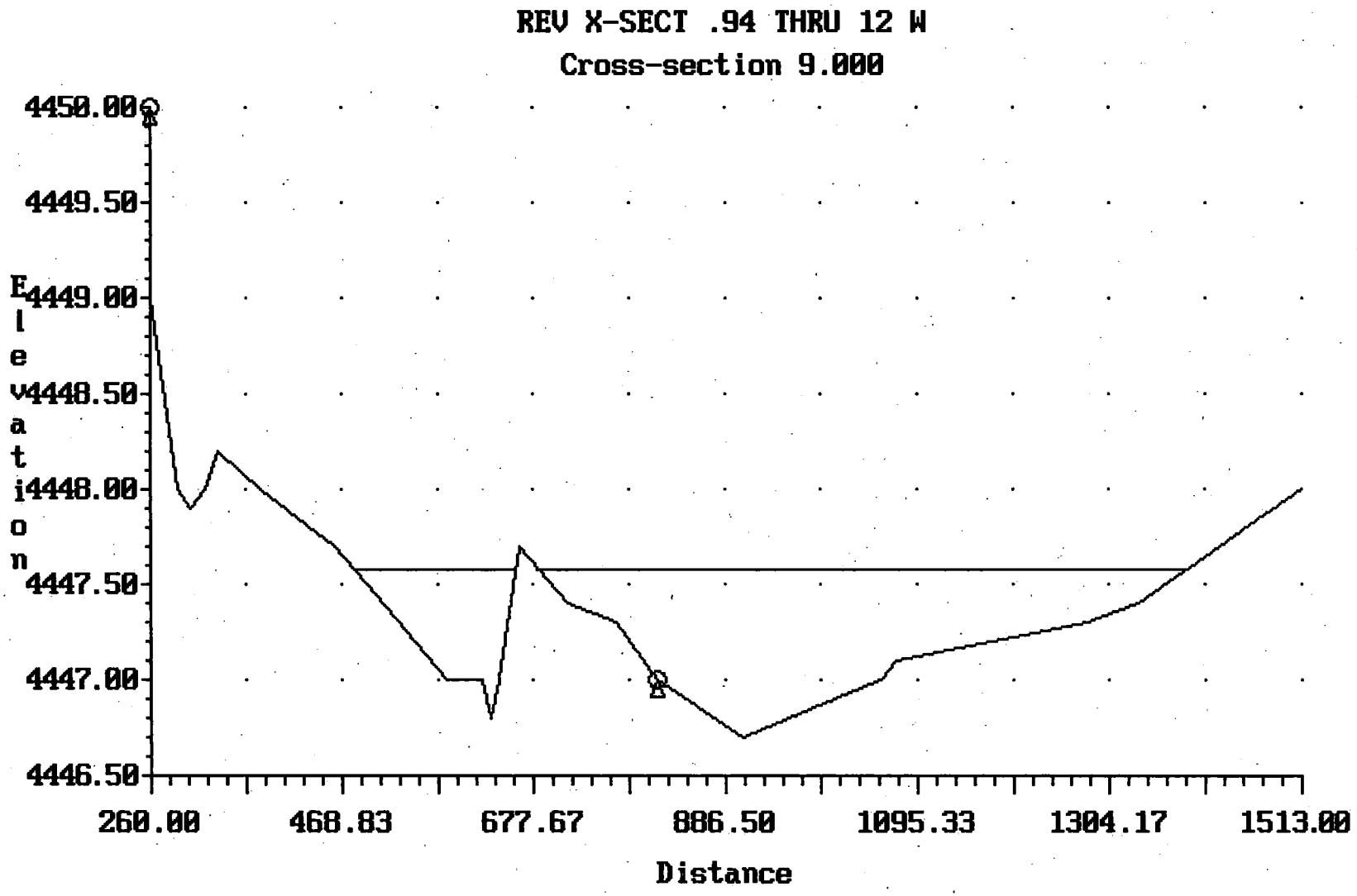
544.83
727.67
910.50
1093.33
1276.17
1459.00
Distance


REV X-SECT .94 THRU 12 W
Cross-section 9.000
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4449.50
4449.00
4448.50
4448.00
4447.50
4447.00
4446.50
Elevation
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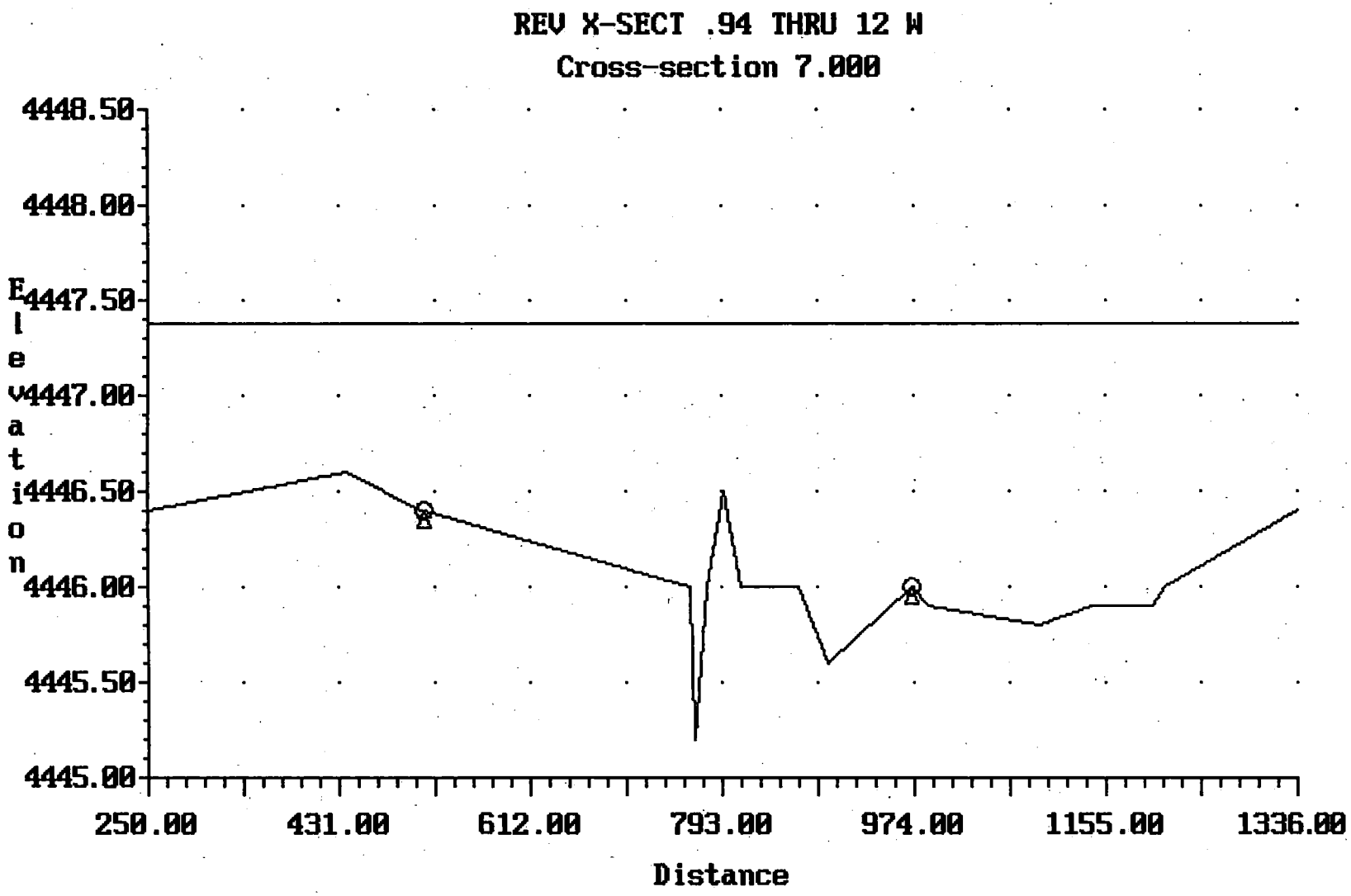
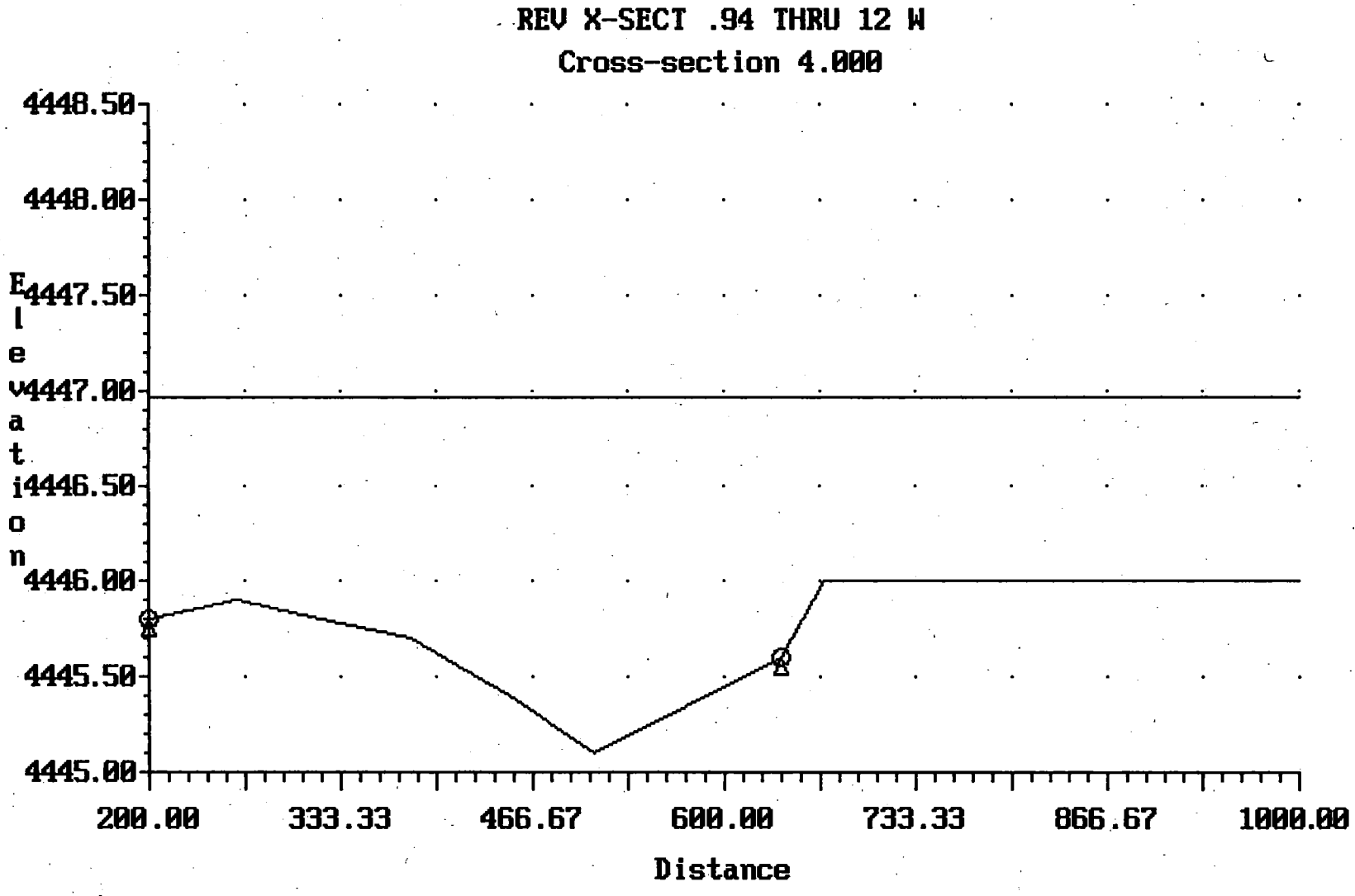
468.83
677.67
886.50
1095.33
1304.17
1513.00
Distance


