00BREAK00

1) COUNTY: Chippewa

2) STUDY NAME: Sault Ste. Marie

3) WATERCOURSE: Ashmun Creek

4) DOCUMENT TYPE: Multiple profiles

00BREAK00

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*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF NOVEMBER 1976                         *
*  UPDATED MAY 1984                                 *
*                                                   *
*  RUN DATE   3 APR 85 TIME   15:25:54              *
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*  U.S. ARMY CORPS OF ENGINEERS        *
*  THE HYDROLOGIC ENGINEERING CENTER   *
*  609 SECOND STREET, SUITE D          *
*  DAVIS, CALIFORNIA 95616             *
*  (916) 440-2105 (FTS) 448-2105       *
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X      X  XXXXXXX   XXXXX              XXXXX
X      X  X        X     X            X     X
X      X  X        X                        X
XXXXXXX  XXXX      X          XXXXX    XXXXX
X      X  X        X                  X
X      X  X        X     X            X
X      X  XXXXXXX   XXXXX              XXXXXXX
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RECEIVED
APR 22 1985
WATER MANAGEMENT

CITY OF SAULT STE. MARIE, MI
MULTIPLE PROFILE RUN
ASHMUN CREEK
FINAL RUN

PRINTED IN U.S.A.

THIS RUN EXECUTED 3 APR 85 15:25:56

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************

C
T1      CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2      ASHMUN CREEK
T3      10-YEAR FLOW

J1  ICHECK    INC      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       0.       2.       0.       0.  0.000000    0.00     0.0      0.   601.200   0.000

J2  NPROF     IPLOT    PFPVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
     1.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
   150.000  201.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

NC    0.070    0.070    0.050    0.100    0.300    0.000    0.000    0.000    0.000    0.000
ST    4.000  160.000  310.000  370.000  480.000    0.000    0.000    0.000    0.000    0.000
                VALLEY SECTION A
X1    0.000   19.000   56.000   97.000    0.000    0.000    0.000    0.000    0.000    0.000
GR  605.700    0.000  605.600   25.000  605.000   50.000  602.500   55.000  602.100   56.000
GR  601.600   57.000  601.300   64.000  602.100   65.000  602.300   67.000  602.100   68.000
GR  601.300   69.000  600.400   74.000  600.500   79.000  600.800   84.000  601.000   89.000
GR  602.100   91.000  604.500   97.000  605.400  122.000  605.400  147.000    0.000    0.000

X1   99.000   15.000  152.000  167.000   99.000   99.000   99.000    0.000    0.000    0.000
X3    0.000    0.000    0.000  152.000    0.000  167.000    0.000    0.000    0.000    0.000
GR  607.700    0.000  607.400   50.000  607.600   75.000  607.600  101.000  607.900  126.000
GR  608.400  142.000  601.400  152.000  601.400  152.100  600.800  157.000  600.900  162.000
GR  601.500  167.000  601.500  167.100  606.900  192.000  606.900  202.000  606.600  217.000

NC    0.035    0.035    0.025    0.000    0.000    0.000    0.000    0.000    0.000    0.000
                DOWNSTREAM FACE SOUTH STREET
X1  100.000    0.000    0.000    0.000    1.000    1.000    1.000    0.000    0.000    0.000
X3    0.000    0.000    0.000  152.000    0.000  167.000    0.000    0.000    0.000    0.000
ET  -12.000    0.000  607.700    0.000   50.000  607.400    0.000   75.000  607.600    0.000
ET    0.000  101.000  607.600    0.000  126.000  607.900    0.000  142.000  608.400    0.000
ET    0.000  152.000  607.600  601.400  152.100  607.600  605.700  167.000  607.500  605.600
ET    0.000  167.100  607.500  601.500  192.000  606.900    0.000  217.000  606.600    0.000
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UPSTREAM FACE SOUTH STREET

X1	121.000	0.000	0.000	0.000	21.000	21.000	21.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	152.000	0.000	167.000	0.000	0.000	0.000	0.000
NC	0.070	0.050	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	122.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	152.000	0.000	167.000	0.000	0.000	0.000	0.000
X1	142.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	0.770	0.000
X1	152.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.380	0.000
X1	162.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.380	0.000

DOWNSTREAM FACE SOO LINE RAILROAD

X1	200.000	20.000	100.000	118.000	38.000	38.000	38.000	0.000	-0.500	0.000
GR	616.400	0.000	616.200	25.000	609.400	50.000	610.400	75.000	607.700	100.000
GR	605.300	100.100	605.400	103.000	604.600	104.000	604.300	106.000	604.300	106.100
GR	604.900	112.000	604.900	112.100	604.700	118.000	607.800	118.100	610.300	121.000
GR	614.800	128.000	614.700	153.000	615.000	178.000	615.600	193.000	615.400	218.000
SB	0.000	2.820	3.000	0.000	18.000	0.000	38.400	0.000	0.000	0.000

UPSTREAM FACE SOO LINE RAILROAD

X1	277.000	20.000	100.000	118.000	77.000	77.000	77.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	607.800	615.400	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	100.000	0.000	118.000	0.000	0.000	0.000	0.000
ET	-15.000	0.000	616.400	0.000	25.000	616.200	0.000	50.000	616.100	0.000
ET	0.000	75.000	616.000	0.000	100.000	615.900	607.700	100.100	615.900	607.700
ET	0.000	106.000	615.900	607.700	106.100	615.900	604.300	112.000	615.900	604.900
ET	0.000	112.100	615.900	607.700	118.000	615.900	607.700	118.100	615.900	607.800
ET	0.000	178.000	615.700	0.000	193.000	615.600	0.000	218.000	615.400	0.000
GR	616.400	0.000	616.200	25.000	609.400	50.000	610.400	75.000	607.700	100.000
GR	605.300	100.100	605.400	103.000	604.600	104.000	604.300	106.000	604.300	106.100
GR	604.900	112.000	604.900	112.100	604.700	118.000	607.800	118.100	610.300	121.000
GR	614.800	128.000	614.700	153.000	615.000	178.000	615.600	193.000	615.400	218.000
NC	0.050	0.050	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	428.000	19.000	51.000	88.000	151.000	151.000	151.000	0.000	0.000	0.000
GR	616.500	0.000	615.300	17.000	613.000	35.000	612.500	50.000	611.100	51.000
GR	611.100	51.100	607.500	62.000	605.500	65.000	604.600	66.000	604.400	67.000
GR	603.700	72.000	604.200	77.000	605.500	78.000	607.200	80.000	611.500	85.000
GR	612.300	88.000	613.700	88.100	613.900	113.000	613.500	163.000	0.000	0.000

DOWNSTREAM FACE UNIDENTIFIED BRIDGE

X1	429.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
ET	-10.000	0.000	616.500	0.000	17.000	615.300	0.000	35.000	613.000	0.000
ET	0.000	50.000	612.500	0.000	51.000	612.300	611.100	51.100	612.300	611.200
ET	0.000	88.000	613.800	612.300	88.100	613.800	0.000	113.000	613.900	0.000
ET	0.000	163.000	613.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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                    UPSTREAM FACE UNIDENTIFIED BRIDGE
X1     440.000      0.000      0.000      0.000     11.000     11.000     11.000      0.000      0.000      0.000
X2       0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000

X1     441.000      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000

X1     491.000      0.000      0.000      0.000     50.000     50.000     50.000      0.000      0.500      0.000

                    INTERPOLATED SECTION BASED ON SECTIONS 428 AND 715
X1     613.000     10.000     70.000     78.000    122.000    122.000    122.000      0.000      0.000      0.000
GR     615.600     50.000    609.600     63.000    605.800     70.000    605.300     73.000    605.800     78.000
GR     608.400     83.000    611.600     88.000    612.900    100.000    615.100    113.000    616.000    125.000

                    INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
X1     715.000     12.000     70.000     82.000    102.000    102.000    102.000      0.000      0.000      0.000
GR     622.000      0.000    620.400     25.000    618.400     50.000    611.400     67.000    607.400     70.000
GR     606.400     75.000    608.600     82.000    610.800     88.000    612.400    100.000    616.400    113.000
GR     617.700    125.000    619.200    150.000      0.000      0.000      0.000      0.000      0.000      0.000

                    INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
X1     850.000     10.000     70.000     82.000    135.000    135.000    135.000      0.000      1.350      0.000
GR     622.000      0.000    620.400     25.000    618.400     50.000    611.400     67.000    607.400     70.000
GR     606.400     75.000    607.600     82.000    609.200     88.000    611.000    100.000    616.400    113.000

NC       0.070      0.070      0.040      0.000      0.000      0.000      0.000      0.000      0.000      0.000
                    VALLEY SECTION B MOVED DOWNSTREAM
X1     990.000     22.000     72.000     90.000    140.000    140.000    140.000      0.000     -6.900      0.000
GR     634.300      0.000    633.700     25.000    631.700     50.000    630.200     55.000    627.600     56.000
GR     620.500     65.000    618.200     70.000    617.000     72.000    616.600     73.000    616.000     75.000
GR     616.400     80.000    616.700     85.000    617.000     88.000    617.500     90.000    617.600     93.000
GR     618.600     95.000    619.000    100.000    625.000    110.000    628.200    120.000    630.400    140.000
GR     632.500    165.000    636.400    190.000      0.000      0.000      0.000      0.000      0.000      0.000

X1    1160.000      0.000      0.000      0.000    190.000    190.000    190.000      0.000      2.300      0.000

X1    1370.000      0.000      0.000      0.000    190.000    190.000    190.000      0.000      2.300      0.000

                    VALLEY SECTION B
X1    1538.000      0.000      0.000      0.000    168.000    168.000    168.000      0.000      2.300      0.000

X1    1588.000      0.000      0.000      0.000     50.000     50.000     50.000      0.000      1.400      0.000

NC       0.000      0.000      0.000      0.300      0.500      0.000      0.000      0.000      0.000      0.000
X1    1638.000     23.000     69.000     82.700     50.000     50.000     50.000      0.000      0.000      0.000
GR     635.500      0.000    635.200      5.000    635.200     25.000    635.100     40.000    635.100     50.000
GR     631.900     55.000    629.400     59.000    626.100     68.000    621.100     69.000    621.100     69.100
GR     620.100     70.600    619.800     72.800    619.500     75.800    619.800     78.800    620.100     81.000
GR     621.100     82.600    621.100     82.700    624.000     84.000    627.200     90.000    631.200    105.000
GR     634.200    130.000    635.600    155.000    638.200    165.000      0.000      0.000      0.000      0.000
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NC      0.040     0.040     0.035     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                DOWNSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
X1   1639.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
ET    -17.000     0.000   635.500     0.000    25.000   635.200     0.000    40.000   635.100     0.000
ET      0.000    55.000   635.100     0.000    69.000   634.700   621.100    69.100   634.700   623.500
ET      0.000    70.600   634.700   625.900    72.800   634.700   627.500    75.800   634.700   628.100
ET      0.000    78.800   634.700   627.500    81.000   634.700   625.900    82.600   634.700   623.500
ET      0.000    32.700   634.700   621.100   105.000   635.100     0.000   130.000   636.100     0.000
ET      0.000   155.000   637.100     0.000   165.000   638.200     0.000     0.000     0.000     0.000

X1   1643.000     0.000     0.000     0.000     4.000     4.000     4.000     0.000     0.000     0.000
X2      0.000     0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000

                UPSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
X1   1690.000     0.000     0.000     0.000    47.000    47.000    47.000     0.000     0.000     0.000
X2      0.000     0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000

X1   1691.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000

NC      0.070     0.070     0.040     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                VALLEY SECTION C, DOWNSTREAM OF WATERFALL
X1   1717.000    15.000    71.000    86.000    26.000    26.000    26.000     0.000     0.000     0.000
GR    635.500     0.000   635.600    25.000   635.500    50.000   623.600    66.000   621.900    71.000
GR    620.600    72.000   619.100    76.000   619.200    81.000   619.100    85.000   622.100    86.000
GR    625.500    96.000   631.700   106.000   635.000   131.000   636.000   156.000   638.300   167.000

NC      0.000     0.000     0.000     0.100     0.300     0.000     0.000     0.000     0.000     0.000
                VALLEY SECTION D, UPSTREAM OF WATERFALL
X1   1722.000    14.000    47.000    61.000     5.000     5.000     5.000     0.000     0.000     0.000
GR    635.500     0.000   635.500    25.000   625.100    40.000   623.400    47.000   623.100    48.000
GR    623.100    51.000   623.200    56.000   623.200    58.000   623.300    59.000   623.700    61.000
GR    624.500    69.000   632.700    81.000   635.000   106.000   636.000   131.000     0.000     0.000

X1   1732.000     0.000     0.000     0.000    10.000    10.000    10.000     0.000     0.000     0.000

X1   1799.000    16.000   130.000   150.000    67.000    67.000    67.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   130.000     0.000   150.000     0.000     0.000     0.000     0.000
GR    635.000     0.000   635.100    78.000   636.600   103.000   623.500   130.000   623.500   130.100
GR    623.300   135.000   623.200   140.000   623.800   145.000   624.300   146.000   624.800   150.000
GR    624.800   150.100   636.900   175.000   636.700   200.000   637.700   225.000   638.400   250.000
GR    639.200   275.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      0.030     0.030     0.025     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                DOWNSTREAM FACE EASTERDAY AVE
X1   1800.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   130.000     0.000   150.000     0.000     0.000     0.000     0.000
ET    -12.000     0.000   635.000     0.000    78.000   635.900     0.000   103.000   636.600     0.000
ET      0.000   130.000   636.400   623.500   130.100   636.400   632.800   150.000   636.500   632.800
ET      0.000   150.100   636.500   624.800   175.000   636.900     0.000   200.000   637.100     0.000
ET      0.000   225.000   637.700     0.000   250.000   638.400     0.000   275.000   639.200     0.000
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                    UPSTREAM FACE EASTERDAY AVE
X1    1843.000      0.000     0.000     0.000    43.000    43.000    43.000     0.000     0.000     0.000
X2       0.000      0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000
X3       0.000      0.000     0.000   130.000     0.000   150.000     0.000     0.000     0.000     0.000

NC       0.060      0.060     0.040     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1    1844.000      0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
X3       0.000      0.000     0.000   130.000     0.000   150.000     0.000     0.000     0.000     0.000

X1    1894.000      0.000     0.000     0.000    50.000    50.000    50.000     0.000     0.350     0.000

                    BRIDGE SECTION GR'S MOVED DOWNSTREAM
X1    1994.000     18.000    76.000    89.600   100.000   100.000   100.000     0.000    -0.800     0.000
GR     636.400      0.000   635.300    25.000   635.200    50.000   625.900    75.000   625.700    76.000
GR     625.700     76.100   625.400    77.600   625.100    79.800   624.800    82.800   625.100    85.800
GR     625.400     88.000   625.700    89.600   625.700    89.700   634.300   100.000   636.500   125.000
GR     637.200    150.000   637.200   200.000   637.600   250.000     0.000     0.000     0.000     0.000

NC       0.000      0.000     0.000     0.300     0.500     0.000     0.000     0.000     0.000     0.000
X1    2069.000      0.000     0.000     0.000    75.000    75.000    75.000     0.000     0.800     0.000
X3       0.000      0.000     0.000    76.000     0.000    89.000     0.000     0.000     0.000     0.000

NC       0.040      0.040     0.030     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                    DOWNSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
X1    2070.000      0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
X3       0.000      0.000     0.000    76.000     0.000    89.000     0.000     0.000     0.000     0.000
ET     -18.000      0.000   636.400     0.000    25.000   636.500     0.000    50.000   636.500     0.000
ET       0.000     75.000   636.600     0.000    76.000   636.600   625.700    76.100   636.600   628.800
ET       0.000     77.600   636.600   631.200    79.800   636.500   632.800    82.800   636.500   633.400
ET       0.000     85.800   636.500   632.800    88.000   636.500   631.200    89.600   636.500   628.800
ET       0.000     89.700   636.500   625.700   100.000   636.500     0.000   125.000   636.500     0.000
ET       0.000    150.000   636.600     0.000   200.000   637.200     0.000   250.000   637.600     0.000

X1    2090.000      0.000     0.000     0.000    20.000    20.000    20.000     0.000     0.000     0.000
X2       0.000      0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000
X3       0.000      0.000     0.000    76.000     0.000    89.000     0.000     0.000     0.000     0.000

                    UPSTREAM FACE BRIDGE JUST U/S OF EASTERDAY AVE
X1    2110.000      0.000     0.000     0.000    20.000    20.000    20.000     0.000     0.000     0.000
X2       0.000      0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000
X3       0.000      0.000     0.000    76.000     0.000    89.000     0.000     0.000     0.000     0.000

X1    2111.000      0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
X3       0.000      0.000     0.000    76.000     0.000    89.000     0.000     0.000     0.000     0.000

NC       0.060      0.060     0.040     0.100     0.300     0.000     0.000     0.000     0.000     0.000
                    VALLEY SECTION E MOVED DOWNSTREAM
X1    2160.000     16.000    71.000    85.000    49.000    49.000    49.000     0.000     0.000     0.000
GR     634.700      0.000   633.600    25.000   635.400    50.000   630.900    60.000   626.600    69.000
GR     625.900     71.000   625.100    72.000   624.200    74.000   624.300    79.000   625.100    84.000
GR     625.900     85.000   626.400    86.000   631.200    96.000   635.100   103.000   635.900   128.000
GR     636.100    153.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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                    VALLEY SECTION E
X1    2310.000      0.000     0.000     0.000   150.000   150.000   150.000     0.000     0.000     0.000
NC       0.055      0.055     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                    VALLEY SECTION F
X1    2660.000     14.000    70.000    86.000   350.000   350.000   350.000     0.000     0.000     0.000
GR     635.800      0.000   635.400    12.000   634.700    32.000   632.200    52.000   628.800    69.000
GR     627.200     70.000   626.100    75.000   626.100    80.000   627.200    86.000   631.400    89.000
GR     631.600    114.000   632.700   139.000   634.300   149.000   634.900   174.000     0.000     0.000

