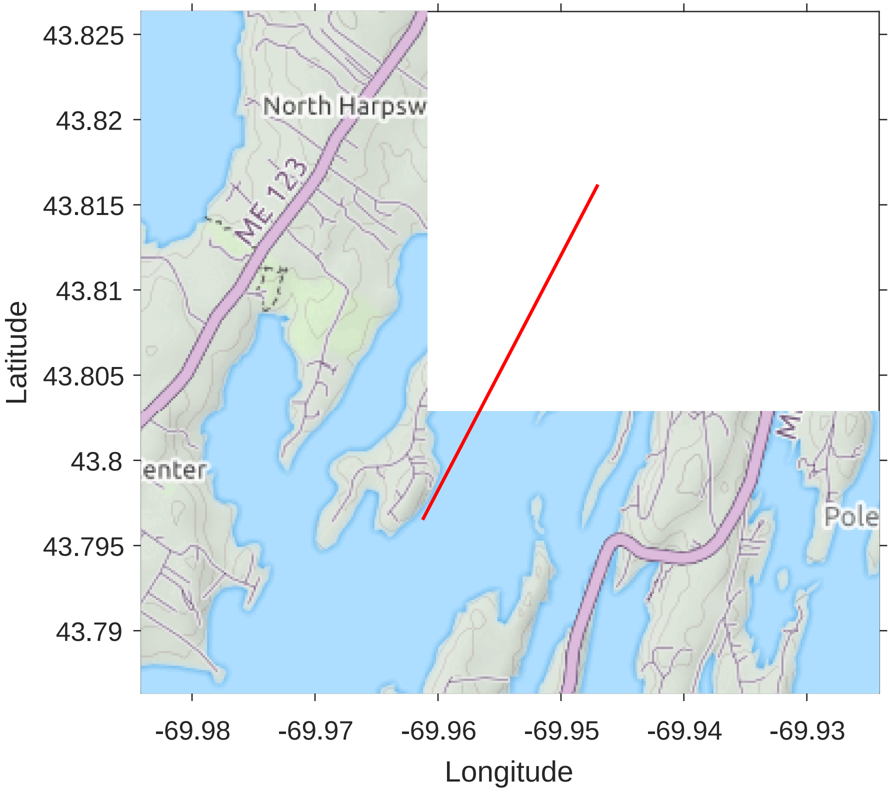
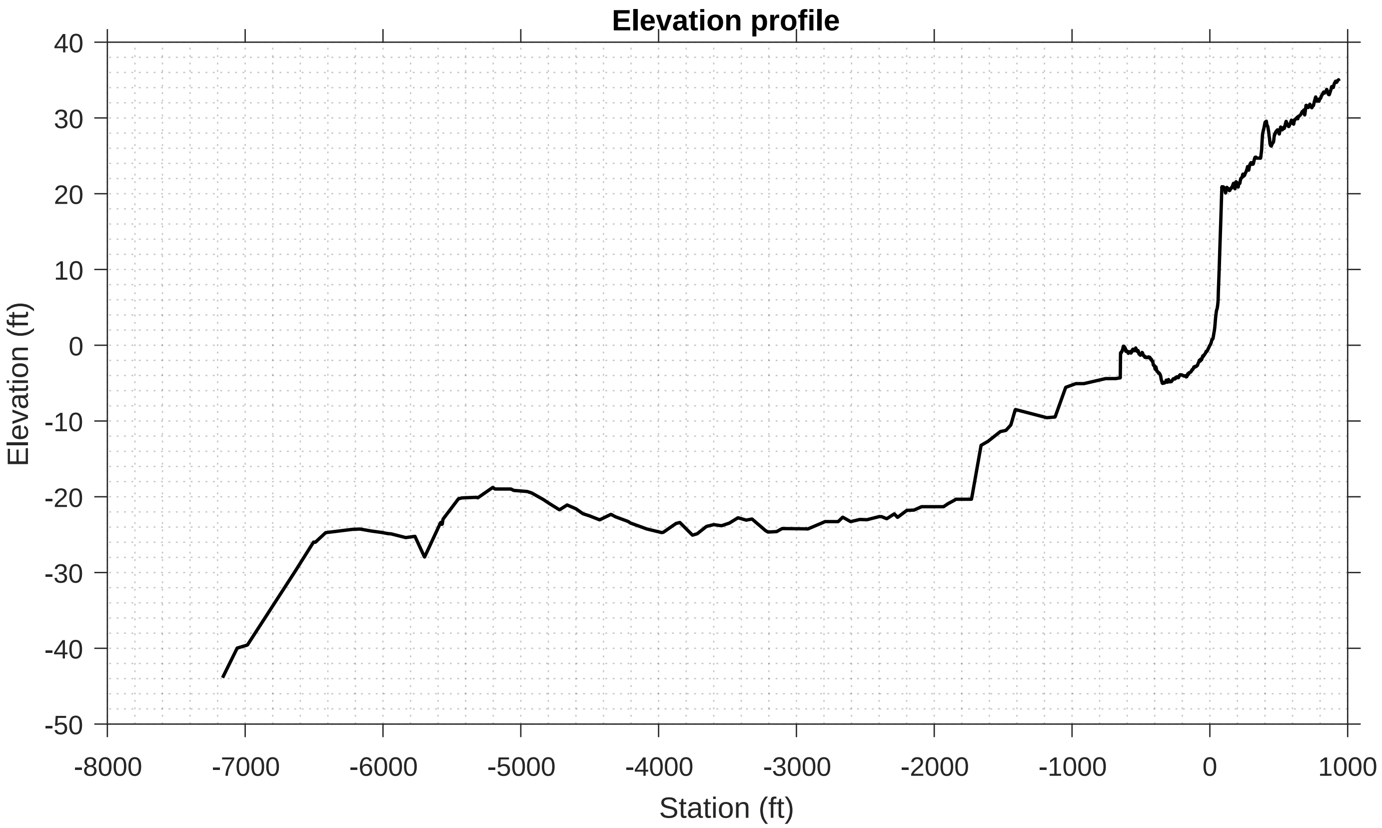
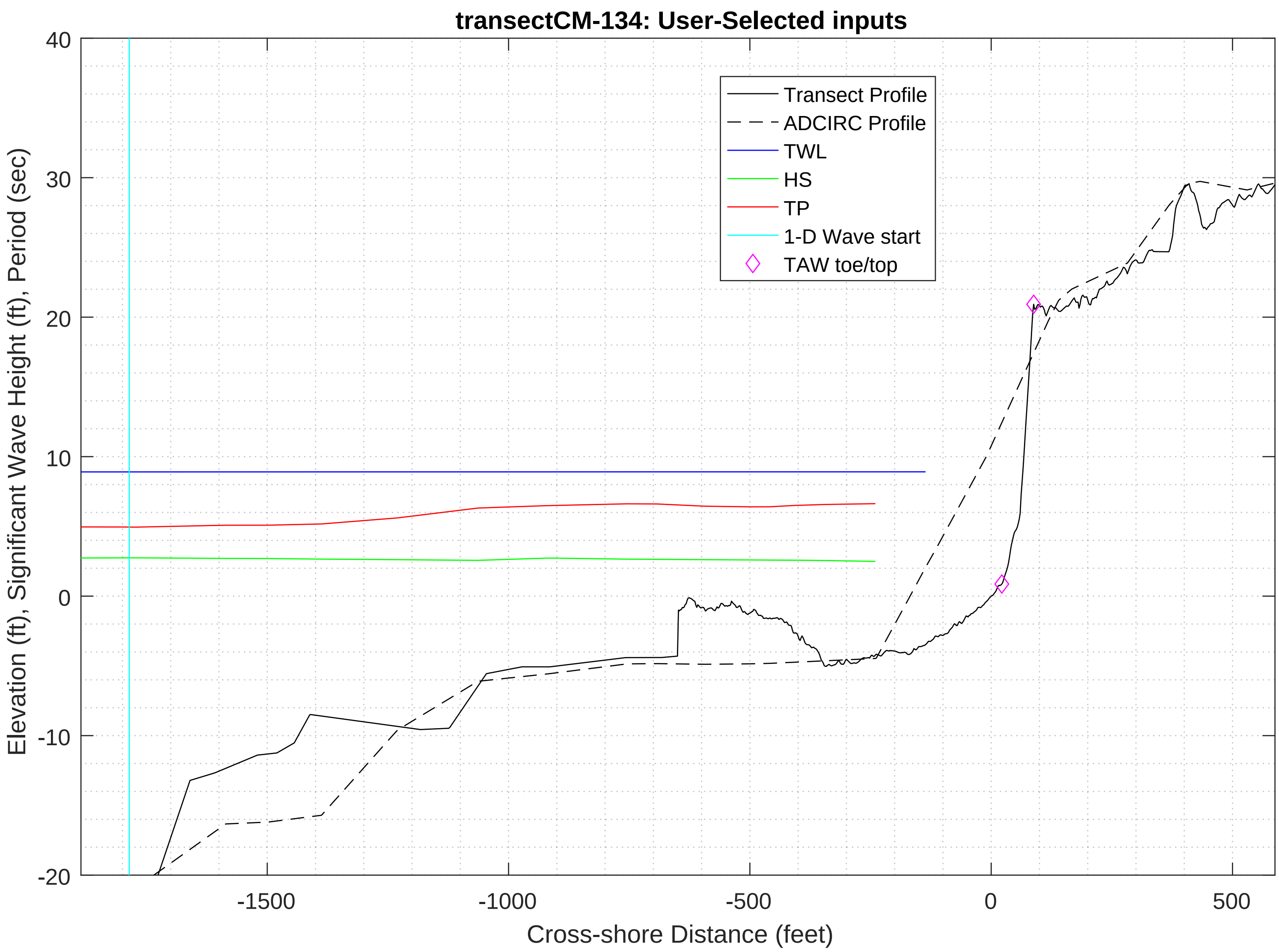
Transect Number: CM-134



Elevation profile

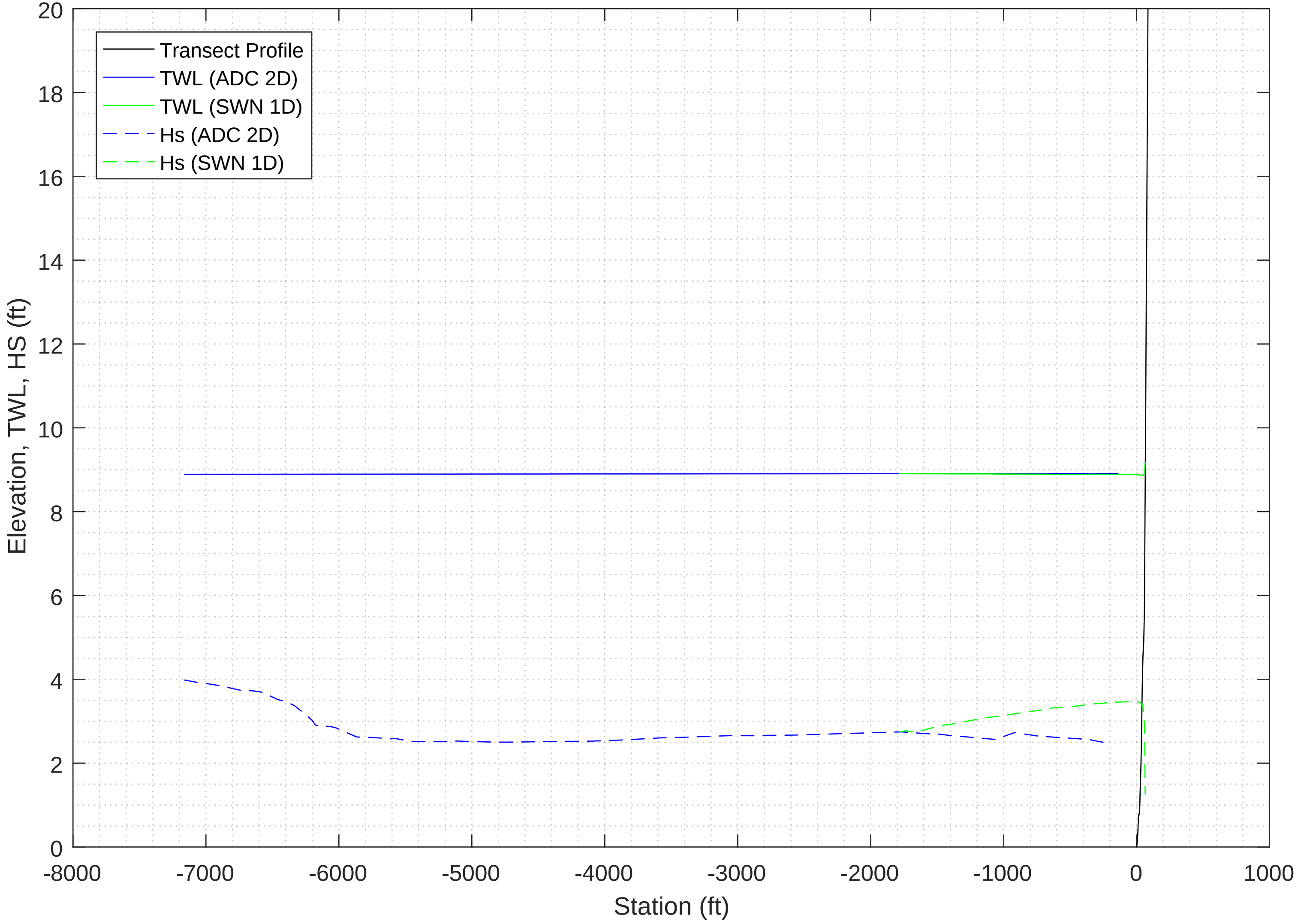


```
_______________________________________________________
DATA LOG FOR TRANSECT ID: CM-134
_______________________________________________________


_______________________________________________________
PART 1: USER INPUT


SWAN 1-D / WHAFIS input
_______________________
station:    -1786 ft
LON:        -69.9518 deg E
LAT:        43.8096 deg N
Bottom ELEV:       -20.3271 ft-NAVD88
TWL:        8.9062 ft-NAVD88
HS:         2.7448 ft
TP:         4.9525 sec
Wave Direction bin: 45 deg CCW from East (90 deg sector)
Transect Direction:   54.0604 deg CCW from East


TAW/RUNUP input
_______________
toe sta:     22 ft
toe elev:    0.8689 ft-NAVD88
top sta:     88 ft
top elev:    20.9237 ft-NAVD88
*Wave and water level conditions at toe to be calculated in SWAN 1-D*

PART 1 COMPLETE________________________________________
```


transectCM-134: User-Selected inputs
Elevation (ft), Significant Wave Height (ft), Period (sec)
Cross-shore Distance (feet)
40
30
20
10
0
-10
-20
-1500
-1000
-500
0
500
Transect Profile
ADCIRC Profile
TWL
HS
TP
1-D Wave start
TAW toe/top

```
_______________________________________________________
PART 2: SWAN 1-D

swan input grid name: 2_swan/gridfiles/CM-134zmeters_xmeters.grd
swan file name:       2_swan/swanfiles/CM-134.swn
swan output name:     2_swan/swanfiles/CM-134.dat

Boundary Conditions:
    TWL- 2.7146 meters
    HS-  0.8366 meters
    PER- 4.9525 seconds

Batch File: 2_swan/swanfiles/runswan.dat

SWAN maximum additional wave setup: 0.28085 feet
SWAN output at toe:
    SETUP- -0.028737 feet
    HS-    3.4461 feet
    PER-   4.9744 seconds

PART 2 COMPLETE________________________________________
```

2-D ADCIRC+SWAN and SWAN 1-D results, Transect: CM-134



```
1
                    Execution started at 20200220.141931


                    ---------------------------------------
                                     SWAN
                    SIMULATION OF WAVES IN NEAR SHORE AREAS
                             VERSION NUMBER 41.20A
                    ---------------------------------------


 PROJECT '2018FemaAppeal' '1'

    '100-year Wind and Wave conditions'

 ! -- SET commands ---------------------------------------------------

  SET DEPMIN=0.01 MAXMES=999 MAXERR=3 PWTAIL=4

  SET LEVEL 0

  SET CARTESIAN

 ! -- MODE commands --------------------------------------------------

  MODE STATIONARY ONED

 !-- COORDINATES commands-----------------------------------------------

 COORDINATES CART

 !

 !  --  computational (CGRID) grid commands ------------------------------------

 !                                    xlenc=length of grid in meters

 !  mxc = number of mesh cells (one less than number of grid points)

 !CGRID REGular [xpc]  [ypc]  [alpc]  [xlenc]   [ylenc]  [mxc]  [myc] &

 !      [ CIRcle|SECtor[dir1] [dir2] ] [mdc] [flow] [fhigh] [msc]

  CGRID REGULAR   0      0       0      564       0.   564     0    &
         CIRCLE                          36    0.03    0.8     30
 Resolution in sigma-space: df/f =  0.1157

 ! -- READgrid ---- not used in 1-D mode ------------------------------------

 ! -- INPgrid commands  -----------------------------------------------------

 !INPgrid BOTtom REGular [xpinp] [ypinp] [alpinp] [mxinp] [myinp] [dxinp] [dyinp]

 !

  INPGRID BOTTOM REGULAR    0       0        0      564   0      1       1

 !READinp BOTtom [fac]  'fname1'  [idla]  [nhedf]  [FREe|FORmat[form]|UNFormatted]

  READ    BOTTOM   -1. '../gridfiles/CM-134zmeters_xmeters.grd'    1      0       FREE

 !---------------------------------------------------------------------------

 ! -- WIND [vel] [dir]

 WIND      25.1  0

 ! -- BOUnd SHAPespec

 BOUND SHAPE JONSWAP 3.3  PEAK DSPR POWER

 ! -- BOUndspec

 ! BOU SIDE W CCW CON FILE 'swanspec.txt' 1

 BOUN SIDE W CCW CONSTANT PAR   0.8366     4.9525     0  2

 !-- BOUndnest1  - optional for boundary from parent run

 !-- BOUndnest2

 !-- BOUndnest3

 !-- INITial -- usest to specify initial values

 !
```

```
 !---------------- P H Y S I C S -------------------------
 !-- GEN1 [cf10] [cf20] [cf30] [cf40] [edm1pm] [cdrag] [umin] [cfpm]
 !-- GEN2 [cf10] [cf20] [cf30] [cf40] [cf50] [cf60] [edm1pm] [cdrag] [umin] [cfpm]
     GEN3 KOMEN
 !   whitecapping ( on by default)
 !-- WCAPping KOMen [cds2] [stpm] [powst] [delta] [powk]
     WCAP KOM
 !   quadruplet wave interactions
 !-- QUADrupl [iquad] [lambda] [Cn14] [Csh1] [Csh2]
 ! -- BREaking CONstant [alpha] [gamma]
      BREAK    CON       1.      0.73
 !-- FRICtion JONswap CONstant [cfjon]
     FRIC     JONSWAP CON       0.038
 !-- TRIad [itriad] [trfac] [cutfr]   [a]  [b]  [urcrit] [urslim]
 ! TRIAD        1      0.65    2.5    0.95 -0.75  0.2       0.01
   TRIAD
 !-- VEGEtation [height] [diamtr] [nstems] [drag]
 !-- MUD [layer] [rhom] [viscm]
 !- LIMiter [ursell] [qb] deactivates quadruplets with Ursell number exceeds ursell
 !-- OBSTacle -- not in 1-D
 !-- SETUP [supcor]
    SETUP    0
 !
 ! ----------------- N U M E R I C S ------------------------------
 !
 !-- PROP  can use BBST or GSE instead of default
 ! -- NUMeric -- lots of options
 !     NUM ACCUR npnts=100. stat 30
      NUMeric STOPC
 !
 ! -------------------O U T P U T -------------------------------
 !
 !OUTPut OPTIons "comment’ (TABLE [field]) (BLOck [ndec] [len]) (SPEC [ndec])
  OUTPUT OPTIONS ’%’ TABLE 16
  $BLOCK 9 1000 SPEC 8
 !CURve ’sname’ [xp1] [yp1] <[int]   [xp]   [yp] >
  CURVE ’curve’ 0     0      564  564    0
 !TABLe ’sname’ < HEADer|NOHEADer|INDexed > ’fname’ <output parameters> (output time)
  Table ’curve’   HEADER ’CM-134.dat’ XP YP HSIGN TPS RTP TMM10 DIR &
  DSPR DEPTH SETUP
 !QUANTITY XP hexp=99999
 !