REV X-SECT .94 THRU 12 W
Cross-section 7.000
4448.50
4448.00
4447.50
4447.00
4446.50
4446.00
4445.50
4445.00
Elevation
250.00
431.00
612.00
793.00
974.00
1155.00
1336.00
Distance


REV X-SECT .94 THRU 12 W
Cross-section 4.000
4448.50
4448.00
4447.50
4447.00
4446.50
4446.00
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4445.00
Elevation
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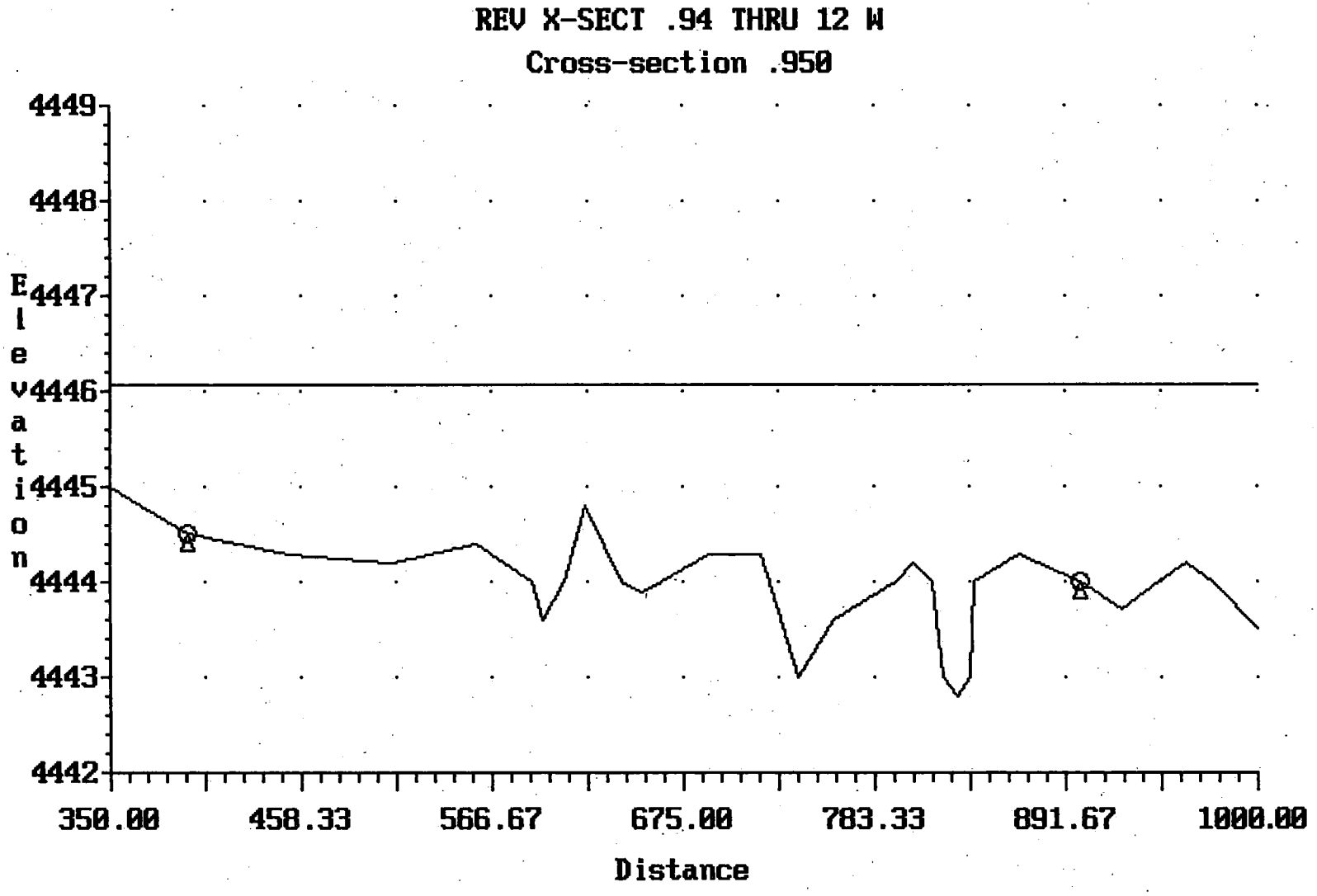
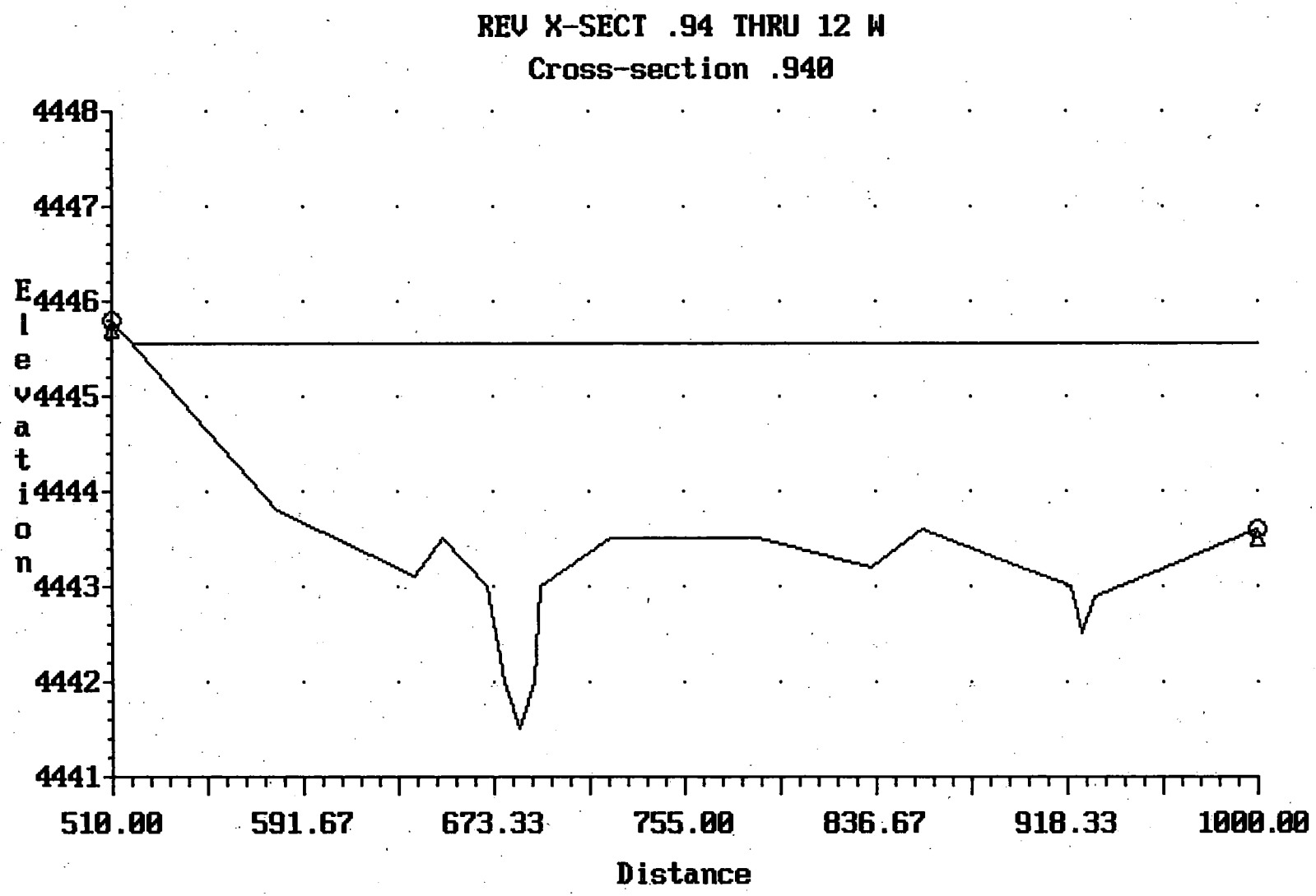
333.33
466.67
600.00
733.33
866.67
1000.00
Distance


REV X-SECT .94 THRU 12 W
Cross-section .950
4449
4448
4447
4446
4445
4444
4443
4442
Elevation
350.00
458.33
566.67
675.00
783.33
891.67
1000.00
Distance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Cross-section .940
4448
4447
4446
4445
4444
4443
4442
4441
Elevation
510.00
591.67
673.33
755.00
836.67
918.33
1000.00
Distance

APPENDIX H

SUPPORTING HYDRAULIC CALCULATIONS FOR PROPOSED CONDITIONS

Project DAMONTE DIV.
Project No. 0009
Sheet No. 1 of 1
Calculated by CA Date 7/27/00

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

RATING CURVE FOR WEIR W/ I.E. 4485' AND 240' LENGTH

CROSS SECTION PARAMETERS: FILENAME: 009weir.SEC

No. of Cross Section Points: 4 Bed Slope:0.00100 Max Elev.:4489.10
Bank Stations.....Left: 0.0 Right....: 264.0 Min Elev.:4485.00
Encroachment Stations..Left: Right....: Weir Coef: 3.000

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	4489.10	0.00	2)	4485.00	12.30	3)	4485.00	252.00
4)	4489.10	264.00						

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
4486.00	726.2	1.00	0.99	245.6	242.7
4487.00	2074.2	2.00	1.95	251.6	491.3
88.00	3847.4	3.00	2.90	257.5	745.8
89.00	5980.4	4.00	3.82	263.4	1006.2

NOTES:

PIPE CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
DIVERSION STRUCTURE CULVERTS
July 26, 2001

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Culvert Diameter (ft)	9.0
FHWA Chart Number	1
FHWA Scale Number (Type of Culvert Entrance)	1
Manning's Roughness Coefficient (n-value)	0.024
Entrance Loss Coefficient of Culvert Opening	0.5
Culvert Length (ft)	60.0
Invert Elevation at Downstream end of Culvert (ft)	4,474.3
Invert Elevation at Upstream end of Culvert (ft)	4,474.9
Culvert Slope (ft/ft)	0.01
Starting Flow Rate (cfs)	10.0
Incremental Flow Rate (cfs)	20.0
Ending Flow Rate (cfs)	910.0
Starting Tailwater Depth (ft)	0.5
Incremental Tailwater Depth (ft)	0.15
Ending Tailwater Depth (ft)	7.25

COMPUTATION RESULTS

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Velocity (fps)
10.0	0.5	0.95	1.11	0.76	0.74	0.74	4.02
30.0	0.65	1.69	1.96	1.29	1.29	1.29	5.35
50.0	0.8	2.22	0.0	1.66	1.67	1.66	6.22
70.0	0.95	2.65	0.0	1.96	1.99	1.96	6.87
90.0	1.1	3.04	0.0	2.22	2.26	2.22	7.39
110.0	1.25	3.39	0.0	2.45	2.51	2.45	7.83