                    VALLEY SECTION G
X1    4950.000     20.000    87.000   103.000  2290.000  2290.000  2290.000     0.000     0.000     0.000
GR     639.100      0.000   637.800    25.000   637.800    40.000   636.800    65.000   635.200    75.000
GR     634.900     85.000   633.400    87.000   632.800    88.000   631.700    89.000   631.200    93.000
GR     631.800     97.000   631.800    98.000   633.100    99.000   633.400   102.000   633.800   103.000
GR     635.200    106.000   635.200   108.000   637.000   109.000   639.400   134.000   640.600   159.000
EJ       0.000      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROE      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TCPWID      ENDST

*PROF 1

CCHV=   0.100 CEHV=   0.300
*SECNO 0.000

3265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED
                 VALLEY SECTION A
      0.00      1.52    601.92    601.92    601.20    602.40      0.48      0.00      0.00    602.10
     160.        0.       160.        0.        0.       29.        0.        0.        0.    604.50
      0.00      0.00      5.55      0.00     0.000     0.050     0.000     0.000    600.40     56.36
  0.039700        0.        0.        0.         0        16         0      0.00     30.87     90.67

*SECNO 99.000

3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
     99.00      2.83    603.63      0.00      0.00    603.89      0.27      1.47      0.02    601.40
     160.        0.       160.        0.        0.       39.        0.        0.        0.  100000.00
      0.01      0.00      4.13      0.00     0.000     0.050     0.000     0.000    600.80    152.00
  0.007726       99.       99.       99.         4         0         0      0.00     15.00    167.00

*SECNO 100.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
                 DOWNSTREAM FACE SOUTH STREET
    100.00      2.83    603.63      0.00      0.00    603.90      0.27      0.00      0.00    601.40
     160.        0.       160.        0.        0.       39.        0.        0.        0.  100000.00
      0.01      0.00      4.14      0.00     0.000     0.025     0.000     0.000    600.80    152.00
  0.001944        1.        1.        1.         2         0         0     -0.06     15.00    167.00

*SECNO 121.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
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                    UPSTREAM FACE SOUTH STREET
    121.00      2.88    603.68      C.00      C.CC    603.94      0.26      C.04      0.00    601.40
      16C.        C.      16C.        C.        0.       39.        C.        0.        0. 10CCCC.00
      0.01      0.CC      4.C6      C.00     C.0CC     0.025     0.CCC     0.000    600.80    152.CC
  0.001833       21.       21.       21.         2         0         0     -0.06     15.00    167.CC

 *SECNC 122.0CC

 3472 ENCRCACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.0CC
    122.CC      2.89    603.69      C.CC      C.CC    603.94      0.26      0.00      0.00    601.40
      16C.        C.      16C.        C.        0.       39.        C.        0.        0. 100000.00
      C.C1      0.CC      4.C5      C.CC     C.0CC     0.035     0.CCC     0.000    6C0.8C    152.CC
  0.003567        1.        1.        1.         C         0         0      0.00     15.00    167.CC

 *SECNO 142.0CC
    142.CC      2.1C    603.67      C.00      C.CC    604.C9      0.42      0.10      0.05    602.17
      160.        2.       149.        9.        2.       28.        5.        0.        0.    602.27
      0.01      1.29      5.37      1.98     C.070     C.035     0.C50     0.000    6C1.57    149.86
  0.007095       2C.       2C.       20.         2         0         0      0.00     23.69    173.55

 *SECNO 152.0CC
 3685 2C TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    152.00      1.76    603.71    603.71      C.CC    6C4.38      0.68      0.10      0.08    602.55
      160.        1.      152.        6.        1.       23.        3.        0.        0.    602.65
      0.01      1.57      6.74      2.38     C.07C     C.035     0.C50     0.000    601.95    150.35
  0.014728       1C.       1C.       10.        2C        15         0      0.00     21.62    171.97

 *SECNO 162.000
 3685 2C TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    162.0C      1.76    604.C9    604.09      0.C0    6C4.76      0.67      0.15      0.00    602.93
      160.        2.      152.        6.        1.       23.        3.        0.        0.    603.03
      0.01      1.56      6.71      2.37     C.07C     C.035     0.C50     0.000    6C2.33    150.34
  0.014502       1C.       1C.       10.        2C         5         0      0.00     21.66    172.C0

 *SECNO 2C0.000
 3685 2C TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
                    DOWNSTREAM FACE SOO LINE RAILROAD
    200.CC      1.84    605.64    605.64      C.CC    606.32      0.69      0.61      0.01    607.20
      16C.        C.      16C.        0.        0.       24.        C.        0.        0.    604.20
      C.C1      0.CC      6.65      C.C4     C.0CC     0.035     0.C50     0.000    603.80    100.C7
  0.017965       38.       38.       38.        2C         8         0      0.00     17.98    118.C5
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.82      3.00      0.00     18.00      0.00     38.40      0.00    603.80    603.80

*SECNO 277.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=      0.000  TGLWC=   607.378  ELLC=   607.800  PCWSE=   605.637  ELTRD=   615.400

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  615.40 MAX ELLC=  607.80

3470 ENCROACHMENT STATIONS=      100.0      118.0  TYPE=      1  TARGET=      18.000
                 UPSTREAM FACE SOC LINE RAILROAD
    277.00      2.76    607.06    606.65      0.00    607.65      0.59      1.32      0.01    607.70
     160.        0.      160.        0.        0.       26.        0.        0.        0. 100000.00
      0.02      0.00      6.17      0.00     0.000     0.035     0.000     0.000    604.30    100.03
  0.016328       77.       77.       77.        10        15         0    -14.70     17.97    118.00


*SECNO 423.000
    428.00      4.41    603.11      0.00      0.00    608.22      0.11      0.52      0.05    611.10
     160.        0.      160.        0.        0.       60.        0.        0.        0.    612.30
      0.03      0.00      2.65      0.00     0.000     0.040     0.000     0.000    603.70     60.14
  0.001451      151.      151.      151.         3         0         0      0.00     20.92     81.06


*SECNO 429.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                 DOWNSTREAM FACE UNIDENTIFIED BRIDGE
    429.00      4.41    603.11      0.00      0.00    608.22      0.11      0.00      0.00    611.10
     160.        0.      160.        0.        0.       61.        0.        0.        0.    612.30
      0.03      0.00      2.64      0.00     0.000     0.040     0.000     0.000    603.70     60.13
  0.001443        1.        1.        1.         0         0         0      0.00     20.94     81.07


*SECNO 440.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCBP     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                 UPSTREAM FACE UNIDENTIFIED BRIDGE
   440.00      4.43    603.13      0.00      0.00    608.24      0.11      0.02      0.00    611.10
     160.        0.       160.        0.        0.       61.        0.        0.        0.    612.30
      0.03      0.00      2.63      0.00     0.000     0.040     0.000     0.000    603.70     60.10
 0.001431       11.       11.       11.         0         0         0      0.00     20.98     81.08


*SECNO 441.000
   441.00      4.43    608.13      0.00      0.00    608.24      0.11      0.00      0.00    611.10
     160.        0.       160.        0.        0.       61.        0.        0.        0.    612.30
      0.03      0.00      2.63      0.00     0.000     0.040     0.000     0.000    603.70     60.09
 0.001429        1.        1.        1.         0         0         0      0.00     20.99     81.08


*SECNO 491.000
   491.00      3.99    608.19      0.00      0.00    608.34      0.15      0.09      0.01    611.60
     160.        0.       160.        0.        0.       52.        0.        0.        0.    612.80
      0.04      0.00      3.07      0.00     0.000     0.040     0.000     0.000    604.20     61.41
 0.002122       50.       50.       50.         1         0         0      0.00     19.17     80.58


*SECNO 613.000
                 INTERPOLATED SECTION BASED ON SECTIONS 428 AND 715
   613.00      3.10    608.40      0.00      0.00    608.82      0.41      0.40      0.08    605.80
     160.       15.       128.       16.        6.       23.        7.        1.        0.    605.80
      0.04      2.46      5.62      2.48     0.050     0.040     0.050     0.000    605.30     65.20
 0.005715      122.      122.      122.         0         0         0      0.00     17.81     83.01


*SECNO 715.000
                 INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
   715.00      2.69    609.09    609.01      0.00    609.86      0.77      0.94      0.11    607.40
     160.        3.       157.        0.        1.       22.        0.        1.        0.    608.60
      0.05      2.47      7.11      1.45     0.050     0.040     0.050     0.000    606.40     68.73
 0.017080      102.      102.      102.         5        15         0      0.00     14.60     83.33


*SECNO 850.000
                 INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
   850.00      3.01    610.76      0.00      0.00    611.10      0.35      1.20      0.04    608.75
     160.        2.       145.       13.        2.       29.        6.        1.        0.    608.95
      0.06      1.56      4.92      2.11     0.050     0.040     0.050     0.000    607.75     68.50
 0.005445      135.      135.      135.         2         0         0      0.00     20.88     89.37
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 990.000
                VALLEY SECTION B MOVED DOWNSTREAM
   990.00     2.51    611.61     0.00      0.00    611.89     0.28      0.78      0.01    610.10
     160.       3.      152.       5.        2.       35.       4.        1.        0.    610.60
     0.07     1.32      4.35     1.42     0.070     0.040    0.070     0.000    609.10     69.32
 0.005749     140.     140.     140.         3         0        0      0.00     25.50     94.82

*SECNO 1180.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  1180.00     1.92    613.32   613.32      0.00    613.95     0.63      1.86      0.10    612.40
     160.       1.      157.       2.        1.       24.       1.        1.        1.    612.90
     0.07     1.63      6.42     1.51     0.070     0.040    0.070     0.000    611.40     70.46
 0.020287     190.     190.     190.         4        15        0      0.00     23.19     93.65

*SECNO 1370.000
  1370.00     2.31    616.01     0.00      0.00    616.37     0.36      2.39      0.03    614.70
     160.       2.      154.       4.        1.       31.       3.        1.        1.    615.20
     0.08     1.39      4.92     1.50     0.070     0.040    0.070     0.000    613.70     69.77
 0.008542     190.     190.     190.         4         0        0      0.00     24.64     94.41

*SECNO 1538.000
                VALLEY SECTION B
  1538.00     1.93    617.93   617.92      0.00    618.56     0.63      2.11      0.08    617.00
     160.       1.      157.       2.        1.       24.       1.        1.        1.    617.50
     0.09     1.63      6.42     1.51     0.070     0.040    0.070     0.000    616.00     70.46
 0.020271     168.     168.     168.         4        15        0      0.00     23.19     93.65

*SECNO 1588.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  1588.00     1.93    619.33   619.33      0.00    619.95     0.63      1.01      0.00    618.40
     160.       1.      157.       2.        1.       24.       1.        1.        1.    618.90
     0.09     1.63      6.42     1.51     0.070     0.040    0.070     0.000    617.40     70.46
 0.020225      50.      50.      50.         8         5        0      0.00     23.19     93.65

CCHV=   0.300 CEHV=   0.500
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         GLOB      GCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 1638.000
 3635 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
   1638.00     2.09    621.59    621.59      0.00    622.41      0.82      1.05      0.10    621.10
     160.       0.       160.       0.        0.       22.       0.        1.        1.      621.10
      0.10      0.03     7.27      0.03      0.070    0.040     0.070     0.000    619.50    68.90
  0.021667      50.      50.       50.        20        8         0       0.00     14.02    82.92

 *SECNO 1639.000

 3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                 DOWNSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
   1639.00     2.48    621.98      0.00      0.00    622.51      0.53      0.01      0.09    621.10
     160.       0.       160.       0.        0.       27.       0.        1.        1.      621.10
      0.10      0.00     5.84      0.00      0.000    0.035     0.000     0.000    619.50    68.82
  0.009358       1.       1.        1.         7        0         0      -0.29     14.27    83.10

 *SECNO 1643.000

 3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

   1643.00     2.56    622.06      0.00      0.00    622.56      0.50      0.04      0.01    621.10
     160.       0.       160.       0.        0.       28.       0.        1.        1.      621.10
      0.10      0.00     5.66      0.00      0.000    0.035     0.000     0.000    619.50    68.81
  0.008507       4.       4.        4.         1        0         0      -0.33     14.31    83.13

 *SECNO 1690.000

 3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                 UPSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
   1690.00     3.07    622.57      0.00      0.00    622.89      0.32      0.28      0.05    621.10
     160.       0.       160.       0.        0.       35.       0.        1.        1.      621.10
      0.10      0.00     4.52      0.00      0.000    0.035     0.000     0.000    619.50    68.71
  0.004372      47.      47.       47.         2        0         0      -0.79     14.65    83.36
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
    Q          OLOB       SCH        ORCB       ALOB       ACH        AROE       VOL        TWA    LEFT/RIGHT
    TIME       VLOB       VCH        VRCB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
    SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     IDC        ICONT      CORAR      TCPWID      ENDST

 *SECNO 1691.000
  1691.00      3.08     622.58       0.00       0.00     622.89       0.31       0.00       0.00     621.10
     160.        0.       159.        0.         0.        36.         0.         1.         1.      621.10
     0.10       0.59       4.48      0.97       0.040     0.035      0.040      0.000     619.50      68.70
 0.003330        1.         1.        1.         0         0          0        0.00      14.66      83.36

 *SECNO 1717.000
                VALLEY SECTION C, DOWNSTREAM OF WATERFALL
  1717.00      3.74     622.84       0.00       0.00     623.01       0.16       0.07       0.04     621.90
     160.        1.       159.        0.         1.        49.         1.         1.         1.      622.10
     0.10       0.56       3.24      0.47       0.070     0.040      0.070      0.000     619.10      68.22
 0.002007       26.        26.       26.         2         0          0        0.00      19.97      88.19

 CCHV=   0.100 CEHV=   0.300
 *SECNO 1722.000
 3635 20 TRIALS ATTEMPTED WSEL,CRSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
                VALLEY SECTION D, UPSTREAM OF WATERFALL
  1722.00      1.66     624.76     624.76       0.00     625.34       0.59       0.02       0.13     623.40
     160.        5.       141.       11.         4.        22.         5.         1.         1.      623.70
     0.10       2.12       6.51      2.09       0.070     0.040      0.070      0.000     623.10      41.41
 0.017330        5.         5.        5.        20        15          0        0.00      27.96      69.38

 *SECNO 1732.000
  1732.00      2.06     625.16       0.00       0.00     625.48       0.32       0.11       0.03     623.40
     160.       11.       133.       16.         6.        27.         9.         1.         1.      623.70
     0.10       1.66       4.90      1.83       0.070     0.040      0.070      0.000     623.10      39.92
 0.007224       10.        10.       10.         3         0          0        0.00      30.04      69.96

 *SECNO 1799.000

 3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
  1799.00      2.46     625.66       0.00       0.00     625.91       0.25       0.42       0.01     623.50
     160.        0.       160.        0.         0.        40.         0.         1.         1. 100000.00
     0.11       0.00       3.98      0.00       0.000     0.040      0.000      0.000     623.20     130.00
 0.005516       67.        67.       67.         2         0          0        0.00      20.00     150.00
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    SECNO     DEPTH     CWSEL     CPIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 1800.000

 3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  635.CC MAX ELLC=  632.20

 3470 ENCROACHMENT STATIONS=      130.0      15C.0  TYPE=      1  TARGET=      20.000
                   DOWNSTREAM FACE EASTERDAY AVE
   1800.CC      2.47    625.67      C.CO      C.0C    625.91      0.24      0.00      0.00    623.50
      16C.        C.      16C.        0.        D.       4C.        0.        1.        1. 10CCCC.00
      C.11      0.CC      3.97      C.00     C.CCC     0.025     0.000     0.000    623.20    130.CO
 0.002139        1.        1.        1.         C         0         0     -0.03     20.00    150.CO

 *SECNC 1843.CCO

 3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  635.CC MAX ELLC=  632.80

 3470 ENCROACHMENT STATIONS=      130.0      15C.0  TYPE=      1  TARGET=      20.00C
                   LPSTREAM FACE EASTERDAY AVE
   1843.CC      2.58    625.78      C.00      C.CC    626.CO      0.22      C.08      0.00    623.50
      160.        C.      16C.        0.        0.       43.        C.        1.        1. 10CCCC.00
      0.11      0.CC      3.76      C.00     C.CCC     C.025     0.CCO     0.000    623.20    130.00
 0.001314       43.       43.       43.         2         0         0     -C.03     20.00    150.CC

 *SECNO 1844.000

 3470 ENCROACHMENT STATIONS=      130.0      15C.0  TYPE=      1  TARGET=      20.000
   1844.00      2.58    625.78      C.00      C.CC    626.CO      0.22      0.00      0.00    623.50
      160.        C.      16C.        0.        0.       43.        C.        1.        1. 10CCCC.00
      0.11      0.CC      3.76      C.00     C.CCC     0.040     0.000     0.000    623.20    130.CO
 0.004622        1.        1.        1.         C         0         0     C.00     20.00    150.00

 *SECNO 1894.000
   1894.CC      2.46    626.C1      C.CO      C.CC    626.22      0.21      C.22      0.00    623.85
      160.        7.      152.        1.        5.       4C.        1.        2.        1.    625.15
      0.11      1.57      3.79      C.76     C.06C     0.040     0.C60     0.000    623.55    125.56
 0.004173       50.       5C.       50.         2         0         0     C.00     26.30    151.86
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 1994.000
                  BRIDGE SECTION GR'S MOVED DOWNSTREAM
  1994.00      2.43    626.43      0.00      0.00    626.85      0.42      0.57      0.06    624.90
     160.        8.       149.        3.        4.       28.        2.        2.        1.    624.90
     0.12      2.07      5.37      1.71      0.060     0.040     0.060     0.000    624.00     71.41
 0.008128      100.      100.      100.         1         0         0      0.00     20.13     91.54