 !-----------------------------------------------
 COMPUTE STATIONARY
-----------------------------------------------------------------
                  COMPUTATIONAL PART OF SWAN
-----------------------------------------------------------------
```

```
One-dimensional mode of SWAN is activated
Gridresolution       : MXC             565 MYC              1
                     : MCGRD           566
                     : MSC              31 MDC             36
                     : MTC               1
                     : NSTATC            0 ITERMX          50
Propagation flags    : ITFRE             1 IREFR            1
Source term flags    : IBOT              1 ISURF            1
                     : IWCAP             1 IWIND            3
                     : ITRIAD            1 IQUAD            2
                     : IVEG              0 ITURBV           0
                     : IMUD              0
Spatial step         : DX       0.1000E+01 DY      0.1000E+01
Spectral bin         : df/f     0.1157E+00 DDIR    0.1000E+02
Physical constants   : GRAV     0.9810E+01 RHO     0.1025E+04
Wind input           : WSPEED   0.2510E+02 DIR     0.0000E+00
Tail parameters      : E(f)     0.4000E+01 E(k)    0.2500E+01
                     : A(f)     0.5000E+01 A(k)    0.3000E+01
Accuracy parameters  : DREL     0.1000E-01 NPNTS   0.9950E+02
                     : DHABS    0.0000E+00 CURVAT  0.5000E-02
                     : GRWMX    0.1000E+00
Drying/flooding      : LEVEL    0.0000E+00 DEPMIN  0.1000E-01
The Cartesian convention for wind and wave directions is used
Scheme for geographic propagation is SORDUP
Scheme geogr. space  : PROPSC            2 ICMAX            7
Scheme spectral space: CSS      0.5000E+00 CDD     0.5000E+00
Current is off
Quadruplets          : IQUAD             2
                     : LAMBDA   0.2500E+00 CNL4    0.3000E+08
                     : CSH1     0.5500E+01 CSH2    0.8330E+00
                     : CSH3    -0.1250E+01
Maximum Ursell nr for Snl4 :    0.1000E+02
Triads               : ITRIAD            1 TRFAC   0.8000E+00
                     : CUTFR    0.2500E+01 URCRI   0.2000E+00
Minimum Ursell nr for Snl3 :    0.1000E-01
JONSWAP (‘73)        : GAMMA    0.3800E-01
Vegetation is off
Turbulence is off
Fluid mud is off
W-cap Komen (‘84)    : EMPCOF (CDS2):   0.2360E-04
W-cap Komen (‘84)    : APM (STPM)   :   0.3020E-02
W-cap Komen (‘84)    : POWST        :   0.2000E+01
W-cap Komen (‘84)    : DELTA        :   0.1000E+01
W-cap Komen (‘84)    : POWK         :   0.1000E+01
Wind drag is fit
Snyder/Komen wind input
Battjes&Janssen (‘78): ALPHA    0.1000E+01 GAMMA   0.7300E+00
Set-up               : SUPCOR   0.0000E+00
Diffraction is off
Janssen (‘89,‘90)    : ALPHA    0.1000E-01 KAPPA   0.4100E+00
Janssen (‘89,‘90)    : RHOA     0.1280E+01 RHOW    0.1025E+04

1st and 2nd gen. wind: CF10     0.1880E+03 CF20    0.5900E+00
                     : CF30     0.1200E+00 CF40    0.2500E+03
                     : CF50     0.2300E-02 CF60   -0.2230E+00
                     : CF70     0.0000E+00 CF80   -0.5600E+00
                     : RHOAW    0.1249E-02 EDMLPM  0.3600E-02
                     : CDRAG    0.1230E-02 UMIN    0.1000E+01
                     : LIM_PM   0.1300E+00

 ---------------------------------------------------------------
 First guess by 2nd generation model flags for first iteration:
 ITER       1 GRWMX      0.1000E+23 ALFA       0.0000E+00
 IWIND      2 IWCAP      0 IQUAD      0
 ITRIAD     1 IBOT       1 ISURF      1
 IVEG       0 ITURBV     0 IMUD       0
 ---------------------------------------------------------------
iteration    1; sweep 1
iteration    1; sweep 2
iteration    1; sweep 3
iteration    1; sweep 4
not possible to compute, first iteration

 ---------------------------------------------------------------
 Options given by user are activated for proceeding calculation:
 ITER       2 GRWMX      0.1000E+00 ALFA       0.0000E+00
 IWIND      3 IWCAP      1 IQUAD      2
 ITRIAD     1 IBOT       1 ISURF      1
 IVEG       0 ITURBV     0 IMUD       0
 ---------------------------------------------------------------
iteration    2; sweep 1
iteration    2; sweep 2
iteration    2; sweep 3
iteration    2; sweep 4
accuracy OK in   3.90 % of wet grid points ( 99.50 % required)

iteration    3; sweep 1
iteration    3; sweep 2
iteration    3; sweep 3
```

```
iteration    3; sweep 4
accuracy OK in   0.18 % of wet grid points ( 99.50 % required)

iteration    4; sweep 1
iteration    4; sweep 2
iteration    4; sweep 3
iteration    4; sweep 4
accuracy OK in   4.08 % of wet grid points ( 99.50 % required)

iteration    5; sweep 1
iteration    5; sweep 2
iteration    5; sweep 3
iteration    5; sweep 4
accuracy OK in  46.38 % of wet grid points ( 99.50 % required)

iteration    6; sweep 1
iteration    6; sweep 2
iteration    6; sweep 3
iteration    6; sweep 4
accuracy OK in  98.59 % of wet grid points ( 99.50 % required)

iteration    7; sweep 1
iteration    7; sweep 2
iteration    7; sweep 3
iteration    7; sweep 4
accuracy OK in  99.65 % of wet grid points ( 99.50 % required)



STOP
```

```
%
%
% Run:1     Table:curve             SWAN version:41.20A
%
%       Xp            Yp            Hsig          TPsmoo        RTpeak        Tm_10         Dir           Dspr          Depth         Setup
%       [m]           [m]           [m]           [sec]         [sec]         [sec]         [degr]        [degr]        [m]           [m]
%
           0.            0.       0.83891        4.9442        5.1860        4.4570         0.072       32.1794        8.9100      0.000000
           1.            0.       0.83925        4.9441        5.1860        4.4556         0.072       32.1792        8.9100     -0.000002
           2.            0.       0.83960        4.9440        5.1860        4.4542         0.072       32.1790        8.9100     -0.000003
           3.            0.       0.83995        4.9440        5.1860        4.4528         0.072       32.1789        8.9100     -0.000005
           4.            0.       0.84030        4.9439        5.1860        4.4514         0.073       32.1787        8.9100     -0.000006
           5.            0.       0.84065        4.9439        5.1860        4.4500         0.073       32.1786        8.9100     -0.000008
           6.            0.       0.84100        4.9438        5.1860        4.4486         0.073       32.1784        8.9100     -0.000010
           7.            0.       0.84136        4.9438        5.1860        4.4472         0.074       32.1783        8.9100     -0.000011
           8.            0.       0.84172        4.9437        5.1860        4.4457         0.074       32.1782        8.9100     -0.000013
           9.            0.       0.84208        4.9436        5.1860        4.4443         0.074       32.1781        8.9100     -0.000015
          10.            0.       0.84244        4.9436        5.1860        4.4428         0.074       32.1781        8.9100     -0.000016
          11.            0.       0.84280        4.9435        5.1860        4.4413         0.075       32.1780        8.9100     -0.000018
          12.            0.       0.84317        4.9435        5.1860        4.4398         0.075       32.1779        8.9100     -0.000020
          13.            0.       0.84354        4.9434        5.1860        4.4383         0.075       32.1779        8.9100     -0.000021
          14.            0.       0.84391        4.9434        5.1860        4.4367         0.076       32.1780        8.9100     -0.000023
          15.            0.       0.84428        4.9433        5.1860        4.4352         0.076       32.1781        8.9100     -0.000025
          16.            0.       0.84466        4.9432        5.1860        4.4336         0.076       32.1784        8.9100     -0.000026
          17.            0.       0.84489        4.9431        5.1860        4.4318         0.076       32.1481        8.9100     -0.000028
          18.            0.       0.84443        4.9432        5.1860        4.4296         0.077       32.0714        8.8300     -0.000041
          19.            0.       0.84375        4.9434        5.1860        4.4272         0.077       31.9724        8.7299     -0.000056
          20.            0.       0.84303        4.9436        5.1860        4.4247         0.078       31.8656        8.6299     -0.000073
          21.            0.       0.84224        4.9438        5.1860        4.4222         0.078       31.7649        8.5199     -0.000090
          22.            0.       0.84153        4.9440        5.1860        4.4197         0.079       31.6722        8.4199     -0.000107
          23.            0.       0.84083        4.9443        5.1860        4.4172         0.079       31.5783        8.3199     -0.000125
          24.            0.       0.84017        4.9446        5.1860        4.4143         0.080       31.4786        8.2199     -0.000143
          25.            0.       0.83954        4.9450        5.1860        4.4109         0.080       31.3755        8.1098     -0.000163
          26.            0.       0.83901        4.9453        5.1860        4.4073         0.081       31.2726        8.0098     -0.000183
          27.            0.       0.83853        4.9457        5.1860        4.4034         0.081       31.1686        7.9098     -0.000203
          28.            0.       0.83810        4.9461        5.1860        4.3991         0.082       31.0590        7.8098     -0.000225
          29.            0.       0.83764        4.9466        5.1860        4.3948         0.082       30.9464        7.6998     -0.000249
          30.            0.       0.83728        4.9470        5.1860        4.3903         0.083       30.8350        7.5997     -0.000272
          31.            0.       0.83698        4.9475        5.1860        4.3855         0.083       30.7237        7.4997     -0.000296
          32.            0.       0.83673        4.9480        5.1860        4.3804         0.084       30.6075        7.3997     -0.000321
          33.            0.       0.83646        4.9486        5.1860        4.3752         0.084       30.4888        7.2897     -0.000349
          34.            0.       0.83628        4.9491        5.1860        4.3699         0.085       30.3734        7.1896     -0.000376
          35.            0.       0.83611        4.9497        5.1860        4.3649         0.087       30.2592        7.0896     -0.000404
          36.            0.       0.83595        4.9503        5.1860        4.3597         0.090       30.1419        6.9896     -0.000433
          37.            0.       0.83581        4.9510        5.1860        4.3543         0.092       30.0231        6.8795     -0.000466
          38.            0.       0.83588        4.9517        5.1860        4.3490         0.097       29.9356        6.7795     -0.000497
          39.            0.       0.83633        4.9520        5.1860        4.3439         0.100       29.8883        6.7395     -0.000513
          40.            0.       0.83697        4.9522        5.1860        4.3387         0.104       29.8644        6.7195     -0.000522
          41.            0.       0.83767        4.9522        5.1860        4.3337         0.107       29.8522        6.7095     -0.000529
          42.            0.       0.83839        4.9522        5.1860        4.3288         0.110       29.8441        6.6995     -0.000536
          43.            0.       0.83913        4.9523        5.1860        4.3238         0.114       29.8377        6.6895     -0.000542
          44.            0.       0.83988        4.9523        5.1860        4.3187         0.118       29.8322        6.6795     -0.000549
          45.            0.       0.84063        4.9523        5.1860        4.3136         0.119       29.8270        6.6694     -0.000556
          46.            0.       0.84139        4.9523        5.1860        4.3085         0.120       29.8225        6.6594     -0.000563
          47.            0.       0.84218        4.9523        5.1860        4.3032         0.122       29.8204        6.6494     -0.000570
          48.            0.       0.84300        4.9524        5.1860        4.2976         0.126       29.8190        6.6394     -0.000577
          49.            0.       0.84384        4.9524        5.1860        4.2920         0.130       29.8184        6.6294     -0.000584
          50.            0.       0.84466        4.9524        5.1860        4.2865         0.133       29.8176        6.6194     -0.000591
          51.            0.       0.84550        4.9524        5.1860        4.2809         0.135       29.8174        6.6094     -0.000599
          52.            0.       0.84634        4.9524        5.1860        4.2753         0.137       29.8178        6.5994     -0.000606
          53.            0.       0.84721        4.9525        5.1860        4.2696         0.139       29.8190        6.5894     -0.000613
          54.            0.       0.84805        4.9525        5.1860        4.2638         0.142       29.8173        6.5794     -0.000621
          55.            0.       0.84886        4.9526        5.1860        4.2582         0.147       29.8141        6.5594     -0.000631
          56.            0.       0.84971        4.9526        5.1860        4.2524         0.153       29.8111        6.5494     -0.000639
          57.            0.       0.85056        4.9527        5.1860        4.2465         0.159       29.8089        6.5294     -0.000649
          58.            0.       0.85146        4.9527        5.1860        4.2406         0.163       29.8096        6.5193     -0.000657
          59.            0.       0.85235        4.9527        5.1860        4.2346         0.167       29.8082        6.5093     -0.000665
```

```
  60.          0.     0.85322     4.9528     5.1860     4.2287      0.170     29.8067     6.4893    -0.000676
  61.          0.     0.85413     4.9528     5.1860     4.2226      0.174     29.8059     6.4793    -0.000684
  62.          0.     0.85503     4.9529     5.1860     4.2166      0.178     29.8057     6.4593    -0.000696
  63.          0.     0.85594     4.9529     5.1860     4.2106      0.180     29.8096     6.4493    -0.000704
  64.          0.     0.85681     4.9530     5.1860     4.2048      0.185     29.8166     6.4293    -0.000715
  65.          0.     0.85773     4.9530     5.1860     4.1988      0.191     29.8260     6.4193    -0.000723
  66.          0.     0.85856     4.9531     5.1860     4.1934      0.201     29.8356     6.3993    -0.000735
  67.          0.     0.85942     4.9531     5.1860     4.1881      0.213     29.8494     6.3893    -0.000743
  68.          0.     0.86025     4.9531     5.1860     4.1830      0.223     29.8623     6.3792    -0.000751
  69.          0.     0.86104     4.9532     5.1860     4.1780      0.233     29.8738     6.3592    -0.000763
  70.          0.     0.86185     4.9533     5.1860     4.1730      0.242     29.8855     6.3492    -0.000771
  71.          0.     0.86263     4.9533     5.1860     4.1681      0.251     29.8974     6.3292    -0.000783
  72.          0.     0.86345     4.9534     5.1860     4.1631      0.260     29.9100     6.3192    -0.000791
  73.          0.     0.86424     4.9535     5.1860     4.1582      0.268     29.9234     6.2992    -0.000803
  74.          0.     0.86507     4.9535     5.1860     4.1532      0.276     29.9375     6.2892    -0.000812
  75.          0.     0.86589     4.9536     5.1860     4.1482      0.284     29.9519     6.2692    -0.000824
  76.          0.     0.86672     4.9536     5.1860     4.1434      0.292     29.9704     6.2592    -0.000832
  77.          0.     0.86754     4.9536     5.1860     4.1385      0.301     29.9871     6.2492    -0.000841
  78.          0.     0.86832     4.9537     5.1860     4.1339      0.311     30.0032     6.2291    -0.000853
  79.          0.     0.86911     4.9537     5.1860     4.1293      0.322     30.0194     6.2191    -0.000862
  80.          0.     0.86986     4.9538     5.1860     4.1249      0.331     30.0353     6.1991    -0.000874
  81.          0.     0.87064     4.9539     5.1860     4.1205      0.340     30.0549     6.1891    -0.000883
  82.          0.     0.87144     4.9539     5.1860     4.1163      0.349     30.0788     6.1791    -0.000891
  83.          0.     0.87227     4.9538     5.1860     4.1121      0.358     30.1077     6.1791    -0.000896
  84.          0.     0.87308     4.9538     5.1860     4.1080      0.366     30.1344     6.1791    -0.000901
  85.          0.     0.87385     4.9538     5.1860     4.1041      0.375     30.1604     6.1691    -0.000909
  86.          0.     0.87468     4.9538     5.1860     4.1001      0.383     30.1892     6.1691    -0.000914
  87.          0.     0.87549     4.9537     5.1860     4.0960      0.391     30.2153     6.1691    -0.000919
  88.          0.     0.87627     4.9537     5.1860     4.0922      0.398     30.2403     6.1591    -0.000927
  89.          0.     0.87706     4.9537     5.1860     4.0883      0.405     30.2645     6.1591    -0.000932
  90.          0.     0.87782     4.9537     5.1860     4.0845      0.412     30.2877     6.1491    -0.000941
  91.          0.     0.87863     4.9537     5.1860     4.0807      0.418     30.3134     6.1491    -0.000946
  92.          0.     0.87942     4.9536     5.1860     4.0770      0.423     30.3361     6.1490    -0.000951
  93.          0.     0.88015     4.9536     5.1860     4.0734      0.429     30.3539     6.1390    -0.000959
  94.          0.     0.88085     4.9537     5.1860     4.0698      0.436     30.3663     6.1290    -0.000968
  95.          0.     0.88150     4.9538     5.1860     4.0663      0.442     30.3730     6.1090    -0.000981
  96.          0.     0.88214     4.9539     5.1860     4.0628      0.448     30.3772     6.0890    -0.000993
  97.          0.     0.88277     4.9540     5.1860     4.0594      0.453     30.3793     6.0690    -0.001006
  98.          0.     0.88339     4.9541     5.1860     4.0561      0.458     30.3796     6.0490    -0.001019
  99.          0.     0.88399     4.9542     5.1860     4.0529      0.461     30.3789     6.0290    -0.001032
 100.          0.     0.88459     4.9543     5.1860     4.0498      0.464     30.3775     6.0090    -0.001045
 101.          0.     0.88518     4.9544     5.1860     4.0467      0.466     30.3751     5.9889    -0.001058
 102.          0.     0.88577     4.9545     5.1860     4.0437      0.467     30.3719     5.9689    -0.001071
 103.          0.     0.88635     4.9546     5.1860     4.0408      0.469     30.3680     5.9489    -0.001085
 104.          0.     0.88685     4.9547     5.1860     4.0378      0.470     30.3496     5.9289    -0.001098
 105.          0.     0.88718     4.9551     5.1860     4.0351      0.470     30.3121     5.8689    -0.001129
 106.          0.     0.88749     4.9555     5.1860     4.0325      0.470     30.2678     5.8088    -0.001160
 107.          0.     0.88776     4.9559     5.1860     4.0299      0.470     30.2175     5.7488    -0.001192
 108.          0.     0.88800     4.9564     5.1860     4.0277      0.468     30.1636     5.6788    -0.001229
 109.          0.     0.88826     4.9569     5.1860     4.0254      0.465     30.1115     5.6187    -0.001262
 110.          0.     0.88853     4.9573     5.1860     4.0233      0.462     30.0588     5.5587    -0.001297
 111.          0.     0.88878     4.9577     5.1860     4.0213      0.458     30.0017     5.4987    -0.001332
 112.          0.     0.88902     4.9583     5.1860     4.0196      0.454     29.9422     5.4286    -0.001373
 113.          0.     0.88930     4.9587     5.1860     4.0178      0.450     29.8848     5.3686    -0.001411
 114.          0.     0.88967     4.9592     5.1860     4.0163      0.446     29.8459     5.3086    -0.001449
 115.          0.     0.89019     4.9592     5.1860     4.0143      0.442     29.8397     5.2985    -0.001460
 116.          0.     0.89078     4.9591     5.1860     4.0122      0.437     29.8484     5.3085    -0.001460
 117.          0.     0.89137     4.9590     5.1860     4.0103      0.433     29.8618     5.3085    -0.001466
 118.          0.     0.89196     4.9589     5.1860     4.0084      0.428     29.8773     5.3185    -0.001465
 119.          0.     0.89254     4.9589     5.1860     4.0067      0.424     29.8929     5.3185    -0.001470
 120.          0.     0.89314     4.9587     5.1860     4.0048      0.420     29.9084     5.3285    -0.001470
 121.          0.     0.89373     4.9587     5.1860     4.0031      0.415     29.9233     5.3285    -0.001475
 122.          0.     0.89431     4.9585     5.1860     4.0013      0.411     29.9383     5.3385    -0.001475
 123.          0.     0.89489     4.9585     5.1860     3.9997      0.407     29.9527     5.3385    -0.001480
 124.          0.     0.89548     4.9584     5.1860     3.9979      0.403     29.9675     5.3485    -0.001480
 125.          0.     0.89606     4.9583     5.1860     3.9962      0.397     29.9821     5.3485    -0.001485
 126.          0.     0.89666     4.9582     5.1860     3.9944      0.391     29.9967     5.3585    -0.001485
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127.          0.     0.89724     4.9581     5.1860     3.9928     0.386    30.0112     5.3585    -0.001490
128.          0.     0.89782     4.9580     5.1860     3.9911     0.380    30.0261     5.3685    -0.001490
129.          0.     0.89838     4.9580     5.1860     3.9895     0.375    30.0355     5.3685    -0.001495
130.          0.     0.89895     4.9579     5.1860     3.9879     0.371    30.0487     5.3685    -0.001500
131.          0.     0.89954     4.9578     5.1860     3.9861     0.368    30.0629     5.3785    -0.001500
132.          0.     0.90014     4.9577     5.1860     3.9844     0.365    30.0769     5.3785    -0.001505
133.          0.     0.90074     4.9576     5.1860     3.9826     0.363    30.0916     5.3885    -0.001505
134.          0.     0.90135     4.9576     5.1860     3.9809     0.361    30.1060     5.3885    -0.001510
135.          0.     0.90196     4.9574     5.1860     3.9790     0.359    30.1207     5.3985    -0.001510
136.          0.     0.90257     4.9574     5.1860     3.9773     0.357    30.1349     5.3985    -0.001515
137.          0.     0.90319     4.9573     5.1860     3.9755     0.355    30.1494     5.4085    -0.001516
138.          0.     0.90380     4.9572     5.1860     3.9738     0.353    30.1631     5.4085    -0.001521
139.          0.     0.90439     4.9571     5.1860     3.9721     0.350    30.1767     5.4185    -0.001521
140.          0.     0.90497     4.9570     5.1860     3.9706     0.346    30.1903     5.4185    -0.001526
141.          0.     0.90557     4.9569     5.1860     3.9688     0.341    30.2049     5.4285    -0.001526
142.          0.     0.90618     4.9569     5.1860     3.9671     0.338    30.2198     5.4285    -0.001531
143.          0.     0.90679     4.9567     5.1860     3.9653     0.335    30.2345     5.4385    -0.001531
144.          0.     0.90740     4.9567     5.1860     3.9637     0.332    30.2489     5.4385    -0.001536
145.          0.     0.90802     4.9565     5.1860     3.9618     0.328    30.2635     5.4485    -0.001536
146.          0.     0.90863     4.9565     5.1860     3.9602     0.325    30.2771     5.4485    -0.001541
147.          0.     0.90925     4.9564     5.1860     3.9584     0.322    30.2908     5.4585    -0.001541
148.          0.     0.90983     4.9563     5.1860     3.9567     0.319    30.2987     5.4585    -0.001546
149.          0.     0.91044     4.9563     5.1860     3.9550     0.316    30.3103     5.4584    -0.001551
150.          0.     0.91105     4.9561     5.1860     3.9532     0.314    30.3234     5.4684    -0.001551
151.          0.     0.91165     4.9561     5.1860     3.9516     0.311    30.3369     5.4684    -0.001556
152.          0.     0.91225     4.9560     5.1860     3.9499     0.308    30.3511     5.4784    -0.001556
153.          0.     0.91284     4.9559     5.1860     3.9484     0.305    30.3652     5.4784    -0.001561
154.          0.     0.91344     4.9558     5.1860     3.9467     0.303    30.3799     5.4884    -0.001561
155.          0.     0.91402     4.9557     5.1860     3.9452     0.300    30.3948     5.4884    -0.001566
156.          0.     0.91462     4.9556     5.1860     3.9435     0.297    30.4106     5.4984    -0.001565
157.          0.     0.91521     4.9556     5.1860     3.9419     0.294    30.4262     5.4984    -0.001570
158.          0.     0.91582     4.9554     5.1860     3.9402     0.290    30.4427     5.5084    -0.001570
159.          0.     0.91643     4.9554     5.1860     3.9386     0.288    30.4600     5.5084    -0.001575
160.          0.     0.91707     4.9553     5.1860     3.9367     0.288    30.4781     5.5184    -0.001575
161.          0.     0.91771     4.9552     5.1860     3.9349     0.288    30.4964     5.5184    -0.001580
162.          0.     0.91835     4.9551     5.1860     3.9329     0.288    30.5152     5.5284    -0.001580