DIVERSION STRUCTURE CULVERTS P.2

		HEADWATER					
Q	TW	IC	OC				
130.0	1.4	3.71	0.0	2.67	2.73	2.67	8.21
150.0	1.55	4.02	0.0	2.88	2.94	2.88	8.55
170.0	1.7	4.32	0.0	3.08	3.14	3.08	8.85
190.0	1.85	4.6	0.0	3.26	3.33	3.26	9.13
210.0	2.0	4.87	0.0	3.44	3.5	3.44	9.38
230.0	2.15	5.14	0.0	3.62	3.67	3.62	9.62
250.0	2.3	5.4	0.0	3.79	3.84	3.79	9.83
270.0	2.45	5.65	0.0	3.95	3.99	3.95	10.03
290.0	2.6	5.9	0.0	4.12	4.15	4.12	10.22
310.0	2.75	6.15	0.0	4.28	4.29	4.28	10.4
330.0	2.9	6.39	7.04	4.44	4.44	4.44	10.57
350.0	3.05	6.63	7.27	4.59	4.57	4.57	10.78
370.0	3.2	6.87	7.5	4.75	4.71	4.71	10.98
390.0	3.35	7.11	7.73	4.9	4.84	4.84	11.18
410.0	3.5	7.34	7.95	5.06	4.97	4.97	11.38
430.0	3.65	7.58	8.17	5.21	5.1	5.1	11.58
450.0	3.8	7.81	8.38	5.37	5.22	5.22	11.77
470.0	3.95	8.05	8.6	5.52	5.34	5.34	11.96
490.0	4.1	8.28	8.81	5.68	5.45	5.45	12.15
510.0	4.25	8.52	9.02	5.84	5.57	5.57	12.34
530.0	4.4	8.75	9.23	6.0	5.68	5.68	12.52
550.0	4.55	8.99	9.44	6.16	5.79	5.79	12.71
570.0	4.7	9.23	9.65	6.33	5.9	5.9	12.89
590.0	4.85	9.46	9.86	6.51	6.01	6.01	13.08
610.0	5.0	9.7	10.07	6.69	6.11	6.11	13.27
630.0	5.15	9.94	10.29	6.88	6.21	6.21	13.45
650.0	5.3	10.18	10.5	7.08	6.31	6.31	13.64
670.0	5.45	10.44	10.71	7.3	6.41	6.41	13.83
690.0	5.6	10.85	10.93	7.55	6.5	6.5	14.02
710.0	5.75	11.19	11.15	7.86	6.6	7.86	12.04
730.0	5.9	11.45	11.37	9.0	6.69	9.0	11.47
750.0	6.05	11.63	11.59	9.0	6.78	9.0	11.79
770.0	6.2	11.82	11.81	9.0	6.86	9.0	12.1
790.0	6.35	12.12	12.04	9.0	6.95	9.0	12.42
810.0	6.5	12.44	12.27	9.0	7.03	9.0	12.73
830.0	6.65	12.76	12.51	9.0	7.11	9.0	13.05
850.0	6.8	13.09	12.75	9.0	7.19	9.0	13.36
870.0	6.95	13.43	13.0	9.0	7.27	9.0	13.68

DIVERSION STRUCTURE CULVERTS P.3

	HEADWATER						
Q	TW	IC	OC				
890.0	7.1	13.77	13.25	9.0	7.34	9.0	13.99
910.0	7.25	14.13	13.51	9.0	7.42	9.0	14.3

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JOB 0030
SHEET NO. 1 OF 1
CALCULATED BY MW DATE
CHECKED BY DATE
SCALE

Diversion Structure Rating Curve for Culverts

Damonte

108" RCPs

Elev	A	Q/culv	Q/5 culv
75	0	—	—
76.95	~~.95~~ 1.96 1.64	30	150
78.04	3.04	90	450
80.14	5.14	230	1150
81.15	6.15	310	1550
83.05	8.05	470	2350
83.99	8.99	550	2750
85.18	10.18	650	3250
86.19	11.19	710	3550
87.12	12.12	790	3950
88.09	13.09	850	4250
89.13	14.13	910	4550

Job #0030
7/26/01
Dlw

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

see C value using broad crested Value, 2.5

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,455.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,453.50	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	162.50	cfs
Headwater Height Above Crest	1.00	ft
Tailwater Height Above Crest	-0.50	ft
Equal Side Slopes	0.25	H : V
Flow Area	65.2	ft²
Velocity	2.49	ft/s
Wetted Perimeter	67.06	ft
Top Width	65.50	ft

Evaluating Cipolletti Weir out of Damonte wetlands using "FLOWMASTER"

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,456.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,453.50	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	459.62	cfs
Headwater Height Above Crest	2.00	ft
Tailwater Height Above Crest	-0.50	ft
Equal Side Slopes	0.25	H : V
Flow Area	131.0	ft^2
Velocity	3.51	ft/s
Wetted Perimeter	69.12	ft
Top Width	66.00	ft

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,457.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,453.50	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	844.37	cfs
Headwater Height Above Crest	3.00	ft
Tailwater Height Above Crest	-0.50	ft
Equal Side Slopes	0.25	H : V
Flow Area	197.3	ft^2
Velocity	4.28	ft/s
Wetted Perimeter	71.18	ft
Top Width	66.50	ft

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,458.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,453.50	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	1,300.00	cfs
Headwater Height Above Crest	4.00	ft
Tailwater Height Above Crest	-0.50	ft
Equal Side Slopes	0.25	H : V
Flow Area	264.0	ft²
Velocity	4.92	ft/s
Wetted Perimeter	73.25	ft
Top Width	67.00	ft

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,459.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,455.00	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	1,752.43	cfs
Headwater Height Above Crest	5.00	ft
Tailwater Height Above Crest	1.00	ft
Equal Side Slopes	0.25	H : V
Flow Area	331.3	ft^2
Velocity	5.29	ft/s
Wetted Perimeter	75.31	ft
Top Width	67.50	ft

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,460.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,455.30	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	2,292.48	cfs
Headwater Height Above Crest	6.00	ft
Tailwater Height Above Crest	1.30	ft
Equal Side Slopes	0.25	H : V
Flow Area	399.0	ft²
Velocity	5.75	ft/s
Wetted Perimeter	77.37	ft
Top Width	68.00	ft

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,461.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,455.30	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	2,914.42	cfs
Headwater Height Above Crest	7.00	ft
Tailwater Height Above Crest	1.30	ft
Equal Side Slopes	0.25	H : V
Flow Area	467.3	ft²
Velocity	6.24	ft/s
Wetted Perimeter	79.43	ft
Top Width	68.50	ft

Worksheet

Worksheet for Sharp Crested Cipolletti Weir

Project Description	
Worksheet	Weir - 2
Type	Sharp Crested Cipolletti Weir
Solve For	Discharge

Input Data		
Headwater Elevation	4,462.00	ft
Crest Elevation	4,454.00	ft
Tailwater Elevation	4,455.30	ft
Discharge Coefficient	2.50	US
Crest Length	65.00	ft

Results		
Discharge	3,582.29	cfs
Headwater Height Above Crest	8.00	ft
Tailwater Height Above Crest	1.30	ft
Equal Side Slopes	0.25	H:V
Flow Area	536.0	ft²
Velocity	6.68	ft/s
Wetted Perimeter	81.49	ft
Top Width	69.00	ft

BOX CULVERT ANALYSIS
COMPUTATION OF CULVERT PERFORMANCE CURVE
DAMONTE PARKWAY BOX CULVERTS
July 26, 2001

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Culvert Span (ft)	12.0
Culvert Rise (ft)	4.0
FHWA Chart Number	9
FHWA Scale Number (Type of Culvert Entrance)	2
Manning's Roughness Coefficient (n-value)	0.012
Entrance Loss Coefficient of Culvert Opening	0.3
Culvert Length (ft)	103.61
Invert Elevation at Downstream end of Culvert (ft)	49.35
Invert Elevation at Upstream end of Culvert (ft)	49.76
Culvert Slope (ft/ft)	0.004
Starting Flow Rate (cfs)	10.0
Incremental Flow Rate (cfs)	10.0
Ending Flow Rate (cfs)	560.0
Starting Tailwater Depth (ft)	0.0
Incremental Tailwater Depth (ft)	0.05
Ending Tailwater Depth (ft)	2.75

COMPUTATION RESULTS

Flow Rate (cfs)	Tailwater Depth (ft)	Headwater (ft) Inlet Control	Headwater (ft) Outlet Control	Normal Depth (ft)	Critical Depth (ft)	Depth at Outlet (ft)	Velocity (fps)
10.0	0.0	0.43	0.0	0.27	0.28	0.27	3.14
20.0	0.05	0.68	0.0	0.41	0.44	0.41	4.1
30.0	0.1	0.89	0.0	0.52	0.58	0.52	4.79
40.0	0.15	1.08	0.0	0.63	0.7	0.63	5.33
50.0	0.2	1.26	0.0	0.72	0.81	0.72	5.8

60.0	0.25	1.42	0.0	0.81	0.92	0.81	6.2
70.0	0.3	1.57	0.0	0.89	1.02	0.89	6.57
80.0	0.35	1.72	0.0	0.97	1.11	0.97	6.9
90.0	0.4	1.86	0.0	1.04	1.2	1.04	7.2
100.0	0.45	2.0	0.0	1.11	1.29	1.11	7.48
110.0	0.5	2.13	0.0	1.18	1.38	1.18	7.74
120.0	0.55	2.26	0.0	1.25	1.46	1.25	7.98
130.0	0.6	2.38	0.0	1.32	1.54	1.32	8.21
140.0	0.65	2.5	0.0	1.38	1.62	1.38	8.43
150.0	0.7	2.62	0.0	1.45	1.69	1.45	8.63
160.0	0.75	2.73	0.0	1.51	1.77	1.51	8.83
170.0	0.8	2.85	0.0	1.57	1.84	1.57	9.02
180.0	0.85	2.96	0.0	1.63	1.91	1.63	9.2
190.0	0.9	3.07	0.0	1.69	1.98	1.69	9.37
200.0	0.95	3.17	0.0	1.75	2.05	1.75	9.54
210.0	1.0	3.28	0.0	1.81	2.12	1.81	9.69
220.0	1.05	3.38	0.0	1.86	2.19	1.86	9.85
230.0	1.1	3.48	0.0	1.92	2.25	1.92	10.0
240.0	1.15	3.58	0.0	1.97	2.32	1.97	10.14
250.0	1.2	3.68	0.0	2.03	2.38	2.03	10.28
260.0	1.25	3.78	0.0	2.08	2.44	2.08	10.41
270.0	1.3	3.87	0.0	2.13	2.51	2.13	10.54
280.0	1.35	3.97	0.0	2.19	2.57	2.19	10.67
290.0	1.4	4.06	0.0	2.24	2.63	2.24	10.79
300.0	1.45	4.16	0.0	2.29	2.69	2.29	10.91
310.0	1.5	4.25	0.0	2.34	2.75	2.34	11.03
320.0	1.55	4.34	0.0	2.39	2.81	2.39	11.14
330.0	1.6	4.43	0.0	2.44	2.86	2.44	11.25
340.0	1.65	4.52	0.0	2.49	2.92	2.49	11.36
350.0	1.7	4.61	0.0	2.54	2.98	2.54	11.47
360.0	1.75	4.69	0.0	2.59	3.04	2.59	11.57
370.0	1.8	4.78	0.0	2.64	3.09	2.64	11.67
380.0	1.85	4.87	0.0	2.69	3.15	2.69	11.77
390.0	1.9	4.96	0.0	2.74	3.2	2.74	11.86
400.0	1.95	5.04	0.0	2.79	3.26	2.79	11.96
410.0	2.0	5.13	0.0	2.83	3.31	2.83	12.05
420.0	2.05	5.22	0.0	2.88	3.36	2.88	12.14
430.0	2.1	5.31	0.0	2.93	3.42	2.93	12.23
440.0	2.15	5.4	0.0	2.98	3.47	2.98	12.32