CCHV=   0.300 CEHV=   0.500
*SECNO 2069.000

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2069.00      2.35    627.15      0.00      0.00    627.75      0.60      0.81      0.09    625.70
     160.        0.       160.        0.        0.       26.        0.        2.        1. 100000.00
     0.12      0.00      6.21      0.00     0.000     0.040     0.000     0.000    624.80     76.00
 0.014989       75.       75.       75.         2         0         0      0.00     13.00     89.00

*SECNO 2070.000

3370 NORMAL BRIDGE,NPD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
                  DOWNSTREAM FACE BRIDGE JUST U/S OF EASTERDAY AVE
  2070.00      2.36    627.16      0.00      0.00    627.76      0.60      0.01      0.00    625.70
     160.        0.       160.        0.        0.       26.        0.        2.        1. 100000.00
     0.12      0.00      6.19      0.00     0.000     0.030     0.000     0.000    624.80     76.00
 0.008352        1.        1.        1.         0         0         0     -0.03     13.00     89.00

*SECNO 2090.000

3370 NORMAL BRIDGE,NPD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2090.00      2.71    627.51      0.00      0.00    627.94      0.43      0.13      0.05    625.70
     160.        0.       160.        0.        0.       30.        0.        2.        1. 100000.00
     0.12      0.00      5.27      0.00     0.000     0.030     0.000     0.000    624.80     76.00
 0.005133       20.       20.       20.         2         0         0     -0.05     13.00     89.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 2110.000

 3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
                 UPSTREAM FACE BRIDGE JUST U/S OF EASTERDAY AVE
   2110.00      2.87    627.67      0.00      0.00    628.05      0.38      0.09      0.02    625.70
     160.        0.       160.        0.        0.       32.        0.        2.        1. 100000.00
      0.13      0.00      4.93      0.00     0.000     0.030     0.000     0.000    624.80     76.00
  0.004243       20.       20.       20.         2         0         0     -0.06     13.00     89.00

 *SECNO 2111.000

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
   2111.00      2.98    627.68      0.00      0.00    628.05      0.37      0.00      0.00    625.70
     160.        0.       160.        0.        0.       33.        0.        2.        1. 100000.00
      0.13      0.00      4.91      0.00     0.000     0.030     0.000     0.000    624.80     76.00
  0.004193        1.        1.        1.         0         0         0      0.00     13.00     89.00

 CCHV=   0.100 CEHV=   0.300
 *SECNO 2160.000
                 VALLEY SECTION E MOVED DOWNSTREAM
   2160.00      3.85    628.05      0.00      0.00    628.19      0.14      0.11      0.02    625.90
     160.        6.       149.        5.        6.       48.        5.        2.        1.    625.90
      0.13      1.12      3.12      1.02     0.060     0.040     0.060     0.000    624.20     65.97
  0.001490       49.       49.       49.         2         0         0      0.00     23.46     89.43

 *SECNO 2310.000
                 VALLEY SECTION E
   2310.00      4.07    628.27      0.00      0.00    628.39      0.12      0.20      0.00    625.90
     160.        7.       147.        6.        7.       51.        6.        2.        1.    625.90
      0.14      1.06      2.90      0.96     0.060     0.040     0.060     0.000    624.20     65.51
  0.001183      150.      150.      150.         2         0         0      0.00     24.39     89.89

 *SECNO 2660.000
                 VALLEY SECTION F
   2660.00      2.76    628.86      0.00      0.00    629.13      0.26      0.69      0.04    627.20
     160.        1.       158.        1.        1.       38.        1.        2.        1.    627.20
      0.17      1.00      4.14      1.05     0.055     0.040     0.055     0.000    626.10     68.69
  0.003977      350.      350.      350.         2         0         0      0.00     18.50     87.19
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 4950.000
                    VALLEY SECTION G
  4950.00     3.97    635.17      0.00      0.00    635.33      0.16      6.20      0.01    633.40
     160.       3.      155.        2.        4.       48.        2.        5.        3.    633.80
    0.37      0.78      3.23      0.87     0.055     0.040     0.055     0.000    631.20     75.62
0.001959     2290.     2290.     2290.         4         0         0      0.00     30.33    105.95
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THIS RUN EXECUTED 3 APR 85 15:26:22

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  C1,02,03,C4,C5,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************

T1      CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2      ASHMUN CREEK
T3      50-YEAR FLOW

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       C.       3.       0.       0.  C.CCCCOO    0.CO     0.C      0.   601.20C   0.000
J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
      2.COO    C.OOC   -1.COO    0.OOC    0.000    0.000    0.000    C.000    0.000    0.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCE      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCE      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 2

CCHV=   0.100 CEHV=   0.300
*SECNO 0.000
3720 CRITICAL DEPTH ASSUMED
                VALLEY SECTION A
      0.00      2.07    602.47    602.47    601.20    603.14      0.67      0.00      0.00    602.10
      310.        0.      310.        0.        0.       47.        0.        0.        0.    604.50
      0.00      1.23      6.56      0.00      0.070     0.050     0.000     0.000    600.40     55.08
  0.035311        0.        0.        0.         0        19         0      0.00     36.84     91.92

*SECNO 99.000

3470 ENCROACHMENT STATIONS=      152.0     167.0  TYPE=      1  TARGET=      15.000
     99.00      3.71    604.51      0.00      0.00    605.06      0.55      1.92      0.01    601.40
      310.        0.      310.        0.        0.       52.        0.        0.        0. 100000.00
      0.00      0.00      5.97      0.00      0.000     0.050     0.000     0.000    600.80    152.00
  0.012200       99.       99.       99.         3         0         0      0.00     15.00    167.00

*SECNO 100.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

3470 ENCROACHMENT STATIONS=      152.0     167.0  TYPE=      1  TARGET=      15.000
                DOWNSTREAM FACE SOUTH STREET
    100.00      3.72    604.52      0.00      0.00    605.07      0.55      0.01      0.00    601.40
      310.        0.      310.        0.        0.       52.        0.        0.        0. 100000.00
      0.00      0.00      5.96      0.00      0.000     0.025     0.000     0.000    600.80    152.00
  0.003042        1.        1.        1.         1         0         0     -0.11     15.00    167.00

*SECNO 121.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

3470 ENCROACHMENT STATIONS=      152.0     167.0  TYPE=      1  TARGET=      15.000
                UPSTREAM FACE SOUTH STREET
    121.00      3.81    604.61      0.00      0.00    605.13      0.53      0.06      0.00    601.40
      310.        0.      310.        0.        0.       53.        0.        0.        0. 100000.00
      0.01      0.00      5.93      0.00      0.000     0.025     0.000     0.000    600.80    152.00
  0.002350       21.       21.       21.         2         0         0     -0.12     15.00    167.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    S         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 122.000

 3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
    122.00      3.81    604.61      0.00      0.00    605.14      0.52      0.00      0.00    601.40
      310.        0.       310.        0.        0.       53.        0.        0.        0. 100000.00
      0.01      0.00      5.81      0.00     0.000     0.035     0.000     0.000    600.80    152.00
  0.005533        1.        1.        1.         0         0         0      0.00     15.00    167.00

 *SECNO 142.000
    142.00      3.15    604.72      0.00      0.00    605.24      0.52      0.11      0.00    602.17
      310.        7.       268.       34.        5.       43.       14.        0.        0.    602.27
      0.01      1.57      6.17      2.43     0.070     0.035     0.050     0.000    601.57    148.35
  0.005144       20.       20.       20.         2         0         0      0.00     30.05    178.40

 *SECNO 152.000
    152.00      2.58    604.53    604.48      0.00    605.43      0.90      0.07      0.11    602.55
      310.        6.       279.       26.        3.       35.        8.        0.        0.    602.65
      0.01      1.98      7.98      3.06     0.070     0.035     0.050     0.000    601.95    149.17
  0.011513       10.       10.       10.         6        15         0      0.00     26.61    175.78

 *SECNO 162.000
 3635 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    162.00      2.52    604.85    604.85      0.00    605.81      0.96      0.12      0.02    602.93
      310.        5.       280.       25.        3.       34.        8.        0.        0.    603.03
      0.01      2.04      8.22      3.14     0.070     0.035     0.050     0.000    602.33    149.25
  0.012635       10.       10.       10.        20         5         0      0.00     26.25    175.51

 *SECNO 200.000
 3635 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
                 DOWNSTREAM FACE SOO LINE RAILROAD
    200.00      2.59    606.39    606.39      0.00    607.45      1.06      0.54      0.03    607.20
      310.        0.       310.        0.        0.       38.        0.        0.        0.    604.20
      0.01      0.00      8.27      0.04     0.000     0.035     0.050     0.000    603.80    100.03
  0.016203       38.       38.       38.        20         8         0      0.00     18.04    118.07
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFQ      RDLEN     EWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.32      3.00      0.00     18.00      0.00     38.40      0.00    603.80    603.80

*SECNO 277.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW


 EGPRS     EGLWC     H3        GWEIR     GPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                           AREA
    609.24    608.22      0.00        0.       310.       38.       72.    607.80    615.40


3470 ENCROACHMENT STATIONS=      100.0      118.0  TYPE=      1  TARGET=      18.000
                   UPSTREAM FACE SOC LINE RAILROAD
    277.00      4.67    608.97      0.00      0.00    609.24      0.26      1.79      0.00    607.70
       310.        0.      310.        0.        0.       75.        0.        0.        0. 100000.00
      0.01      0.00      4.13      0.00     0.000     0.035     0.000     0.000    604.30    100.00
  0.002318       77.       77.       77.         2         0         0      0.00     18.00    118.00


*SECNO 428.000
    428.00      5.68    609.38      0.00      0.00    609.57      0.18      0.32      0.01    611.10
       310.        0.      310.        0.        0.       91.        0.        1.        0.    612.30
      0.03      0.00      3.42      0.00     0.000     0.040     0.000     0.000    603.70     56.29
  0.001920      151.      151.      151.         2         0         0      0.00     26.26     82.54


*SECNO 429.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                   DOWNSTREAM FACE UNIDENTIFIED BRIDGE
    429.00      5.68    609.38      0.00      0.00    609.57      0.18      0.00      0.00    611.10
       310.        0.      310.        0.        0.       90.        0.        1.        0.    612.30
      0.03      0.00      3.43      0.00     0.000     0.040     0.000     0.000    603.70     56.29
  0.001923        1.        1.        1.         0         0         0      0.00     26.25     82.54
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 440.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                 UPSTREAM FACE UNIDENTIFIED BRIDGE
   440.00      5.71    609.41      0.00      0.00    609.59      0.18      0.02      0.00    611.10
     310.        0.       310.       0.        0.       91.        0.        1.        0.    612.30
     0.03      0.00      3.41      0.00      0.000    0.040     0.000     0.000    603.70     56.23
 0.001893       11.       11.       11.         0         0         0      0.00     26.34     82.56

*SECNO 441.000
   441.00      5.71    609.41      0.00      0.00    609.59      0.18      0.00      0.00    611.10
     310.        0.       310.       0.        0.       91.        0.        1.        0.    612.30
     0.03      0.00      3.40      0.00      0.000    0.040     0.000     0.000    603.70     56.22
 0.001887        1.        1.        1.         0         0         0      0.00     26.35     82.57

*SECNO 491.000
   491.00      5.28    609.48      0.00      0.00    609.72      0.23      0.11      0.02    611.60
     310.        0.       310.       0.        0.       80.        0.        1.        0.    612.80
     0.03      0.00      3.86      0.00      0.000    0.040     0.000     0.000    604.20     57.50
 0.002621       50.       50.       50.         2         0         0      0.00     24.57     82.08

*SECNO 613.000
                 INTERPOLATED SECTION BASED ON SECTIONS 428 AND 715
   613.00      4.40    609.70      0.00      0.00    610.23      0.53      0.42      0.09    605.80
     310.       42.       219.      49.       14.       33.       14.        1.        0.    605.80
     0.04      3.00      6.61      3.39      0.050    0.040     0.050     0.000    605.30     62.78
 0.004795      122.      122.      122.         2         0         0      0.00     22.25     85.03

*SECNO 715.000

3301 HV CHANGED MORE THAN HVINS

                 INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
   715.00      3.63    610.08    609.98      0.00    611.18      1.11      0.78      0.17    607.40
     310.        8.       293.       8.        3.       34.        3.        1.        0.    608.60
     0.04      3.06      8.65      2.78      0.050    0.040     0.050     0.000    606.40     67.99
 0.014196      102.      102.      102.         0        15         0      0.00     18.04     86.03
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
3         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 850.000

3301 HV CHANGED MORE THAN HVINS

                  INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
  850.00      4.08    611.83      0.00      0.00    612.31      0.48      1.06      0.06    608.75
     310.        7.      253.       50.        4.       42.       18.        1.        0.    608.95
    0.05      1.99      5.99      2.79     0.050     0.040     0.050     0.000    607.75     67.69
0.004966      135.      135.      135.         2         0         0      0.00     28.83     96.52

*SECNO 990.000
                  VALLEY SECTION B MOVED DOWNSTREAM
  990.00      3.51    612.61      0.00      0.00    613.00      0.39      0.68      0.01    610.10
     310.       10.      277.       23.        6.       53.       13.        1.        1.    610.60
    0.06      1.71      5.23      1.82     0.070     0.040     0.070     0.000    609.10     67.14
0.004776      140.      140.      140.         2         0         0      0.00     33.72    100.86

*SECNO 1180.000

3301 HV CHANGED MORE THAN HVINS

7135 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 1180.00      2.64    614.04    614.04      0.00    614.95      0.91      1.56      0.16    612.40
     310.        6.      293.       11.        2.       37.        4.        2.        1.    612.90
    0.06      2.43      7.85      2.64     0.070     0.040     0.070     0.000    611.40     69.04
0.017215      190.      190.      190.         4        15         0      0.00     26.46     95.50

*SECNO 1370.000
 1370.00      3.02    616.72      0.00      0.00    617.33      0.61      2.35      0.03    614.70
     310.        7.      287.       16.        4.       44.        7.        2.        1.    615.20
    0.07      2.08      6.46      2.15     0.070     0.040     0.070     0.000    613.70     68.20
0.009289      190.      190.      190.         2         0         0      0.00     31.85    100.05

*SECNO 1538.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                  VALLEY SECTION B
 1538.00      2.64    618.64    618.64      0.00    619.55      0.91      2.07      0.09    617.00
     310.        6.      293.       12.        2.       37.        4.        2.        1.    617.50
    0.08      2.43      7.84      2.63     0.070     0.040     0.070     0.000    616.00     69.04
0.017143      168.      168.      168.         2        11         0      0.00     26.49     95.53
```

```
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCE      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCE      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 1588.000
 3635 20 TRIALS ATTEMPTED WSEL/CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
   1588.00      2.64    620.04    620.04      0.00    620.95      0.91      0.86      0.00    618.40
      310.        6.      293.       12.        2.       37.        4.        2.        1.    618.90
      0.08      2.43      7.85      2.64     0.070     0.040     0.070     0.000    617.40     69.04
  0.017189       50.       50.       50.        20         5         0      0.00     26.47     95.51

 CCHV=   0.300 CEHV=   0.500
 *SECNO 1638.000
 3635 20 TRIALS ATTEMPTED WSEL/CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
   1638.00      3.00    622.50    622.50      0.00    623.75      1.25      0.88      0.17    621.10
      310.        0.      309.        1.        0.       34.        0.        2.        1.    621.10
      0.08      0.76      8.98      1.24     0.070     0.040     0.070     0.000    619.50     68.72
  0.016217       50.       50.       50.        20         8         0      0.00     14.60     83.33

 *SECNO 1639.000

 3370 NORMAL BRIDGE/NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                  DOWNSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
   1639.00      3.02    622.52    622.48      0.00    623.77      1.25      0.02      0.00    621.10
      310.        0.      310.        0.        0.       35.        0.        2.        1.    621.10
      0.08      0.00      8.96      0.00     0.000     0.035     0.000     0.000    619.50     68.72
  0.017524        1.        1.        1.         0        19         0     -0.73     14.62     83.33

 *SECNO 1643.000

 3370 NORMAL BRIDGE/NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

   1643.00      3.65    623.15      0.00      0.00    623.95      0.80      0.05      0.14    621.10
      310.        0.      310.        0.        0.       43.        0.        2.        1.    621.10
      0.08      0.00      7.16      0.00     0.000     0.035     0.000     0.000    619.50     68.59
  0.009139        4.        4.        4.         7         0         0     -1.55     15.03     83.62
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         WLOB      GCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 1670.000

 3370 NORMAL BRIDGE,NRC= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                  UPSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
   1690.00      4.29    623.79      0.00      0.00    624.35      0.56      0.33      0.07    621.10
      310.        0.      310.        0.        0.       52.        0.        2.        1.    621.10
      0.08      0.00      5.99      0.00     0.000     0.035     0.000     0.000    619.50     68.46
  0.005543       47.       47.       47.         1         0         0     -2.69     15.44     83.90

 *SECNO 1691.000
   1691.00      4.35    623.85      0.00      0.00    624.37      0.52      0.00      0.01    621.10
      310.        1.      307.        2.        1.       53.        2.        2.        1.    621.10
      0.08      0.89      5.79      1.45     0.040     0.035     0.040     0.000    619.50     68.45
  0.003257        1.        1.        1.         2         0         0      0.00     15.48     83.93

 *SECNO 1717.000
                  VALLEY SECTION D, DOWNSTREAM OF WATERFALL
   1717.00      5.15    624.25      0.00      0.00    624.91      0.26      0.07      0.08    621.90
      310.        9.      294.        7.        8.       70.        7.        2.        1.    622.10
      0.08      1.20      4.19      0.98     0.070     0.040     0.070     0.000    619.10     65.12
  0.002078       26.       26.       26.         2         0         0      0.00     27.22     92.34