163.          0.     0.91897     4.9550     5.1860     3.9313     0.289    30.5336     5.5284    -0.001584
164.          0.     0.91959     4.9549     5.1860     3.9295     0.289    30.5523     5.5384    -0.001584
165.          0.     0.92019     4.9549     5.1860     3.9279     0.289    30.5711     5.5384    -0.001589
166.          0.     0.92081     4.9547     5.1860     3.9261     0.290    30.5901     5.5484    -0.001588
167.          0.     0.92138     4.9547     5.1860     3.9245     0.291    30.6032     5.5484    -0.001593
168.          0.     0.92197     4.9546     5.1860     3.9229     0.292    30.6198     5.5484    -0.001598
169.          0.     0.92257     4.9545     5.1860     3.9212     0.293    30.6375     5.5584    -0.001597
170.          0.     0.92316     4.9545     5.1860     3.9197     0.294    30.6554     5.5584    -0.001602
171.          0.     0.92376     4.9543     5.1860     3.9181     0.296    30.6740     5.5684    -0.001602
172.          0.     0.92435     4.9543     5.1860     3.9165     0.297    30.6925     5.5684    -0.001606
173.          0.     0.92496     4.9542     5.1860     3.9149     0.299    30.7114     5.5784    -0.001606
174.          0.     0.92557     4.9541     5.1860     3.9133     0.300    30.7301     5.5784    -0.001611
175.          0.     0.92618     4.9540     5.1860     3.9116     0.300    30.7490     5.5884    -0.001610
176.          0.     0.92679     4.9539     5.1860     3.9100     0.300    30.7675     5.5884    -0.001615
177.          0.     0.92742     4.9538     5.1860     3.9083     0.300    30.7856     5.5984    -0.001615
178.          0.     0.92804     4.9538     5.1860     3.9066     0.299    30.8034     5.5984    -0.001620
179.          0.     0.92868     4.9536     5.1860     3.9049     0.298    30.8214     5.6084    -0.001620
180.          0.     0.92931     4.9536     5.1860     3.9032     0.297    30.8391     5.6084    -0.001624
181.          0.     0.92994     4.9535     5.1860     3.9015     0.296    30.8566     5.6184    -0.001624
182.          0.     0.93055     4.9534     5.1860     3.8999     0.295    30.8729     5.6184    -0.001629
183.          0.     0.93117     4.9533     5.1860     3.8983     0.293    30.8885     5.6284    -0.001629
184.          0.     0.93177     4.9532     5.1860     3.8967     0.292    30.8986     5.6284    -0.001634
185.          0.     0.93236     4.9532     5.1860     3.8950     0.292    30.9078     5.6284    -0.001639
186.          0.     0.93296     4.9532     5.1860     3.8934     0.293    30.9166     5.6284    -0.001644
187.          0.     0.93354     4.9531     5.1860     3.8916     0.294    30.9216     5.6284    -0.001649
188.          0.     0.93409     4.9531     5.1860     3.8900     0.296    30.9256     5.6183    -0.001659
189.          0.     0.93469     4.9531     5.1860     3.8884     0.298    30.9333     5.6183    -0.001664
190.          0.     0.93528     4.9531     5.1860     3.8866     0.300    30.9421     5.6183    -0.001669
191.          0.     0.93589     4.9530     5.1860     3.8849     0.302    30.9515     5.6183    -0.001674
192.          0.     0.93650     4.9530     5.1860     3.8832     0.304    30.9612     5.6183    -0.001679
193.          0.     0.93707     4.9529     5.1860     3.8815     0.305    30.9661     5.6183    -0.001684
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194.          0.     0.93760     4.9529     5.1860     3.8801      0.307     30.9697     5.6083     -0.001694
195.          0.     0.93818     4.9529     5.1860     3.8784      0.310     30.9774     5.6083     -0.001699
196.          0.     0.93876     4.9529     5.1860     3.8768      0.313     30.9861     5.6083     -0.001704
197.          0.     0.93934     4.9528     5.1860     3.8752      0.316     30.9954     5.6083     -0.001709
198.          0.     0.93996     4.9528     5.1860     3.8734      0.317     31.0050     5.6083     -0.001714
199.          0.     0.94055     4.9527     5.1860     3.8716      0.319     31.0106     5.6083     -0.001719
200.          0.     0.94112     4.9528     5.1860     3.8700      0.322     31.0150     5.5983     -0.001729
201.          0.     0.94172     4.9527     5.1860     3.8682      0.324     31.0226     5.5983     -0.001734
202.          0.     0.94225     4.9527     5.1860     3.8664      0.326     31.0169     5.5983     -0.001739
203.          0.     0.94262     4.9530     5.1860     3.8648      0.327     30.9882     5.5582     -0.001764
204.          0.     0.94289     4.9533     5.1860     3.8633      0.329     30.9452     5.5082     -0.001795
205.          0.     0.94314     4.9538     5.1860     3.8620      0.331     30.8969     5.4482     -0.001832
206.          0.     0.94341     4.9542     5.1860     3.8607      0.332     30.8503     5.3981     -0.001864
207.          0.     0.94369     4.9546     5.1860     3.8594      0.334     30.8036     5.3481     -0.001897
208.          0.     0.94396     4.9550     5.1860     3.8582      0.336     30.7566     5.2981     -0.001931
209.          0.     0.94424     4.9554     5.1860     3.8572      0.337     30.7092     5.2480     -0.001966
210.          0.     0.94451     4.9557     5.1860     3.8562      0.339     30.6618     5.1980     -0.002002
211.          0.     0.94478     4.9561     5.1860     3.8553      0.341     30.6151     5.1480     -0.002038
212.          0.     0.94505     4.9565     5.1860     3.8545      0.343     30.5689     5.0979     -0.002075
213.          0.     0.94533     4.9569     5.1860     3.8538      0.345     30.5230     5.0479     -0.002112
214.          0.     0.94562     4.9573     5.1860     3.8530      0.347     30.4780     4.9978     -0.002151
215.          0.     0.94593     4.9577     5.1860     3.8523      0.350     30.4345     4.9478     -0.002191
216.          0.     0.94622     4.9582     5.1860     3.8516      0.352     30.3876     4.8978     -0.002231
217.          0.     0.94654     4.9586     5.1860     3.8512      0.355     30.3397     4.8377     -0.002280
218.          0.     0.94687     4.9591     5.1860     3.8506      0.358     30.2960     4.7877     -0.002323
219.          0.     0.94723     4.9595     5.1860     3.8501      0.360     30.2525     4.7376     -0.002367
220.          0.     0.94759     4.9599     5.1860     3.8496      0.361     30.2091     4.6876     -0.002412
221.          0.     0.94796     4.9603     5.1860     3.8492      0.361     30.1659     4.6375     -0.002459
222.          0.     0.94835     4.9607     5.1860     3.8488      0.361     30.1227     4.5875     -0.002506
223.          0.     0.94875     4.9611     5.1860     3.8485      0.361     30.0799     4.5374     -0.002555
224.          0.     0.94917     4.9616     5.1860     3.8483      0.361     30.0371     4.4874     -0.002605
225.          0.     0.94963     4.9620     5.1860     3.8482      0.362     30.0007     4.4373     -0.002657
226.          0.     0.95010     4.9622     5.1860     3.8477      0.362     29.9816     4.4073     -0.002691
227.          0.     0.95054     4.9623     5.1860     3.8468      0.363     29.9753     4.3973     -0.002706
228.          0.     0.95100     4.9623     5.1860     3.8460      0.364     29.9762     4.3873     -0.002721
229.          0.     0.95143     4.9623     5.1860     3.8450      0.365     29.9800     4.3873     -0.002727
230.          0.     0.95189     4.9623     5.1860     3.8443      0.366     29.9797     4.3773     -0.002743
231.          0.     0.95237     4.9624     5.1860     3.8435      0.367     29.9828     4.3672     -0.002758
232.          0.     0.95280     4.9623     5.1860     3.8425      0.368     29.9872     4.3672     -0.002764
233.          0.     0.95327     4.9624     5.1860     3.8418      0.369     29.9872     4.3572     -0.002779
234.          0.     0.95374     4.9624     5.1860     3.8410      0.370     29.9912     4.3472     -0.002795
235.          0.     0.95418     4.9624     5.1860     3.8400      0.371     29.9965     4.3472     -0.002801
236.          0.     0.95464     4.9625     5.1860     3.8393      0.371     29.9966     4.3372     -0.002816
237.          0.     0.95511     4.9625     5.1860     3.8387      0.372     29.9995     4.3272     -0.002832
238.          0.     0.95554     4.9625     5.1860     3.8377      0.372     30.0033     4.3272     -0.002838
239.          0.     0.95600     4.9625     5.1860     3.8370      0.372     30.0030     4.3171     -0.002854
240.          0.     0.95647     4.9626     5.1860     3.8364      0.372     30.0058     4.3071     -0.002869
241.          0.     0.95690     4.9625     5.1860     3.8354      0.372     30.0101     4.3071     -0.002875
242.          0.     0.95737     4.9626     5.1860     3.8346      0.372     30.0104     4.2971     -0.002891
243.          0.     0.95784     4.9626     5.1860     3.8340      0.373     30.0128     4.2871     -0.002907
244.          0.     0.95827     4.9626     5.1860     3.8330      0.375     30.0152     4.2871     -0.002913
245.          0.     0.95873     4.9626     5.1860     3.8324      0.376     30.0141     4.2771     -0.002930
246.          0.     0.95920     4.9627     5.1860     3.8317      0.376     30.0148     4.2671     -0.002946
247.          0.     0.95963     4.9626     5.1860     3.8308      0.377     30.0163     4.2670     -0.002952
248.          0.     0.96011     4.9627     5.1860     3.8302      0.377     30.0165     4.2570     -0.002968
249.          0.     0.96056     4.9627     5.1860     3.8293      0.376     30.0206     4.2570     -0.002975
250.          0.     0.96102     4.9626     5.1860     3.8284      0.374     30.0252     4.2570     -0.002981
251.          0.     0.96148     4.9626     5.1860     3.8275      0.374     30.0304     4.2570     -0.002987
252.          0.     0.96196     4.9625     5.1860     3.8265      0.375     30.0365     4.2570     -0.002993
253.          0.     0.96244     4.9625     5.1860     3.8254      0.375     30.0432     4.2570     -0.003000
254.          0.     0.96293     4.9624     5.1860     3.8244      0.375     30.0504     4.2570     -0.003006
255.          0.     0.96344     4.9624     5.1860     3.8233      0.376     30.0577     4.2570     -0.003012
256.          0.     0.96395     4.9624     5.1860     3.8221      0.376     30.0652     4.2570     -0.003019
257.          0.     0.96447     4.9623     5.1860     3.8210      0.376     30.0725     4.2570     -0.003026
258.          0.     0.96499     4.9623     5.1860     3.8198      0.376     30.0798     4.2570     -0.003032
259.          0.     0.96552     4.9622     5.1860     3.8186      0.377     30.0872     4.2570     -0.003039
260.          0.     0.96605     4.9622     5.1860     3.8174      0.377     30.0946     4.2570     -0.003046
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261.	0.	0.96658	4.9621	5.1860	3.8162	0.378	30.1016	4.2569	-0.003052
262.	0.	0.96710	4.9621	5.1860	3.8150	0.379	30.1082	4.2569	-0.003059
263.	0.	0.96762	4.9621	5.1860	3.8139	0.380	30.1139	4.2569	-0.003066
264.	0.	0.96813	4.9620	5.1860	3.8128	0.380	30.1194	4.2569	-0.003073
265.	0.	0.96864	4.9620	5.1860	3.8118	0.382	30.1247	4.2569	-0.003079
266.	0.	0.96914	4.9619	5.1860	3.8107	0.383	30.1263	4.2569	-0.003086
267.	0.	0.96965	4.9620	5.1860	3.8100	0.386	30.1255	4.2469	-0.003103
268.	0.	0.97013	4.9619	5.1860	3.8090	0.387	30.1289	4.2469	-0.003110
269.	0.	0.97058	4.9619	5.1860	3.8081	0.389	30.1293	4.2469	-0.003117
270.	0.	0.97107	4.9619	5.1860	3.8074	0.390	30.1285	4.2369	-0.003133
271.	0.	0.97152	4.9619	5.1860	3.8065	0.391	30.1285	4.2369	-0.003140
272.	0.	0.97202	4.9620	5.1860	3.8058	0.392	30.1273	4.2268	-0.003157
273.	0.	0.97247	4.9619	5.1860	3.8048	0.394	30.1271	4.2268	-0.003164
274.	0.	0.97297	4.9620	5.1860	3.8042	0.396	30.1260	4.2168	-0.003181
275.	0.	0.97344	4.9619	5.1860	3.8032	0.398	30.1298	4.2168	-0.003188
276.	0.	0.97389	4.9619	5.1860	3.8023	0.399	30.1308	4.2168	-0.003194
277.	0.	0.97438	4.9619	5.1860	3.8017	0.400	30.1305	4.2068	-0.003212
278.	0.	0.97484	4.9619	5.1860	3.8007	0.402	30.1310	4.2068	-0.003218
279.	0.	0.97535	4.9619	5.1860	3.8000	0.404	30.1301	4.1968	-0.003236
280.	0.	0.97582	4.9619	5.1860	3.7990	0.406	30.1303	4.1968	-0.003243
281.	0.	0.97633	4.9620	5.1860	3.7983	0.408	30.1292	4.1867	-0.003260
282.	0.	0.97681	4.9619	5.1860	3.7973	0.409	30.1330	4.1867	-0.003267
283.	0.	0.97728	4.9619	5.1860	3.7963	0.410	30.1339	4.1867	-0.003274
284.	0.	0.97778	4.9619	5.1860	3.7957	0.411	30.1335	4.1767	-0.003292
285.	0.	0.97825	4.9619	5.1860	3.7947	0.412	30.1340	4.1767	-0.003299
286.	0.	0.97875	4.9619	5.1860	3.7941	0.413	30.1332	4.1667	-0.003317
287.	0.	0.97923	4.9619	5.1860	3.7931	0.414	30.1371	4.1667	-0.003323
288.	0.	0.97969	4.9618	5.1860	3.7921	0.414	30.1379	4.1667	-0.003330
289.	0.	0.98019	4.9619	5.1860	3.7915	0.414	30.1378	4.1567	-0.003348
290.	0.	0.98064	4.9619	5.1860	3.7906	0.414	30.1387	4.1566	-0.003355
291.	0.	0.98111	4.9619	5.1860	3.7901	0.415	30.1383	4.1466	-0.003373
292.	0.	0.98154	4.9619	5.1860	3.7893	0.417	30.1393	4.1466	-0.003379
293.	0.	0.98200	4.9619	5.1860	3.7888	0.418	30.1388	4.1366	-0.003397
294.	0.	0.98245	4.9619	5.1860	3.7879	0.420	30.1429	4.1366	-0.003404
295.	0.	0.98288	4.9618	5.1860	3.7870	0.421	30.1437	4.1366	-0.003410
296.	0.	0.98335	4.9619	5.1860	3.7865	0.422	30.1429	4.1266	-0.003428
297.	0.	0.98379	4.9618	5.1860	3.7857	0.424	30.1433	4.1266	-0.003435
298.	0.	0.98426	4.9619	5.1860	3.7852	0.427	30.1431	4.1165	-0.003453
299.	0.	0.98468	4.9619	5.1860	3.7843	0.429	30.1441	4.1165	-0.003460
300.	0.	0.98515	4.9619	5.1860	3.7838	0.431	30.1439	4.1065	-0.003477
301.	0.	0.98558	4.9619	5.1860	3.7830	0.434	30.1482	4.1065	-0.003484
302.	0.	0.98600	4.9618	5.1860	3.7822	0.435	30.1491	4.1065	-0.003490
303.	0.	0.98646	4.9619	5.1860	3.7818	0.436	30.1483	4.0965	-0.003508
304.	0.	0.98685	4.9618	5.1860	3.7811	0.436	30.1476	4.0965	-0.003515
305.	0.	0.98729	4.9619	5.1860	3.7808	0.435	30.1449	4.0865	-0.003533
306.	0.	0.98771	4.9619	5.1860	3.7801	0.432	30.1471	4.0865	-0.003540
307.	0.	0.98811	4.9618	5.1860	3.7794	0.430	30.1465	4.0865	-0.003547
308.	0.	0.98855	4.9619	5.1860	3.7791	0.428	30.1446	4.0764	-0.003565
309.	0.	0.98896	4.9618	5.1860	3.7784	0.426	30.1437	4.0764	-0.003572
310.	0.	0.98942	4.9619	5.1860	3.7780	0.425	30.1416	4.0664	-0.003590
311.	0.	0.98984	4.9618	5.1860	3.7772	0.425	30.1408	4.0664	-0.003597
312.	0.	0.99030	4.9619	5.1860	3.7768	0.424	30.1385	4.0564	-0.003616
313.	0.	0.99072	4.9618	5.1860	3.7761	0.424	30.1410	4.0564	-0.003623
314.	0.	0.99113	4.9618	5.1860	3.7754	0.424	30.1438	4.0564	-0.003629
315.	0.	0.99154	4.9618	5.1860	3.7748	0.424	30.1468	4.0564	-0.003636
316.	0.	0.99195	4.9617	5.1860	3.7741	0.425	30.1499	4.0564	-0.003642
317.	0.	0.99236	4.9617	5.1860	3.7735	0.425	30.1526	4.0564	-0.003648
318.	0.	0.99277	4.9616	5.1860	3.7728	0.426	30.1552	4.0563	-0.003655
319.	0.	0.99317	4.9616	5.1860	3.7722	0.427	30.1577	4.0563	-0.003661
320.	0.	0.99358	4.9616	5.1860	3.7716	0.429	30.1600	4.0563	-0.003667
321.	0.	0.99399	4.9615	5.1860	3.7709	0.430	30.1624	4.0563	-0.003674
322.	0.	0.99439	4.9615	5.1860	3.7703	0.433	30.1657	4.0563	-0.003680
323.	0.	0.99479	4.9614	5.1860	3.7697	0.436	30.1694	4.0563	-0.003686
324.	0.	0.99519	4.9614	5.1860	3.7691	0.439	30.1734	4.0563	-0.003693
325.	0.	0.99560	4.9613	5.1860	3.7685	0.443	30.1776	4.0563	-0.003699
326.	0.	0.99600	4.9613	5.1860	3.7679	0.446	30.1816	4.0563	-0.003705
327.	0.	0.99641	4.9613	5.1860	3.7673	0.449	30.1854	4.0563	-0.003712

328.	0.	0.99681	4.9612	5.1860	3.7666	0.453	30.1890	4.0563	-0.003718
329.	0.	0.99721	4.9612	5.1860	3.7660	0.456	30.1925	4.0563	-0.003724
330.	0.	0.99761	4.9611	5.1860	3.7655	0.459	30.1959	4.0563	-0.003731
331.	0.	0.99801	4.9611	5.1860	3.7649	0.462	30.1994	4.0563	-0.003737
332.	0.	0.99840	4.9611	5.1860	3.7643	0.465	30.2028	4.0563	-0.003743
333.	0.	0.99879	4.9610	5.1860	3.7638	0.466	30.2055	4.0563	-0.003749
334.	0.	0.99918	4.9610	5.1860	3.7632	0.468	30.2076	4.0562	-0.003756
335.	0.	0.99956	4.9609	5.1860	3.7627	0.469	30.2091	4.0562	-0.003762
336.	0.	0.99993	4.9609	5.1860	3.7622	0.470	30.2068	4.0562	-0.003768
337.	0.	1.00031	4.9609	5.1860	3.7621	0.470	30.2024	4.0462	-0.003787
338.	0.	1.00067	4.9609	5.1860	3.7617	0.470	30.2022	4.0462	-0.003793
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340.	0.	1.00138	4.9609	5.1860	3.7612	0.469	30.1934	4.0362	-0.003818
341.	0.	1.00173	4.9609	5.1860	3.7608	0.468	30.1931	4.0362	-0.003824
342.	0.	1.00209	4.9608	5.1860	3.7604	0.468	30.1935	4.0362	-0.003830
343.	0.	1.00243	4.9608	5.1860	3.7600	0.467	30.1925	4.0362	-0.003836
344.	0.	1.00284	4.9608	5.1860	3.7599	0.468	30.1948	4.0261	-0.003855
345.	0.	1.00327	4.9608	5.1860	3.7594	0.469	30.2139	4.0261	-0.003862
346.	0.	1.00158	4.9609	5.1860	3.7571	0.465	29.8158	4.0261	-0.003891
347.	0.	1.00925	4.9708	5.1860	3.8094	0.440	29.1429	3.0143	-0.005734
348.	0.	1.00931	4.9709	5.1860	3.8085	0.441	29.0498	3.0042	-0.005795
349.	0.	1.00945	4.9711	5.1860	3.8093	0.441	28.9580	2.9841	-0.005863
350.	0.	1.00961	4.9713	5.1860	3.8104	0.442	28.8878	2.9641	-0.005928
351.	0.	1.01034	4.9719	5.1860	3.8146	0.442	28.7905	2.9039	-0.006108
352.	0.	1.01101	4.9725	5.1860	3.8187	0.443	28.6678	2.8437	-0.006298
353.	0.	1.01246	4.9734	5.1860	3.8251	0.444	28.5468	2.7534	-0.006596
354.	0.	1.01241	4.9734	5.1860	3.8241	0.447	28.5258	2.7534	-0.006597
355.	0.	1.01238	4.9733	5.1860	3.8223	0.451	28.5515	2.7634	-0.006561
356.	0.	1.01212	4.9730	5.1860	3.8188	0.455	28.6084	2.7935	-0.006459
357.	0.	1.01240	4.9727	5.1860	3.8163	0.459	28.7231	2.8136	-0.006388
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359.	0.	1.01196	4.9717	5.1860	3.8076	0.466	28.9025	2.9039	-0.006112
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361.	0.	1.01195	4.9711	5.1860	3.8015	0.472	29.0248	2.9641	-0.005946
362.	0.	1.01244	4.9711	5.1860	3.8016	0.474	29.0436	2.9540	-0.005977
363.	0.	1.01274	4.9709	5.1860	3.7994	0.478	29.1207	2.9741	-0.005924
364.	0.	1.01234	4.9702	5.1860	3.7942	0.483	29.1777	3.0342	-0.005768
365.	0.	1.01311	4.9706	5.1860	3.7964	0.486	29.1516	2.9941	-0.005881
366.	0.	1.01360	4.9708	5.1860	3.7971	0.489	29.1352	2.9741	-0.005943
367.	0.	1.01399	4.9708	5.1860	3.7970	0.492	29.1306	2.9640	-0.005976
368.	0.	1.01428	4.9707	5.1860	3.7956	0.495	29.1714	2.9740	-0.005952
369.	0.	1.01420	4.9703	5.1860	3.7921	0.498	29.2349	3.0142	-0.005848
370.	0.	1.01424	4.9701	5.1860	3.7908	0.500	29.2265	3.0242	-0.005829
371.	0.	1.01534	4.9708	5.1860	3.7955	0.499	29.1792	2.9540	-0.006027
372.	0.	1.01531	4.9707	5.1860	3.7940	0.501	29.1650	2.9640	-0.006007
373.	0.	1.01583	4.9711	5.1860	3.7963	0.500	29.0918	2.9239	-0.006129
374.	0.	1.01680	4.9716	5.1860	3.8001	0.500	29.0342	2.8637	-0.006313
375.	0.	1.01683	4.9714	5.1860	3.7977	0.502	29.0759	2.8837	-0.006255
376.	0.	1.01659	4.9710	5.1860	3.7939	0.502	29.1269	2.9239	-0.006140
377.	0.	1.01684	4.9710	5.1860	3.7932	0.501	29.1382	2.9239	-0.006143
378.	0.	1.01703	4.9709	5.1860	3.7925	0.500	29.1386	2.9239	-0.006147
379.	0.	1.01721	4.9710	5.1860	3.7925	0.499	29.1026	2.9138	-0.006182
380.	0.	1.01795	4.9715	5.1860	3.7955	0.497	29.0413	2.8637	-0.006336
381.	0.	1.01827	4.9716	5.1860	3.7954	0.496	29.0407	2.8536	-0.006369
382.	0.	1.01824	4.9713	5.1860	3.7922	0.496	29.1082	2.8837	-0.006278
383.	0.	1.01820	4.9708	5.1860	3.7885	0.496	29.1959	2.9238	-0.006160
384.	0.	1.01811	4.9705	5.1860	3.7854	0.495	29.2302	2.9539	-0.006078
385.	0.	1.01875	4.9708	5.1860	3.7870	0.493	29.2198	2.9238	-0.006168
386.	0.	1.01924	4.9706	5.1860	3.7856	0.492	29.3084	2.9339	-0.006140
387.	0.	1.01888	4.9697	5.1860	3.7784	0.496	29.4619	3.0241	-0.005893
388.	0.	1.01915	4.9693	5.1860	3.7758	0.498	29.5430	3.0542	-0.005818
389.	0.	1.01960	4.9692	5.1860	3.7746	0.499	29.6054	3.0642	-0.005796
390.	0.	1.01978	4.9688	5.1860	3.7720	0.500	29.6686	3.0943	-0.005725
391.	0.	1.02003	4.9687	5.1860	3.7708	0.499	29.6876	3.1043	-0.005707
392.	0.	1.02047	4.9689	5.1860	3.7715	0.497	29.6672	3.0842	-0.005765
393.	0.	1.02094	4.9691	5.1860	3.7728	0.494	29.6289	3.0541	-0.005850
394.	0.	1.02139	4.9694	5.1860	3.7741	0.490	29.5864	3.0241	-0.005937

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395.        0.     1.02195     4.9696     5.1860     3.7750      0.487     29.5958      3.0040     -0.005996
396.        0.     1.02198     4.9690     5.1860     3.7711      0.486     29.6964      3.0541     -0.005867
397.        0.     1.02210     4.9685     5.1860     3.7675      0.484     29.7994      3.1043     -0.005743
398.        0.     1.02231     4.9681     5.1860     3.7652      0.482     29.8603      3.1343     -0.005674
399.        0.     1.02276     4.9681     5.1860     3.7649      0.479     29.8957      3.1343     -0.005680
400.        0.     1.02313     4.9678     5.1860     3.7634      0.477     29.9625      3.1544     -0.005636
401.        0.     1.02321     4.9674     5.1860     3.7604      0.476     30.0174      3.1945     -0.005548
402.        0.     1.02370     4.9674     5.1860     3.7607      0.474     30.0320      3.1844     -0.005578
403.        0.     1.02396     4.9673     5.1860     3.7596      0.474     30.0507      3.1944     -0.005561
404.        0.     1.02427     4.9673     5.1860     3.7592      0.475     30.0573      3.1944     -0.005568
405.        0.     1.02462     4.9672     5.1860     3.7588      0.475     30.0699      3.1944     -0.005575
406.        0.     1.02483     4.9671     5.1860     3.7576      0.475     30.0788      3.2044     -0.005559
407.        0.     1.02523     4.9672     5.1860     3.7578      0.474     30.0770      3.1944     -0.005589
408.        0.     1.02549     4.9671     5.1860     3.7571      0.474     30.0712      3.1944     -0.005597
409.        0.     1.02604     4.9673     5.1860     3.7580      0.474     30.0764      3.1743     -0.005651
410.        0.     1.02616     4.9669     5.1860     3.7555      0.474     30.1128      3.2044     -0.005587
411.        0.     1.02652     4.9669     5.1860     3.7551      0.473     30.1224      3.2044     -0.005594
412.        0.     1.02700     4.9669     5.1860     3.7548      0.473     30.1593      3.2044     -0.005600
413.        0.     1.02729     4.9664     5.1860     3.7522      0.472     30.2437      3.2445     -0.005514
414.        0.     1.02747     4.9660     5.1860     3.7495      0.472     30.2975      3.2846     -0.005433
415.        0.     1.02807     4.9660     5.1860     3.7500      0.470     30.3335      3.2745     -0.005460
416.        0.     1.02836     4.9656     5.1860     3.7475      0.470     30.4087      3.3146     -0.005380
417.        0.     1.02867     4.9652     5.1860     3.7456      0.468     30.4617      3.3447     -0.005323
418.        0.     1.02945     4.9650     5.1860     3.7454      0.466     30.5670      3.3547     -0.005306
419.        0.     1.02970     4.9639     5.1860     3.7395      0.466     30.7321      3.4649     -0.005093
420.        0.     1.03007     4.9633     5.1860     3.7371      0.464     30.8080      3.5150     -0.005005
421.        0.     1.03063     4.9633     5.1860     3.7371      0.461     30.8501      3.5150     -0.005011
422.        0.     1.03131     4.9629     5.1860     3.7359      0.459     30.9591      3.5450     -0.004961
423.        0.     1.03153     4.9619     5.1860     3.7311      0.457     31.0625      3.6452     -0.004794
424.        0.     1.03189     4.9619     5.1860     3.7311      0.455     31.0610      3.6452     -0.004801
425.        0.     1.03272     4.9624     5.1860     3.7342      0.452     31.0842      3.5851     -0.004910
426.        0.     1.03314     4.9617     5.1860     3.7310      0.451     31.1900      3.6552     -0.004796
427.        0.     1.03345     4.9608     5.1860     3.7275      0.449     31.2690      3.7353     -0.004671
428.        0.     1.03384     4.9605     5.1860     3.7261      0.449     31.3036      3.7654     -0.004629
429.        0.     1.03431     4.9604     5.1860     3.7255      0.448     31.3310      3.7754     -0.004619
430.        0.     1.03482     4.9602     5.1860     3.7243      0.449     31.3740      3.7954     -0.004594
431.        0.     1.03512     4.9597     5.1860     3.7222      0.450     31.3953      3.8355     -0.004541
432.        0.     1.03558     4.9598     5.1860     3.7223      0.451     31.3996      3.8254     -0.004561
433.        0.     1.03599     4.9596     5.1860     3.7211      0.453     31.4226      3.8455     -0.004538
434.        0.     1.03647     4.9593     5.1860     3.7200      0.454     31.4588      3.8655     -0.004513
435.        0.     1.03693     4.9587     5.1860     3.7175      0.455     31.5183      3.9256     -0.004432
436.        0.     1.03745     4.9580     5.1860     3.7148      0.456     31.5868      3.9957     -0.004339
437.        0.     1.03780     4.9571     5.1860     3.7108      0.458     31.6353      4.0958     -0.004212
438.        0.     1.03821     4.9565     5.1860     3.7083      0.459     31.6636      4.1559     -0.004139
439.        0.     1.03848     4.9557     5.1860     3.7049      0.461     31.6705      4.2360     -0.004048
440.        0.     1.03866     4.9555     5.1860     3.7036      0.462     31.6323      4.2460     -0.004040
441.        0.     1.03896     4.9557     5.1860     3.7035      0.463     31.6068      4.2259     -0.004068
442.        0.     1.03940     4.9558     5.1860     3.7036      0.464     31.6058      4.2059     -0.004098