450.0	2.2	5.5	0.0	3.02	3.52	3.02	12.41
460.0	2.25	5.6	0.0	3.07	3.57	3.07	12.49
470.0	2.3	5.7	0.0	3.12	3.63	3.12	12.57
480.0	2.35	5.8	0.0	3.16	3.68	3.16	12.65
490.0	2.4	5.91	0.0	3.21	3.73	3.21	12.73
500.0	2.45	6.01	0.0	3.25	3.78	3.25	12.81
510.0	2.5	6.12	0.0	3.3	3.83	3.3	12.89
520.0	2.55	6.23	0.0	3.34	3.88	3.34	12.96
530.0	2.6	6.35	0.0	3.39	3.93	3.39	13.04
540.0	2.65	6.46	0.0	3.43	3.98	3.43	13.11
550.0	2.7	6.58	0.0	3.48	4.0	3.48	13.18
560.0	2.75	6.7	0.0	3.52	4.0	3.52	13.25

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JOB 0030
SHEET NO. 1 OF 1
CALCULATED BY DW DATE 7/26/01
CHECKED BY DATE
SCALE

Rating Curve for Damonte Parkway Culverts
Based on Hydro calc analysis
5 culverts, 12' wide, 4' high, ie 4949.76
Box Culvert w/ wingwalls at 0°

Elev.	H	Q/culvert	Q/5 culverts
50	0	0	0 ✓
51.08	1.08	40	200 ✓
52.0	2.0	100	500 ✓
53.07	3.07	190	950 ✓
54.06	4.06	290	1450 ✓
55.04	5.04	400	2000 ✓
56.01	6.01	500	2500 ✓
56.7	6.7	560	2800 ✓

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JOB 0030
SHEET NO. _____ OF _____
CALCULATED BY MS DATE 3-2-01
CHECKED BY _____ DATE _____
SCALE _____

WASHOE COUNTY

MAXIMUM PERMISSIBLE MEAN CHANNEL VELOCITIES

FULLY LINED CHANNELS

UNREINFORCED VEGETATION	5.5 fps
LOOSE RIPRAP	15 fps

12ft MINIMUM ACCESS ROAD ON CHANNELS WITH 100-YR DESIGN CAPACITY ≥ 50 cfs

FOR CHANNEL WITH TOP WIDTH > 50ft MAINTENANCE ROAD NEEDS TO BE ON BOTH SIDES IF

$$d_{50} = 0.05 V^2 S^{0.34} / (S_s - 1)^{1.332} \qquad (806)$$

$V \Rightarrow$ MEAN CHANNEL VELOCITY (fps)
$S \Rightarrow$ LONGITUDINAL SLOPE (ft/ft)
$S_s \Rightarrow$ SPECIFIC GRAVITY OF ROCK (MIN $S_s = 2.5$)

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JOB 0030
SHEET NO. _____ OF _____
CALCULATED BY MS DATE 3-2-01
CHECKED BY _____ DATE _____
SCALE _____

PER: WASHOE CO. MANUAL
MAXIMUM PERMISSIBLE MEAN CHANNEL VELOCITIES
FULLY LINED CHANNELS
UNREINFORCED VEGETATION 5.5 fps
→ LOOSE RIPRAP 15.0 fps

CHANNEL VELOCITIES IN STEAMBOAT CHANNEL - MODIFIED SECTION - FROM UP-STREAM CROSS-SECTION 54 TO DOWNSTREAM CROSS-SECTION 7 - VELOCITIES PER HEC-2 MODEL RANGE FROM ~ 5.75 TO 8.5 fps

WILL APPLY LOOSE RIPRAP BASED ON THE FOLLOWING:

$$d_{50} = \frac{0.05 V^2 S^{0.34}}{(S_s - 1)^{1.332}} \qquad (806)$$

V ≡ MEAN CHANNEL VELOCITY (fps)
S ≡ LONGITUDINAL SLOPE (ft/ft)
S_s ≡ SPECIFIC GRAVITY OF ROCK - MIN = 2.50

FROM CROSS-SECTION 7 - 38 S = 0.0025 ft/ft
40 - 54 S = 0.0046 ft/ft

CROSS-SECTION 7-38
V ≃ 5.75 TO 7 fps

$$d_{50} = \frac{0.05 (5.75)^2 (0.0025)^{0.34}}{(2.5 - 1)^{1.332}}$$

$$d_{50} = \frac{(1.653)(0.13)}{1.716} = 0.125 \text{ ft}$$

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JOB 0030
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SCALE _____

$$d_{50} = \frac{(0.05)(7)^2(0.0025)^{0.34}}{(2.5-1)^{1.332}}$$

$$= \frac{(2.45)(0.13)}{1.716} = 0.186 \text{ ft}$$

RIPRAP FOR CROSS-SECTIONS 7-38 $\Rightarrow$ 0.125 - 0.186 ft

CROSS-SECTIONS 40-54
$V \simeq 8 - 8.5$ fps

$$d_{50} = \frac{(0.05)(8)^2(0.0046)^{0.34}}{(2.5-1)^{1.332}}$$

$$= \frac{(3.2)(0.16)}{1.716} = 0.298 \text{ ft}$$

$$d_{50} = \frac{(0.05)(8.5)^2(0.0046)^{0.34}}{(2.5-1)^{1.332}}$$

$$= \frac{(3.6125)(0.16)}{1.716} = 0.337 \text{ ft}$$

RIPRAP FOR CROSS-SECTIONS 40-54 $\Rightarrow$ 0.298 - 0.337 ft

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JOB 0030
SHEET NO. _____ OF _____
CALCULATED BY MS DATE 3-6-01
CHECKED BY _____ DATE _____
SCALE _____

RIPRAP CLASS 150 USED FOR d_{50} = 6"
RIPRAP GRADATION 2", 6", 10"

NOTE: RIPRAP BLANKET THICKNESS SHOULD BE 2.0 TIMES d_{50} AND SHOULD EXTEND UP THE SIDE SLOPES TO AN ELEVATION OF THE DESIGN WATER SURFACE PLUS THE CALCULATED FREEBOARD.

$$F_b = 0.5 + V^2/2g \qquad (8.14)$$

F_b = FREEBOARD HEIGHT (FEET)
V = MEAN DESIGN VELOCITY (fps)
g = ACCELERATION OF GRAVITY $(ft/sec)^2$

ASSUMING MEAN DESIGN VELOCITY = 8 fps

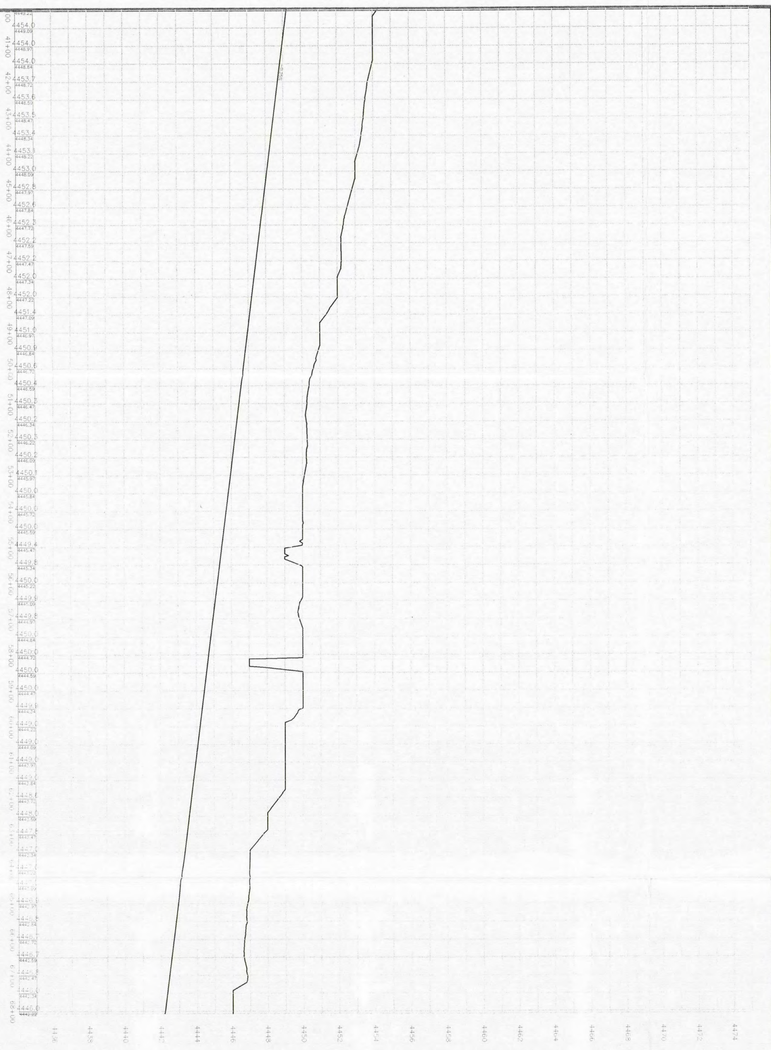
$$F_b = 0.5 + (8)^2/(2)(32.2) = 1.49 \text{ ft}$$

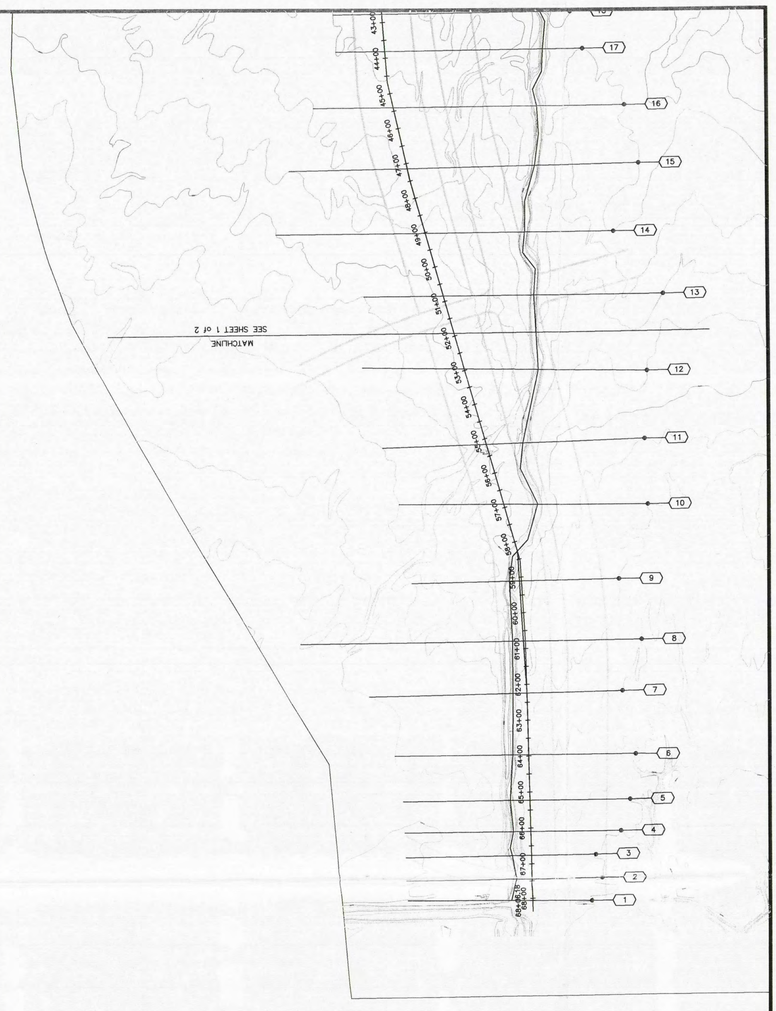
WILL REQUIRE 3 ft OF FREEBOARD IN LEVEE SECTIONS.