 CCHV=    0.100 CEHV=    0.300
 *SECNO 1722.000

 3301 HV CHANGED MORE THAN HVINS

 3655 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
                  VALLEY SECTION D, UPSTREAM OF WATERFALL
   1722.00      2.33    625.43    625.43      0.00    626.27      0.83      0.02      0.17    623.40
      310.       25.      250.       36.        8.       31.       11.        2.        1.    623.70
      0.08      2.94      3.02      3.16     0.070     0.040     0.070     0.000    623.10     39.52
  0.016221        5.        5.        5.        20        14         0      0.00     30.85     70.37

 *SECNO 1732.000
   1732.00      2.81    625.91      0.00      0.00    626.41      0.49      0.11      0.03    623.40
      310.       30.      238.       42.       12.       38.       16.        2.        1.    623.70
      0.09      2.50      6.29      2.62     0.070     0.040     0.070     0.000    623.10     38.83
  0.007676       10.       10.       10.         4         0         0      0.00     32.24     71.07
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
 3         QLOB      GCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOPL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 1799.000

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
  1799.00      3.24    626.44      0.00      0.00    626.92      0.48      0.51      0.00    623.50
     310.        0.       310.        0.        0.       56.        0.        2.        1. 100000.00
     0.09      0.00      5.55      0.00     0.000     0.040     0.000     0.000    623.20    130.00
 0.007532       67.       67.       67.         2         0         0      0.00     20.00    150.00

*SECNO 1800.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  635.00 MAX ELLC=  632.80

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
                 DOWNSTREAM FACE EASTERDAY AVE
  1800.00      3.25    626.45      0.00      0.00    626.92      0.48      0.00      0.00    623.50
     310.        0.       310.        0.        0.       56.        0.        2.        1. 100000.00
     0.09      0.00      5.54      0.00     0.000     0.025     0.000     0.000    623.20    130.00
 0.002936        1.        1.        1.         0         0         0     -0.05     20.00    150.00

*SECNO 1843.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  635.00 MAX ELLC=  632.80

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
                 UPSTREAM FACE EASTERDAY AVE
  1843.00      3.42    626.62      0.00      0.00    627.04      0.42      0.12      0.01    623.50
     310.        0.       310.        0.        0.       59.        0.        2.        1. 100000.00
     0.09      0.00      5.22      0.00     0.000     0.025     0.000     0.000    623.20    130.00
 0.002452       43.       43.       43.         2         0         0     -0.05     20.00    150.00

*SECNO 1844.000

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
  1844.00      3.43    626.63      0.00      0.00    627.05      0.42      0.00      0.00    623.50
     310.        0.       310.        0.        0.       59.        0.        2.        1. 100000.00
     0.09      0.00      5.21      0.00     0.000     0.040     0.000     0.000    623.20    130.00
 0.006244        1.        1.        1.         0         0         0      0.00     20.00    150.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         GLOB      GCH       GRCE      ALOB      ACH       AROE      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCE      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 1894.000
  1894.00     3.42    626.97      0.00      0.00    627.30      0.33      0.25      0.01    623.85
     310.      20.      285.        5.       10.       59.        4.        3.        1.    625.15
     0.09     1.96      4.80      1.41     0.060     0.040     0.060     0.000    623.55    123.57
 0.003967      50.       50.       50.         2         0         0      0.00     30.28    153.85

 *SECNO 1994.000
                BRIDGE SECTION GR'S MOVED DOWNSTREAM
  1994.00     3.28    627.28      0.00      0.00    627.98      0.70      0.57      0.11    624.90
     310.      24.      277.        8.        9.       39.        4.        3.        1.    624.90
     0.10     2.79      7.04      2.32     0.060     0.040     0.060     0.000    624.00     69.13
 0.008826     100.      100.      100.         2         0         0      0.00     23.43     92.55

 CCHV=   0.300 CEHV=   0.500
 *SECNO 2069.000

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2069.00     3.23    628.03      0.00      0.00    629.10      1.08      0.93      0.19    625.70
     310.       0.      310.        0.        0.       37.        0.        3.        1. 100000.00
     0.10     0.00      3.32      0.00     0.000     0.040     0.000     0.000    624.80     76.00
 0.018896      75.       75.       75.         2         0         0      0.00     13.00     89.00

 *SECNO 2070.000

 3370 NORMAL BRIDGE/NRD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
                DOWNSTREAM FACE BRIDGE JUST L/S OF EASTERDAY AVE
  2070.00     3.24    628.04      0.00      0.00    629.12      1.07      0.01      0.00    625.70
     310.       0.      310.        0.        0.       37.        0.        3.        1. 100000.00
     0.10     0.00      3.32      0.00     0.000     0.030     0.000     0.000    624.80     76.00
 0.010623       1.        1.        1.         0         0         0     -0.09     13.00     89.00

 *SECNO 2090.000

 3370 NORMAL BRIDGE/NRD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
  Q         QLOB      QCH       QRCE      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
  TIME      VLOB      VCH       VRCE      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2090.00     3.84    628.64      0.00      0.00    629.38      0.74      0.16      0.10    625.70
     310.       0.       310.       0.        0.       45.       0.        3.        1.  100000.00
     0.10     0.00      6.90      0.00      0.000    0.030     0.000     0.000   624.80     76.00
 0.006197      20.       20.       20.        3        0         0     -0.14     13.00     89.00

*SECNO 2110.000

3370 NORMAL BRIDGE,KRD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
                 UPSTREAM FACE BRIDGE JUST U/S OF EASTERDAY AVE
  2110.00     4.07    628.87      0.00      0.00    629.52      0.65      0.11      0.03    625.70
     310.       0.       310.       0.        0.       48.       0.        3.        1.  100000.00
     0.10     0.00      6.47      0.00      0.000    0.030     0.000     0.000   624.80     76.00
 0.005163      20.       20.       20.        2        0         0     -0.16     13.00     89.00

*SECNO 2111.000

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2111.00     4.08    628.88      0.00      0.00    629.52      0.64      0.01      0.00    625.70
     310.       0.       310.       0.        0.       48.       0.        3.        1.  100000.00
     0.10     0.00      6.43      0.00      0.000    0.030     0.000     0.000   624.80     76.00
 0.005079       1.        1.        1.        0        0         0      0.00     13.00     89.00

CCHV=   0.100 CEHV=   0.300
*SECNO 2160.000
                 VALLEY SECTION E MOVED DOWNSTREAM
  2160.00     5.27    629.47      0.00      0.00    629.69      0.22      0.12      0.04    625.90
     310.       23.       269.       18.       15.       68.       13.        3.        1.    625.90
     0.11     1.52      3.97      1.40      0.060    0.040     0.060     0.000   624.20     62.98
 0.001510       49.       49.       49.        2        0         0      0.00     29.43     92.41

*SECNO 2310.000
                 VALLEY SECTION E
  2310.00     5.51    629.71      0.00      0.00    629.90      0.19      0.21      0.00    625.90
     310.       25.       266.       20.       17.       71.       15.        3.        1.    625.90
     0.12     1.44      3.75      1.33      0.060    0.040     0.060     0.000   624.20     62.49
 0.001261      150.      150.      150.        2        0         0      0.00     30.41     92.90
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 SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 G          GLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME       VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE      XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 2660.000
                VALLEY SECTION F
 2660.00     4.15    630.25      0.00      0.00    630.60      0.36      0.65      0.05    627.20
    310.      10.      296.        5.        7.       60.        3.        4.        2.    627.20
    0.14      1.33      4.90      1.37     0.055     0.040     0.055     0.000    626.10     61.77
0.303026     350.      350.      350.         2         0         0      0.00     26.40     88.18

*SECNO 4950.000
                VALLEY SECTION G
 4950.00     5.02    636.22      0.00      0.00    636.46      0.24      5.85      0.01    633.40
    310.      28.      270.       12.       20.       65.        8.        8.        3.    633.80
    0.31      1.42      4.16      1.54     0.055     0.040     0.055     0.000    631.20     68.58
0.002184    2290.    2290.     2290.         4         0         0      0.00     39.99    108.57
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THIS RUN EXECUTED 3 APR 85 15:26:39

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  C1,02,03,C4,C5,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************

T1      CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2      ASHMUN CREEK
T3      100-YEAR FLOW

J1  ICHECK    ING       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       0.       4.       0.        0.  C.000000     0.00      0.0       0.   601.200    0.000
J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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```
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *PROF 3

 CCHV=   0.100 CEHV=   0.300
 *SECNO 0.000
 3720 CRITICAL DEPTH ASSUMED
                 VALLEY SECTION A
      0.00      2.24    602.64    602.64    601.20    603.38      0.74      0.00      0.00    602.10
      370.        1.      369.        0.        0.       53.        0.        0.        0.    604.50
      0.00      1.71      6.91      0.00     0.070     0.050     0.000     0.000    600.40     54.72
  0.033736        0.        0.        0.         0        19         0      0.00     37.64     92.35

 *SECNO 99.000

 3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
     99.00      3.97    604.77      0.00      0.00    605.45      0.68      2.07      0.01    601.40
      370.        0.      370.        0.        0.       56.        0.        0.        0. 100000.00
      0.00      0.00      6.63      0.00     0.000     0.050     0.000     0.000    600.80    152.00
  0.014163       99.       99.       99.         3         0         0      0.00     15.00    167.00

 *SECNO 100.000

 3370 NORMAL BRIDGE/NPD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

 3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
                 DOWNSTREAM FACE SOUTH STREET
    100.00      3.98    604.78      0.00      0.00    605.46      0.68      0.01      0.00    601.40
      370.        0.      370.        0.        0.       56.        0.        0.        0. 100000.00
      0.00      0.00      6.62      0.00     0.000     0.025     0.000     0.000    600.80    152.00
  0.003525        1.        1.        1.         1         0         0     -0.13     15.00    167.00

 *SECNO 121.000

 3370 NORMAL BRIDGE/NPD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

 3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
                 UPSTREAM FACE SOUTH STREET
    121.00      4.09    604.89      0.00      0.00    605.53      0.64      0.07      0.00    601.40
      370.        0.      370.        0.        0.       57.        0.        0.        0. 100000.00
      0.01      0.00      6.44      0.00     0.000     0.025     0.000     0.000    600.80    152.00
  0.003262       21.       21.       21.         2         0         0     -0.14     15.00    167.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCE      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCE      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 122.000

3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
   122.00      4.10    604.90      0.00      0.00    605.54      0.64      0.00      0.00    601.40
     370.        0.      370.        0.        0.       58.        0.        0.        0.  100000.00
     0.01      0.00      6.42      0.00     0.000     0.035     0.000     0.000    600.80    152.00
 0.006327        1.        1.        1.         0         0         0      0.00     15.00    167.00

 *SECNO 142.000
   142.00      3.55    605.12      0.00      0.00    605.66      0.53      0.11      0.01    602.17
     370.       10.      312.       48.        6.       50.       19.        0.        0.    602.27
     0.01      1.62      6.30      2.51     0.070     0.035     0.050     0.000    601.57    147.78
 0.004498       20.       20.       20.         2         0         0      0.00     32.49    180.27

 *SECNO 152.000
   152.00      3.03    604.98      0.00      0.00    605.80      0.83      0.06      0.09    602.55
     370.        8.      323.       39.        4.       42.       13.        0.        0.    602.65
     0.01      1.96      7.74      3.03     0.070     0.035     0.050     0.000    601.95    148.53
 0.008563       10.       10.       10.         2         0         0      0.00     29.33    177.85

 *SECNO 162.000
3635 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   162.00      2.79    605.12    605.12      0.00    606.16      1.04      0.10      0.06    602.93
     370.        7.      328.       34.        3.       38.       10.        0.        0.    603.03
     0.01      2.16      8.61      3.34     0.070     0.035     0.050     0.000    602.33    148.87
 0.011952       10.       10.       10.        20        11         0      0.00     27.88    176.75

 *SECNO 200.000
3635 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                    DOWNSTREAM FACE SCO LINE RAILROAD
   200.00      2.36    606.66    606.66      0.00    607.84      1.18      0.51      0.04    607.20
     370.        0.      370.        0.        0.       43.        0.        0.        0.    604.20
     0.01      0.00      8.71      0.04     0.000     0.035     0.050     0.000    603.80    100.02
 0.015494       38.       38.       38.        20         5         0      0.00     18.06    118.08
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SP  XK        XKOR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      2.82      3.00      0.00      18.00     0.00      38.40     0.00      603.80    603.80

*SECNO 277.000

3301 HV CHANGED MORE THAN HVTAS

PRESSURE FLOW

  EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID AREA    ELLC      ELTRD
    610.73    608.56    0.00      0.        370.      38.       72.               607.80    615.40

3470 ENCROACHMENT STATIONS=     100.0     118.0  TYPE=     1  TARGET=     18.000
                 UPSTREAM FACE SOC LINE RAILROAD
    277.00    6.23      610.53    0.00      0.00      610.73    0.20      2.89      0.00      607.70
    370.      0.        370.      0.        0.        103.      0.        0.        0.        100000.00
    0.01      0.00      3.59      0.00      0.000     0.035     0.000     0.000     604.30    100.00
  0.001336    77.       77.       77.       2         0         0         0.00      18.00     118.00

*SECNO 428.000
    428.00    7.09      610.79    0.00      0.00      610.91    0.12      0.18      0.01      611.10
    370.      0.        370.      0.        0.        132.      0.        1.        0.        612.30
    0.03      0.00      2.81      0.00      0.000     0.040     0.000     0.000     603.70    52.03
  0.001029    151.      151.      151.      2         0         0         0.00      32.15     84.18

*SECNO 429.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                 DOWNSTREAM FACE UNIDENTIFIED BRIDGE
    429.00    7.09      610.79    0.00      0.00      610.91    0.12      0.00      0.00      611.10
    370.      0.        370.      0.        0.        132.      0.        1.        0.        612.30
    0.03      0.00      2.81      0.00      0.000     0.040     0.000     0.000     603.70    52.03
  0.001030    1.        1.        1.        0         0         0         0.00      32.14     84.18
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       ARCB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 440.000

 3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                    UPSTREAM FACE UNIDENTIFIED BRIDGE
    440.00     7.10   610.80     0.00      0.00   610.93     0.12      0.01      0.00   611.10
      370.       0.     370.       0.        0.     132.       0.        1.        0.   612.30
      0.03     0.00     2.81     0.00     0.000    0.040    0.000     0.000    603.70    52.00
  0.001023      11.      11.      11.         0        0        0      0.00     32.19    84.19

 *SECNO 441.000
    441.00     7.10   610.80     0.00      0.00   610.93     0.12      0.00      0.00   611.10
      370.       0.     370.       0.        0.     132.       0.        1.        0.   612.30
      0.03     0.00     2.80     0.00     0.000    0.040    0.000     0.000    603.70    52.00
  0.001022       1.       1.       1.         0        0        0      0.00     32.19    84.19

 *SECNO 491.000
    491.00     6.64   610.84     0.00      0.00   610.99     0.15      0.06      0.01   611.60
      370.       0.     370.       0.        0.     118.       0.        1.        0.   612.80
      0.03     0.00     3.14     0.00     0.000    0.040    0.000     0.000    604.20    53.38
  0.001378      50.      50.      50.         1        0        0      0.00     30.29    83.66

 *SECNO 613.000
                    INTERPOLATED SECTION BASED ON SECTIONS 428 AND 715
    613.00     5.63   610.93     0.00      0.00   611.26     0.34      0.21      0.05   605.80
      370.      67.     234.      69.       25.     43.       24.        1.        0.   605.80
      0.04     2.72     5.45     2.87     0.050    0.040    0.050     0.000    605.30    60.12
  0.002307     122.     122.     122.         2        0        0      0.00     26.82    86.95

 *SECNO 715.000
                    INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
    715.00     4.59   610.99     0.00      0.00   611.78     0.79      0.38      0.14   607.40
      370.      13.     335.      22.        5.     45.        8.        1.        0.   608.60
      0.05     2.66     7.45     2.84     0.050    0.040    0.050     0.000    606.40    67.30
  0.007242     102.     102.     102.         2        0        0      0.00     22.16    89.47

 *SECNO 850.000
                    INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

   850.00     4.34    612.09      0.00      0.00    612.64      0.55      0.83      0.02    608.75
     370.       9.      294.       67.       4.       45.       22.        2.        0.    608.95
     0.05     2.16      6.49      3.03      0.050    0.040     0.050     0.000    607.75     67.49
 0.005286     135.     135.      135.         3        0         0      0.00     30.78     98.27

*SECNO 990.000
                 VALLEY SECTION 9 MOVED DOWNSTREAM
   990.00     3.82    612.92      0.00      0.00    613.35      0.43      0.70      0.01    610.10
     370.       13.      325.       32.       7.       59.       16.        2.        1.    610.60
     0.06     1.83      5.54      1.99      0.070    0.040     0.070     0.000    609.10     66.47
 0.004707     140.     140.      140.         2        0         0      0.00     34.90    101.37

*SECNO 1180.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   1180.00     2.90    614.30    614.30      0.00    615.28      0.99      1.51      0.17    612.40
     370.       8.      345.       17.       3.       42.        6.        2.        1.    612.90
     0.07     2.62      8.22      2.77      0.070    0.040     0.070     0.000    611.40     68.49
 0.016183     190.     190.      190.         3       15         0      0.00     30.21     98.70

*SECNO 1370.000
   1370.00     3.25    616.95      0.00      0.00    617.65      0.70      2.34      0.03    614.70
     370.       10.      337.       23.       4.       48.       10.        2.        1.    615.20
     0.08     2.27      6.98      2.35      0.070    0.040     0.070     0.000    613.70     67.72
 0.009657     190.     190.      190.         2        0         0      0.00     32.70    100.42