443.        0.     1.03981     4.9556     5.1860     3.7024      0.466     31.6150      4.2259     -0.004081
444.        0.     1.04010     4.9556     5.1860     3.7016      0.468     31.5961      4.2259     -0.004087
445.        0.     1.04042     4.9556     5.1860     3.7013      0.469     31.5817      4.2159     -0.004104
446.        0.     1.04058     4.9557     5.1860     3.7007      0.470     31.5401      4.2059     -0.004122
447.        0.     1.04059     4.9560     5.1860     3.7009      0.470     31.4598      4.1658     -0.004175
448.        0.     1.04099     4.9565     5.1860     3.7022      0.470     31.4451      4.1158     -0.004241
449.        0.     1.04149     4.9560     5.1860     3.7002      0.472     31.4922      4.1658     -0.004187
450.        0.     1.04178     4.9557     5.1860     3.6986      0.473     31.4884      4.1958     -0.004156
451.        0.     1.04184     4.9556     5.1860     3.6977      0.472     31.4341      4.1958     -0.004161
452.        0.     1.04179     4.9562     5.1860     3.6986      0.471     31.3380      4.1358     -0.004238
453.        0.     1.04212     4.9566     5.1860     3.6998      0.470     31.3110      4.0857     -0.004305
454.        0.     1.04260     4.9562     5.1860     3.6982      0.470     31.3525      4.1257     -0.004262
455.        0.     1.04304     4.9559     5.1860     3.6969      0.471     31.3789      4.1558     -0.004230
456.        0.     1.04339     4.9556     5.1860     3.6954      0.471     31.3859      4.1858     -0.004200
457.        0.     1.04367     4.9556     5.1860     3.6951      0.471     31.3673      4.1758     -0.004217
458.        0.     1.04405     4.9557     5.1860     3.6949      0.473     31.3661      4.1658     -0.004235
459.        0.     1.04434     4.9555     5.1860     3.6939      0.474     31.3577      4.1758     -0.004229
460.        0.     1.04451     4.9557     5.1860     3.6937      0.476     31.3146      4.1557     -0.004258
461.        0.     1.04450     4.9559     5.1860     3.6933      0.477     31.2421      4.1357     -0.004287
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462.	0.	1.04449	4.9562	5.1860	3.6936	0.478	31.1599	4.0957	-0.004341
463.	0.	1.04455	4.9564	5.1860	3.6933	0.480	31.0984	4.0756	-0.004372
464.	0.	1.04483	4.9565	5.1860	3.6933	0.482	31.0726	4.0556	-0.004403
465.	0.	1.04513	4.9564	5.1860	3.6923	0.485	31.0662	4.0656	-0.004397
466.	0.	1.04545	4.9564	5.1860	3.6922	0.487	31.0542	4.0556	-0.004416
467.	0.	1.04570	4.9564	5.1860	3.6916	0.489	31.0348	4.0556	-0.004422
468.	0.	1.04582	4.9566	5.1860	3.6915	0.490	30.9843	4.0355	-0.004454
469.	0.	1.04614	4.9568	5.1860	3.6922	0.491	30.9617	4.0055	-0.004500
470.	0.	1.04640	4.9566	5.1860	3.6909	0.493	30.9571	4.0255	-0.004480
471.	0.	1.04659	4.9567	5.1860	3.6910	0.495	30.9176	4.0055	-0.004513
472.	0.	1.04690	4.9569	5.1860	3.6913	0.496	30.8985	3.9855	-0.004545
473.	0.	1.04730	4.9567	5.1860	3.6907	0.498	30.9141	3.9955	-0.004539
474.	0.	1.04774	4.9566	5.1860	3.6902	0.500	30.9358	4.0055	-0.004532
475.	0.	1.04795	4.9565	5.1860	3.6892	0.501	30.9149	4.0155	-0.004526
476.	0.	1.04800	4.9568	5.1860	3.6900	0.502	30.8413	3.9754	-0.004585
477.	0.	1.04804	4.9572	5.1860	3.6907	0.502	30.7634	3.9354	-0.004646
478.	0.	1.04822	4.9575	5.1860	3.6913	0.502	30.7155	3.9053	-0.004695
479.	0.	1.04846	4.9574	5.1860	3.6909	0.502	30.7018	3.9053	-0.004701
480.	0.	1.04871	4.9574	5.1860	3.6905	0.501	30.6880	3.9053	-0.004708
481.	0.	1.04904	4.9574	5.1860	3.6906	0.499	30.6833	3.8953	-0.004728
482.	0.	1.04938	4.9573	5.1860	3.6900	0.497	30.6942	3.9053	-0.004721
483.	0.	1.04975	4.9573	5.1860	3.6899	0.494	30.7065	3.9053	-0.004727
484.	0.	1.05016	4.9571	5.1860	3.6895	0.491	30.7322	3.9153	-0.004719
485.	0.	1.05064	4.9570	5.1860	3.6893	0.488	30.7703	3.9253	-0.004711
486.	0.	1.05105	4.9568	5.1860	3.6885	0.485	30.8008	3.9453	-0.004690
487.	0.	1.05140	4.9567	5.1860	3.6884	0.483	30.8071	3.9453	-0.004696
488.	0.	1.05172	4.9567	5.1860	3.6883	0.481	30.8102	3.9453	-0.004703
489.	0.	1.05198	4.9567	5.1860	3.6881	0.479	30.8004	3.9453	-0.004709
490.	0.	1.05240	4.9567	5.1860	3.6885	0.477	30.8147	3.9353	-0.004729
491.	0.	1.05289	4.9564	5.1860	3.6876	0.477	30.8669	3.9653	-0.004694
492.	0.	1.05321	4.9562	5.1860	3.6868	0.477	30.8808	3.9853	-0.004673
493.	0.	1.05340	4.9562	5.1860	3.6870	0.476	30.8559	3.9753	-0.004692
494.	0.	1.05329	4.9564	5.1860	3.6871	0.475	30.7704	3.9553	-0.004725
495.	0.	1.05314	4.9569	5.1860	3.6887	0.473	30.6509	3.8952	-0.004816
496.	0.	1.05321	4.9572	5.1860	3.6895	0.472	30.5907	3.8651	-0.004865
497.	0.	1.05321	4.9571	5.1860	3.6887	0.472	30.5452	3.8751	-0.004857
498.	0.	1.05325	4.9574	5.1860	3.6899	0.471	30.4696	3.8351	-0.004923
499.	0.	1.05338	4.9576	5.1860	3.6904	0.470	30.4254	3.8150	-0.004959
500.	0.	1.05349	4.9576	5.1860	3.6901	0.470	30.3933	3.8150	-0.004966
501.	0.	1.05364	4.9577	5.1860	3.6907	0.470	30.3526	3.7950	-0.005003
502.	0.	1.05374	4.9578	5.1860	3.6908	0.469	30.3122	3.7850	-0.005025
503.	0.	1.05374	4.9580	5.1860	3.6913	0.469	30.2476	3.7649	-0.005062
504.	0.	1.05373	4.9583	5.1860	3.6927	0.467	30.1675	3.7249	-0.005132
505.	0.	1.05384	4.9586	5.1860	3.6937	0.466	30.1154	3.6948	-0.005187
506.	0.	1.05392	4.9586	5.1860	3.6935	0.466	30.0842	3.6948	-0.005193
507.	0.	1.05394	4.9588	5.1860	3.6940	0.465	30.0250	3.6748	-0.005233
508.	0.	1.05387	4.9591	5.1860	3.6955	0.463	29.9309	3.6347	-0.005307
509.	0.	1.05402	4.9596	5.1860	3.6976	0.461	29.8545	3.5846	-0.005402
510.	0.	1.05422	4.9596	5.1860	3.6974	0.460	29.8442	3.5846	-0.005409
511.	0.	1.05427	4.9594	5.1860	3.6967	0.460	29.8145	3.5946	-0.005398
512.	0.	1.05457	4.9598	5.1860	3.6985	0.459	29.7734	3.5545	-0.005477
513.	0.	1.05478	4.9597	5.1860	3.6979	0.457	29.7751	3.5645	-0.005465
514.	0.	1.05493	4.9596	5.1860	3.6978	0.455	29.7554	3.5645	-0.005472
515.	0.	1.05514	4.9598	5.1860	3.6987	0.453	29.7199	3.5445	-0.005516
516.	0.	1.05528	4.9599	5.1860	3.6990	0.452	29.6842	3.5345	-0.005542
517.	0.	1.05529	4.9601	5.1860	3.6997	0.450	29.6141	3.5144	-0.005587
518.	0.	1.05533	4.9606	5.1860	3.7019	0.449	29.5032	3.4643	-0.005692
519.	0.	1.05540	4.9611	5.1860	3.7043	0.448	29.3952	3.4142	-0.005801
520.	0.	1.05530	4.9614	5.1860	3.7056	0.446	29.2846	3.3841	-0.005872
521.	0.	1.05564	4.9619	5.1860	3.7088	0.446	29.1975	3.3240	-0.006010
522.	0.	1.05579	4.9618	5.1860	3.7082	0.447	29.1993	3.3340	-0.005995
523.	0.	1.05565	4.9617	5.1860	3.7074	0.446	29.1474	3.3440	-0.005981
524.	0.	1.05611	4.9624	5.1860	3.7116	0.446	29.0644	3.2739	-0.006146
525.	0.	1.05625	4.9623	5.1860	3.7109	0.446	29.0689	3.2839	-0.006130
526.	0.	1.05619	4.9621	5.1860	3.7103	0.445	29.0348	3.2939	-0.006114
527.	0.	1.05621	4.9627	5.1860	3.7132	0.443	28.9106	3.2438	-0.006238
528.	0.	1.05644	4.9634	5.1860	3.7175	0.440	28.7714	3.1736	-0.006417

529.	0.	1.05659	4.9637	5.1860	3.7195	0.438	28.7052	3.1435	-0.006500
530.	0.	1.05645	4.9636	5.1860	3.7187	0.438	28.6701	3.1535	-0.006481
531.	0.	1.05656	4.9639	5.1860	3.7206	0.436	28.5968	3.1234	-0.006564
532.	0.	1.05667	4.9642	5.1860	3.7226	0.433	28.5214	3.0934	-0.006649
533.	0.	1.05666	4.9644	5.1860	3.7239	0.431	28.4486	3.0733	-0.006709
534.	0.	1.05671	4.9647	5.1860	3.7260	0.427	28.3634	3.0432	-0.006797
535.	0.	1.05665	4.9651	5.1860	3.7280	0.424	28.2591	3.0131	-0.006886
536.	0.	1.05690	4.9656	5.1860	3.7316	0.420	28.1552	2.9630	-0.007038
537.	0.	1.05685	4.9657	5.1860	3.7323	0.419	28.1089	2.9529	-0.007070
538.	0.	1.05659	4.9658	5.1860	3.7322	0.418	28.0541	2.9529	-0.007072
539.	0.	1.05671	4.9663	5.1860	3.7352	0.416	27.9530	2.9128	-0.007198
540.	0.	1.05656	4.9666	5.1860	3.7375	0.413	27.8326	2.8827	-0.007295
541.	0.	1.05664	4.9672	5.1860	3.7414	0.410	27.6918	2.8325	-0.007460
542.	0.	1.05632	4.9677	5.1860	3.7437	0.407	27.5517	2.8024	-0.007559
543.	0.	1.05629	4.9683	5.1860	3.7477	0.404	27.3953	2.7523	-0.007731
544.	0.	1.05592	4.9688	5.1860	3.7501	0.402	27.2604	2.7222	-0.007831
545.	0.	1.05551	4.9693	5.1860	3.7524	0.401	27.1270	2.6921	-0.007929
546.	0.	1.05493	4.9698	5.1860	3.7547	0.399	26.9725	2.6620	-0.008027
547.	0.	1.05445	4.9706	5.1860	3.7586	0.398	26.7573	2.6118	-0.008208
548.	0.	1.05419	4.9717	5.1860	3.7641	0.401	26.4916	2.5415	-0.008480
549.	0.	1.05370	4.9728	5.1860	3.7686	0.406	26.2654	2.4813	-0.008707
550.	0.	1.05203	4.9735	5.1860	3.7680	0.409	26.1084	2.4713	-0.008690
551.	0.	1.05038	4.9744	5.1860	3.7694	0.412	25.8920	2.4412	-0.008759
552.	0.	1.04908	4.9759	5.1860	3.7744	0.421	25.5263	2.3710	-0.009030
553.	0.	1.04848	4.9782	5.1860	3.7836	0.443	25.0240	2.2504	-0.009584
554.	0.	1.04599	4.9809	5.1860	3.7895	0.474	24.4545	2.1500	-0.009999
555.	0.	1.04311	4.9844	5.1860	3.7959	0.541	23.6798	2.0194	-0.010608
556.	0.	1.04147	4.9861	5.1860	3.8024	0.712	22.5954	1.8282	-0.011761
557.	0.	1.03887	4.9872	5.1860	3.7934	1.041	21.3704	1.6068	-0.013152
558.	0.	1.02868	4.9876	5.1860	3.7450	1.444	20.3252	1.4568	-0.013190
559.	0.	1.00997	4.9944	5.1860	3.6778	1.915	19.5651	1.3180	-0.012026
560.	0.	0.97590	5.0012	5.1860	3.6013	2.339	19.1677	1.2616	-0.008364
561.	0.	0.94093	5.0060	5.1860	3.5246	2.779	18.7440	1.1853	-0.004715
562.	0.	0.90881	5.0084	5.1860	3.4171	3.134	17.9949	1.0487	-0.001305
563.	0.	0.83438	5.0158	5.1860	3.3897	2.568	15.3262	0.6944	0.004381
564.	0.	0.38084	5.1052	5.1860	3.7287	355.211	17.6716	0.2556	0.085602

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____________________________________________________________
PART 3: WHAFIS

WHAFIS input:  CM-134.dat
WHAFIS output: CM-134.out

PART 3 COMPLETE________________________________________
```

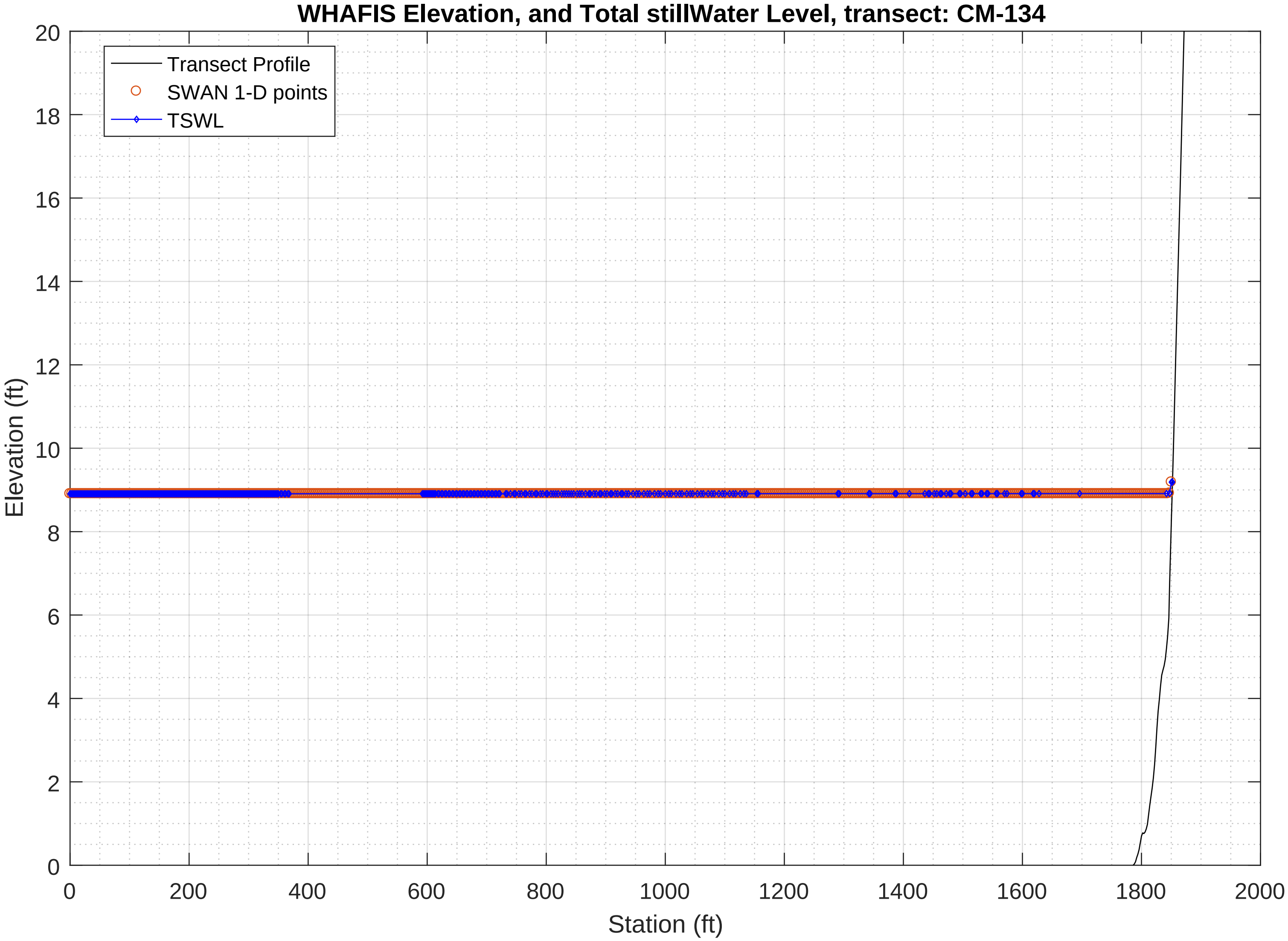
WHAFIS Elevation, and Total stillWater Level, transect: CM-134
Transect Profile
SWAN 1-D points
TSWL
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
20
0
200
400
600
800
1000
1200
1400
1600
1800
2000

```
WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)
Executed on: Thu Feb 20 14:57:36 2020
Input file:  C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3_whafis\whafis4\CM-134.dat
Output file: C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3_whafis\whafis4\CM-134.out
                                                        header
                                                THIS IS A 100-YEAR CASE
                                   THE FOLLOWING NON-DEFAULT WIND SPEEDS ARE BEING USED
                                        WINDIF  56.14  WINDOF  56.14  WINDVH  60.00
                                                       PART1 INPUT
        IE     0.000   -20.327     1.000     1.000     8.906     4.392     4.952    56.140     0.000     0.000
        OF     2.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF     4.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF     6.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF     8.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    10.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    12.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    14.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    16.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    18.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    20.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    22.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    24.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    26.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    28.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    30.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    32.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    34.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    36.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    38.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    40.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    42.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    44.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    46.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    48.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    50.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    52.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    54.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.000     0.000
        OF    56.000   -20.327     0.000     8.906     0.000     0.000     0.000     0.000     0.038     0.000
        OF    58.000   -20.175     0.000     8.906     0.000     0.000     0.000     0.000     0.089     0.000
        OF    60.000   -19.970     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    62.000   -19.765     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    64.000   -19.561     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    66.000   -19.356     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    68.000   -19.151     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    70.000   -18.946     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    72.000   -18.741     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    74.000   -18.536     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    76.000   -18.331     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    78.000   -18.127     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    80.000   -17.922     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    82.000   -17.717     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    84.000   -17.512     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    86.000   -17.307     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    88.000   -17.102     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    90.000   -16.897     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    92.000   -16.692     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    94.000   -16.488     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    96.000   -16.283     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF    98.000   -16.078     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   100.000   -15.873     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   102.000   -15.668     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   104.000   -15.463     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   106.000   -15.258     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   108.000   -15.053     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   110.000   -14.849     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   112.000   -14.644     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   114.000   -14.439     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   116.000   -14.234     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   118.000   -14.029     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   120.000   -13.824     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   122.000   -13.619     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   124.000   -13.415     0.000     8.906     0.000     0.000     0.000     0.000     0.102     0.000
        OF   126.000   -13.211     0.000     8.907     0.000     0.000     0.000     0.000     0.056     0.000
        OF   128.000   -13.190     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   130.000   -13.169     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   132.000   -13.148     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   134.000   -13.127     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   136.000   -13.106     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   138.000   -13.085     0.000     8.907     0.000     0.000     0.000     0.000     0.011     0.000
        OF   140.000   -13.063     0.000     8.907     0.000     0.000     0.000     0.000     0.011     0.000
        OF   142.000   -13.042     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   144.000   -13.021     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   146.000   -13.000     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   148.000   -12.979     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   150.000   -12.958     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   152.000   -12.937     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   154.000   -12.916     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   156.000   -12.895     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   158.000   -12.874     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   160.000   -12.853     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   162.000   -12.832     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   164.000   -12.811     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   166.000   -12.790     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   168.000   -12.769     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   170.000   -12.748     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   172.000   -12.727     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   174.000   -12.706     0.000     8.907     0.000     0.000     0.000     0.000     0.010     0.000
        OF   176.000   -12.685     0.000     8.907     0.000     0.000     0.000     0.000     0.012     0.000
        OF   178.000   -12.660     0.000     8.907     0.000     0.000     0.000     0.000     0.014     0.000
        OF   180.000   -12.631     0.000     8.907     0.000     0.000     0.000     0.000     0.014     0.000
        OF   182.000   -12.602     0.000     8.907     0.000     0.000     0.000     0.000     0.014     0.000
        OF   184.000   -12.573     0.000     8.907     0.000     0.000     0.000     0.000     0.014     0.000
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OF    186.000    -12.545      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    188.000    -12.516      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    190.000    -12.487      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    192.000    -12.458      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    194.000    -12.429      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    196.000    -12.400      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    198.000    -12.371      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    200.000    -12.343      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    202.000    -12.314      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    204.000    -12.285      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    206.000    -12.256      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    208.000    -12.227      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    210.000    -12.198      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    212.000    -12.169      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    214.000    -12.141      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    216.000    -12.112      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    218.000    -12.083      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    220.000    -12.054      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    222.000    -12.025      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    224.000    -11.996      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    226.000    -11.967      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    228.000    -11.939      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    230.000    -11.910      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    232.000    -11.881      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    234.000    -11.852      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    236.000    -11.823      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    238.000    -11.794      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    240.000    -11.765      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    242.000    -11.737      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    244.000    -11.708      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    246.000    -11.679      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    248.000    -11.650      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    250.000    -11.621      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    252.000    -11.592      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    254.000    -11.563      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    256.000    -11.535      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    258.000    -11.506      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    260.000    -11.477      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    262.000    -11.448      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
OF    264.000    -11.419      0.000      8.907      0.000      0.000      0.000      0.000      0.013      0.000
OF    266.000    -11.395      0.000      8.907      0.000      0.000      0.000      0.000      0.008      0.000
OF    268.000    -11.387      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    270.000    -11.380      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    272.000    -11.372      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    274.000    -11.364      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    276.000    -11.356      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    278.000    -11.349      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    280.000    -11.341      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    282.000    -11.333      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    284.000    -11.326      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    286.000    -11.318      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    288.000    -11.310      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    290.000    -11.302      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    292.000    -11.295      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    294.000    -11.287      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    296.000    -11.279      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    298.000    -11.271      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    300.000    -11.264      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    302.000    -11.256      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    304.000    -11.248      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
OF    306.000    -11.240      0.000      8.907      0.000      0.000      0.000      0.000      0.012      0.000
OF    308.000    -11.201      0.000      8.907      0.000      0.000      0.000      0.000      0.020      0.000
OF    310.000    -11.161      0.000      8.907      0.000      0.000      0.000      0.000      0.020      0.000
OF    312.000    -11.121      0.000      8.907      0.000      0.000      0.000      0.000      0.020      0.000
OF    314.000    -11.080      0.000      8.907      0.000      0.000      0.000      0.000      0.020      0.000
OF    316.000    -11.040      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    318.000    -11.000      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    320.000    -10.960      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    322.000    -10.920      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    324.000    -10.880      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    326.000    -10.840      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    328.000    -10.800      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    330.000    -10.760      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    332.000    -10.720      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    334.000    -10.680      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    336.000    -10.640      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    338.000    -10.599      0.000      8.908      0.000      0.000      0.000      0.000      0.020      0.000
OF    340.000    -10.559      0.000      8.908      0.000      0.000      0.000      0.000      0.021      0.000
OF    342.000    -10.517      0.000      8.908      0.000      0.000      0.000      0.000      0.042      0.000
OF    344.000    -10.392      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    346.000    -10.266      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    348.000    -10.141      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    350.000    -10.015      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    354.000     -9.764      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    356.000     -9.639      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    360.000     -9.388      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    362.000     -9.262      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    366.000     -9.012      0.000      8.908      0.000      0.000      0.000      0.000      0.063      0.000
OF    368.000     -8.886      0.000      8.908      0.000      0.000      0.000      0.000     -0.002      0.000