APPENDIX I

DAMONTE RANCH REGIONAL FLOOD CONTROL FACILITIES AND STEAMBOAT CREEK CHANNEL

PROPOSED DESIGN PLANS





Sheet 11 of 12 **Nimbus Job #** **0030** *Date: March 2001*	**STEAMBOAT CHANNEL IMPROVEMENTS** **Plan & Profile - Sheet 2 of 2** **Regional Flood Control Improvements** *Damonte Ranch* *Washoe County* *Nevada*	**Scale:** H: 1"=200' V: 1"=4' **Contour Interval:** 1FT **File Name:** 920chan **Drawn By:** KK **Designed By:** KK	*Revisions:*	Nimbus Engineers 3785 Baker Ln., Suite 201 • Reno, NV 89509 Mail: P.O. Box 10220 • Reno, NV 89510 (775) 689-8630 • Fax (775) 689-8614 info@nimbusengineers.com	

Sheet 10 of 12	**STEAMBOAT CHANNEL IMPROVEMENTS**	Scale: H: 1"=200' V: 1"=4'	*Revisions:*
Nimbus Job # 0030	**Plan & Profile - Sheet 1 of 2**	Contour Interval: 1FT	
Date: March 2001	**Regional Flood Control Improvements**	File Name: 009chan	
	Damonte Ranch	Drawn By: KK	
	Washoe County *Nevada*	Designed By: KK	

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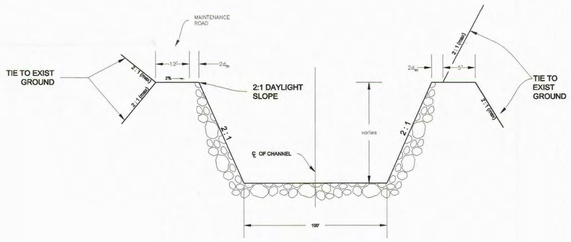
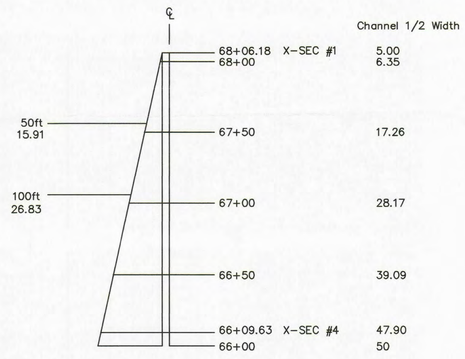


STA 0+00 to 50+84.48

NTS



Note:

Channel narrows from cross-section 4 to cross-section 1 to transition from the 100ft bottom width modified channel to the natural, low-flow Steamboat Creek channel.

1"=50'

CLASSIFICATION AND GRADATION OF RIPRAP

RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (inches)	d_{50}* (Inches)
Class 150	100	10	
	35-50	6	6**
	0-15	2	
Class 300	100	20	
	35-50	12	12
	0-15	4	
Class 400	100	26	
	35-50	16	16
	35-50	6	
Class 550	100	37	
	35-50	22	22
	50-70	8	
Class 700	100	45	
	35-50	28	28
	0-15	10	
Class 900	100	57	
	35-50	35	35
	0-15	14	
STEEP SLOPE	100	45	
	20-50	36	36
	10-20	18	
	0-10	12	
GROUTED	100	37	
	35-50	22	22
	0-5	16	

* d_{50} = mean particle size
** Bury Class 150 with native top soil and re-vegetate to protect from vandalism.

NOTES

1. Minimum specific gravity of rock shall be 2.65. Contractor shall contact Black Eagle Consulting for classification of riprap at specific gravity other than 2.65.
2. Riprap shall be free of cracks, overburden, shale and organic matter. Riprap shall meet specifications per section 200.6 of the Standard Specifications for Public Works Construction unless otherwise modified in these plans or per specifications provided by Black Eagle Consulting.

Adapted from draft Washoe County Hydrologic Criteria and Drainage Design Manual, Dec. 2, 1996.

Nimbus Engineers
3795 Baker Ln., Suite 201 • Reno, NV 89509
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(775) 689-9630 • Fax (775) 689-8814
info@nimbusengineers.com

Revisions:

Scale: N.T.S.
Contour Interval: N/A
File Name: 920chan
Drawn By: KK
Designed By: KK

STEAMBOAT CHANNEL IMPROVEMENTS
Construction Details
Regional Flood Control Improvements
Damonte Ranch
Washoe County *Nevada*

Sheet 12 of 12
Nimbus Job # 0030
Date: March 2001

J:\0030\dwg\009chan.dwg Fri Sep 21 09:15:59 2001

Damonte Ranch
Proposed Design Plans For
REGIONAL FLOOD CONTROL IMPROVEMENTS

APPROVALS

WASHOE COUNTY PERMIT # _____
SIGNED BY WASHOE CO. ON _____
DUST CONTROL PERMIT # _____

NOTE TO ALL USING THESE PLANS:

IF THE NECCESSARY APPROVAL DATES ARE NOT SHOWN ABOVE, THESE PLANS SHALL BE CONSIDERED PRELIMINARY AND NOT FOR CONSTRUCTION. PRIOR TO CONSTRUCTION OR THE ORDERING OF ANY MATERIALS OBTAIN A SET OF DRAWINGS WHICH HAVE ALL OF THE NECESSARY APPROVALS FROM THE ENGINEER.

OWNER

Tri-Partners Development
500 Damonte Ranch Pkwy.; Suite 703
Reno, NV 89511 (775) 359-3000

DESIGN ENGINEER

Nimbus Engineers
3785 Baker Lane, Suite. 201 Margaret F. Bowker, PE
Reno, NV. 89509 (775) 689-8630

BENCH MARK:

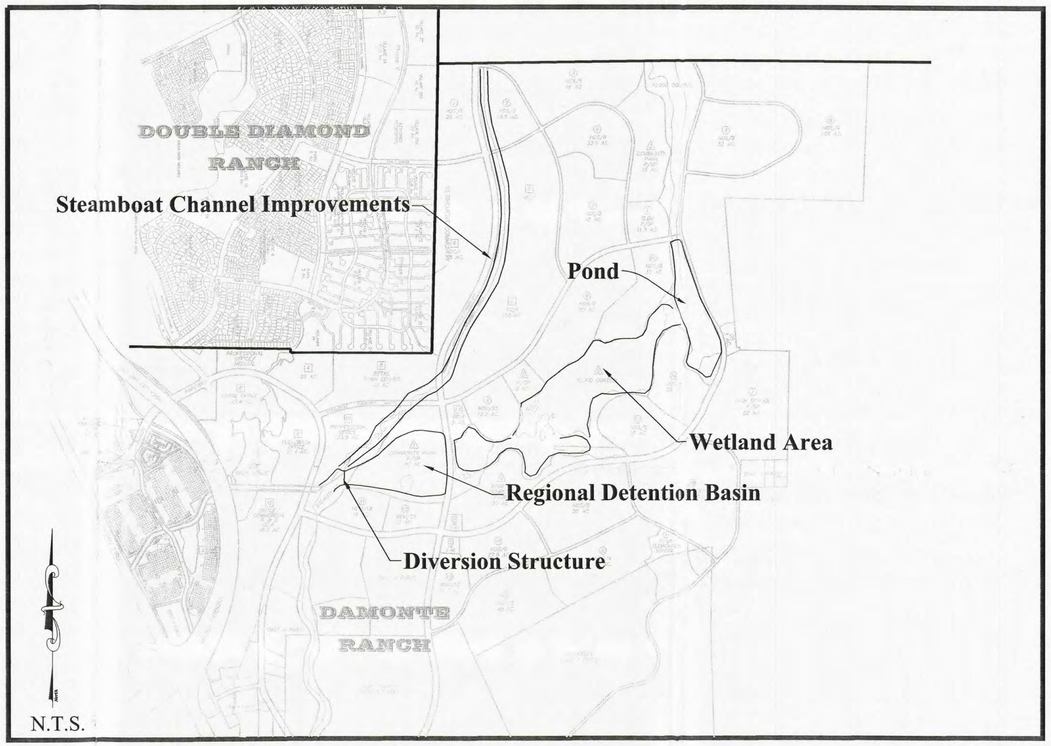
U.S.C. & G.S. reference mark monument "RP/3" for "BROWN 2" being a 3-1/2" brass cap set in concrete set in 1955:
Elevation taken as 4574.69 feet

BASIS OF BEARING:

State of Nevada, Department of Transportation Right-of-Way drawings for 395 South, Project Number EBNH-395-2(28), dated December 1992.

INDEX TO SHEETS

VICINITY MAP



N.T.S.