*SECNO 1538.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                 VALLEY SECTION 8
   1538.00     2.90    618.90    618.90      0.00    619.88      0.99      2.07      0.09    617.00
     370.       8.      345.       17.       3.       42.        6.        3.        1.    617.50
     0.08     2.62      8.22      2.77      0.070    0.040     0.070     0.000    616.00     68.49
 0.016183     168.     168.      168.         2       11         0      0.00     30.21     98.70
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROE      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 1588.000
 3635 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
   1588.00      2.90    620.30    620.30      0.00    621.28      0.98      0.81      0.00    618.40
      370.        8.       345.       17.        3.       42.        6.        3.        1.    618.90
      0.08      2.62      8.22      2.77     0.070     0.040     0.070     0.000    617.40     68.48
  0.016148       50.       50.       50.        20         5         0      0.00     30.23     98.71

 CCHV=   0.300 CEHV=   0.500
 *SECNO 1638.000
 3635 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
   1638.00      3.31    622.81    622.81      0.00    624.21      1.40      0.84      0.21    621.10
      370.        0.       369.        1.        0.       39.        1.        3.        1.    621.10
      0.08      0.85      9.52      1.39     0.070     0.040     0.070     0.000    619.50     68.66
  0.017459       50.       50.       50.        20         8         0      0.00     14.81     83.47

 *SECNO 1639.000

 3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                    DOWNSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
   1639.00      3.33    622.83    622.81      0.00    624.23      1.41      0.02      0.00    621.10
      370.        0.       370.        0.        0.       39.        0.        3.        1.    621.10
      0.08      0.00      9.52      0.00     0.000     0.035     0.000     0.000    619.50     68.65
  0.017765        1.        1.        1.         0        15         0     -1.09     14.82     83.48

 *SECNO 1643.000

 3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

   1643.00      4.00    623.50      0.00      0.00    624.43      0.93      0.05      0.14    621.10
      370.        0.       370.        0.        0.       48.        0.        3.        1.    621.10
      0.08      0.00      7.74      0.00     0.000     0.035     0.000     0.000    619.50     68.52
  0.009803        4.        4.        4.         5         0         0     -2.09     15.25     83.77
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         CLOB      GCH       QRCB      ALOB      ACH       AROE      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBF     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 1690.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                 UPSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
  1690.00      4.72    624.22      0.00      0.00    624.87      0.65      0.35      0.09    621.10
     370.        0.       370.       0.        0.       57.       0.        3.        1.     621.10
     0.09      0.00      6.45      0.00     0.000     0.035     0.000     0.000    619.50     68.38
 0.005997       47.       47.       47.         2         0         0     -3.92     16.04     84.42

*SECNO 1691.000
  1691.00      4.81    624.31      0.00      0.00    624.89      0.58      0.00      0.02    621.10
     370.        1.       365.       4.        1.       59.       2.        3.        1.     621.10
     0.09      0.97      6.16      1.62     0.040     0.035     0.040     0.000    619.50     68.36
 0.003174        1.        1.        1.         2         0         0      0.00     16.23     84.58

*SECNO 1717.000
                 VALLEY SECTION C, DOWNSTREAM OF WATERFALL
  1717.00      5.67    624.77      0.00      0.00    625.05      0.28      0.06      0.09    621.90
     370.       15.       343.      12.       11.       78.      10.        3.        1.     622.10
     0.09      1.39      4.40      1.11     0.070     0.040     0.070     0.000    619.10     64.43
 0.001998       26.       26.       26.         2         0         0      0.00     29.43     93.85

CCHV=   0.100 CEHV=   0.300
*SECNO 1722.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3695 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                 VALLEY SECTION D, UPSTREAM OF WATERFALL
  1722.00      2.55    625.65    625.65      0.00    626.58      0.93      0.02      0.19    623.40
     370.       33.       291.      46.       10.       34.      13.        3.        1.     623.70
     0.09      3.27      8.54      3.47     0.070     0.040     0.070     0.000    623.10     39.21
 0.016250        5.        5.        5.        20        14         0      0.00     31.47     70.68

*SECNO 1732.000
  1732.00      3.06    626.16      0.00      0.00    626.72      0.56      0.11      0.04    623.40
     370.       39.       278.      53.       14.       41.      18.        3.        1.     623.70
     0.09      2.74      6.74      2.86     0.070     0.040     0.070     0.000    623.10     38.47
 0.007059       10.       10.       10.         4         0         0      0.00     32.95     71.43
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROE      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 1799.000

 3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
   1799.00      3.49    626.69      0.00      0.00    627.27      0.58      0.54      0.00    623.50
      370.        0.      370.        0.        0.       61.        0.        3.        1. 100000.00
      0.09      0.00      6.09      0.00     0.000     0.040     0.000     0.000    623.20    130.00
  0.003322       67.       67.       67.         2         0         0      0.00     20.00    150.00

 *SECNO 1800.000

 3370 NORMAL BRIDGE,NPD= 12 MIN ELTRD=  635.00 MAX ELLC=  632.80

 3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
                    DOWNSTREAM FACE EASTERDAY AVE
   1800.00      3.50    625.70      0.00      0.00    627.27      0.57      0.00      0.00    623.50
      370.        0.      370.        0.        0.       61.        0.        3.        1. 100000.00
      0.09      0.00      6.07      0.00     0.000     0.025     0.000     0.000    623.20    130.00
  0.003230        1.        1.        1.         0         0         0     -0.06     20.00    150.00

 *SECNO 1843.000

 3370 NORMAL BRIDGE,NPD= 12 MIN ELTRD=  635.00 MAX ELLC=  632.80

 3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
                    UPSTREAM FACE EASTERDAY AVE
   1843.00      3.70    626.90      0.00      0.00    627.40      0.50      0.13      0.01    623.50
      370.        0.      370.        0.        0.       65.        0.        3.        1. 100000.00
      0.09      0.00      5.70      0.00     0.000     0.025     0.000     0.000    623.20    130.00
  0.002667       43.       43.       43.         2         0         0     -0.06     20.00    150.00

 *SECNO 1844.000

 3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=      20.000
   1844.00      3.71    626.91      0.00      0.00    627.41      0.50      0.00      0.00    623.50
      370.        0.      370.        0.        0.       65.        0.        3.        1. 100000.00
      0.09      0.00      5.69      0.00     0.000     0.040     0.000     0.000    623.20    130.00
  0.006788        1.        1.        1.         0         0         0      0.00     20.00    150.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOCL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 1894.000
  1894.00      3.75    627.30      C.00      C.CC    627.67      0.37      0.25      0.01    623.85
     370.       25.      337.        8.       12.       66.        5.        3.        1.    625.15
     C.10      2.C7      5.10      1.56     C.06C     0.040     0.C60     0.000    623.55    122.89
 0.003863       5C.       5C.       50.         2         0         0      C.00     31.64    154.53

 *SECNO 1994.000
                BRIDGE SECTICN GR'S MOVED DOWNSTREAM
  1994.CO      3.57    627.57      C.00      C.CC    628.36      0.79      0.56      0.13    624.90
     370.       32.      326.       11.       11.       43.        5.        3.        1.    624.90
     0.10      2.99      7.53      2.50     C.06C     C.040     0.C60     0.000    624.00     68.35
 0.008871      10C.      1CC.      1CC.         2         0         0      0.00     24.56     92.90

 CCHV=   C.30C CEHV=   0.5CO
 *SECNO 2069.000

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=     13.000
  2069.00      3.5C    628.30      C.00      C.0C    629.58      1.28      0.97      0.24    625.70
     370.        C.      37C.        0.        0.       41.        C.        3.        1. 100000.00
     C.1C      0.CC      9.C8      C.00     C.0CC     0.040     0.CCO     0.000    624.8C     76.CO
 0.020718       75.       75.       75.         2         0         0      0.00     13.00     89.CO

 *SECNO 2070.000

 3370 NORMAL BRIDGE/NRD= 18 MIN ELTRD=  636.4C MAX ELLC=  633.40

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=     13.00C
                DOWNSTREAM FACE BRIDGE JLST L/S OF EASTERDAY AVE
  2070.00      3.52    628.32      C.00      C.CC    629.59      1.28      0.02      0.00    625.70
     370.        C.      37C.        0.        0.       41.        0.        3.        1. 100000.00
     0.10      0.CC      9.C7      C.00     C.00C     0.030     0.C00     0.000    624.8C     76.CO
 0.011661        1.        1.        1.         C         0         0     -0.11     13.0C     89.CO

 *SECNO 2090.000

 3370 NORMAL BRIDGE/NRD= 18 MIN ELTRD=  636.4C MAX ELLC=  633.40
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
  SLOPE     XLOBL     XLCH      XLCRR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2090.00     4.25    629.05      0.00      0.00    629.89      0.85      0.17      0.13    625.70
     370.       0.      370.       0.        0.        50.       0.        3.        1.  100000.00
     0.10      0.00      7.38      0.00      0.000     0.030     0.000     0.000   624.80     76.00
 0.006509      20.       20.       20.        3         0         0        -0.20    13.00     89.00


*SECNO 2110.000

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40


3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
                UPSTREAM FACE BRIDGE JUST U/S OF EASTERDAY AVE
  2110.00     4.50    629.30      0.00      0.00    630.04      0.75      0.12      0.03    625.70
     370.       0.      370.       0.        0.        53.       0.        3.        1.  100000.00
     0.10      0.00      6.93      0.00      0.000     0.030     0.000     0.000   624.80     76.00
 0.005464      20.       20.       20.        2         0         0        -0.28    13.00     89.00


*SECNO 2111.000

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2111.00     4.52    629.32      0.00      0.00    630.05      0.73      0.01      0.00    625.70
     370.       0.      370.       0.        0.        54.       0.        3.        1.  100000.00
     0.11      0.00      6.87      0.00      0.000     0.030     0.000     0.000   624.80     76.00
 0.005296       1.        1.        1.        1         0         0        0.00     13.00     89.00


CCHV=   0.100 CEHV=   0.300
*SECNO 2160.000
                VALLEY SECTION E MOVED DOWNSTREAM
  2160.00     5.79    629.99      0.00      0.00    630.22      0.23      0.12      0.05    625.90
     370.       32.      313.       26.       20.        75.       17.        4.        1.    625.90
     0.11      1.62      4.18      1.49      0.060     0.040     0.060     0.000   624.20     61.90
 0.001453       49.       49.       49.        2         0         0        0.00     31.59     93.49


*SECNO 2310.000
                VALLEY SECTION E
  2310.00     6.02    630.22      0.00      0.00    630.43      0.21      0.20      0.00    625.90
     370.       33.      309.       27.       22.        78.       19.        4.        1.    625.90
     0.12      1.54      3.96      1.43      0.060     0.040     0.060     0.000   624.20     61.42
 0.001242      150.      150.      150.        2         0         0        0.00     32.54     93.96
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 2660.000
                    VALLEY SECTION F
 2660.00     4.63    630.73      0.00      0.00    631.10      0.38      0.62      0.05    627.20
    370.      18.       346.       6.       12.       68.        4.        5.        2.    627.20
     0.14     1.47      5.09      1.45     0.055     0.040     0.055     0.000    626.10     59.37
 0.002778    350.      350.      350.         2         0         0      0.00     29.15     88.52

*SECNO 4950.000
                    VALLEY SECTION G
 4950.00     5.35    636.55      0.00      0.00    636.81      0.26      5.70      0.01    633.40
    370.      42.       311.      16.       26.       70.        9.       10.        4.    633.80
     0.30     1.61      4.44      1.76     0.055     0.040     0.055     0.000    631.20     66.55
 0.002242   2290.     2290.     2290.         4         0         0      0.00     42.20    108.75
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5 ft

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... 2119-52.1
... the file no.

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THIS RUN EXECUTED 3 APR 85 15:26:49

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  C1,02,03,C4,C5,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************

T1       CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2       ASHMUN CREEK
T3       500-YEAR FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

        0.       5.       0.       0.  0.000000      0.00       0.0       0.   601.200     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TCPWID      ENDST

 *PROF 4

 CCHV=   0.100 CEHV=   0.300
 *SECNO 0.000
 3720 CRITICAL DEPTH ASSUMED
                 VALLEY SECTION A
      0.00      2.53    602.93    602.93    601.20    603.79      0.86      0.00      0.00    602.10
      430.        2.      478.        0.        1.       64.        0.        0.        0.    604.50
      0.00      2.33      7.47      0.00      0.070     0.050     0.000     0.000    600.40     54.14
  0.031915        0.        0.        0.         0        22         0      0.00     38.93     93.07

 *SECNO 99.000

 3470 ENCROACHMENT STATIONS=      152.0     167.0  TYPE=     1  TARGET=      15.000
     99.00      4.38    605.18      0.00      0.00    606.11      0.93      2.30      0.02    601.40
      480.        0.      480.        0.        0.       62.        0.        0.        0. 100000.00
      0.00      0.00      7.75      0.00      0.000     0.050     0.000     0.000    600.80    152.00
  0.017652       99.       99.       99.         3         0         0      0.00     15.00    167.00

 *SECNO 100.000

 3370 NORMAL BRIDGE/NRD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

 3470 ENCROACHMENT STATIONS=      152.0     167.0  TYPE=     1  TARGET=      15.000
                 DOWNSTREAM FACE SOUTH STREET
     100.00      4.39    605.19      0.00      0.00    606.12      0.93      0.01      0.00    601.40
      480.        0.      480.        0.        0.       62.        0.        0.        0. 100000.00
      0.00      0.00      7.74      0.00      0.000     0.025     0.000     0.000    600.80    152.00
  0.004405        1.        1.        1.         1         0         0     -0.17     15.00    167.00

 *SECNO 121.000

 3370 NORMAL BRIDGE/NRD= 12 MIN ELTRD=  606.60 MAX ELLC=  605.70

 3470 ENCROACHMENT STATIONS=      152.0     167.0  TYPE=     1  TARGET=      15.000
                 UPSTREAM FACE SOUTH STREET
     121.00      4.55    605.35      0.00      0.00    606.21      0.87      0.09      0.01    601.40
      480.        0.      480.        0.        0.       64.        0.        0.        0. 100000.00
      0.00      0.00      7.47      0.00      0.000     0.025     0.000     0.000    600.80    152.00
  0.003985       21.       21.       21.         2         0         0     -0.18     15.00    167.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         GLOB      QCH       QRCS      ALOB      ACH       AROE      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 122.000

 3470 ENCROACHMENT STATIONS=      152.0      167.0  TYPE=      1  TARGET=      15.000
    122.00      4.56    605.36      0.00      0.00    606.22      0.86      0.01      0.00    601.40
      480.        0.       480.       0.        0.       64.       0.        0.        0.  100000.00
      0.00      0.00      7.44      0.00     0.000     0.035     0.000     0.000    600.80    152.00
  0.007719        1.        1.        1.         0         0         0      0.00     15.00    167.00

 *SECNO 142.000
    142.00      4.24    605.81      0.00      0.00    606.35      0.54      0.10      0.03    602.17
      480.       16.       397.      77.        9.       60.      29.        0.        0.      602.27
      0.01      1.69      6.48      2.62     0.070     0.035     0.050     0.000    601.57    146.80
  0.003702       20.       20.       20.         3         0         0      0.00     36.62    183.42

 *SECNO 152.000
    152.00      3.75    605.70      0.00      0.00    606.47      0.77      0.05      0.07    602.55
      480.       14.       400.      66.        7.       53.      22.        0.        0.      602.65
      0.01      1.96      7.61      3.05     0.070     0.035     0.050     0.000    601.95    147.50
  0.006085       10.       10.       10.         2         0         0      0.00     33.68    181.17

 *SECNO 162.000
 7135 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
    162.00      3.23    605.56    605.56      0.00    606.73      1.17      0.08      0.12    602.93
      480.       12.       413.      55.        5.       45.      15.        0.        0.      603.03
      0.01      2.36      9.25      3.65     0.070     0.035     0.050     0.000    602.33    148.24
  0.011140       10.       10.       10.         4        11         0      0.00     30.53    178.77

 *SECNO 200.000
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
                  DOWNSTREAM FACE 500 LINE RAILROAD
    200.00      3.31    607.11    607.11      0.00    608.51      1.40      0.49      0.07    607.20
      480.        0.       480.       0.        0.       51.       0.        0.        0.      604.20
      0.01      0.00      9.50      0.47     0.000     0.035     0.050     0.000    603.80    100.00
  0.015094       38.       38.       38.        20         5         0      0.00     18.09    118.09
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
 Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


SPECIAL BRIDGE

3070/VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHL     ELCHD
    0.00      2.82      3.00      0.00      19.00     0.00      38.40     0.00      603.80    603.80

*SECNO 277.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                             AREA
   613.95    609.13    0.00      0.       480.      38.       72.       607.80    615.40


3470 ENCROACHMENT STATIONS=     100.0     118.0  TYPE=     1  TARGET=     18.000
                 UPSTREAM FACE SOC LINE RAILROAD
   277.00      9.51    613.81      0.00      0.00    613.95      0.14      5.44      0.00    607.70
   430.        0.        480.      0.        0.      162.      0.        0.        0.  100000.00
     0.01      0.00      2.96      0.00      0.000     0.035     0.000     0.000   604.30    100.00
 0.000649      77.       77.       77.       2         0         0         0.00    18.00     118.00


*SECNO 428.000
3230 CROSS SECTION     428.00 EXTENDED      0.46 FEET

   428.00     10.26    613.96      0.00      0.00    614.02      0.05      0.06      0.01    611.10
   430.        12.      465.      3.        24.      245.      17.       1.        0.      612.30
     0.04      0.49      1.90      0.18      0.050     0.040     0.050     0.000   603.70     27.46
 0.000245     151.      151.      151.       2         0         0         0.00   135.54     163.00