OF    592.000     -9.511      0.000      8.909      0.000      0.000      0.000      0.000     -0.003      0.000
OF    594.000     -9.520      0.000      8.909      0.000      0.000      0.000      0.000     -0.005      0.000
OF    596.000     -9.530      0.000      8.909      0.000      0.000      0.000      0.000     -0.005      0.000
OF    598.000     -9.539      0.000      8.909      0.000      0.000      0.000      0.000     -0.005      0.000
OF    600.000     -9.549      0.000      8.909      0.000      0.000      0.000      0.000     -0.005      0.000
OF    602.000     -9.558      0.000      8.909      0.000      0.000      0.000      0.000     -0.004      0.000
OF    604.000     -9.564      0.000      8.909      0.000      0.000      0.000      0.000     -0.001      0.000
OF    606.000     -9.561      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    608.000     -9.557      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    610.000     -9.554      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    612.000     -9.551      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    614.000     -9.548      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    618.000     -9.542      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
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OF    620.000     -9.538      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    624.000     -9.532      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    626.000     -9.529      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    630.000     -9.523      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    632.000     -9.519      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    636.000     -9.513      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    638.000     -9.510      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    642.000     -9.503      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    644.000     -9.500      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    648.000     -9.494      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    650.000     -9.491      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    654.000     -9.484      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    656.000     -9.481      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    660.000     -9.475      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    662.000     -9.472      0.000      8.909      0.000      0.000      0.000      0.000      0.025      0.000
OF    666.000     -9.323      0.000      8.909      0.000      0.000      0.000      0.000      0.042      0.000
OF    668.000     -9.221      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    672.000     -9.018      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    674.000     -8.916      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    678.000     -8.713      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    680.000     -8.611      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    684.000     -8.408      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    686.000     -8.306      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    690.000     -8.103      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    692.000     -8.001      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    696.000     -7.798      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    698.000     -7.696      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    702.000     -7.493      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    704.000     -7.392      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    708.000     -7.188      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    710.000     -7.087      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    714.000     -6.884      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    716.000     -6.782      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    720.000     -6.579      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    722.000     -6.477      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    732.000     -5.969      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    734.000     -5.867      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
OF    740.000     -5.562      0.000      8.909      0.000      0.000      0.000      0.000      0.029      0.000
OF    746.000     -5.518      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    748.000     -5.505      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    754.000     -5.465      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    758.000     -5.439      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    764.000     -5.399      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    766.000     -5.385      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    772.000     -5.345      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    776.000     -5.319      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    782.000     -5.279      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    784.000     -5.266      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    790.000     -5.226      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    794.000     -5.199      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    800.000     -5.159      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    802.000     -5.146      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    808.000     -5.106      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
OF    812.000     -5.079      0.000      8.909      0.000      0.000      0.000      0.000      0.005      0.000
OF    816.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
OF    820.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    826.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    830.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    834.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    838.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    842.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    846.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    852.000     -5.069      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    856.000     -5.069      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    860.000     -5.069      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    866.000     -5.069      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
OF    872.000     -5.067      0.000      8.909      0.000      0.000      0.000      0.000      0.001      0.000
OF    874.000     -5.059      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    880.000     -5.033      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    884.000     -5.016      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    890.000     -4.991      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    892.000     -4.983      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    898.000     -4.958      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    902.000     -4.941      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    908.000     -4.915      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    910.000     -4.907      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    916.000     -4.882      0.000      8.909      0.000      0.000      0.000      0.000      0.004      0.000
OF    920.000     -4.865      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    926.000     -4.840      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    928.000     -4.831      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    934.000     -4.806      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    938.000     -4.789      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    946.000     -4.755      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    952.000     -4.730      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    956.000     -4.713      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    964.000     -4.680      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    970.000     -4.654      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    974.000     -4.637      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    982.000     -4.604      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    988.000     -4.578      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF    992.000     -4.562      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF   1000.000     -4.528      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF   1006.000     -4.503      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF   1010.000     -4.486      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
OF   1018.000     -4.452      0.000      8.911      0.000      0.000      0.000      0.000      0.004      0.000
OF   1024.000     -4.427      0.000      8.911      0.000      0.000      0.000      0.000      0.004      0.000
OF   1028.000     -4.410      0.000      8.911      0.000      0.000      0.000      0.000      0.002      0.000
OF   1036.000     -4.405      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
OF   1042.000     -4.405      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
OF   1046.000     -4.405      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
OF   1054.000     -4.404      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
OF   1060.000     -4.403      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
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          OF   1064.000     -4.403      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1072.000     -4.402      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1078.000     -4.402      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1082.000     -4.402      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1090.000     -4.401      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1096.000     -4.400      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1100.000     -4.400      0.000      8.911      0.000      0.000      0.000      0.000      0.001      0.000
          OF   1108.000     -4.386      0.000      8.911      0.000      0.000      0.000      0.000      0.002      0.000
          OF   1114.000     -4.368      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          OF   1118.000     -4.355      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          OF   1126.000     -4.331      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          OF   1132.000     -4.312      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          OF   1136.000     -4.300      0.000      8.911      0.000      0.000      0.000      0.000      0.171      0.000
          OF   1154.000     -0.547      0.000      8.911      0.000      0.000      0.000      0.000      0.200      0.000
          OF   1156.000     -0.296      0.000      8.911      0.000      0.000      0.000      0.000     -0.004      0.000
          OF   1290.000     -1.114      0.000      8.911      0.000      0.000      0.000      0.000     -0.006      0.000
          OF   1292.000     -1.086      0.000      8.911      0.000      0.000      0.000      0.000     -0.008      0.000
          OF   1342.000     -1.538      0.000      8.911      0.000      0.000      0.000      0.000     -0.009      0.000
          OF   1344.000     -1.573      0.000      8.911      0.000      0.000      0.000      0.000     -0.030      0.000
          OF   1386.000     -2.877      0.000      8.911      0.000      0.000      0.000      0.000     -0.034      0.000
          OF   1388.000     -3.090      0.000      8.911      0.000      0.000      0.000      0.000     -0.027      0.000
          OF   1410.000     -3.526      0.000      8.911      0.000      0.000      0.000      0.000     -0.033      0.000
          OF   1436.000     -4.677      0.000      8.911      0.000      0.000      0.000      0.000     -0.047      0.000
          OF   1442.000     -5.022      0.000      8.911      0.000      0.000      0.000      0.000     -0.045      0.000
          OF   1444.000     -5.039      0.000      8.911      0.000      0.000      0.000      0.000      0.008      0.000
          OF   1452.000     -4.943      0.000      8.911      0.000      0.000      0.000      0.000      0.004      0.000
          OF   1456.000     -4.990      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          OF   1462.000     -4.917      0.000      8.911      0.000      0.000      0.000      0.000      0.014      0.000
          OF   1464.000     -4.881      0.000      8.911      0.000      0.000      0.000      0.000      0.022      0.000
          OF   1472.000     -4.696      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1478.000     -4.880      0.000      8.911      0.000      0.000      0.000      0.000     -0.023      0.000
          OF   1480.000     -4.880      0.000      8.911      0.000      0.000      0.000      0.000      0.005      0.000
          OF   1494.000     -4.796      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          OF   1496.000     -4.837      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          OF   1504.000     -4.800      0.000      8.911      0.000      0.000      0.000      0.000      0.013      0.000
          OF   1514.000     -4.608      0.000      8.911      0.000      0.000      0.000      0.000      0.022      0.000
          OF   1516.000     -4.535      0.000      8.911      0.000      0.000      0.000      0.000      0.012      0.000
          OF   1530.000     -4.420      0.000      8.911      0.000      0.000      0.000      0.000      0.008      0.000
          OF   1532.000     -4.403      0.000      8.911      0.000      0.000      0.000      0.000      0.016      0.000
          OF   1540.000     -4.262      0.000      8.911      0.000      0.000      0.000      0.000      0.009      0.000
          OF   1542.000     -4.318      0.000      8.911      0.000      0.000      0.000      0.000     -0.001      0.000
          OF   1556.000     -4.278      0.000      8.912      0.000      0.000      0.000      0.000      0.002      0.000
          OF   1558.000     -4.287      0.000      8.912      0.000      0.000      0.000      0.000      0.027      0.000
          OF   1570.000     -3.894      0.000      8.912      0.000      0.000      0.000      0.000      0.022      0.000
          OF   1574.000     -3.939      0.000      8.912      0.000      0.000      0.000      0.000     -0.006      0.000
          OF   1598.000     -4.060      0.000      8.912      0.000      0.000      0.000      0.000     -0.004      0.000
          OF   1600.000     -4.057      0.000      8.912      0.000      0.000      0.000      0.000     -0.005      0.000
          OF   1618.000     -4.151      0.000      8.912      0.000      0.000      0.000      0.000     -0.002      0.000
          OF   1620.000     -4.101      0.000      8.912      0.000      0.000      0.000      0.000      0.034      0.000
          OF   1628.000     -3.816      0.000      8.912      0.000      0.000      0.000      0.000      0.019      0.000
          OF   1696.000     -2.658      0.000      8.913      0.000      0.000      0.000      0.000      0.042      0.000
          IF   1842.000      5.199      0.000      8.913      0.000      0.000      0.000      0.000      0.062      0.000
          IF   1847.100      6.656      0.000      8.921      0.000      0.000      0.000      0.000      0.377      0.000
          IF   1850.400      8.363      0.000      9.187      0.000      0.000      0.000      0.000      0.506      0.000
          IF   1852.100      9.187      0.000      9.187      0.000      0.000      0.000      0.000      0.485      0.000
          ET      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
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            END        END      FETCH SURGE ELEV SURGE ELEV    INITIAL    INITIAL              BOTTOM    AVERAGE
        STATION  ELEVATION     LENGTH    10-YEAR   100-YEAR WAVE HEIGHT  W. PERIOD              SLOPE    A-ZONES
  IE      0.000    -20.327      1.000      1.000      8.906      4.392      4.952     56.140      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF      2.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF      4.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF      6.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF      8.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     10.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     12.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     14.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     16.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     18.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     20.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     22.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     24.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     26.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
  OF     28.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
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          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     30.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     32.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     34.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     36.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     38.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     40.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     42.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     44.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     46.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     48.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     50.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     52.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     54.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     56.000    -20.327      0.000      8.906      0.000      0.000      0.000      0.000      0.038      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     58.000    -20.175      0.000      8.906      0.000      0.000      0.000      0.000      0.089      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     60.000    -19.970      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     62.000    -19.765      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     64.000    -19.561      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     66.000    -19.356      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     68.000    -19.151      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     70.000    -18.946      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     72.000    -18.741      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     74.000    -18.536      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     76.000    -18.331      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     78.000    -18.127      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     80.000    -17.922      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     82.000    -17.717      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     84.000    -17.512      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     86.000    -17.307      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     88.000    -17.102      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     90.000    -16.897      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     92.000    -16.692      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     94.000    -16.488      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     96.000    -16.283      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
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          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     98.000    -16.078      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    100.000    -15.873      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    102.000    -15.668      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    104.000    -15.463      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    106.000    -15.258      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    108.000    -15.053      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    110.000    -14.849      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    112.000    -14.644      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    114.000    -14.439      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    116.000    -14.234      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    118.000    -14.029      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    120.000    -13.824      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    122.000    -13.619      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    124.000    -13.415      0.000      8.906      0.000      0.000      0.000      0.000      0.102      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    126.000    -13.211      0.000      8.907      0.000      0.000      0.000      0.000      0.056      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    128.000    -13.190      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    130.000    -13.169      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    132.000    -13.148      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    134.000    -13.127      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    136.000    -13.106      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    138.000    -13.085      0.000      8.907      0.000      0.000      0.000      0.000      0.011      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    140.000    -13.063      0.000      8.907      0.000      0.000      0.000      0.000      0.011      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    142.000    -13.042      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    144.000    -13.021      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    146.000    -13.000      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    148.000    -12.979      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    150.000    -12.958      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    152.000    -12.937      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    154.000    -12.916      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    156.000    -12.895      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    158.000    -12.874      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    160.000    -12.853      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    162.000    -12.832      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    164.000    -12.811      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
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           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     166.000    -12.790      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     168.000    -12.769      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     170.000    -12.748      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     172.000    -12.727      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     174.000    -12.706      0.000      8.907      0.000      0.000      0.000      0.000      0.010      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     176.000    -12.685      0.000      8.907      0.000      0.000      0.000      0.000      0.012      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     178.000    -12.660      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     180.000    -12.631      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     182.000    -12.602      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     184.000    -12.573      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     186.000    -12.545      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     188.000    -12.516      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     190.000    -12.487      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     192.000    -12.458      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     194.000    -12.429      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     196.000    -12.400      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     198.000    -12.371      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     200.000    -12.343      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     202.000    -12.314      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     204.000    -12.285      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     206.000    -12.256      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     208.000    -12.227      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     210.000    -12.198      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     212.000    -12.169      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     214.000    -12.141      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     216.000    -12.112      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     218.000    -12.083      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     220.000    -12.054      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     222.000    -12.025      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     224.000    -11.996      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     226.000    -11.967      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     228.000    -11.939      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     230.000    -11.910      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