LEGEND

CFS	Cubic Feet per Second
CL	Centerline
d	Design
FL	Flow Line
FPS	Feet/Second
L	Length
PC	Point of Curvature
PT	Point of Tangency
PVI	Point of Vertical Intersection
Q	Flow Rate
R	Radius
RCB	Reinforced Concrete Box Culvert
STA	Station
RCP	Reinforced Concrete Pipe

NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO COUNTY OF WASHOE STANDARDS.
2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE STANDARD DETAILS FOR PUBLIC WORKS ADOPTED BY THE COUNTY OF WASHOE, EXCEPT AS MODIFIED BY THESE PLANS OR SPECIAL PROVISIONS.
3. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND FEES REQUIRED FOR CONSTRUCTION.
4. THE CONTRACTOR SHALL VERIFY IN FIELD, ALL ELEVATIONS, DIMENSIONS, FLOW LINES, EXISTING CONDITIONS, AND POINTS OF CONNECTION WITH ADJOINING PROPERTY (PUBLIC OR PRIVATE). ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL MAINTAIN A DUST CONTROL PROGRAM TO INCLUDE WATERING OF OPEN AREAS AND MAINTAIN CONFORMITY WITH SECTION 40.031 OF WASHOE COUNTY AIR POLLUTION PROVISIONS AND ANY APPLICABLE STATE OF NEVADA NDPDES PERMIT. CONTRACTOR SHALL CONFORM TO TERMS AND CONDITIONS OF 404 PERMIT.
6. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE SOILS ENGINEER, SIERRA PACIFIC POWER COMPANY AND WASHOE COUNTY 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES FOR LOCATIONS OR POT-HOLING PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICES ALERT (USA) AND NOTIFY USA TWO WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING (800) 227-2600.
8. ANY IRRIGATION FEATURES INTERRUPTED BY THIS PROJECT SHALL BE FILLED AND/OR GRADED TO DRAIN AS DIRECTED BY THE ENGINEER OR OWNER OF THE IRRIGATION FEATURES.
9. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE FACILITIES WITHIN THE CONSTRUCTION AREA UNTIL NEW DRAINAGE IMPROVEMENTS ARE IN PLACE AND FUNCTIONING.
10. ALL EXCAVATION, EMBANKMENT AND ANY OTHER APPLICABLE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COUNTY OF WASHOE STANDARDS AND GEOTECHNICAL REPORT BY BLACK EAGLE CONSULTING, INC.
11. IT IS THE INTENT OF THESE SPECIFICATIONS AND IMPROVEMENT PLANS THAT THE WORK PERFORMED UNDER THE CONTRACT SHALL RESULT IN A COMPLETE OPERATING SYSTEM IN SATISFACTORY WORKING CONDITION WITH RESPECT TO THE FUNCTIONAL PURPOSES OF THE INSTALLATION. IF THERE ARE ANY QUESTIONS REGARDING THE STATED OR IMPLIED MEANING OF THESE PLANS, THE CONTRACTOR IS DIRECTED TO CONTACT THE CONSULTING ENGINEER IMMEDIATELY AT:

    NIMBUS ENGINEERS
    3785 BAKER LANE, STE. 201
    RENO, NV 89509 (775)689-8630

12. SEE DETAIL SHEET (7 OF 12) FOR REVEGETATION NOTES.
13. NO MATERIAL OF ANY KIND SHALL BE STOCKPILED, OR CONSTRUCTION EQUIPMENT PARKED ON CONCRETE OR ASPHALT SURFACES TO BE MAINTAINED BY WASHOE COUNTY.
14. SHOULD ANY PREHISTORIC OR HISTORIC REMAINS/ARTIFACT BE DISCOVERED DURING CHANNEL CONSTRUCTION, WORK SHALL TEMPORARILY BE HALTED AT THE SPECIFIC SITE AND THE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, DIVISION OF HISTORIC PRESERVATION AND ARCHEOLOGY SHALL BE NOTIFIED TO RECORD AND PHOTOGRAPH THE SITE. THE PERIOD OF TEMPORARY DELAY SHALL BE LIMITED TO A MAXIMUM OF TWO WORKING DAYS FROM THE DATE OF NOTIFICATION.
15. ALL TOPOGRAPHIC INFORMATION PROVIDED BY ODYSSEY ENGINEERING, INC.
16. CONSTRUCTION CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE OWNER, DESIGN PROFESSIONAL, AND STEAMBOAT CANAL AND IRRIGATION CO. HARMLESS FROM ANY AND ALL LIABILITY, REAL, OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
17. NIMBUS ENGINEERS HAS EXERCISED A REASONABLE AND ACCEPTABLE STANDARD OF CARE IN THE PREPARATION OF THESE PLANS. HOWEVER, THE DESIGN PROCESS MAY INCLUDE ACTIVITIES OCCURING AFTER PLAN SIGNATURE, INCLUDING CALCULATION, PLAN CHECK AND VERIFICATIONS DURING CONSTRUCTION. SHOULD PERSONS OTHER THAN NIMBUS ENGINEERS PERFORM THE CONSTRUCTION STAKING OPERATION, THEY SHALL INDEMNIFY NIMBUS ENGINEERS FROM ANY DAMAGES RESULTING FROM FAILURE TO PERFORM THOSE TASKS OR ANY EXPENSE OR DAMAGE RESULTING FROM OMISSION OR ERROR CONTAINED IN THE PLANS WHICH WOULD REASONABLY HAVE BEEN DISCOVERED AND CORRECTED BY NIMBUS ENGINEERS.

Nimbus Engineers
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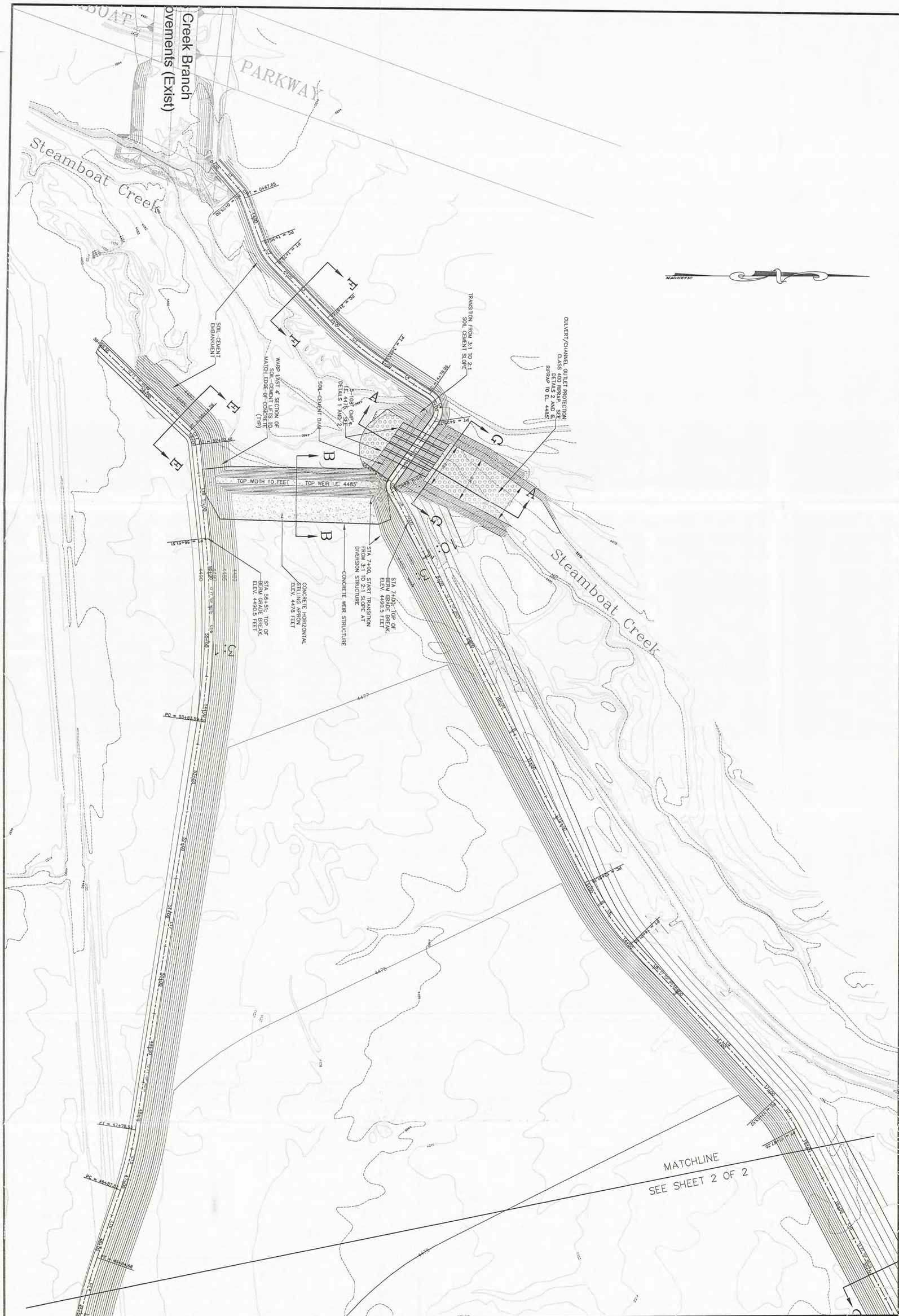
Revisions	Date
Update per clomr addendum	09/01

Scale: n/a
Contour Interval: n/a
File Name: 030title.dwg
Drawn By: KK
Designed By: MS/DW

TITLE SHEET
Regional Flood Control Improvements
Damonte Ranch
Washoe County *Nevada*

Sheet 1 of 12
Nimbus Job # 0030
Date: March 2001



Sheet 4 of 12	**DIVERSION STRUCTURE GRADING PLAN - SHEET 1 OF 2**	**Scale:**	**1" = 60'**	*Revisions*	*Date*
Nimbus Job #	**Regional Flood Control Improvements**	**Contour Interval:**	**1 foot**		
0030	*Damonte Ranch*	**File Name:**	**030divstruc.dwg**		
Date: March 2001	*Washoe County* *Nevada*	**Drawn By:**	**KK/CA**		
		Designed By:	**CA/GT**		