*SECNO 429.000
3230 CROSS SECTION     429.00 EXTENDED      0.46 FEET

3370 NORMAL BRIDGE/NBD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                 DOWNSTREAM FACE UNIDENTIFIED BRIDGE
   429.00     10.25    613.95      0.00      0.00    614.02      0.07      0.00      0.01    611.10
   480.        31.      442.      7.        23.      197.      15.       1.        0.      612.30
     0.04      1.34      2.25      0.47      0.050     0.040     0.050     0.000   603.70     27.52
 0.001799      1.        1.        1.        1         0         0       -50.01   135.48     163.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    J         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 440.000
 3280 CROSS SECTION     440.00 EXTENDED       0.46 FEET

 3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  612.30 MAX ELLC=  612.30

                  UPSTREAM FACE UNIDENTIFIED BRIDGE
    440.00     10.27    613.97      0.00      0.00    614.04      0.07      0.02      0.00    611.10
      480.       31.      441.        7.        23.      197.       16.        1.        0.    612.30
      0.04      1.34      2.24      0.47      0.050     0.040     0.050     0.000    603.70     27.49
  0.001792       11.       11.       11.         0         0         0    -50.01    135.51    163.00

 *SECNO 441.000
 3280 CROSS SECTION     441.00 EXTENDED       0.49 FEET

    441.00     10.29    613.99      0.00      0.00    614.04      0.05      0.00      0.00    611.10
      430.       12.      464.        4.        25.      246.       19.        1.        0.    612.30
      0.04      0.49      1.89      0.19      0.050     0.040     0.050     0.000    603.70     27.24
  0.000241        1.        1.        1.         2         0         0      0.00    135.76    163.00

 *SECNO 491.000
    491.00      9.80    614.00      0.00      0.00    614.06      0.07      0.01      0.00    611.60
      480.        6.      474.        0.        14.      228.        0.        2.        1.    612.80
      0.05      0.44      2.03      0.01      0.050     0.040     0.050     0.000    604.20     31.12
  0.000325       50.       50.       50.         2         0         0      0.00     56.97     88.09

 *SECNO 613.000
                  INTERPOLATED SECTION BASED ON SECTIONS 428 AND 715
    613.00      8.71    614.01      0.00      0.00    614.13      0.11      0.05      0.01    605.80
      430.      115.      234.       130.        65.       68.       80.        2.        1.    605.80
      0.06      1.76      3.46      1.64      0.050     0.040     0.050     0.000    605.30     53.42
  0.000507      122.      122.      122.         1         0         0      0.00     53.20    106.63

 *SECNO 715.000
                  INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
    715.00      7.62    614.03      0.00      0.00    614.22      0.19      0.07      0.02    607.40
      430.       34.      332.       114.        22.       81.       59.        3.        1.    608.60
      0.07      1.55      4.08      1.92      0.050     0.040     0.050     0.000    606.40     60.63
  0.000987      102.      102.      102.         2         0         0      0.00     44.66    105.28
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
    Q          GLOB       QCH        QRCB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
    TIME       VLOB       VCH        VRCB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

 *SECNO 850.000
                    INTERPOLATED SECTION BASED ON SECTIONS 428 AND 990
    850.00      6.41     614.16       0.00       0.00     614.38       0.23       0.16       0.01     608.75
      430.       20.       310.       149.        13.        70.       63.         3.         1.     608.95
      0.08      1.59       4.42       2.38      0.050      0.040      0.050      0.000     607.75      63.58
  0.001372      135.      135.       135.          2          0          0       0.00      40.78     104.36

 *SECNO 990.000
                    VALLEY SECTION B MOVED DOWNSTREAM
    990.00      5.25     614.35       0.00       0.00     614.63       0.28       0.23       0.02     610.10
      480.       28.       390.        62.        17.        84.       34.         4.         1.     610.60
      0.09      1.63       4.62       1.84      0.070      0.040      0.070      0.000     609.10      64.05
  0.002009      140.      140.       140.          2          0          0       0.00      39.71     103.76

 *SECNO 1180.000

 3301 HV CHANGED MORE THAN HVINS

 7135 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
   1180.00      3.31     614.71     614.71       0.00     615.82       1.11       0.82       0.25     612.40
      430.       14.       435.        31.         5.        49.       10.         4.         1.     612.90
      0.09      2.87       8.82       2.98      0.070      0.040      0.070      0.000     611.40      67.58
  0.014943      190.      190.       190.          3         14          0       0.00      32.93     100.52

 *SECNO 1370.000
   1370.00      3.61     617.31       0.00       0.00     618.16       0.85       2.32       0.03     614.70
      480.       16.       427.        37.         6.        55.       14.         4.         1.     615.20
      0.10      2.56       7.79       2.74      0.070      0.040      0.070      0.000     613.70      66.93
  0.010160      190.      190.       190.          2          0          0       0.00      34.09     101.02

 *SECNO 1538.000
 7135 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
                    VALLEY SECTION B
   1538.00      3.31     619.31     619.31       0.00     620.42       1.11       2.05       0.08     617.00
      480.       14.       435.        31.         5.        49.       10.         5.         2.     617.50
      0.11      2.87       8.82       2.98      0.070      0.040      0.070      0.000     616.00      67.58
  0.014946      168.      168.       168.          2         11          0       0.00      32.93     100.52
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 1588.000
3685 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  1588.00      3.32    620.72    620.72      0.00    621.82      1.10      0.75      0.00    618.40
     480.       14.      435.       31.        5.       49.       10.        5.        2.    618.90
     0.11      2.87      8.80      2.98     0.070     0.040     0.070     0.000    617.40     67.58
 0.014864       50.       50.       50.        20         5         0      0.00     32.95    100.53

CCHV=   0.300 CEHV=   0.500
*SECNO 1630.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  1636.00      3.85    623.35    623.35      0.00    625.01      1.66      0.78      0.28    621.10
     430.        1.      478.        2.        1.       46.        1.        5.        2.    621.10
     0.11      0.99     10.36      1.62     0.070     0.040     0.070     0.000    619.50     68.55
 0.016393       50.       50.       50.        20         8         0      0.00     15.16     83.71

*SECNO 1639.000

3370 NORMAL BRIDGE/NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                 DOWNSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
  1639.00      3.85    623.35    623.34      0.00    625.04      1.69      0.02      0.01    621.10
     480.        0.      480.        0.        0.       46.        0.        5.        2.    621.10
     0.11      0.00     10.42      0.00     0.000     0.035     0.000     0.000    619.50     68.55
 0.018344        1.        1.        1.         2         9         0     -1.87     15.17     83.71

*SECNO 1643.000

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE/NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

  1643.00      4.62    624.12      0.00      0.00    625.26      1.14      0.06      0.16    621.10
     430.        0.      480.        0.        0.       56.        0.        5.        2.    621.10
     0.11      0.00      8.56      0.00     0.000     0.035     0.000     0.000    619.50     68.40
 0.010738        4.        4.        4.         6         0         0     -3.57     15.82     84.22
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    G         QLOB      QCH       QRCE      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCE      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TCPWID     ENDST

*SECNO 1690.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  634.70 MAX ELLC=  628.10

                 UPSTREAM FACE BRIDGE JUST D/S OF EASTERDAY AVE
  1690.00      5.44    624.94      0.00      0.00    625.76      0.82      0.40      0.10    621.10
     480.        0.       480.       0.        0.       66.       0.        5.        2.    621.10
     0.11      0.00      7.27      0.00      0.000     0.035     0.000     0.000   619.50    68.23
 0.007019       47.       47.       47.         2         0         0     -7.26     17.52    85.76

*SECNO 1691.000
  1691.00      5.63    625.13      0.00      0.00    625.80      0.67      0.00      0.04    621.10
     480.        2.       470.       9.        2.       71.       5.        5.        2.    621.10
     0.11      1.09      6.66      1.87      0.040     0.035     0.040     0.000   619.50    68.19
 0.002941        1.        1.        1.         2         0         0      0.00     17.93    86.13

*SECNO 1717.000
                 VALLEY SECTION C, DOWNSTREAM OF WATERFALL
  1717.00      6.57    625.67      0.00      0.00    625.98      0.30      0.06      0.11    621.90
     480.       28.       427.      25.       18.       92.       19.       5.        2.    622.10
     0.11      1.62      4.66      1.32      0.070     0.040     0.070     0.000   619.10    63.21
 0.001811       26.       26.       26.         2         0         0      0.00     33.07    96.28

CCHV=   0.100 CEHV=   0.300
*SECNO 1722.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                 VALLEY SECTION D, UPSTREAM OF WATERFALL
  1722.00      2.91    626.01    626.01      0.00    627.09      1.08      0.02      0.23    623.40
     480.       48.       365.      66.       13.       39.       17.       5.        2.    623.70
     0.11      3.74      9.32      3.92      0.070     0.040     0.070     0.000   623.10    38.69
 0.016062        5.        5.        5.        20        14         0      0.00     32.53    71.21

*SECNO 1732.000
  1732.00      3.47    626.57      0.00      0.00    627.24      0.68      0.11      0.04    623.40
     480.       55.       351.      74.       18.       47.       23.       5.        2.    623.70
     0.11      3.12      7.47      3.24      0.070     0.040     0.070     0.000   623.10    37.89
 0.008119       10.       10.       10.         4         0         0      0.00     34.13    72.02
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 1799.000

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=       20.000
  1799.00      3.90    627.10      0.00      0.00    627.85      0.75      0.59      0.02    623.50
     480.        0.       480.       0.        0.       69.       0.        5.        2. 100000.00
     0.12      0.00      6.95      0.00     0.000    0.040     0.000     0.000    623.20    130.00
 0.009555       67.       67.       67.         3         0         0      0.00     20.00    150.00

*SECNO 1800.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  635.00 MAX ELLC=  632.80

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=       20.000
                  DOWNSTREAM FACE EASTERDAY AVE
  1800.00      3.91    627.11      0.00      0.00    627.86      0.75      0.01      0.00    623.50
     430.        0.       480.       0.        0.       69.       0.        5.        2. 100000.00
     0.12      0.00      6.94      0.00     0.000    0.025     0.000     0.000    623.20    130.00
 0.003716        1.        1.        1.         0         0         0     -0.07     20.00    150.00

*SECNO 1843.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  635.00 MAX ELLC=  632.80

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=       20.000
                  UPSTREAM FACE EASTERDAY AVE
  1843.00      4.16    627.36      0.00      0.00    628.01      0.65      0.14      0.01    623.50
     480.        0.       480.       0.        0.       74.       0.        5.        2. 100000.00
     0.12      0.00      6.47      0.00     0.000    0.025     0.000     0.000    623.20    130.00
 0.003021       43.       43.       43.         2         0         0     -0.08     20.00    150.00

*SECNO 1844.000

3470 ENCROACHMENT STATIONS=      130.0      150.0  TYPE=      1  TARGET=       20.000
  1844.00      4.17    627.37      0.00      0.00    628.02      0.65      0.00      0.00    623.50
     430.        0.       480.       0.        0.       74.       0.        5.        2. 100000.00
     0.12      0.00      6.46      0.00     0.000    0.040     0.000     0.000    623.20    130.00
 0.007687        1.        1.        1.         0         0         0      0.00     20.00    150.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 1894.000
  1894.00      4.31    627.86      0.00      0.00    628.30      0.43      0.26      0.02    623.85
     430.       37.      429.       14.       17.       77.       8.        5.        2.     625.15
     0.12      2.24      5.54      1.77     0.060     0.040     0.060     0.000    623.55    121.72
 0.003717       50.       50.       50.         2         0         0      0.00     33.97    155.69

 *SECNO 1994.000
                BRIDGE SECTION GR'S MOVED DOWNSTREAM
  1994.00      4.06    628.06      0.00      0.00    628.99      0.93      0.55      0.15    624.90
     430.       49.      413.       18.       15.       50.       6.        5.        2.     624.90
     0.12      3.30      8.25      2.77     0.060     0.040     0.060     0.000    624.00     67.01
 0.008788      100.      100.      100.         2         0         0      0.00     26.49     93.50

 CCHV=   0.300 CEHV=   0.500
 *SECNO 2069.000

 3301 HV CHANGED MORE THAN HVINS

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2069.00      3.92    628.72    628.64      0.00    630.40      1.68      1.03      0.37    625.70
     430.        0.      480.       0.        0.       46.       0.        6.        2. 100000.00
     0.13      0.00     10.40      0.00     0.000     0.040     0.000     0.000    624.80     76.00
 0.024448       75.       75.       75.         4        11         0      0.00     13.00     89.00

 *SECNO 2070.000

 3370 NORMAL BRIDGE/NRD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40

 3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
                DOWNSTREAM FACE BRIDGE JUST U/S OF EASTERDAY AVE
  2070.00      3.94    628.74    628.64      0.00    630.42      1.68      0.02      0.00    625.70
     480.        0.      480.       0.        0.       46.       0.        6.        2. 100000.00
     0.13      0.00     10.39      0.00     0.000     0.030     0.000     0.000    624.80     76.00
 0.013724        1.        1.        1.         0         9         0     -0.15     13.00     89.00

 *SECNO 2090.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
Q         SLOB      GCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD=  636.40 MAX ELLC=  633.40


3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2090.00      5.00    629.80      0.00      0.00    630.81      1.01      0.19      0.20    625.70
     430.        0.      430.        0.        0.       60.        0.        6.        2. 100000.00
     0.13      0.00      8.06      0.00     0.000     0.030     0.000     0.000    624.80     76.00
 0.006360       20.       20.       20.         4         0         0     -0.56     13.00     89.00


*SECNO 2110.000

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD=  636.40 MAX ELLC=  633.40


3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
                 UPSTREAM FACE BRIDGE JUST U/S OF EASTERDAY AVE
  2110.00      5.25    630.05      0.00      0.00    630.96      0.91      0.13      0.03    625.70
     480.        0.      480.        0.        0.       63.        0.        6.        2. 100000.00
     0.13      0.00      7.66      0.00     0.000     0.030     0.000     0.000    624.80     76.00
 0.006001       20.       20.       20.         2         0         0     -0.81     13.00     89.00


*SECNO 2111.000

3470 ENCROACHMENT STATIONS=      76.0      89.0  TYPE=     1  TARGET=      13.000
  2111.00      5.32    630.12      0.00      0.00    630.98      0.86      0.01      0.01    625.70
     430.        0.      480.        0.        0.       64.        0.        6.        2. 100000.00
     0.13      0.00      7.46      0.00     0.000     0.030     0.000     0.000    624.80     76.00
 0.005441        1.        1.        1.         2         0         0      0.00     13.00     89.00


CCHV=   0.100 CEHV=   0.300
*SECNO 2160.000

3301 HV CHANGED MORE THAN HVINS

                 VALLEY SECTION E MOVED DOWNSTREAM
  2160.00      6.71    630.91      0.00      0.00    631.16      0.25      0.12      0.06    625.90
     480.       50.      388.       42.       29.       88.       26.        6.        2.    625.90
     0.13      1.74      4.43      1.62     0.060     0.040     0.060     0.000    624.20     59.98
 0.001326       49.       49.       49.         2         0         0      0.00     35.42     95.40
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  SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
  Q          QLOB       QCH        QRCB       ALOB       ACH        ARCE       VOL        TWA    LEFT/RIGHT
  TIME       VLOB       VCH        VRCB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
  SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

*SECNO 2310.000
                    VALLEY SECTION E
  2310.00      6.92     631.12      0.00       0.00     631.35      0.23       0.19       0.00     625.90
     430.       53.       384.       44.        31.       91.       28.         6.         2.     625.90
      0.14      1.69      4.23      1.55      0.060     0.040     0.060      0.000     624.20      59.51
 0.0011c2       150.      150.      150.          2         0         0       0.00      36.32      95.83

*SECNO 2660.000
                    VALLEY SECTION F
  2660.00      5.47     631.57      0.00       0.00     631.96      0.40       0.56       0.05     627.20
     430.       38.       431.       11.        23.       81.        8.         7.         2.     627.20
      0.16      1.67      5.30      1.33      0.055     0.040     0.055      0.000     626.10      55.20
 0.002375      350.      350.      350.          1         0         0       0.00      53.69     108.89

*SECNO 4950.000
                    VALLEY SECTION G
  4950.00      5.86     637.06      0.00       0.00     637.37      0.31       5.40       0.01     633.40
     480.       72.       382.       26.        38.       78.       12.        14.         5.     633.80
      0.31      1.90      4.88      2.08      0.055     0.040     0.055      0.000     631.20      58.46
 0.002339     2290.     2290.     2290.          4         0         0       0.00      51.18     109.64
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THIS RUN EXECUTED 3 APR 85 15:26:59

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*********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  C1,02,03,C4,C5,06
  MODIFICATION -  50,51,52,53,54,55,56
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