           END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
       STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF     232.000    -11.881      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
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          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    234.000    -11.852      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    236.000    -11.823      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    238.000    -11.794      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    240.000    -11.765      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    242.000    -11.737      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    244.000    -11.708      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    246.000    -11.679      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    248.000    -11.650      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    250.000    -11.621      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    252.000    -11.592      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    254.000    -11.563      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    256.000    -11.535      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    258.000    -11.506      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    260.000    -11.477      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    262.000    -11.448      0.000      8.907      0.000      0.000      0.000      0.000      0.014      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    264.000    -11.419      0.000      8.907      0.000      0.000      0.000      0.000      0.013      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    266.000    -11.395      0.000      8.907      0.000      0.000      0.000      0.000      0.008      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    268.000    -11.387      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    270.000    -11.380      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    272.000    -11.372      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    274.000    -11.364      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    276.000    -11.356      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    278.000    -11.349      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    280.000    -11.341      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    282.000    -11.333      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    284.000    -11.326      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    286.000    -11.318      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    288.000    -11.310      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    290.000    -11.302      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    292.000    -11.295      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    294.000    -11.287      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    296.000    -11.279      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    298.000    -11.271      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    300.000    -11.264      0.000      8.907      0.000      0.000      0.000      0.000      0.004      0.000
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         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   302.000   -11.256     0.000     8.907     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   304.000   -11.248     0.000     8.907     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   306.000   -11.240     0.000     8.907     0.000     0.000     0.000     0.000     0.012     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   308.000   -11.201     0.000     8.907     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   310.000   -11.161     0.000     8.907     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   312.000   -11.121     0.000     8.907     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   314.000   -11.080     0.000     8.907     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   316.000   -11.040     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   318.000   -11.000     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   320.000   -10.960     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   322.000   -10.920     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   324.000   -10.880     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   326.000   -10.840     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   328.000   -10.800     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   330.000   -10.760     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   332.000   -10.720     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   334.000   -10.680     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   336.000   -10.640     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   338.000   -10.599     0.000     8.908     0.000     0.000     0.000     0.000     0.020     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   340.000   -10.559     0.000     8.908     0.000     0.000     0.000     0.000     0.021     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   342.000   -10.517     0.000     8.908     0.000     0.000     0.000     0.000     0.042     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   344.000   -10.392     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   346.000   -10.266     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   348.000   -10.141     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   350.000   -10.015     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   354.000    -9.764     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   356.000    -9.639     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   360.000    -9.388     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   362.000    -9.262     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   366.000    -9.012     0.000     8.908     0.000     0.000     0.000     0.000     0.063     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   368.000    -8.886     0.000     8.908     0.000     0.000     0.000     0.000    -0.002     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   592.000    -9.511     0.000     8.909     0.000     0.000     0.000     0.000    -0.003     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   594.000    -9.520     0.000     8.909     0.000     0.000     0.000     0.000    -0.005     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   596.000    -9.530     0.000     8.909     0.000     0.000     0.000     0.000    -0.005     0.000
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          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    598.000     -9.539      0.000      8.909      0.000      0.000      0.000      0.000     -0.005      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    600.000     -9.549      0.000      8.909      0.000      0.000      0.000      0.000     -0.005      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    602.000     -9.558      0.000      8.909      0.000      0.000      0.000      0.000     -0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    604.000     -9.564      0.000      8.909      0.000      0.000      0.000      0.000     -0.001      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    606.000     -9.561      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    608.000     -9.557      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    610.000     -9.554      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    612.000     -9.551      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    614.000     -9.548      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    618.000     -9.542      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    620.000     -9.538      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    624.000     -9.532      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    626.000     -9.529      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    630.000     -9.523      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    632.000     -9.519      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    636.000     -9.513      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    638.000     -9.510      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    642.000     -9.503      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    644.000     -9.500      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    648.000     -9.494      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    650.000     -9.491      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    654.000     -9.484      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    656.000     -9.481      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    660.000     -9.475      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    662.000     -9.472      0.000      8.909      0.000      0.000      0.000      0.000      0.025      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    666.000     -9.323      0.000      8.909      0.000      0.000      0.000      0.000      0.042      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    668.000     -9.221      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    672.000     -9.018      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    674.000     -8.916      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    678.000     -8.713      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    680.000     -8.611      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    684.000     -8.408      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    686.000     -8.306      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                 SLOPE    A-ZONES
OF    690.000     -8.103      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
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          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    692.000     -8.001      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    696.000     -7.798      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    698.000     -7.696      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    702.000     -7.493      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    704.000     -7.392      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    708.000     -7.188      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    710.000     -7.087      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    714.000     -6.884      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    716.000     -6.782      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    720.000     -6.579      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    722.000     -6.477      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    732.000     -5.969      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    734.000     -5.867      0.000      8.909      0.000      0.000      0.000      0.000      0.051      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    740.000     -5.562      0.000      8.909      0.000      0.000      0.000      0.000      0.029      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    746.000     -5.518      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    748.000     -5.505      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    754.000     -5.465      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    758.000     -5.439      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    764.000     -5.399      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    766.000     -5.385      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    772.000     -5.345      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    776.000     -5.319      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    782.000     -5.279      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    784.000     -5.266      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    790.000     -5.226      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    794.000     -5.199      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    800.000     -5.159      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    802.000     -5.146      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    808.000     -5.106      0.000      8.909      0.000      0.000      0.000      0.000      0.007      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    812.000     -5.079      0.000      8.909      0.000      0.000      0.000      0.000      0.005      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    816.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    820.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    826.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF    830.000     -5.068      0.000      8.909      0.000      0.000      0.000      0.000      0.000      0.000
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         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   834.000    -5.068     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   838.000    -5.068     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   842.000    -5.068     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   846.000    -5.068     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   852.000    -5.069     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   856.000    -5.069     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   860.000    -5.069     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   866.000    -5.069     0.000     8.909     0.000     0.000     0.000     0.000     0.000     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   872.000    -5.067     0.000     8.909     0.000     0.000     0.000     0.000     0.001     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   874.000    -5.059     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   880.000    -5.033     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   884.000    -5.016     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   890.000    -4.991     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   892.000    -4.983     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   898.000    -4.958     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   902.000    -4.941     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   908.000    -4.915     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   910.000    -4.907     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   916.000    -4.882     0.000     8.909     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   920.000    -4.865     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   926.000    -4.840     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   928.000    -4.831     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   934.000    -4.806     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   938.000    -4.789     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   946.000    -4.755     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   952.000    -4.730     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   956.000    -4.713     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   964.000    -4.680     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   970.000    -4.654     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   974.000    -4.637     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   982.000    -4.604     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   988.000    -4.578     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF   992.000    -4.562     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
         END       END NEW SURGE NEW SURGE                                            BOTTOM   AVERAGE
     STATION ELEVATION   10-YEAR  100-YEAR                                             SLOPE   A-ZONES
OF  1000.000    -4.528     0.000     8.910     0.000     0.000     0.000     0.000     0.004     0.000
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          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1006.000     -4.503      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1010.000     -4.486      0.000      8.910      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1018.000     -4.452      0.000      8.911      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1024.000     -4.427      0.000      8.911      0.000      0.000      0.000      0.000      0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1028.000     -4.410      0.000      8.911      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1036.000     -4.405      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1042.000     -4.405      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1046.000     -4.405      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1054.000     -4.404      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1060.000     -4.403      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1064.000     -4.403      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1072.000     -4.402      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1078.000     -4.402      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1082.000     -4.402      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1090.000     -4.401      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1096.000     -4.400      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1100.000     -4.400      0.000      8.911      0.000      0.000      0.000      0.000      0.001      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1108.000     -4.386      0.000      8.911      0.000      0.000      0.000      0.000      0.002      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1114.000     -4.368      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1118.000     -4.355      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1126.000     -4.331      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1132.000     -4.312      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1136.000     -4.300      0.000      8.911      0.000      0.000      0.000      0.000      0.171      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1154.000     -0.547      0.000      8.911      0.000      0.000      0.000      0.000      0.200      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1156.000     -0.296      0.000      8.911      0.000      0.000      0.000      0.000     -0.004      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1290.000     -1.114      0.000      8.911      0.000      0.000      0.000      0.000     -0.006      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1292.000     -1.086      0.000      8.911      0.000      0.000      0.000      0.000     -0.008      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1342.000     -1.538      0.000      8.911      0.000      0.000      0.000      0.000     -0.009      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1344.000     -1.573      0.000      8.911      0.000      0.000      0.000      0.000     -0.030      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1386.000     -2.877      0.000      8.911      0.000      0.000      0.000      0.000     -0.034      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1388.000     -3.090      0.000      8.911      0.000      0.000      0.000      0.000     -0.027      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1410.000     -3.526      0.000      8.911      0.000      0.000      0.000      0.000     -0.033      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1436.000     -4.677      0.000      8.911      0.000      0.000      0.000      0.000     -0.047      0.000
          END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
      STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
OF   1442.000     -5.022      0.000      8.911      0.000      0.000      0.000      0.000     -0.045      0.000
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            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1444.000     -5.039      0.000      8.911      0.000      0.000      0.000      0.000      0.008      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1452.000     -4.943      0.000      8.911      0.000      0.000      0.000      0.000      0.004      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1456.000     -4.990      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1462.000     -4.917      0.000      8.911      0.000      0.000      0.000      0.000      0.014      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1464.000     -4.881      0.000      8.911      0.000      0.000      0.000      0.000      0.022      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1472.000     -4.696      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1478.000     -4.880      0.000      8.911      0.000      0.000      0.000      0.000     -0.023      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1480.000     -4.880      0.000      8.911      0.000      0.000      0.000      0.000      0.005      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1494.000     -4.796      0.000      8.911      0.000      0.000      0.000      0.000      0.003      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1496.000     -4.837      0.000      8.911      0.000      0.000      0.000      0.000      0.000      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1504.000     -4.800      0.000      8.911      0.000      0.000      0.000      0.000      0.013      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1514.000     -4.608      0.000      8.911      0.000      0.000      0.000      0.000      0.022      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1516.000     -4.535      0.000      8.911      0.000      0.000      0.000      0.000      0.012      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1530.000     -4.420      0.000      8.911      0.000      0.000      0.000      0.000      0.008      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1532.000     -4.403      0.000      8.911      0.000      0.000      0.000      0.000      0.016      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1540.000     -4.262      0.000      8.911      0.000      0.000      0.000      0.000      0.009      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1542.000     -4.318      0.000      8.911      0.000      0.000      0.000      0.000     -0.001      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1556.000     -4.278      0.000      8.912      0.000      0.000      0.000      0.000      0.002      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1558.000     -4.287      0.000      8.912      0.000      0.000      0.000      0.000      0.027      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1570.000     -3.894      0.000      8.912      0.000      0.000      0.000      0.000      0.022      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1574.000     -3.939      0.000      8.912      0.000      0.000      0.000      0.000     -0.006      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1598.000     -4.060      0.000      8.912      0.000      0.000      0.000      0.000     -0.004      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1600.000     -4.057      0.000      8.912      0.000      0.000      0.000      0.000     -0.005      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1618.000     -4.151      0.000      8.912      0.000      0.000      0.000      0.000     -0.002      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1620.000     -4.101      0.000      8.912      0.000      0.000      0.000      0.000      0.034      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1628.000     -3.816      0.000      8.912      0.000      0.000      0.000      0.000      0.019      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  OF   1696.000     -2.658      0.000      8.913      0.000      0.000      0.000      0.000      0.042      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  IF   1842.000      5.199      0.000      8.913      0.000      0.000      0.000      0.000      0.062      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  IF   1847.100      6.656      0.000      8.921      0.000      0.000      0.000      0.000      0.377      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  IF   1850.400      8.363      0.000      9.187      0.000      0.000      0.000      0.000      0.506      0.000