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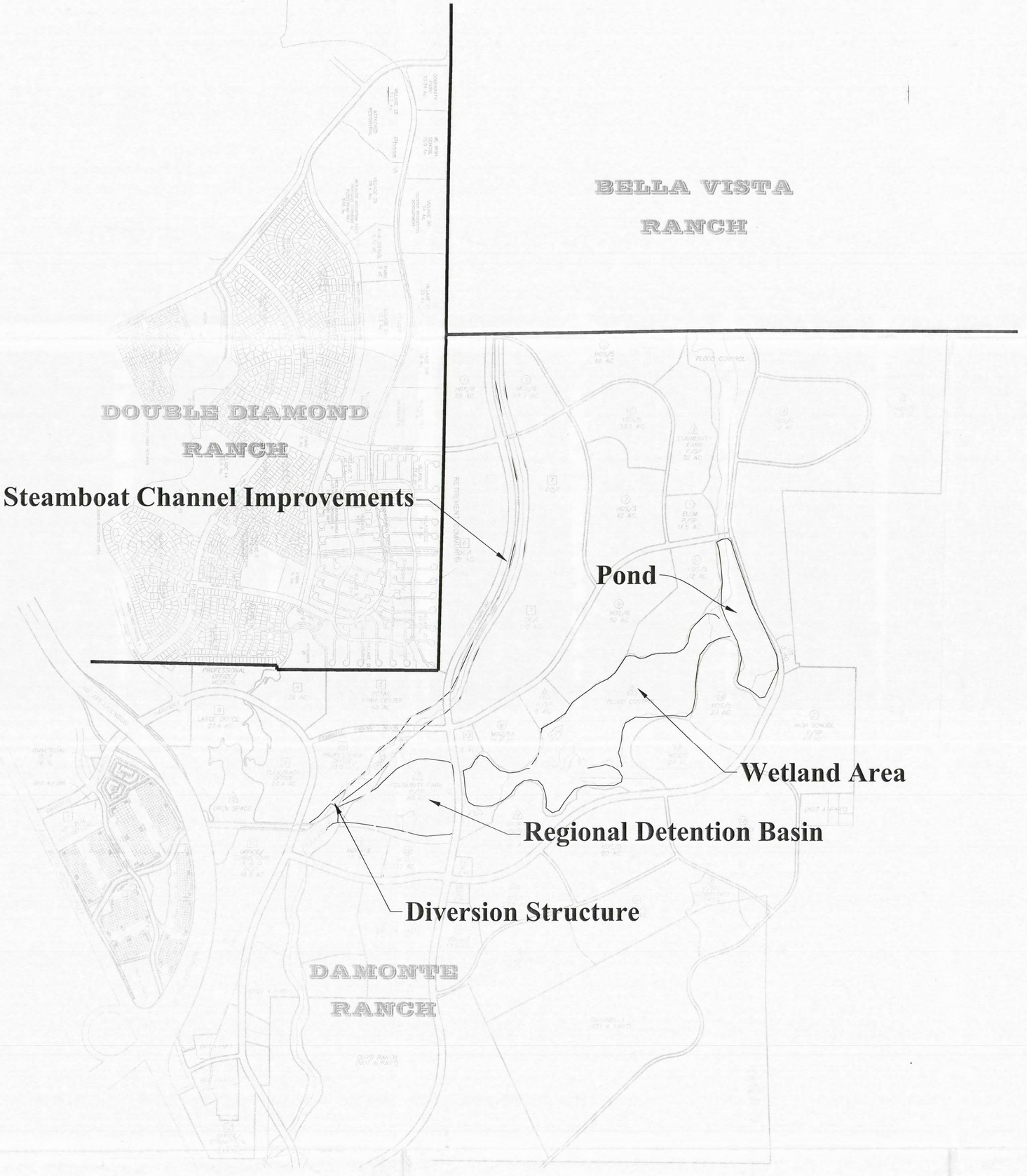
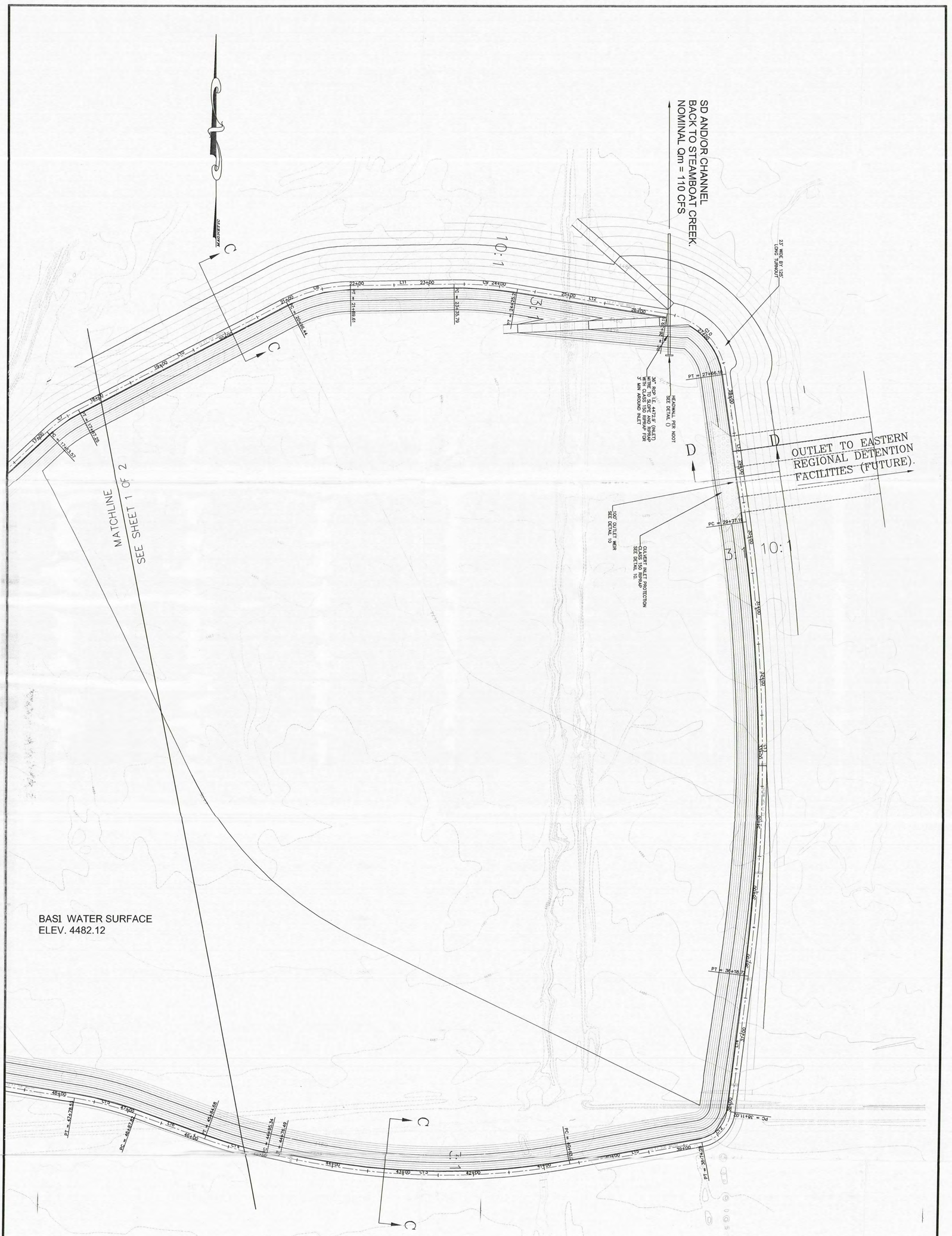
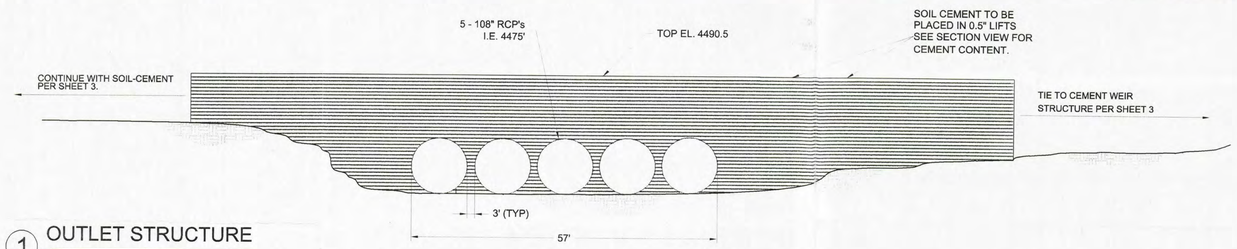


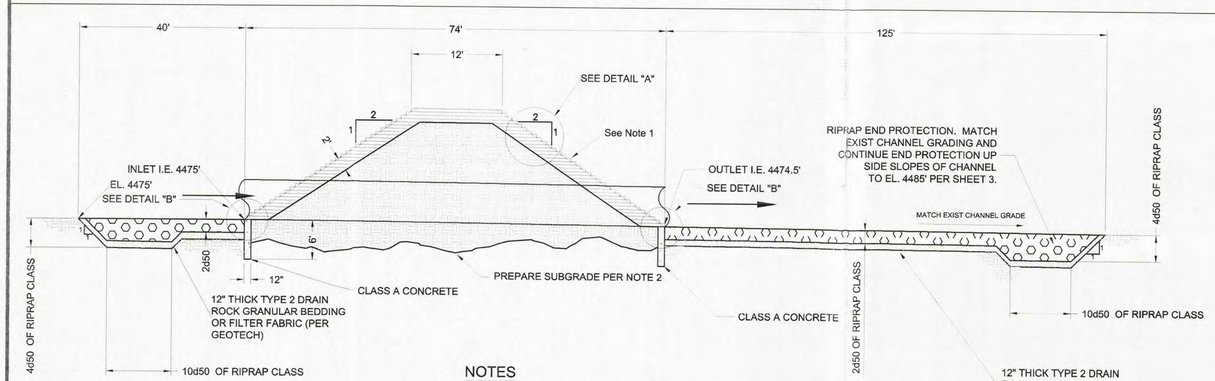
Sheet 2 of 12	**SITE LAYOUT**	**Scale:** 1" = 800'	*Revisions*	*Date*	Nimbus Engineers
Nimbus Job #	**Regional Flood Control Improvements**	**Contour Interval:** n/a			3785 Baker Ln., Suite 201 • Reno, NV 89509
0030	*Damonte Ranch*	**File Name:** 030title.dwg			Mail: P.O. Box 10220 • Reno, NV 89510
Date: March 2001	*Washoe County* *Nevada*	**Drawn By:** KK			(775) 689-8630 • Fax (775) 689-8614
		Designed By: MS/DW			info@nimbusengineers.com



Sheet 5 of 12 **Nimbus Job #** **0030** *Date: March 2001*	**DIVERSION STRUCTURE** **GRADING PLAN - SHEET 2 OF 2** **Regional Flood Control Improvements** *Damonte Ranch* *Washoe County* *Nevada*	**Scale:** 1" = 60' **Contour Interval:** 1 foot **File Name:** 030divstruc.dwg **Drawn By:** KK/CA **Designed By:** CA/GT	*Revisions* *Date*		Nimbus Engineers 3785 Baker Ln., Suite 201 • Reno, NV 89509 Mail: P.O. Box 10220 • Reno, NV 89510 (775) 689-8630 • Fax (775) 689-8614 www.nimbusengineers.com



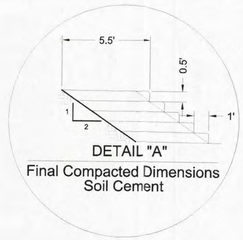
1 OUTLET STRUCTURE
NTS

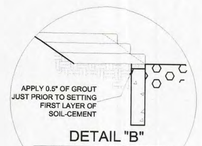


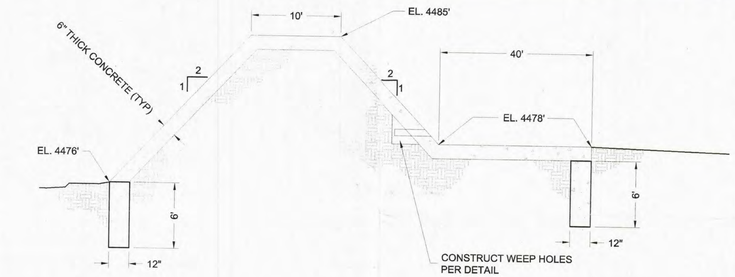
NOTES

1. SOIL CEMENT SPECIFICATIONS PER GEOTECHNICAL REPORT BY BLACK EAGLE CONSULTING, INC.
2. SOIL CEMENT EMBANKMENT SUBGRRADE PREPARATION PER GEOTECHNICAL REPORT BY BLACK EAGLE CONSULTING, INC.

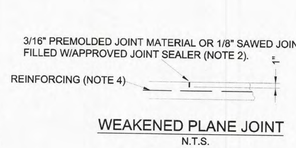
2 SECTION A-A OUTLET WORKS
NTS



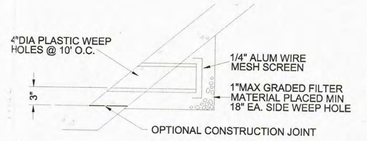




4 SECTION B-B DIVERSION WEIR AND STILLING APRON
NTS



WEAKENED PLANE JOINT
N.T.S.



WEEP HOLE DET.
N.T.S.