10-YEAR FLOW

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
*	0.000	0.00	0.00	0.00	600.40	160.00	601.92	601.92	602.40	397.00	5.55	28.81	8.03
*	0.000	0.00	0.00	0.00	600.40	310.00	602.47	602.47	603.14	353.11	6.56	47.39	16.50
*	0.000	0.00	0.00	0.00	600.40	370.00	602.64	602.64	603.38	337.36	6.91	53.83	20.14
*	0.000	0.00	0.00	0.00	600.40	480.00	602.93	602.93	603.79	319.16	7.47	64.79	26.87
	99.000	99.00	0.00	0.00	600.80	160.00	603.63	0.00	603.89	77.26	4.13	38.70	18.20
	99.000	99.00	0.00	0.00	600.80	310.00	604.51	0.00	605.06	122.00	5.97	51.96	28.07
	99.000	99.00	0.00	0.00	600.80	370.00	604.77	0.00	605.45	141.63	6.63	55.77	31.09
	99.000	99.00	0.00	0.00	600.80	480.00	605.18	0.00	606.11	176.52	7.75	61.95	36.13
	100.000	1.00	606.60	605.70	600.80	160.00	603.63	0.00	603.90	19.44	4.14	38.62	36.29
	100.000	1.00	606.60	605.70	600.80	310.00	604.52	0.00	605.07	30.42	5.96	52.02	56.21
	100.000	1.00	606.60	605.70	600.80	370.00	604.78	0.00	605.46	35.25	6.62	55.88	62.32
	100.000	1.00	606.60	605.70	600.80	480.00	605.19	0.00	606.12	44.05	7.74	62.02	72.32
	121.000	21.00	606.60	605.70	600.80	160.00	603.68	0.00	603.94	18.33	4.06	39.39	37.37
	121.000	21.00	606.60	605.70	600.80	310.00	604.61	0.00	605.13	28.50	5.83	53.21	58.07
	121.000	21.00	606.60	605.70	600.80	370.00	604.89	0.00	605.53	32.62	6.44	57.41	64.78
	121.000	21.00	606.60	605.70	600.80	480.00	605.35	0.00	606.21	39.85	7.47	64.25	76.04
	122.000	1.00	0.00	0.00	600.80	160.00	603.69	0.00	603.94	35.67	4.05	39.48	26.79
	122.000	1.00	0.00	0.00	600.80	310.00	604.61	0.00	605.14	55.33	5.81	53.37	41.68
	122.000	1.00	0.00	0.00	600.80	370.00	604.90	0.00	605.54	63.27	6.42	57.60	46.51
	122.000	1.00	0.00	0.00	600.80	480.00	605.36	0.00	606.22	77.19	7.44	64.48	54.63
	142.000	20.00	0.00	0.00	601.57	160.00	603.67	0.00	604.09	70.95	5.37	33.97	18.99
	142.000	20.00	0.00	0.00	601.57	310.00	604.72	0.00	605.24	51.44	6.17	62.24	43.22
	142.000	20.00	0.00	0.00	601.57	370.00	605.12	0.00	605.66	44.98	6.30	74.87	55.17
	142.000	20.00	0.00	0.00	601.57	480.00	605.81	0.00	606.35	37.02	6.48	98.52	78.89
*	152.000	10.00	0.00	0.00	601.95	160.00	603.71	603.71	604.38	147.28	6.74	26.20	13.18
	152.000	10.00	0.00	0.00	601.95	310.00	604.53	604.48	605.43	115.13	7.98	46.11	28.89
	152.000	10.00	0.00	0.00	601.95	370.00	604.98	0.00	605.80	85.63	7.74	58.71	39.98
	152.000	10.00	0.00	0.00	601.95	480.00	605.70	0.00	606.47	60.85	7.61	81.38	61.53

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
*	162.000	10.00	0.00	0.00	602.33	160.00	604.09	604.09	604.76	145.02	6.71	26.34	13.29
*	162.000	10.00	0.00	0.00	602.33	310.00	604.85	604.85	605.81	126.35	8.22	44.56	27.58
*	162.000	10.00	0.00	0.00	602.33	370.00	605.12	605.12	606.16	119.52	8.61	51.84	33.84
*	162.000	10.00	0.00	0.00	602.33	480.00	605.56	605.56	606.73	111.40	9.25	64.68	45.48
*	200.000	38.00	0.00	0.00	603.80	160.00	605.64	605.64	606.32	179.65	6.65	24.11	11.94
*	200.000	38.00	0.00	0.00	603.80	310.00	606.39	606.39	607.45	162.03	8.27	37.58	24.35
*	200.000	38.00	0.00	0.00	603.80	370.00	606.66	606.66	607.84	154.94	8.71	42.60	29.72
*	200.000	38.00	0.00	0.00	603.80	480.00	607.11	607.11	608.51	150.94	9.50	50.65	39.07
	277.000	77.00	615.40	607.80	604.30	160.00	607.06	606.65	607.65	163.28	6.17	25.91	12.52
	277.000	77.00	615.40	607.80	604.30	310.00	608.97	0.00	609.24	23.18	4.13	75.12	64.38
	277.000	77.00	615.40	607.80	604.30	370.00	610.53	0.00	610.73	13.36	3.59	103.07	101.23
	277.000	77.00	615.40	607.80	604.30	480.00	613.81	0.00	613.95	6.49	2.96	162.21	188.35
	428.000	151.00	0.00	0.00	603.70	160.00	608.11	0.00	608.22	14.51	2.65	60.49	42.01
	428.000	151.00	0.00	0.00	603.70	310.00	609.38	0.00	609.57	19.20	3.42	90.54	70.75
	428.000	151.00	0.00	0.00	603.70	370.00	610.79	0.00	610.91	10.29	2.81	131.60	115.34
	428.000	151.00	0.00	0.00	603.70	480.00	613.96	0.00	614.02	2.45	1.90	286.40	306.63
	429.000	1.00	612.30	612.30	603.70	160.00	608.11	0.00	608.22	14.43	2.64	60.61	42.12
	429.000	1.00	612.30	612.30	603.70	310.00	609.38	0.00	609.57	19.23	3.43	90.49	70.70
	429.000	1.00	612.30	612.30	603.70	370.00	610.79	0.00	610.91	10.30	2.81	131.54	115.27
	429.000	1.00	612.30	612.30	603.70	480.00	613.95	0.00	614.02	17.99	2.25	235.33	113.16
	440.000	11.00	612.30	612.30	603.70	160.00	608.13	0.00	608.24	14.31	2.63	60.80	42.29
	440.000	11.00	612.30	612.30	603.70	310.00	609.41	0.00	609.59	18.93	3.41	91.03	71.25
	440.000	11.00	612.30	612.30	603.70	370.00	610.80	0.00	610.93	10.23	2.81	131.90	115.68
	440.000	11.00	612.30	612.30	603.70	480.00	613.97	0.00	614.04	17.92	2.24	235.91	113.40
	441.000	1.00	0.00	0.00	603.70	160.00	608.13	0.00	608.24	14.29	2.63	60.84	42.33
	441.000	1.00	0.00	0.00	603.70	310.00	609.41	0.00	609.59	18.87	3.40	91.14	71.36
	441.000	1.00	0.00	0.00	603.70	370.00	610.80	0.00	610.93	10.22	2.80	131.95	115.74
	441.000	1.00	0.00	0.00	603.70	480.00	613.99	0.00	614.04	2.41	1.89	290.19	309.42
	491.000	50.00	0.00	0.00	604.20	160.00	608.19	0.00	608.34	21.22	3.07	52.12	34.74
	491.000	50.00	0.00	0.00	604.20	310.00	609.48	0.00	609.72	26.21	3.86	80.32	60.55
	491.000	50.00	0.00	0.00	604.20	370.00	610.84	0.00	610.99	13.78	3.14	117.72	99.66
	491.000	50.00	0.00	0.00	604.20	480.00	614.00	0.00	614.06	3.25	2.08	241.71	266.36
	613.000	122.00	0.00	0.00	605.30	160.00	608.40	0.00	608.82	57.15	5.62	35.63	21.16
	613.000	122.00	0.00	0.00	605.30	310.00	609.70	0.00	610.23	47.95	6.61	61.55	44.77
	613.000	122.00	0.00	0.00	605.30	370.00	610.93	0.00	611.26	23.07	5.45	91.65	77.04
	613.000	122.00	0.00	0.00	605.30	480.00	614.01	0.00	614.13	5.07	3.46	212.87	213.24
	715.000	102.00	0.00	0.00	606.40	160.00	609.09	609.01	609.86	170.80	7.11	23.45	12.24
	715.000	102.00	0.00	0.00	606.40	310.00	610.08	609.98	611.18	141.96	8.65	39.62	26.02
	715.000	102.00	0.00	0.00	606.40	370.00	610.99	0.00	611.78	72.42	7.45	57.71	43.48
	715.000	102.00	0.00	0.00	606.40	480.00	614.02	0.00	614.22	9.87	4.08	162.88	152.80

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	SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	850.000	135.00	0.00	0.00	607.75	160.00	610.76	0.00	611.10	54.45	4.92	37.05	21.68
	850.000	135.00	0.00	0.00	607.75	310.00	611.83	0.00	612.31	49.66	5.99	63.69	43.99
	850.000	135.00	0.00	0.00	607.75	370.00	612.09	0.00	612.64	52.86	6.49	71.54	50.89
	850.000	135.00	0.00	0.00	607.75	480.00	614.16	0.00	614.38	13.72	4.42	145.78	129.57
	990.000	140.00	0.00	0.00	609.10	160.00	611.61	0.00	611.89	57.49	4.35	40.66	21.10
	990.000	140.00	0.00	0.00	609.10	310.00	612.61	0.00	613.00	47.78	5.23	71.30	44.85
	990.000	140.00	0.00	0.00	609.10	370.00	612.92	0.00	613.35	47.07	5.54	81.84	53.93
	990.000	140.00	0.00	0.00	609.10	480.00	614.35	0.00	614.63	20.09	4.62	135.45	107.10
*	1180.000	190.00	0.00	0.00	611.40	160.00	613.32	613.32	613.95	202.87	6.42	26.38	11.23
*	1180.000	190.00	0.00	0.00	611.40	310.00	614.04	614.04	614.95	172.15	7.85	43.97	23.63
*	1180.000	190.00	0.00	0.00	611.40	370.00	614.30	614.30	615.28	161.83	8.22	51.21	29.08
*	1180.000	190.00	0.00	0.00	611.40	480.00	614.71	614.71	615.82	149.43	8.82	64.51	39.27
	1370.000	190.00	0.00	0.00	613.70	160.00	616.01	0.00	616.37	85.42	4.92	35.48	17.31
	1370.000	190.00	0.00	0.00	613.70	310.00	616.72	0.00	617.33	92.89	6.46	55.36	32.16
	1370.000	190.00	0.00	0.00	613.70	370.00	616.95	0.00	617.65	96.57	6.98	62.48	37.65
	1370.000	190.00	0.00	0.00	613.70	480.00	617.31	0.00	618.16	101.60	7.79	74.58	47.62
	1538.000	168.00	0.00	0.00	616.00	160.00	617.93	617.92	618.56	202.71	6.42	26.38	11.24
*	1538.000	168.00	0.00	0.00	616.00	310.00	618.64	618.64	619.55	171.43	7.84	44.04	23.68
*	1538.000	168.00	0.00	0.00	616.00	370.00	618.90	618.90	619.88	161.83	8.22	51.21	29.09
*	1538.000	168.00	0.00	0.00	616.00	480.00	619.31	619.31	620.42	149.46	8.82	64.50	39.26
*	1538.000	50.00	0.00	0.00	617.40	160.00	619.33	619.33	619.95	202.25	6.42	26.40	11.25
*	1538.000	50.00	0.00	0.00	617.40	310.00	620.04	620.04	620.95	171.89	7.85	44.00	23.64
*	1538.000	50.00	0.00	0.00	617.40	370.00	620.30	620.30	621.28	161.48	8.22	51.26	29.12
*	1538.000	50.00	0.00	0.00	617.40	480.00	620.72	620.72	621.82	148.64	8.80	64.64	39.37
*	1638.000	50.00	0.00	0.00	619.50	160.00	621.59	621.59	622.41	216.67	7.27	22.09	10.87
*	1638.000	50.00	0.00	0.00	619.50	310.00	622.50	622.50	623.75	182.17	8.98	35.06	22.97
*	1638.000	50.00	0.00	0.00	619.50	370.00	622.81	622.81	624.21	174.59	9.52	39.71	28.00
*	1638.000	50.00	0.00	0.00	619.50	480.00	623.35	623.35	625.01	163.93	10.36	47.77	37.49
	1639.000	1.00	634.70	628.10	619.50	160.00	621.98	0.00	622.51	93.58	5.84	27.38	16.54
	1639.000	1.00	634.70	628.10	619.50	310.00	622.52	622.48	623.77	175.24	8.96	34.60	23.42
	1639.000	1.00	634.70	628.10	619.50	370.00	622.83	622.81	624.23	177.65	9.52	38.87	27.76
	1639.000	1.00	634.70	628.10	619.50	480.00	623.35	623.34	625.04	183.44	10.42	46.06	35.44
	1643.000	4.00	634.70	628.10	619.50	160.00	622.06	0.00	622.56	85.07	5.66	28.26	17.35
	1643.000	4.00	634.70	628.10	619.50	310.00	623.15	0.00	623.95	91.39	7.16	43.29	32.43
	1643.000	4.00	634.70	628.10	619.50	370.00	623.50	0.00	624.43	98.03	7.74	47.81	37.37
	1643.000	4.00	634.70	628.10	619.50	480.00	624.12	0.00	625.26	107.38	8.56	56.04	46.32
	1690.000	47.00	634.70	628.10	619.50	160.00	622.57	0.00	622.89	43.72	4.52	35.38	24.20
	1690.000	47.00	634.70	628.10	619.50	310.00	623.79	0.00	624.35	55.43	5.99	51.76	41.64
	1690.000	47.00	634.70	628.10	619.50	370.00	624.22	0.00	624.87	59.97	6.45	57.37	47.78
	1690.000	47.00	634.70	628.10	619.50	480.00	624.94	0.00	625.76	70.19	7.27	66.01	57.30

	SECNO	XLCH	ELTPD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	1691.000	1.00	0.00	0.00	619.50	160.00	622.58	0.00	622.89	33.30	4.48	36.26	27.73
	1691.000	1.00	0.00	0.00	619.50	310.00	623.85	0.00	624.37	32.57	5.79	55.47	54.32
	1691.000	1.00	0.00	0.00	619.50	370.00	624.31	0.00	624.89	31.74	6.16	62.71	65.67
	1691.000	1.00	0.00	0.00	619.50	480.00	625.13	0.00	625.80	29.41	6.66	76.76	88.51
	1717.000	26.00	0.00	0.00	619.10	160.00	622.84	0.00	623.01	20.07	3.24	51.19	35.72
	1717.000	26.00	0.00	0.00	619.10	310.00	624.25	0.00	624.51	20.78	4.19	84.88	68.00
	1717.000	26.00	0.00	0.00	619.10	370.00	624.77	0.00	625.05	19.98	4.40	99.47	82.77
	1717.000	26.00	0.00	0.00	619.10	480.00	625.67	0.00	625.98	18.11	4.66	127.83	112.78
*	1722.000	5.00	0.00	0.00	623.10	160.00	624.76	624.76	625.34	173.30	6.51	30.73	12.15
*	1722.000	5.00	0.00	0.00	623.10	310.00	625.43	625.43	626.27	162.21	8.02	50.78	24.34
*	1722.000	5.00	0.00	0.00	623.10	370.00	625.65	625.65	626.58	162.50	8.54	57.43	29.03
*	1722.000	5.00	0.00	0.00	623.10	480.00	626.01	626.01	627.09	160.62	9.32	69.10	37.87
	1732.000	10.00	0.00	0.00	623.10	160.00	625.16	0.00	625.48	72.24	4.90	42.35	18.82
	1732.000	10.00	0.00	0.00	623.10	310.00	625.91	0.00	626.41	76.76	6.29	65.91	35.38
	1732.000	10.00	0.00	0.00	623.10	370.00	626.16	0.00	626.72	78.59	6.74	73.92	41.74
	1732.000	10.00	0.00	0.00	623.10	480.00	626.57	0.00	627.24	81.19	7.47	87.55	53.27
	1799.000	67.00	0.00	0.00	623.20	160.00	625.66	0.00	625.91	55.16	3.98	40.21	21.54
	1799.000	67.00	0.00	0.00	623.20	310.00	626.44	0.00	626.92	75.32	5.55	55.90	35.72
	1799.000	67.00	0.00	0.00	623.20	370.00	626.69	0.00	627.27	83.22	6.09	60.80	40.56
	1799.000	67.00	0.00	0.00	623.20	480.00	627.10	0.00	627.85	95.55	6.95	69.08	49.11
	1800.000	1.00	635.00	632.80	623.20	160.00	625.67	0.00	625.91	21.39	3.97	40.30	34.60
	1800.000	1.00	635.00	632.80	623.20	310.00	626.45	0.00	626.92	29.36	5.54	55.94	57.21
	1800.000	1.00	635.00	632.80	623.20	370.00	626.70	0.00	627.27	32.30	6.07	60.93	65.10
	1800.000	1.00	635.00	632.80	623.20	480.00	627.11	0.00	627.86	37.16	6.94	69.19	78.74
	1843.000	43.00	635.00	632.80	623.20	160.00	625.78	0.00	626.00	18.14	3.76	42.50	37.56
	1843.000	43.00	635.00	632.80	623.20	310.00	626.62	0.00	627.04	24.52	5.22	59.37	62.60
	1843.000	43.00	635.00	632.80	623.20	370.00	626.90	0.00	627.40	26.67	5.70	64.95	71.65
	1843.000	43.00	635.00	632.80	623.20	480.00	627.36	0.00	628.01	30.21	6.47	74.18	87.32
	1844.000	1.00	0.00	0.00	623.20	160.00	625.78	0.00	626.00	46.22	3.76	42.57	23.53
	1844.000	1.00	0.00	0.00	623.20	310.00	626.63	0.00	627.05	62.44	5.21	59.47	39.23
	1844.000	1.00	0.00	0.00	623.20	370.00	626.91	0.00	627.41	67.88	5.69	65.07	44.91
	1844.000	1.00	0.00	0.00	623.20	480.00	627.37	0.00	628.02	76.87	6.46	74.33	54.75
	1894.000	50.00	0.00	0.00	623.55	160.00	626.01	0.00	626.22	41.73	3.79	45.69	24.77
	1894.000	50.00	0.00	0.00	623.55	310.00	626.97	0.00	627.30	39.67	4.80	73.02	49.22
	1894.000	50.00	0.00	0.00	623.55	370.00	627.30	0.00	627.67	38.83	5.10	83.29	59.37
	1894.000	50.00	0.00	0.00	623.55	480.00	627.86	0.00	628.30	37.17	5.54	101.84	78.74
	1994.000	100.00	0.00	0.00	624.00	160.00	626.43	0.00	626.85	81.28	5.37	33.24	17.75
	1994.000	100.00	0.00	0.00	624.00	310.00	627.28	0.00	627.98	88.26	7.04	51.70	33.00
	1994.000	100.00	0.00	0.00	624.00	370.00	627.57	0.00	628.36	88.71	7.53	58.70	39.28
	1994.000	100.00	0.00	0.00	624.00	480.00	628.06	0.00	628.99	87.88	8.25	71.35	51.20