            END        END  NEW SURGE  NEW SURGE                                                 BOTTOM    AVERAGE
        STATION  ELEVATION    10-YEAR   100-YEAR                                                  SLOPE    A-ZONES
  IF   1852.100      9.187      0.000      9.187      0.000      0.000      0.000      0.000      0.485      0.000
  ------------------------------------------------END OF TRANSECT-------------------------------------------------
  NOTE:
  SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.
1
                                                PART2: CONTROLLING WAVE HEIGHTS, SPECTRAL
                                                       PEAK WAVE PERIOD, AND WAVE CREST ELEVATIONS
                                          LOCATION        CONTROLLING  SPECTRAL PEAK   WAVE CREST
                                                          WAVE HEIGHT  WAVE PERIOD     ELEVATION
                                        IE       0.00         4.39         4.95        11.98
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OF       2.00         4.39         4.95        11.98
OF       4.00         4.39         4.95        11.98
OF       6.00         4.39         4.95        11.98
OF       8.00         4.39         4.95        11.98
OF      10.00         4.40         4.95        11.98
OF      12.00         4.40         4.95        11.98
OF      14.00         4.40         4.95        11.98
OF      16.00         4.40         4.95        11.98
OF      18.00         4.40         4.95        11.98
OF      20.00         4.40         4.95        11.99
OF      22.00         4.40         4.95        11.99
OF      24.00         4.40         4.95        11.99
OF      26.00         4.40         4.95        11.99
OF      28.00         4.40         4.95        11.99
OF      30.00         4.40         4.95        11.99
OF      32.00         4.40         4.95        11.99
OF      34.00         4.40         4.95        11.99
OF      36.00         4.40         4.95        11.99
OF      38.00         4.40         4.95        11.99
OF      40.00         4.41         4.95        11.99
OF      42.00         4.41         4.95        11.99
OF      44.00         4.41         4.95        11.99
OF      46.00         4.41         4.95        11.99
OF      48.00         4.41         4.95        11.99
OF      50.00         4.41         4.95        11.99
OF      52.00         4.41         4.95        11.99
OF      54.00         4.41         4.95        11.99
OF      56.00         4.41         4.95        11.99
OF      58.00         4.41         4.95        11.99
OF      60.00         4.41         4.95        11.99
OF      62.00         4.40         4.95        11.99
OF      64.00         4.40         4.95        11.99
OF      66.00         4.40         4.95        11.99
OF      68.00         4.40         4.95        11.99
OF      70.00         4.40         4.95        11.98
OF      72.00         4.39         4.95        11.98
OF      74.00         4.39         4.95        11.98
OF      76.00         4.39         4.95        11.98
OF      78.00         4.39         4.95        11.98
OF      80.00         4.39         4.95        11.98
OF      82.00         4.39         4.96        11.98
OF      84.00         4.38         4.96        11.97
OF      86.00         4.38         4.96        11.97
OF      88.00         4.38         4.96        11.97
OF      90.00         4.38         4.96        11.97
OF      92.00         4.38         4.96        11.97
OF      94.00         4.38         4.96        11.97
OF      96.00         4.38         4.96        11.97
OF      98.00         4.37         4.96        11.97
OF     100.00         4.37         4.96        11.97
OF     102.00         4.37         4.96        11.97
OF     104.00         4.37         4.96        11.97
OF     106.00         4.37         4.96        11.96
OF     108.00         4.37         4.96        11.96
OF     110.00         4.37         4.96        11.96
OF     112.00         4.37         4.96        11.96
OF     114.00         4.37         4.96        11.96
OF     116.00         4.37         4.96        11.96
OF     118.00         4.37         4.96        11.96
OF     120.00         4.37         4.96        11.96
OF     122.00         4.37         4.96        11.96
OF     124.00         4.37         4.96        11.96
OF     126.00         4.36         4.96        11.96
OF     128.00         4.37         4.96        11.96
OF     130.00         4.37         4.96        11.96
OF     132.00         4.37         4.96        11.96
OF     134.00         4.37         4.96        11.96
OF     136.00         4.37         4.96        11.96
OF     138.00         4.37         4.96        11.96
OF     140.00         4.37         4.96        11.97
OF     142.00         4.37         4.96        11.97
OF     144.00         4.37         4.96        11.97
OF     146.00         4.37         4.96        11.97
OF     148.00         4.37         4.96        11.97
OF     150.00         4.37         4.96        11.97
OF     152.00         4.37         4.96        11.97
OF     154.00         4.37         4.96        11.97
OF     156.00         4.37         4.96        11.97
OF     158.00         4.37         4.96        11.97
OF     160.00         4.38         4.96        11.97
OF     162.00         4.38         4.96        11.97
OF     164.00         4.38         4.96        11.97
OF     166.00         4.38         4.96        11.97
OF     168.00         4.38         4.96        11.97
OF     170.00         4.38         4.96        11.97
OF     172.00         4.38         4.96        11.97
OF     174.00         4.38         4.96        11.97
OF     176.00         4.38         4.96        11.97
OF     178.00         4.38         4.96        11.97
OF     180.00         4.38         4.96        11.97
OF     182.00         4.38         4.96        11.97
OF     184.00         4.38         4.96        11.97
OF     186.00         4.38         4.96        11.98
OF     188.00         4.38         4.96        11.98
OF     190.00         4.38         4.96        11.98
OF     192.00         4.38         4.96        11.98
OF     194.00         4.39         4.96        11.98
OF     196.00         4.39         4.96        11.98
OF     198.00         4.39         4.96        11.98
OF     200.00         4.39         4.96        11.98
OF     202.00         4.39         4.96        11.98
OF     204.00         4.39         4.96        11.98
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OF	206.00	4.39	4.96	11.98
OF	208.00	4.39	4.96	11.98
OF	210.00	4.39	4.96	11.98
OF	212.00	4.39	4.96	11.98
OF	214.00	4.39	4.96	11.98
OF	216.00	4.39	4.96	11.98
OF	218.00	4.39	4.96	11.98
OF	220.00	4.39	4.96	11.98
OF	222.00	4.39	4.96	11.98
OF	224.00	4.39	4.96	11.98
OF	226.00	4.40	4.96	11.98
OF	228.00	4.40	4.96	11.98
OF	230.00	4.40	4.96	11.98
OF	232.00	4.40	4.96	11.99
OF	234.00	4.40	4.96	11.99
OF	236.00	4.40	4.96	11.99
OF	238.00	4.40	4.96	11.99
OF	240.00	4.40	4.96	11.99
OF	242.00	4.40	4.96	11.99
OF	244.00	4.40	4.96	11.99
OF	246.00	4.40	4.96	11.99
OF	248.00	4.40	4.96	11.99
OF	250.00	4.40	4.96	11.99
OF	252.00	4.40	4.96	11.99
OF	254.00	4.41	4.96	11.99
OF	256.00	4.41	4.96	11.99
OF	258.00	4.41	4.96	11.99
OF	260.00	4.41	4.96	11.99
OF	262.00	4.41	4.96	11.99
OF	264.00	4.41	4.96	11.99
OF	266.00	4.41	4.96	11.99
OF	268.00	4.41	4.96	11.99
OF	270.00	4.41	4.96	11.99
OF	272.00	4.41	4.96	11.99
OF	274.00	4.41	4.96	12.00
OF	276.00	4.41	4.96	12.00
OF	278.00	4.41	4.96	12.00
OF	280.00	4.41	4.96	12.00
OF	282.00	4.41	4.96	12.00
OF	284.00	4.42	4.96	12.00
OF	286.00	4.42	4.96	12.00
OF	288.00	4.42	4.96	12.00
OF	290.00	4.42	4.96	12.00
OF	292.00	4.42	4.96	12.00
OF	294.00	4.42	4.96	12.00
OF	296.00	4.42	4.96	12.00
OF	298.00	4.42	4.96	12.00
OF	300.00	4.42	4.96	12.00
OF	302.00	4.42	4.96	12.00
OF	304.00	4.42	4.96	12.00
OF	306.00	4.42	4.96	12.00
OF	308.00	4.42	4.96	12.00
OF	310.00	4.42	4.96	12.00
OF	312.00	4.42	4.96	12.00
OF	314.00	4.43	4.96	12.00
OF	316.00	4.43	4.96	12.01
OF	318.00	4.43	4.96	12.01
OF	320.00	4.43	4.96	12.01
OF	322.00	4.43	4.96	12.01
OF	324.00	4.43	4.96	12.01
OF	326.00	4.43	4.96	12.01
OF	328.00	4.43	4.96	12.01
OF	330.00	4.43	4.96	12.01
OF	332.00	4.43	4.96	12.01
OF	334.00	4.43	4.96	12.01
OF	336.00	4.43	4.96	12.01
OF	338.00	4.44	4.96	12.01
OF	340.00	4.44	4.96	12.01
OF	342.00	4.44	4.96	12.01
OF	344.00	4.44	4.96	12.01
OF	346.00	4.44	4.96	12.02
OF	348.00	4.44	4.96	12.02
OF	350.00	4.44	4.96	12.02
OF	354.00	4.45	4.96	12.02
OF	356.00	4.45	4.96	12.02
OF	360.00	4.45	4.97	12.02
OF	362.00	4.45	4.97	12.03
OF	366.00	4.46	4.97	12.03
OF	368.00	4.46	4.97	12.03
	524.80	4.50	4.97	12.06
OF	592.00	4.52	4.97	12.07
OF	594.00	4.52	4.97	12.07
OF	596.00	4.52	4.97	12.07
OF	598.00	4.52	4.97	12.07
OF	600.00	4.52	4.97	12.07
OF	602.00	4.52	4.97	12.07
OF	604.00	4.52	4.97	12.08
OF	606.00	4.52	4.97	12.08
OF	608.00	4.52	4.97	12.08
OF	610.00	4.52	4.97	12.08
OF	612.00	4.53	4.97	12.08
OF	614.00	4.53	4.97	12.08
OF	618.00	4.53	4.97	12.08
OF	620.00	4.53	4.97	12.08
OF	624.00	4.53	4.97	12.08
OF	626.00	4.53	4.97	12.08
OF	630.00	4.53	4.97	12.08
OF	632.00	4.53	4.97	12.08
OF	636.00	4.53	4.97	12.08
OF	638.00	4.53	4.97	12.08
OF	642.00	4.53	4.98	12.08
OF	644.00	4.54	4.98	12.08

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OF     648.00          4.54          4.98         12.08
OF     650.00          4.54          4.98         12.09
OF     654.00          4.54          4.98         12.09
OF     656.00          4.54          4.98         12.09
OF     660.00          4.54          4.98         12.09
OF     662.00          4.54          4.98         12.09
OF     666.00          4.54          4.98         12.09
OF     668.00          4.55          4.98         12.09
OF     672.00          4.55          4.98         12.09
OF     674.00          4.55          4.98         12.10
OF     678.00          4.56          4.98         12.10
OF     680.00          4.56          4.98         12.10
OF     684.00          4.56          4.98         12.10
OF     686.00          4.56          4.98         12.10
OF     690.00          4.57          4.98         12.11
OF     692.00          4.57          4.98         12.11
OF     696.00          4.58          4.98         12.11
OF     698.00          4.58          4.98         12.11
OF     702.00          4.58          4.98         12.12
OF     704.00          4.59          4.98         12.12
OF     708.00          4.59          4.98         12.12
OF     710.00          4.60          4.98         12.13
OF     714.00          4.60          4.98         12.13
OF     716.00          4.61          4.98         12.13
OF     720.00          4.61          4.98         12.14
OF     722.00          4.62          4.98         12.14
OF     732.00          4.63          4.98         12.15
OF     734.00          4.64          4.98         12.16
OF     740.00          4.65          4.98         12.16
OF     746.00          4.65          4.98         12.17
OF     748.00          4.65          4.98         12.17
OF     754.00          4.66          4.98         12.17
OF     758.00          4.66          4.98         12.17
OF     764.00          4.66          4.98         12.17
OF     766.00          4.66          4.98         12.17
OF     772.00          4.67          4.98         12.18
OF     776.00          4.67          4.98         12.18
OF     782.00          4.67          4.98         12.18
OF     784.00          4.67          4.98         12.18
OF     790.00          4.68          4.98         12.18
OF     794.00          4.68          4.98         12.18
OF     800.00          4.68          4.98         12.19
OF     802.00          4.68          4.98         12.19
OF     808.00          4.69          4.98         12.19
OF     812.00          4.69          4.98         12.19
OF     816.00          4.69          4.98         12.19
OF     820.00          4.69          4.98         12.19
OF     826.00          4.69          4.98         12.19
OF     830.00          4.69          4.98         12.19
OF     834.00          4.69          4.98         12.19
OF     838.00          4.69          4.98         12.20
OF     842.00          4.70          4.98         12.20
OF     846.00          4.70          4.98         12.20
OF     852.00          4.70          4.98         12.20
OF     856.00          4.70          4.98         12.20
OF     860.00          4.70          4.98         12.20
OF     866.00          4.70          4.98         12.20
OF     872.00          4.70          4.98         12.20
OF     874.00          4.70          4.98         12.20
OF     880.00          4.71          4.98         12.20
OF     884.00          4.71          4.98         12.20
OF     890.00          4.71          4.98         12.21
OF     892.00          4.71          4.98         12.21
OF     898.00          4.71          4.98         12.21
OF     902.00          4.72          4.98         12.21
OF     908.00          4.72          4.98         12.21
OF     910.00          4.72          4.98         12.21
OF     916.00          4.72          4.98         12.21
OF     920.00          4.72          4.98         12.22
OF     926.00          4.73          4.98         12.22
OF     928.00          4.73          4.98         12.22
OF     934.00          4.73          4.99         12.22
OF     938.00          4.73          4.99         12.22
OF     946.00          4.74          4.99         12.22
OF     952.00          4.74          4.99         12.23
OF     956.00          4.74          4.99         12.23
OF     964.00          4.74          4.99         12.23
OF     970.00          4.75          4.99         12.23
OF     974.00          4.75          4.99         12.23
OF     982.00          4.75          4.99         12.24
OF     988.00          4.75          4.99         12.24
OF     992.00          4.76          4.99         12.24
OF    1000.00          4.76          4.99         12.24
OF    1006.00          4.76          4.99         12.24
OF    1010.00          4.76          4.99         12.24
OF    1018.00          4.77          4.99         12.25
OF    1024.00          4.77          4.99         12.25
OF    1028.00          4.77          4.99         12.25
OF    1036.00          4.77          4.99         12.25
OF    1042.00          4.77          4.99         12.25
OF    1046.00          4.78          4.99         12.25
OF    1054.00          4.78          4.99         12.26
OF    1060.00          4.78          4.99         12.26
OF    1064.00          4.78          4.99         12.26
OF    1072.00          4.78          4.99         12.26
OF    1078.00          4.78          4.99         12.26
OF    1082.00          4.78          4.99         12.26
OF    1090.00          4.79          4.99         12.26
OF    1096.00          4.79          4.99         12.26
OF    1100.00          4.79          4.99         12.26
OF    1108.00          4.79          4.99         12.26
OF    1114.00          4.79          4.99         12.27
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 OF    1118.00         4.79         4.99        12.27
 OF    1126.00         4.80         4.99        12.27
 OF    1132.00         4.80         4.99        12.27
 OF    1136.00         4.80         4.99        12.27
 OF    1154.00         5.09         4.99        12.48
 OF    1156.00         5.12         4.99        12.50
 OF    1290.00         5.05         5.00        12.45
 OF    1292.00         5.05         5.00        12.45
 OF    1342.00         5.02         5.00        12.42
 OF    1344.00         5.02         5.00        12.42
 OF    1386.00         4.92         5.00        12.36
 OF    1388.00         4.91         5.00        12.35
 OF    1410.00         4.89         5.00        12.33
 OF    1436.00         4.83         5.00        12.29
 OF    1442.00         4.82         5.00        12.28
 OF    1444.00         4.82         5.00        12.28
 OF    1452.00         4.82         5.00        12.29
 OF    1456.00         4.82         5.00        12.29
 OF    1462.00         4.83         5.00        12.29
 OF    1464.00         4.83         5.00        12.29
 OF    1472.00         4.84         5.00        12.30
 OF    1478.00         4.83         5.00        12.29
 OF    1480.00         4.83         5.00        12.29
 OF    1494.00         4.84         5.00        12.30
 OF    1496.00         4.84         5.00        12.30
 OF    1504.00         4.84         5.00        12.30
 OF    1514.00         4.85         5.00        12.31
 OF    1516.00         4.86         5.00        12.31
 OF    1530.00         4.87         5.00        12.32
 OF    1532.00         4.87         5.00        12.32
 OF    1540.00         4.88         5.00        12.32
 OF    1542.00         4.87         5.00        12.32
 OF    1556.00         4.88         5.01        12.33
 OF    1558.00         4.88         5.01        12.33
 OF    1570.00         4.90         5.01        12.34
 OF    1574.00         4.90         5.01        12.34
 OF    1598.00         4.90         5.01        12.34
 OF    1600.00         4.90         5.01        12.34
 OF    1618.00         4.90         5.01        12.34
 OF    1620.00         4.90         5.01        12.34
 OF    1628.00         4.92         5.01        12.36
 OF    1696.00         5.01         5.01        12.42
       1798.20         4.40         5.01        11.99
 IF    1842.00         2.77         5.01        10.85
 IF    1847.10         1.72         5.01        10.12
 IF    1850.40         0.64         5.01         9.63
 IF    1852.10         0.01         5.01         9.19
 PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE
 NO AREAS ABOVE 100-YEAR SURGE IN THIS TRANSECT
           PART4 LOCATION OF SURGE CHANGES
 STATION          10-YEAR SURGE          100-YEAR SURGE
 126.00                 1.00                 8.91
 316.00                 1.00                 8.91
 592.00                 1.00                 8.91
 920.00                 1.00                 8.91
1018.00                 1.00                 8.91
1556.00                 1.00                 8.91
1696.00                 1.00                 8.91
1847.10                 1.00                 8.92
1850.40                 1.00                 9.19
                PART5  LOCATION OF V ZONES
      STATION OF GUTTER          LOCATION OF ZONE
              1835.84               WINDWARD
            PART6 NUMBERED A ZONES AND V ZONES
 STATION OF GUTTER  ELEVATION  ZONE DESIGNATION   FHF
        0.00          11.98
                                   V22  EL=12     120
      124.00          11.96
                                   V22  EL=12     120
      126.00          11.96
                                   V22  EL=12     120
      314.00          12.00
                                   V22  EL=12     120
      316.00          12.01
                                   V22  EL=12     120
      368.00          12.03
                                   V22  EL=12     120
      592.00          12.07
                                   V22  EL=12     120
      916.00          12.21
                                   V22  EL=12     120
      920.00          12.22
                                   V22  EL=12     120
     1010.00          12.24
                                   V22  EL=12     120
     1018.00          12.25
                                   V22  EL=12     120
     1542.00          12.32
                                   V22  EL=12     120
     1556.00          12.33
                                   V22  EL=12     120
     1628.00          12.36
                                   V22  EL=12     120
     1696.00          12.42
                                   V22  EL=12     120
     1817.17          11.50
                                   V22  EL=11     120
     1835.84          11.01
                                   A19  EL=11      95
     1842.00          10.85
                                   A19  EL=11      95
     1844.47          10.50
```
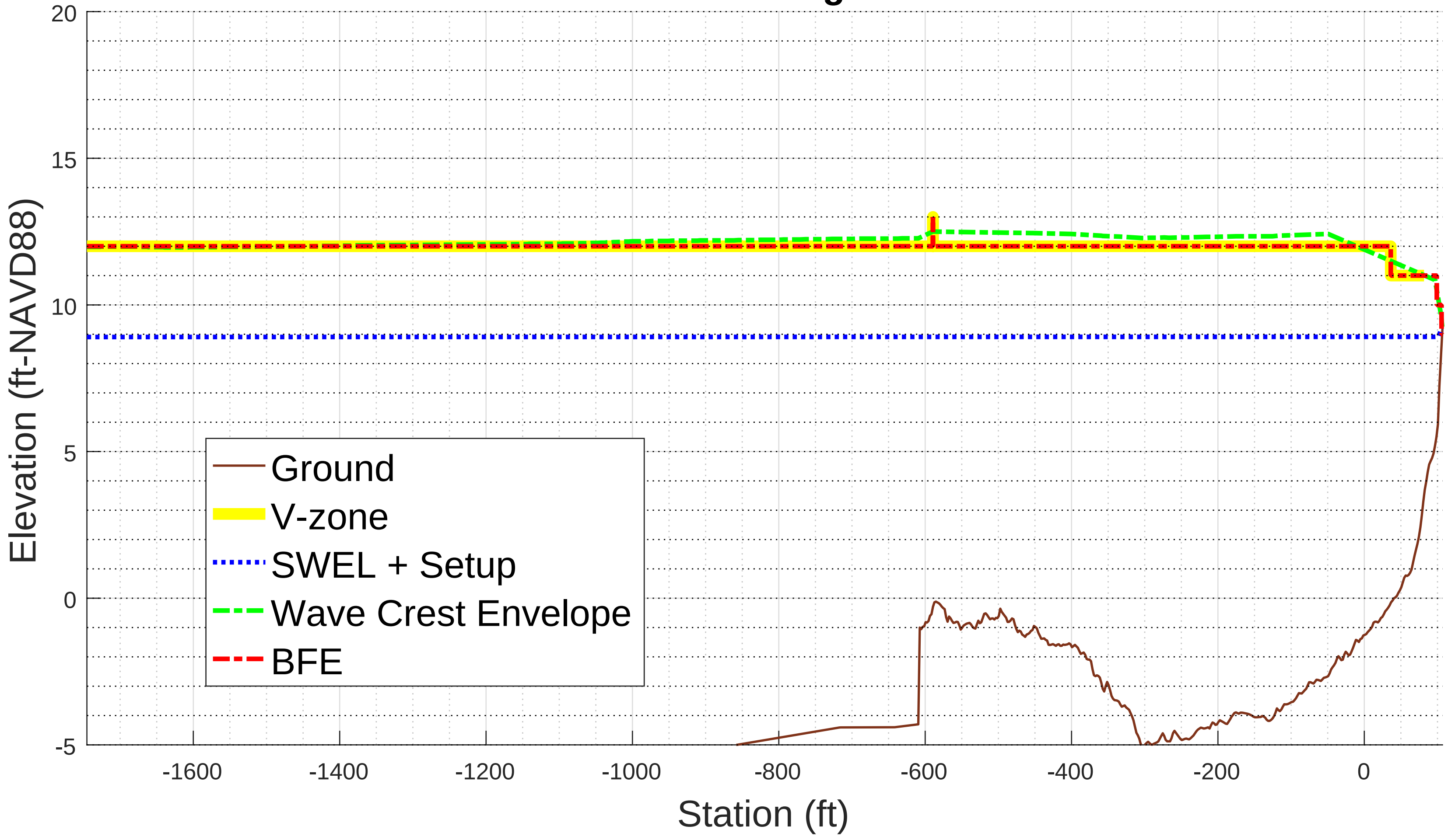
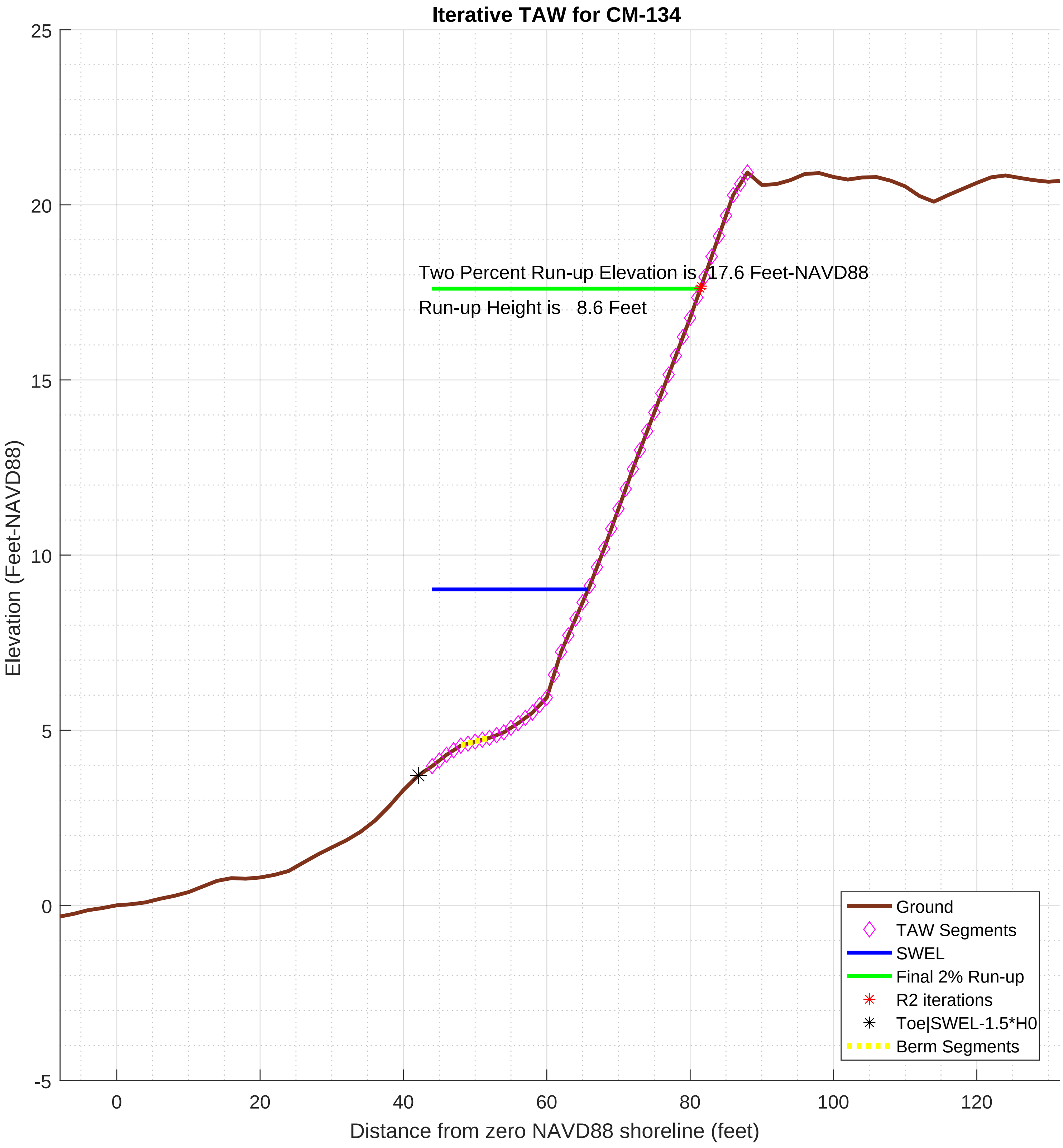

```
                                                                               A19  EL=10      95
                                                    1847.10          10.12
                                                                               A19  EL=10      95
                                                    1850.40           9.63
                                                                               A19  EL=10      95
                                                    1850.91           9.50
                                                                               A19  EL= 9      95
                                                    1852.10           9.19
                                                          ZONE TERMINATED AT END OF TRANSECT
                                                          PART 7   POSTSCRIPT NOTES
                                  PS#  1   START(423447.7822,4851162.7254)
                                  PS#  2   END(423759.8471,4851740.8291)
          -1.000000e+00
```

CM-134
100-year WHAFIS Output
Zero Station: -69.94870901, 43.81381062
Onshore Dir: 61.6 deg CCW from E




Iterative TAW for CM-134
Two Percent Run-up Elevation is 17.6 Feet-NAVD88
Run-up Height is 8.6 Feet
Elevation (Feet-NAVD88)
Distance from zero NAVD88 shoreline (feet)
25
20
15
10
5
0
-5
0
20
40
60
80
100
120
Ground
TAW Segments
SWEL
Final 2% Run-up
R2 iterations
Toe|SWEL-1.5*H0
Berm Segments

```
diary on         % begin recording

% FEMA appeal for The Town of Harpswell, Cumberland county, Maine
% TRANSECT ID: CM-134
% calculation by SJH, Ransom Consulting, Inc. 20-Feb-2020
% 100-year wave runup using TAW methodology
% including berm and weighted average with foreshore if necessary
%
% chk nld 20200220
%
% This script assumes that the incident wave conditions provided
% as input in the configuration section below are the
% appropriate values located at the end of the foreshore
% or toe of the slope on which the run-up is being calculated
% the script does not attempt to apply a depth limit or any other
% transformation to the incident wave conditions other than
% conversion of the peak wave period to the spectral mean wave
% as recommended in the references below
%
% references:
%
% Van der Meer, J.W., 2002. Technical Report Wave Run-up and
% Wave Overtopping at Dikes. TAW Technical Advisory Committee on
% Flood Defence, The Netherlands.
%
% FEMA. 2007,  Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update
%
%
%

%-----------------------------------------------------------------------
% CONFIG
%-----------------------------------------------------------------------
fname='inpfiles/CM-134sta_ele_include.csv';   % file with station, elevation, include
                                      % third colunm is 0 for excluded points
imgname='logfiles/CM-134-runup';
SWEL=8.9062;  % 100-yr still water level including wave setup.
H0=3.4461;    % significant wave height at toe of structure
Tp=4.9744;    % peak period, 1/fma,
T0=Tp/1.1;

gamma_berm=0.96945;   % this may get changed automatically below
gamma_rough=0.8;
gamma_beta=1;
gamma_perm=1;

setupAtToe=-0.028737;
maxSetup=0.28085;   % only used in case of berm/shallow foreshore weighted average

plotTitle='Iterative TAW for CM-134'

plotTitle =

Iterative TAW for CM-134



% END CONFIG
%-------------------------------

SWEL=SWEL+setupAtToe

SWEL =

                  8.877463

SWEL_fore=SWEL+maxSetup

SWEL_fore =

                  9.158313



% FIND WAVELENGTH USING DEEPWATER DISPERSION RELATION
% using English units
L0=32.15/(2*pi)*T0^2

L0 =

           104.63985953151


% Find Hb (Munk, 1949)
%Hb=H0/(3.3*(H0/L0)^(1/3))
%Db=-Hb/.78+SWEL;  % depth at breaking

% The toe elevation here is only used to determine the average
% structure slope, it is not used to depth limit the wave height.
% Any depth limiting or other modification of the wave height
```

```
% to make it consitent with TAW guidance should be performed
% prior to the input of the significant wave height given above.