NOTES

1. A.C. PIPE MAY BE SUBSTITUTED FOR PLASTIC PIPE AT WEEP HOLES.
2. WEAKENED PLANE JOINTS SHALL BE SEALED W/APPROVED JOINT SEALER PLACED EVERY 10FT.
3. CUT OFF WALLS SHALL BE CONST AT EACH END OF STRUCTURE ALONG THE FULL WIDTH OF SECTION.
4. REINFORCEMENT SHALL CONSIST OF MINIMUM GRADE - 40 DEFORMED BARS. RATIO OF LONGITUDINAL STEEL AREA TO CONCRETE CROSS-SECTION AREA SHALL BE >0.0905 BUT NOT LESS THAN #4 BARS PLACED AT A 12" SPACING. PLACE LONGITUDINAL STEEL ON TOP OF TRANSVERSE STEEL. RATIO OF TRANSVERSE STEEL AREA TO CONCRETE CROSS-SECTION AREA SHALL BE >0.0025 BUT NOT LESS THAN A #4 BAR PLACED AT 12" SPACING. REINFORCING STEEL SHALL BE PLACED NEAR THE CENTER OF THE SECTION WITH A MINIMUM 3" CLEAR COVER ADJACENT TO THE SUBGRADE.
5. DEPTH OF CONC SHALL BE 6" MIN.
6. CONC SHALL BE MIN 6.25 SACK 4000 PSI W/4.5-7.5% ENTRAINED AIR. CONSTRUCT AND CURE IN ACCORDANCE WITH LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
7. CONSTRUCT EXPANSION/CONTRACTION JOINTS EVERY 30' AND WHERE JOINED BY CONSTRUCTION JOINTS.

RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (inches)	d_{50}* (inches)
Class 150	100	10	
	35-50	6	6**
	0-15	2	
Class 300	100	20	
	35-50	12	12
	0-15	4	
Class 400	100	26	
	35-50	16	16
	35-50	6	
Class 550	100	37	
	35-50	22	22
	50-70	8	
Class 700	100	45	
	35-50	28	28
	0-15	10	
Class 900	100	57	
	35-50	35	35
	0-15	14	

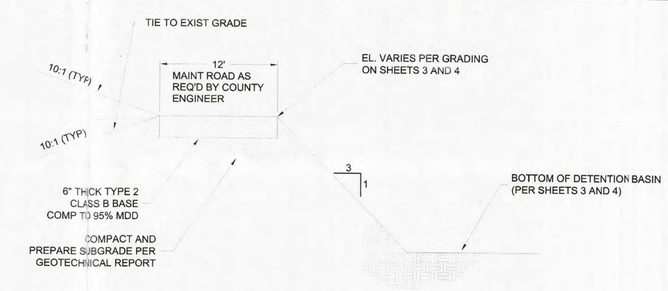
* d_{50} = mean particle size
** Bury Class 150 with native top soil and re-vegetate to protect from vandalism.

NOTES

1. Minimum specific gravity of rock shall be 2.65. Contractor shall contact Black Eagle Consulting for classification of riprap at specific gravity other than 2.65.
2. Riprap shall be free of cracks, overburden, shale and organic matter. Riprap shall meet specifications per section 200.6 of the Standard Specifications for Public Works Construction unless otherwise modified in these plans or per specifications provided by Black Eagle Consulting.

Adapted from draft Washoe County Hydrologic Criteria and Drainage Design Manual, Dec. 2, 1996.

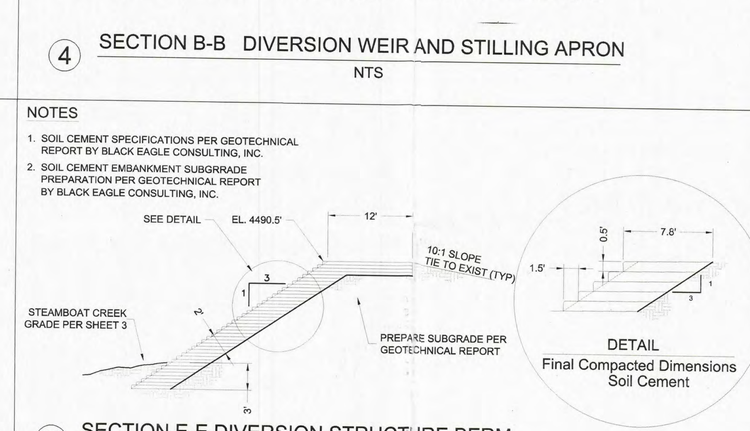
3 CLASSIFICATION AND GRADATION OF RIPRAP



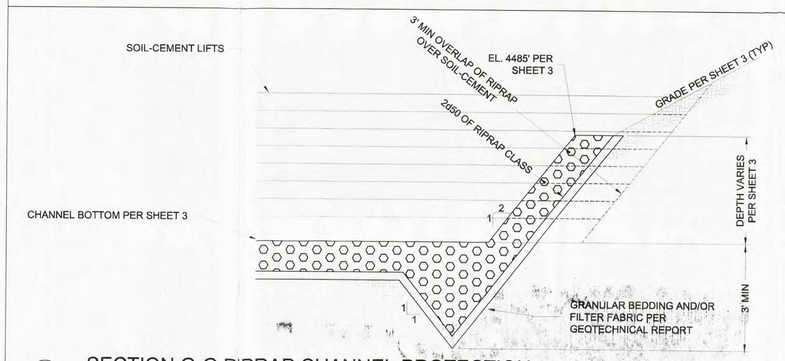
5 SECTION C-C TYPICAL DETENTION BASIN BERM
NTS

NOTES

1. SOIL CEMENT SPECIFICATIONS PER GEOTECHNICAL REPORT BY BLACK EAGLE CONSULTING, INC.
2. SOIL CEMENT EMBANKMENT SUBGRRADE PREPARATION PER GEOTECHNICAL REPORT BY BLACK EAGLE CONSULTING, INC.



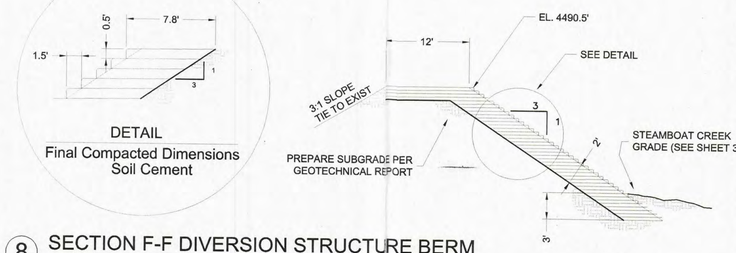
7 SECTION E-E DIVERSION STRUCTURE BERM
NTS



6 SECTION G-G RIPRAP CHANNEL PROTECTION
NTS

NOTES

1. SOIL CEMENT SPECIFICATIONS PER GEOTECHNICAL REPORT BY BLACK EAGLE CONSULTING, INC.
2. SOIL CEMENT EMBANKMENT SUBGRRADE PREPARATION PER GEOTECHNICAL REPORT BY BLACK EAGLE CONSULTING, INC.



8 SECTION F-F DIVERSION STRUCTURE BERM
NTS

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(775) 689-8630 • Fax (775) 689-8614
info@nimbusengineers.com

Date
Revisions

Scale: N.T.S.
Contour Interval: N/A
File Name: 030divst_det
Drawn By: KK/CA
Designed By: GT/CA

DIVERSION STRUCTURE
DETAILS - SHEET 1 OF 2
Regional Flood Control Improvements
Damonte Ranch
Washoe County Nevada

Sheet 6 of 12
Nimbus Job # 0030
Date: March 2001

North

Outlet Structure
5 RCB's - Invert Elev = 4450
See Detail - Sheet 9 of 12

OVERLOT GRADING
FOR EXCESS FROM DIVERSION/DETENTION
STRUCTURE BY NIMBUS ENGINEERS

Pond 4
Water Surface
Elev = 4455.88'

Wetland
Water Surface
Elev = 4460.38

BERM ELEVATION
AT 4465.0 WITH
INTERIOR SLOPE OF
5:1 AND EXTERIOR
SLOPE OF 3:1

Outlet Structure
65ft Broad Crested Weir
Crest Elev = 4454
See Detail - Sheet 10 of 12

Top of Berm
Nominal Elev.
= 4465.0

RIM ACCESS
TURN-AROUND

Water Surface
Elevation 4475.7

Access Road
Elevation 4480.3
(This includes 6"
class b base
material)

Outlet 1400ft
Wide over Natural
Ground Surface

EXISTING WETLANDS

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(775) 689-8630 • Fax (775) 689-8614
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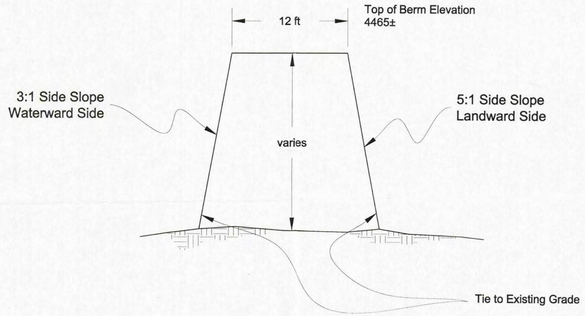
Revisions: Date:

Scale: 1" = 200'
Contour Interval: 1ft
File Name: 030pndla..rev1
Drawn By: TAD
Designed By: XX

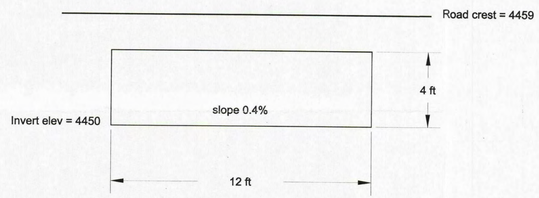
WETLAND AREA & PONDS - LAYOUT
Regional Flood Control Improvements
Damonte Ranch
Washoe County *Nevada*

Sheet 8 of 12
Nimbus Job # 0030
Date: March 2001



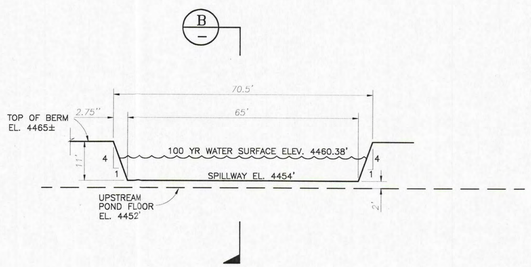
Typical Section

Wetland Berm N.T.S.

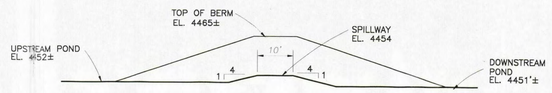


Culvert Detail

Box Culverts Under Steamboat Parkway (5 Culverts) N.T.S.



SPILLWAY BETWEEN WETLANDS AND POND 4 DETAIL (A)



SPILLWAY BETWEEN WETLANDS AND POND 4 DETAIL (B)

NOTE: SEE STRUCTURAL DESIGN FOR CONSTRUCTION DETAILS

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Revisions: Date:

Scale:	N.T.S.
Contour Interval:	N/A
File Name:	030pndlayout
Drawn By:	kk
Designed By:	DW/MS

WETLAND AREA & PONDS - DETAILS
Regional Flood Control Improvements
Damonte Ranch
Washoe County *Nevada*

Sheet 9 of 12
Nimbus Job # 0030
Date: March 2001