Ztoe=SWEL-1.5*H0

Ztoe =

                  3.708313


% read the transect
[sta,dep,inc] = textread(fname,'%n%n%n%*[^\n]','delimiter',',','headerlines',0);

% remove unselected points
k=find(inc==0);
sta(k)=[];
dep(k)=[];

sta_org=sta;  % used for plotting purposes
dep_org=dep;


% initial guess at maximum run-up elevation to estimate slope
Z2=SWEL+1.5*H0

Z2 =

                 14.046613


% determine station at the max runup and -1.5*H0 (i.e. the toe)
top_sta=-999;
toe_sta=-999;
for kk=1:length(sta)-1
    if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
       top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
    end
    if  ((Ztoe > dep(kk)) & (Ztoe <= dep(kk+1)))    % here is the intersection of Ztoe with profile
       toe_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Ztoe)
    end
end

toe_sta =

          42.0902813852814


top_sta =

          74.9508498793839

% check to make sure we got them, if not extend the end slopes outward
S=diff(dep)./diff(sta);
if toe_sta==-999
   dy=dep(1)-Ztoe;
   toe_sta=sta(1)-dy/S(1)
end
if top_sta==-999
   dy=Z2-dep(end);
   top_sta=sta(end)+dy/S(end)
end

% just so the reader can tell the values aren't -999 anymore
top_sta

top_sta =

          74.9508498793839

toe_sta

toe_sta =

          42.0902813852814




% check for case where the toe of slope is below SWL-1.5*H0
% in this case interpolate setup from the setupAtToe(really setup as first station), and the max setup
% also un-include points seaward of SWL-1.5*H0
if Ztoe > dep(1)
   dd=SWEL_fore-dep;
   k=find(dd<0,1); % k is index of first land point
   staAtSWL=interp1(dep(k-1:k),sta(k-1:k),SWEL_fore);
   dsta=staAtSWL-sta(1);
   dsetup=maxSetup-setupAtToe;
   dsetdsta=dsetup/dsta;
   setup=setupAtToe+dsetdsta*(toe_sta-sta(1));
   sprintf('-!!- Location of SWEL-1.5*H0 is %4.1f ft landward of toe of slope',dsta)
   sprintf('-!!- Setup is interpolated between setup at toe of slope and max setup')
```

```
   sprintf('-!!-       setup is adjusted to %4.2f feet',setup)
   SWEL=SWEL-setupAtToe+setup;
   sprintf('-!!-       SWEL is adjusted to %4.2f feet',SWEL)
   k=find(dep < SWEL-1.5*H0)
   sta(k)=[];
   dep(k)=[];
else
   sprintf('-!!- The User has selected a starting point that is %4.2f feet above the elevation of SWEL-1.5H0\n',dep(1
   sprintf('-!!- This may be reasonable for some cases.  However the user may want to consider:\n')
   sprintf('-!!-   1) Selecting a starting point that is at or below %4.2f feet elevation, or\n', Ztoe)
   sprintf('-!!-   2) Reducing the incident wave height to a depth limited condition.\n')
end

ans =

-!!- Location of SWEL-1.5*H0 is 44.1 ft landward of toe of slope


ans =

-!!- Setup is interpolated between setup at toe of slope and max setup


ans =

-!!-       setup is adjusted to 0.11 feet


ans =

-!!-       SWEL is adjusted to 9.02 feet


k =

     1
     2
     3
     4
     5
     6
     7
     8
     9
    10
    11
    12
    13
    14
    15
    16
    17
    18
    19
    20
    21
    22




% now iterate converge on a runup elevation
tol=0.01;  % convergence criteria
R2del=999;
R2_new=3*H0; %initial guess
R2=R2_new;
iter=0;
R2_all=[];
topStaAll=[];
Berm_Segs=[];
TAW_ALWAYS_VALID=1;
while(abs(R2del) > tol && iter <= 25)
    iter=iter+1;
    sprintf ('!----------------- STARTING ITERATION %d -----------------!',iter)
    % elevation of toe of slope
    Ztoe
    % station of toe slope (relative to 0-NAVD88 shoreline
    toe_sta
    % station of top of slope/extent of 2% run-up
    top_sta
    % elevation of top of slope/extent of 2% run-up
    Z2
    % incident significant wave height
    H0
    % incident spectral peak wave period
    Tp
    % incident spectral mean wave period
    T0

    R2=R2_new
```

```
Z2=R2+SWEL
% determine slope for this iteration
top_sta=-999;
for kk=1:length(sta)-1
   if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
      top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
      break;
   end
end
if top_sta==-999
   dy=Z2-dep(end);
   top_sta=sta(end)+dy/S(end)
end

% get the length of the slope (not accounting for berm)
Lslope=top_sta-toe_sta

% loop over profile segments to determine berm factor
% re-calculate influence of depth of berm based on this run-up elevation
% check for berm, berm width, berm height
berm_width=0;
rdh_sum=0;
Berm_Segs=[];
Berm_Heights=[];
for kk=1:length(sta)-1
   ddep=dep(kk+1)-dep(kk);
   dsta=sta(kk+1)-sta(kk);
   s=ddep/dsta;
   if  (s < 1/15)     % count it as a berm if slope is flatter than 1:15 (see TAW manual)
      sprintf (’Berm Factor Calculation: Iteration %d, Profile Segment: %d’,iter,kk)
      berm_width=berm_width+dsta;   % tally the width of all berm segments
      % compute the rdh for this segment and weight it by the segment length
      dh=SWEL-(dep(kk)+dep(kk+1))/2
      if  dh < 0
          chi=R2;
      else
          chi=2* H0;
      end
      if (dh <= R2 & dh >=-2*H0)
         rdh=(0.5-0.5*cos(3.14159*dh/chi)) ;
      else
         rdh=1;
      end
      rdh_sum=rdh_sum + rdh * dsta
      Berm_Segs=[Berm_Segs, kk];
      Berm_Heights=[Berm_Heights, (dep(kk)+dep(kk+1))/2];
   end
   if dep(kk) >= Z2  % jump out of loop if we reached limit of run-up for this iteration
      break
   end
end
sprintf (’!------- End Berm Factor Calculation, Iter: %d ---------!’,iter)
berm_width
rB=berm_width/Lslope
if (berm_width > 0)
   rdh_mean=rdh_sum/berm_width
else
   rdh_mean=1
end
gamma_berm=1- rB * (1-rdh_mean)
if gamma_berm > 1
   gamma_berm=1
end
if gamma_berm < 0.6
   gamma_berm =0.6
end
% Iribarren number
slope=(Z2-Ztoe)/(Lslope-berm_width)
Irb=(slope/(sqrt(H0/L0)))
% runup height
gamma_berm
gamma_perm
gamma_beta
gamma_rough
gamma=gamma_berm*gamma_perm*gamma_beta*gamma_rough

% check validity
TAW_VALID=1;
if (Irb*gamma_berm < 0.5 | Irb*gamma_berm > 10 )
   sprintf(’!!! - - Iribaren number: %6.2f is outside the valid range (0.5-10), TAW NOT VALID - - !!!\n’, Irb*gam
   TAW_VALID=0;
else
   sprintf(’!!! - - Iribaren number: %6.2f is in the valid range (0.5-10), TAW RECOMMENDED - - !!!\n’, Irb*gamma_
end
islope=1/slope;
if (slope < 1/8 | slope > 1)
   sprintf(’!!! - - slope: 1:%3.1f V:H is outside the valid range (1:8 - 1:1), TAW NOT VALID - - !!!\n’, islope)
   TAW_VALID=0;
else
   sprintf(’!!! - - slope: 1:%3.1f V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!\n’, islope)
```

```
    end
    if TAW_VALID == 0
       TAW_ALWAYS_VALID=0;
    end

    if (Irb*gamma_berm < 1.8)
       R2_new=gamma*H0*1.77*Irb
    else
       R2_new=gamma*H0*(4.3-(1.6/sqrt(Irb)))
    end


    % check to see if we need to evaluate a shallow foreshore
    if berm_width > 0.25 * L0;
       disp ('!   Berm_width is greater than 1/4 wave length')
       disp ('!   Runup will be weighted average with foreshore calculation assuming depth limited wave height on ber
       % do the foreshore calculation
       fore_H0=0.78*(SWEL_fore-min(Berm_Heights))
       % get upper slope
       fore_toe_sta=-999;
       fore_toe_dep=-999;
       for kk=length(dep)-1:-1:1
          ddep=dep(kk+1)-dep(kk);
          dsta=sta(kk+1)-sta(kk);
          s=ddep/dsta;
          if s < 1/15
             break
          end
          fore_toe_sta=sta(kk);
          fore_toe_dep=dep(kk);
          upper_slope=(Z2-fore_toe_dep)/(top_sta-fore_toe_sta)
       end
       fore_Irb=upper_slope/(sqrt(fore_H0/L0));
       fore_gamma=gamma_perm*gamma_beta*gamma_rough;
       if (fore_Irb < 1.8)
          fore_R2=fore_gamma*fore_H0*1.77*fore_Irb;
       else
          fore_R2=fore_gamma*fore_H0*(4.3-(1.6/sqrt(fore_Irb)));
       end
       if berm_width >= L0
          R2_new=fore_R2
          disp ('berm is wider than one wavelength, use full shallow foreshore solution');
       else
          w2=(berm_width-0.25*L0)/(0.75*L0)
          w1=1-w2
          R2_new=w2*fore_R2 + w1*R2_new
       end
    end % end berm width check
    % convergence criterion
    R2del=abs(R2-R2_new)
    R2_all(iter)=R2_new;
    % get the new top station (for plot purposes)
    Z2=R2_new+SWEL
    top_sta=-999;
    for kk=1:length(sta)-1
       if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
          top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
          break;
       end
    end
    if top_sta==-999
       dy=Z2-dep(end);
       top_sta=sta(end)+dy/S(end);
    end
    topStaAll(iter)=top_sta;
end
ans =
!----------------- STARTING ITERATION 1 -----------------!
Ztoe =
                  3.708313
toe_sta =
          42.0902813852814
top_sta =
          74.9508498793839
Z2 =
                 14.046613
H0 =
                    3.4461
Tp =
                    4.9744
T0 =
          4.52218181818182
R2 =
                   10.3383
Z2 =
          19.3569002507025
top_sta =
          84.4259802339595
Lslope =
          42.3356988486781
```

```
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 5
dh =
          4.43212525070251
rdh_sum =
         0.717233715067087
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 6
dh =
          4.37357525070251
rdh_sum =
          1.42237265434004
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 7
dh =
          4.31772525070251
rdh_sum =
          2.11583828478497
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 8
dh =
          4.26457525070251
rdh_sum =
          2.79807839453589
ans =
!------- End Berm Factor Calculation, Iter: 1 ---------!
berm_width =
     4
rB =
         0.094482909430581
rdh_mean =
         0.699519598633972
gamma_berm =
         0.971609737452069
slope =
         0.408198825655219
Irb =
          2.24934663306111
gamma_berm =
         0.971609737452069
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.777287789961655
ans =
!!! - - Iribaren number:   2.19 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:2.4 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          8.66042876527054
R2del =
          1.67787123472946
Z2 =
          17.6790290159731
top_sta =
           81.554597443267
ans =
!----------------- STARTING ITERATION 2 -----------------!
Ztoe =
                  3.708313
toe_sta =
          42.0902813852814
top_sta =
           81.554597443267
Z2 =
          17.6790290159731
H0 =
                    3.4461
Tp =
                    4.9744
T0 =
          4.52218181818182
R2 =
          8.66042876527054
Z2 =
          17.6790290159731
top_sta =
           81.554597443267
Lslope =
          39.4643160579856
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 5
dh =
          4.43212525070251
rdh_sum =
         0.717233715067087
```

```
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 6
dh =
          4.37357525070251
rdh_sum =
          1.42237265434004
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 7
dh =
          4.31772525070251
rdh_sum =
          2.11583828478497
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 8
dh =
          4.26457525070251
rdh_sum =
          2.79807839453589
ans =
!------- End Berm Factor Calculation, Iter: 2 ---------!
berm_width =
     4
rB =
         0.101357388130653
rdh_mean =
         0.699519598633972
gamma_berm =
         0.969544091333089
slope =
         0.393937274671542
Irb =
          2.17075950916169
gamma_berm =
         0.969544091333089
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                        0.8
gamma =
         0.775635273066471
ans =
!!! - - Iribaren number:   2.10 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:2.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          8.59085924716618
R2del =
        0.0695695181043661
Z2 =
          17.6094594978687
top_sta =
          81.4355429072793
ans =
!----------------- STARTING ITERATION 3 -----------------!
Ztoe =
                  3.708313
toe_sta =
          42.0902813852814
top_sta =
          81.4355429072793
Z2 =
          17.6094594978687
H0 =
                    3.4461
Tp =
                    4.9744
T0 =
          4.52218181818182
R2 =
          8.59085924716618
Z2 =
          17.6094594978687
top_sta =
          81.4355429072793
Lslope =
           39.345261521998
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 5
dh =
          4.43212525070251
rdh_sum =
         0.717233715067087
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 6
dh =
          4.37357525070251
rdh_sum =
          1.42237265434004
```

```
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 7
dh =
          4.31772525070251
rdh_sum =
          2.11583828478497
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 8
dh =
          4.26457525070251
rdh_sum =
          2.79807839453589
ans =
!------- End Berm Factor Calculation, Iter: 3 ---------!
berm_width =
     4
rB =
         0.101664084702134
rdh_mean =
         0.699519598633972
gamma_berm =
         0.969451935024193
slope =
         0.393295901608112
Irb =
          2.16722527473942
gamma_berm =
         0.969451935024193
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.775561548019355
ans =
!!! - - Iribaren number:   2.10 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:2.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          8.58767706873285
R2del =
       0.00318217843332214
Z2 =
          17.6062773194354
top_sta =
          81.4300972352791
% final 2% runup elevation
Z2=R2_new+SWEL
Z2 =
          17.6062773194354
diary off
-1.000000e+00
-1.000000e+00
-1.000000e+00
```

```
_______________________________________________________
PART 5: RUNUP2

        for transect: CM-134

Station locations shifted by: 0.00 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input


______________RUNUP2 INPUT CONVERSIONS_________________
        for transect: CM-134

Incident significant wave height: 2.74 feet

Peak wave period: 4.95 seconds

Mean wave height: 1.72 feet

Local Depth below SWEL: 29.23 feet

Mean wave height deshoaled using Hunt approximation for
celerity assuming constant wave energy flux.
 References: R.G. Dean and R.A. Dalrymple. 2000.  Water

             Wave Mechanics for Engineers and Scientists. World
             Scientific Publishing Company, River Edge New Jersy

             USACE (1985), Direct Methods for Calculating Wavelength, CETN-1-17
             US Army Engineer Waterways Experiment Station Coastel Engineering
             Research Center, Vicksburg, MS

             also see Coastal Engineering Manual Part II-3
             for discussion of shoaling coefficient

    Depth, D = 29.23
    Period, T = 4.21
    Waveheight, H = 1.72
Deep water wavelength, L0 (ft)
    L0 = g*T*T/twopi
    L0 = 32.17*4.21*4.21/6.28 = 90.74
Deep water wave celerity, C0 (ft/s)
    C0 = L0/T
    C0 = 90.74/4.21 = 21.56
Angular frequency, sigma (rad/s)
    sigma = twopi/T
    sigma = 6.28/4.21 = 1.49
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
    y = sigma.*sigma.*D./g
    y = 1.49*1.49*29.23/32.17 = 2.02
    C1H = sqrt( g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)) )
    C1H = 20.92
Shoaling Coefficient KsH
    KsH = sqrt(C0/C1H)
    KsH = sqrt(21.56/20.92) = 1.02
Deepwater Wave Height H0_H (ft)
    H0_H = H/KsH
    H0_H = 1.72/1.02 = 1.69

Deepwater mean wave height: 1.69 feet

______________END RUNUP2 CONVERSIONS___________________

______________RUNUP2 RESULTS___________________________
        for transect: CM-134

RUNUP2 SWEL:
8.90
8.90
8.90
8.90
```

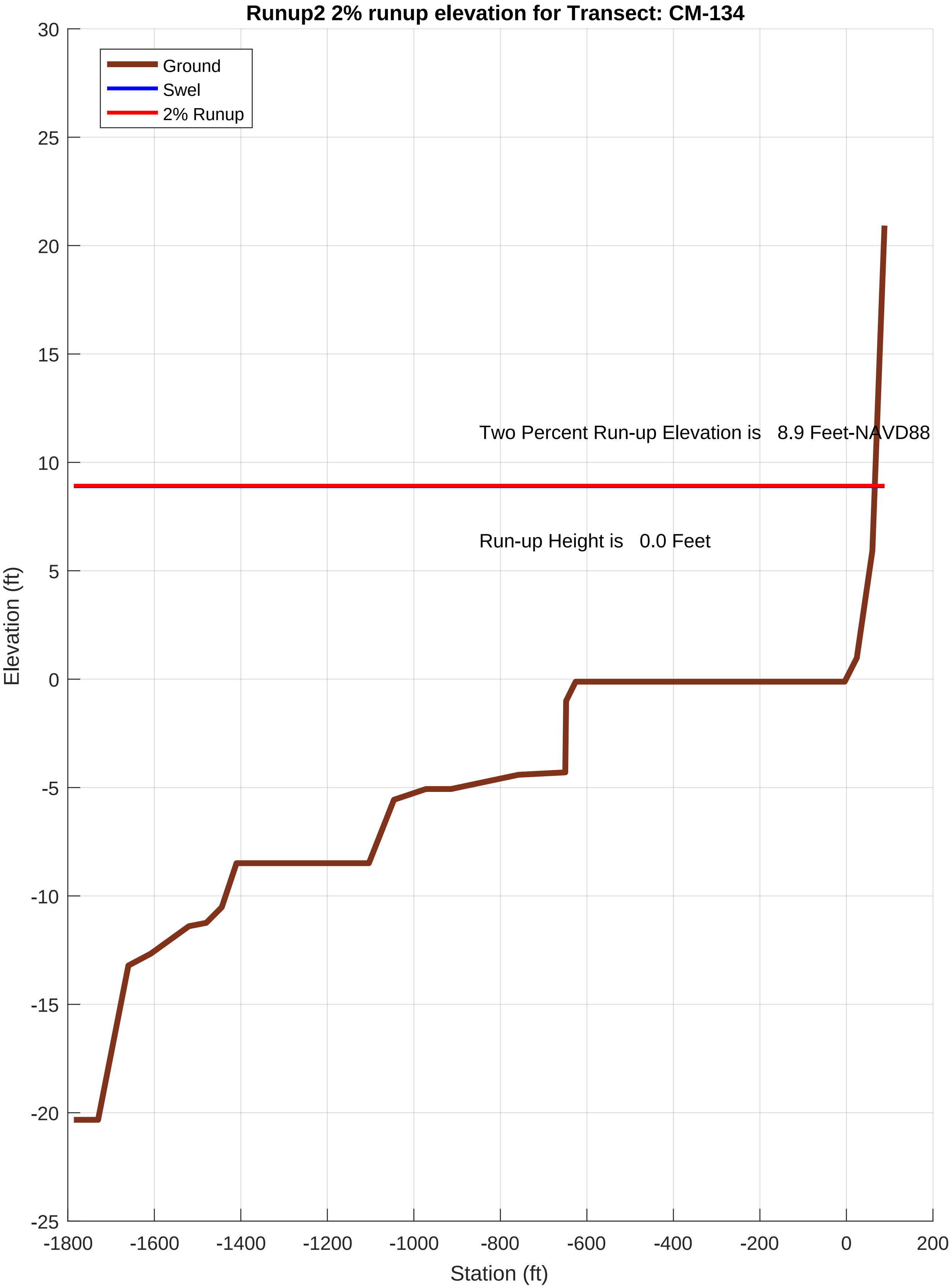
```
8.90
8.90
8.90
8.90
8.90

RUNUP2 deepwater mean wave heights:
1.61
1.61
1.61
1.69
1.69
1.69
1.78
1.78
1.78

RUNUP2 mean wave periods:
4.00
4.21
4.42
4.00
4.21
4.42
4.00
4.21
4.42

RUNUP2 runup above SWEL:
0.01
0.01
0.01
0.01
0.01
0.01
0.01
0.01
0.01

RUNUP2 Mean runup height above SWEL: 0.01 feet

RUNUP2 2-percent runup height above SWEL: 0.02 feet

RUNUP2 2-percent runup elevation: 8.92 feet-NAVD88

RUNUP2 Messages:
No Messages

______________END RUNUP2 RESULTS_______________________



________________ACES BEACH RUNUP_______________________

Incident significant wave height: 2.74 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 2.37 feet

Peak wave period: 4.95 seconds

Average beach Slope: 1:45.43 (H:V)

ACES RUNUP CALCULATED USING ’Aces_Beach_Runup.m’

ACES Beach 2-percent runup height above SWEL: 1.20 feet

ACES Beach 2-percent runup elevation: 10.10 feet-NAVD88

ACES BEACH RUNUP is valid
```

```
_____________END ACES BEACH RESULTS____________________

PART 5 COMPLETE________________________________________
```

```
  FEMA                                                      sjh            job 2
  RUNUP2 transect: CM-134                                                      1
2.00
  -20.33 -1786.0 0.8
  -20.33 -1730.0 0.8
  -13.21 -1660.0 0.8
  -12.66 -1608.0 0.8
  -11.40 -1520.0 0.8
  -11.24 -1480.0 0.8
  -10.52 -1444.0 0.8
  -8.49 -1410.0 0.8
  -8.49 -1104.0 0.8
  -5.56 -1046.0 0.8
  -5.07 -972.0 0.8
  -5.07 -914.0 0.8
  -4.41 -758.0 0.8
  -4.30 -650.0 0.8
  -1.00 -648.0 0.8
  -0.12 -626.0 0.8
  -0.12 -4.0   0.8
  0.98  24.0   0.8
  5.93  60.0   0.8
1 20.92 88.0   0.8
 8.9   1.61  4.00
 8.9   1.61  4.21
 8.9   1.61  4.42
 8.9   1.69  4.00
 8.9   1.69  4.21
 8.9   1.69  4.42
 8.9   1.78  4.00
 8.9   1.78  4.21
 8.9   1.78  4.42
```

```
 CLIENT- FEMA                            ** WAVE RUNUP-VERSION 2.0  **         ENGINEERED BY sjh        JOB      job 2
 PROJECT-RUNUP2 transect: CM-134                                                                     RUN    1   PAGE   1
************************************************************************************************************************


                      CROSS SECTION PROFILE

                    LENGTH   ELEV.    SLOPE     ROUGHNESS

          1         -178.6   -20.3
                                         .00        .80
          2         -173.0   -20.3
                                         .99        .80
          3         -166.0   -13.2
                                        8.67        .80
          4         -160.8   -12.6
                                        7.33        .80
          5         -152.0   -11.4
                                       20.00        .80
          6         -148.0   -11.2
                                        5.14        .80
          7         -144.4   -10.5
                                     -629.65        .80
          8        -1410.0    -8.5
                                        FLAT        .80
          9        -1104.0    -8.5
                                       19.80        .80
         10        -1046.0    -5.6
                                      151.02        .80
         11         -972.0    -5.1
                                        FLAT        .80
         12         -914.0    -5.1
                                      236.36        .80
         13         -758.0    -4.4
                                      981.82        .80
         14         -650.0    -4.3
                                         .61        .80
         15         -648.0    -1.0
                                       25.00        .80
         16         -626.0     -.1
                                        FLAT        .80
         17           -4.0     -.1
                                       25.45        .80
         18           24.0     1.0
                                        7.27        .80
         19           60.0     5.9
                                        1.87        .80
         20           88.0    20.9
                         LAST SLOPE   2.00     LAST ROUGHNESS    .80
```

```
************************************************************************************************************************


                                           OUTPUT TABLE
                                           ------------


                  INPUT PARAMETERS                                 RUNUP RESULTS
                  ----------------                                 -------------

       WATER LEVEL    DEEP WATER                        BREAKING SLOPE    RUNUP SLOPE    RUNUP ABOVE        BREAKER
       ABOVE DATUM    WAVE HEIGHT    WAVE PERIOD            NUMBER           NUMBER      WATER LEVEL        DEPTH
          (FT.)          (FT.)          (SEC.)                                              (FT.)            (FT.)


          8.90           1.61           4.00                  11               19             .01             2.75

          8.90           1.61           4.21                  11               19             .01             2.80

          8.90           1.61           4.42                  11               19             .01             2.84

          8.90           1.69           4.00                  11               19             .01             2.86

          8.90           1.69           4.21                  11               19             .01             2.91

          8.90           1.69           4.42                  11               19             .01             2.96

          8.90           1.78           4.00                  11               19             .01             2.99

          8.90           1.78           4.21                  11               19             .01             3.04

          8.90           1.78           4.42                  11               19             .01             3.09
```


Runup2 2% runup elevation for Transect: CM-134
Ground
Swel
2% Runup
Two Percent Run-up Elevation is 8.9 Feet-NAVD88
Run-up Height is 0.0 Feet
Elevation (ft)
Station (ft)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-1800
-1600
-1400
-1200
-1000
-800
-600
-400
-200
0
200