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SECNO	XLCH	ELTRD	ELLC	ELMIN	G	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
2069.000	75.00	0.00	0.00	624.80	160.00	627.15	0.00	627.75	149.89	6.21	25.75	13.07
2069.000	75.00	0.00	0.00	624.80	310.00	628.03	0.00	629.10	188.96	8.32	37.24	22.55
2069.000	75.00	0.00	0.00	624.80	370.00	628.30	0.00	629.58	207.18	9.08	40.77	25.71
2069.000	75.00	0.00	0.00	624.80	480.00	628.72	628.64	630.40	244.48	10.40	46.15	30.70
2070.000	1.00	636.40	633.40	624.80	160.00	627.16	0.00	627.76	83.52	6.19	25.84	17.51
2070.000	1.00	636.40	633.40	624.80	310.00	628.04	0.00	629.12	106.23	8.32	37.26	30.08
2070.000	1.00	636.40	633.40	624.80	370.00	628.32	0.00	629.59	116.61	9.07	40.78	34.26
2070.000	1.00	636.40	633.40	624.80	480.00	628.74	628.64	630.42	137.24	10.39	46.22	40.97
2090.000	20.00	636.40	633.40	624.80	160.00	627.51	0.00	627.94	51.53	5.27	30.38	22.29
2090.000	20.00	636.40	633.40	624.80	310.00	628.64	0.00	629.38	61.97	6.90	44.94	39.38
2090.000	20.00	636.40	633.40	624.80	370.00	629.05	0.00	629.89	65.09	7.38	50.11	45.86
2090.000	20.00	636.40	633.40	624.80	480.00	629.80	0.00	630.81	68.60	8.06	59.53	57.95
2110.000	20.00	636.40	633.40	624.80	160.00	627.67	0.00	628.05	42.43	4.93	32.44	24.56
2110.000	20.00	636.40	633.40	624.80	310.00	628.87	0.00	629.52	51.63	6.47	47.95	43.14
2110.000	20.00	636.40	633.40	624.80	370.00	629.30	0.00	630.04	54.64	6.93	53.40	50.05
2110.000	20.00	636.40	633.40	624.80	480.00	630.05	0.00	630.96	60.01	7.66	62.68	61.96
2111.000	1.00	0.00	0.00	624.80	160.00	627.68	0.00	628.05	41.93	4.91	32.57	24.71
2111.000	1.00	0.00	0.00	624.80	310.00	628.88	0.00	629.52	50.79	6.43	48.18	43.50
2111.000	1.00	0.00	0.00	624.80	370.00	629.32	0.00	630.05	52.96	6.87	53.83	50.84
2111.000	1.00	0.00	0.00	624.80	480.00	630.12	0.00	630.98	54.41	7.46	64.36	65.08
2160.000	49.00	0.00	0.00	624.20	160.00	628.05	0.00	628.19	14.90	3.12	58.14	41.45
2160.000	49.00	0.00	0.00	624.20	310.00	629.47	0.00	629.69	15.10	3.97	95.94	79.78
2160.000	49.00	0.00	0.00	624.20	370.00	629.99	0.00	630.22	14.58	4.18	111.69	96.90
2160.000	49.00	0.00	0.00	624.20	480.00	630.91	0.00	631.16	13.26	4.43	142.41	131.82
2310.000	150.00	0.00	0.00	624.20	160.00	628.27	0.00	628.39	11.83	2.90	63.42	46.53
2310.000	150.00	0.00	0.00	624.20	310.00	629.71	0.00	629.90	12.61	3.75	102.91	87.30
2310.000	150.00	0.00	0.00	624.20	370.00	630.22	0.00	630.43	12.42	3.96	118.96	105.00
2310.000	150.00	0.00	0.00	624.20	480.00	631.12	0.00	631.35	11.62	4.23	149.88	140.81
2660.000	350.00	0.00	0.00	626.10	160.00	628.86	0.00	629.13	39.77	4.14	40.01	25.37
2660.000	350.00	0.00	0.00	626.10	310.00	630.25	0.00	630.60	30.26	4.90	71.05	56.35
2660.000	350.00	0.00	0.00	626.10	370.00	630.73	0.00	631.10	27.78	5.09	84.40	70.19
2660.000	350.00	0.00	0.00	626.10	480.00	631.57	0.00	631.96	23.75	5.30	112.25	98.49
4950.000	2290.00	0.00	0.00	631.20	160.00	635.17	0.00	635.33	19.59	3.23	53.99	36.15
4950.000	2290.00	0.00	0.00	631.20	310.00	636.22	0.00	636.46	21.84	4.16	92.23	66.34
4950.000	2290.00	0.00	0.00	631.20	370.00	636.55	0.00	636.81	22.42	4.44	105.58	78.14
4950.000	2290.00	0.00	0.00	631.20	480.00	637.06	0.00	637.37	23.39	4.88	128.64	99.24

10-YEAR FLOW

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	0.000	160.00	601.92	0.00	0.00	0.72	30.87	0.00
*	0.000	310.00	602.47	0.55	0.00	1.27	36.84	0.00
*	0.000	370.00	602.64	0.17	0.00	1.44	37.64	0.00
*	0.000	480.00	602.93	0.29	0.00	1.73	38.93	0.00
	99.000	160.00	603.63	0.00	1.71	0.00	15.00	99.00
	99.000	310.00	604.51	0.88	2.04	0.00	15.00	99.00
	99.000	370.00	604.77	0.26	2.13	0.00	15.00	99.00
	99.000	480.00	605.18	0.41	2.25	0.00	15.00	99.00
	100.000	160.00	603.63	0.00	0.00	0.00	15.00	1.00
	100.000	310.00	604.52	0.89	0.01	0.00	15.00	1.00
	100.000	370.00	604.78	0.26	0.01	0.00	15.00	1.00
	100.000	480.00	605.19	0.41	0.01	0.00	15.00	1.00
	121.000	160.00	603.68	0.00	0.05	0.00	15.00	21.00
	121.000	310.00	604.61	0.92	0.09	0.00	15.00	21.00
	121.000	370.00	604.89	0.28	0.11	0.00	15.00	21.00
	121.000	480.00	605.35	0.46	0.16	0.00	15.00	21.00
	122.000	160.00	603.69	0.00	0.00	0.00	15.00	1.00
	122.000	310.00	604.61	0.93	0.01	0.00	15.00	1.00
	122.000	370.00	604.90	0.28	0.01	0.00	15.00	1.00
	122.000	480.00	605.36	0.46	0.01	0.00	15.00	1.00
	142.000	160.00	603.67	0.00	-0.02	0.00	23.69	20.00
	142.000	310.00	604.72	1.05	0.11	0.00	30.05	20.00
	142.000	370.00	605.12	0.40	0.22	0.00	32.49	20.00
	142.000	480.00	605.81	0.69	0.45	0.00	36.62	20.00
*	152.000	160.00	603.71	0.00	0.04	0.00	21.62	10.00
	152.000	310.00	604.53	0.82	-0.19	0.00	26.61	10.00
	152.000	370.00	604.98	0.45	-0.15	0.00	29.33	10.00
	152.000	480.00	605.70	0.72	-0.11	0.00	33.68	10.00
*	162.000	160.00	604.09	0.00	0.39	0.00	21.66	10.00
*	162.000	310.00	604.85	0.76	0.32	0.00	26.25	10.00
*	162.000	370.00	605.12	0.27	0.15	0.00	27.88	10.00
*	162.000	480.00	605.56	0.44	-0.14	0.00	30.53	10.00
*	200.000	160.00	605.64	0.00	1.54	0.00	17.98	38.00
*	200.000	310.00	606.39	0.75	1.53	0.00	18.04	38.00
*	200.000	370.00	606.66	0.28	1.54	0.00	18.06	38.00
*	200.000	480.00	607.11	0.45	1.55	0.00	18.09	38.00

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SECNO	Q	CWSEL	DIFWSF	DIFWSX	DIFKWS	TOPWID	XLCH
277.000	160.00	607.06	0.00	1.42	0.00	17.97	77.00
277.000	310.00	608.97	1.92	2.59	0.00	18.00	77.00
277.000	370.00	610.53	1.55	3.87	0.00	18.00	77.00
277.000	480.00	613.81	3.29	6.71	0.00	18.00	77.00
428.000	160.00	608.11	0.00	1.05	0.00	20.92	151.00
428.000	310.00	609.38	1.27	0.41	0.00	26.26	151.00
428.000	370.00	610.79	1.41	0.26	0.00	32.15	151.00
428.000	480.00	613.96	3.17	0.15	0.00	135.54	151.00
429.000	160.00	608.11	0.00	0.00	0.00	20.94	1.00
429.000	310.00	609.38	1.27	0.00	0.00	26.25	1.00
429.000	370.00	610.79	1.41	0.00	0.00	32.14	1.00
429.000	480.00	613.95	3.16	-0.01	0.00	135.48	1.00
440.000	160.00	608.13	0.00	0.02	0.00	20.98	11.00
440.000	310.00	609.41	1.28	0.02	0.00	26.34	11.00
440.000	370.00	610.80	1.39	0.01	0.00	32.19	11.00
440.000	480.00	613.97	3.17	0.02	0.00	135.51	11.00
441.000	160.00	608.13	0.00	0.00	0.00	20.99	1.00
441.000	310.00	609.41	1.28	0.00	0.00	26.35	1.00
441.000	370.00	610.80	1.39	0.00	0.00	32.19	1.00
441.000	480.00	613.99	3.19	0.02	0.00	135.76	1.00
491.000	160.00	608.19	0.00	0.06	0.00	19.17	50.00
491.000	310.00	609.48	1.30	0.07	0.00	24.57	50.00
491.000	370.00	610.84	1.36	0.04	0.00	30.29	50.00
491.000	480.00	614.00	3.15	0.00	0.00	56.97	50.00
613.000	160.00	608.40	0.00	0.21	0.00	17.81	122.00
613.000	310.00	609.70	1.30	0.22	0.00	22.25	122.00
613.000	370.00	610.93	1.23	0.09	0.00	26.82	122.00
613.000	480.00	614.01	3.08	0.02	0.00	53.20	122.00
715.000	160.00	609.09	0.00	0.68	0.00	14.60	102.00
715.000	310.00	610.08	0.99	0.38	0.00	18.04	102.00
715.000	370.00	610.99	0.92	0.07	0.00	22.16	102.00
715.000	480.00	614.02	3.03	0.01	0.00	44.66	102.00
850.000	160.00	610.76	0.00	1.67	0.00	20.88	135.00
850.000	310.00	611.83	1.07	1.75	0.00	28.83	135.00
850.000	370.00	612.09	0.26	1.10	0.00	30.78	135.00
850.000	480.00	614.16	2.07	0.13	0.00	40.78	135.00
990.000	160.00	611.61	0.00	0.86	0.00	25.50	140.00
990.000	310.00	612.61	1.00	0.78	0.00	33.72	140.00
990.000	370.00	612.92	0.31	0.83	0.00	34.90	140.00
990.000	480.00	614.35	1.43	0.19	0.00	39.71	140.00

PRINTED IN U.S.A.

	SLCNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	1180.000	160.00	613.32	0.00	1.71	0.00	23.19	190.00
*	1180.000	310.00	614.04	0.72	1.43	0.00	26.46	190.00
*	1180.000	370.00	614.30	0.26	1.37	0.00	30.21	190.00
*	1180.000	480.00	614.71	0.42	0.36	0.00	32.93	190.00
	1370.000	160.00	616.01	0.00	2.68	0.00	24.64	190.00
	1370.000	310.00	616.72	0.72	2.68	0.00	31.85	190.00
	1370.000	370.00	616.95	0.23	2.65	0.00	32.70	190.00
	1370.000	480.00	617.31	0.36	2.60	0.00	34.09	190.00
	1538.000	160.00	617.93	0.00	1.92	0.00	23.19	168.00
*	1538.000	310.00	618.64	0.71	1.92	0.00	26.49	168.00
*	1538.000	370.00	618.90	0.25	1.95	0.00	30.21	168.00
*	1538.000	480.00	619.31	0.42	2.00	0.00	32.93	168.00
*	1588.000	160.00	619.33	0.00	1.40	0.00	23.19	50.00
*	1588.000	310.00	620.04	0.72	1.40	0.00	26.47	50.00
*	1588.000	370.00	620.30	0.26	1.40	0.00	30.23	50.00
*	1588.000	480.00	620.72	0.42	1.40	0.00	32.95	50.00
*	1638.000	160.00	621.59	0.00	2.26	0.00	14.02	50.00
*	1638.000	310.00	622.50	0.91	2.45	0.00	14.60	50.00
*	1638.000	370.00	622.81	0.32	2.51	0.00	14.81	50.00
*	1638.000	480.00	623.35	0.54	2.63	0.00	15.16	50.00
	1639.000	160.00	621.98	0.00	0.39	0.00	14.27	1.00
	1639.000	310.00	622.52	0.54	0.02	0.00	14.62	1.00
	1639.000	370.00	622.83	0.31	0.02	0.00	14.82	1.00
	1639.000	480.00	623.35	0.53	0.00	0.00	15.17	1.00
	1643.000	160.00	622.06	0.00	0.08	0.00	14.31	4.00
	1643.000	310.00	623.15	1.10	0.63	0.00	15.03	4.00
	1643.000	370.00	623.50	0.35	0.67	0.00	15.25	4.00
	1643.000	480.00	624.12	0.62	0.77	0.00	15.82	4.00
	1690.000	160.00	622.57	0.00	0.51	0.00	14.65	47.00
	1690.000	310.00	623.79	1.22	0.64	0.00	15.44	47.00
	1690.000	370.00	624.22	0.43	0.72	0.00	16.04	47.00
	1690.000	430.00	624.94	0.71	0.82	0.00	17.52	47.00
	1691.000	160.00	622.58	0.00	0.01	0.00	14.66	1.00
	1691.000	310.00	623.85	1.27	0.06	0.00	15.48	1.00
	1691.000	370.00	624.31	0.46	0.09	0.00	16.23	1.00
	1691.000	430.00	625.13	0.82	0.20	0.00	17.93	1.00
	1717.000	160.00	622.84	0.00	0.26	0.00	19.97	26.00
	1717.000	310.00	624.25	1.41	0.40	0.00	27.22	26.00
	1717.000	370.00	624.77	0.51	0.46	0.00	29.43	26.00
	1717.000	430.00	625.67	0.90	0.54	0.00	33.07	26.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	1722.000	160.00	624.76	0.00	1.91	0.00	27.96	5.00
*	1722.000	310.00	625.43	0.68	1.18	0.00	30.85	5.00
*	1722.000	370.00	625.65	0.21	0.88	0.00	31.47	5.00
*	1722.000	430.00	626.01	0.36	0.34	0.00	32.53	5.00
	1732.000	160.00	625.16	0.00	0.40	0.00	30.04	10.00
	1732.000	310.00	625.91	0.75	0.48	0.00	32.24	10.00
	1732.000	370.00	626.16	0.25	0.51	0.00	32.95	10.00
	1732.000	480.00	626.57	0.41	0.56	0.00	34.13	10.00
	1799.000	160.00	625.66	0.00	0.50	0.00	20.00	67.00
	1799.000	310.00	626.44	0.78	0.53	0.00	20.00	67.00
	1799.000	370.00	626.69	0.25	0.53	0.00	20.00	67.00
	1799.000	480.00	627.10	0.41	0.54	0.00	20.00	67.00
	1800.000	160.00	625.67	0.00	0.00	0.00	20.00	1.00
	1800.000	310.00	626.45	0.78	0.01	0.00	20.00	1.00
	1800.000	370.00	626.70	0.25	0.01	0.00	20.00	1.00
	1800.000	480.00	627.11	0.41	0.01	0.00	20.00	1.00
	1843.000	160.00	625.78	0.00	0.11	0.00	20.00	43.00
	1843.000	310.00	626.62	0.84	0.17	0.00	20.00	43.00
	1843.000	370.00	626.90	0.28	0.20	0.00	20.00	43.00
	1843.000	480.00	627.36	0.46	0.25	0.00	20.00	43.00
	1844.000	160.00	625.78	0.00	0.00	0.00	20.00	1.00
	1844.000	310.00	626.63	0.85	0.01	0.00	20.00	1.00
	1844.000	370.00	626.91	0.28	0.01	0.00	20.00	1.00
	1844.000	480.00	627.37	0.46	0.01	0.00	20.00	1.00
	1894.000	160.00	626.01	0.00	0.23	0.00	26.30	50.00
	1894.000	310.00	626.97	0.96	0.34	0.00	30.28	50.00
	1894.000	370.00	627.30	0.33	0.39	0.00	31.64	50.00
	1894.000	480.00	627.86	0.56	0.49	0.00	33.97	50.00
	1994.000	160.00	626.43	0.00	0.42	0.00	20.13	100.00
	1994.000	310.00	627.28	0.85	0.31	0.00	23.43	100.00
	1994.000	370.00	627.57	0.29	0.27	0.00	24.56	100.00
	1994.000	480.00	628.06	0.49	0.20	0.00	26.49	100.00
	2069.000	160.00	627.15	0.00	0.72	0.00	13.00	75.00
	2069.000	310.00	628.03	0.88	0.75	0.00	13.00	75.00
	2069.000	370.00	628.30	0.27	0.73	0.00	13.00	75.00
	2069.000	480.00	628.72	0.42	0.66	0.00	13.00	75.00
	2070.000	160.00	627.16	0.00	0.02	0.00	13.00	1.00
	2070.000	310.00	628.04	0.88	0.02	0.00	13.00	1.00
	2070.000	370.00	628.32	0.27	0.02	0.00	13.00	1.00
	2070.000	480.00	628.74	0.43	0.02	0.00	13.00	1.00

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SECNO	Q	CWSEL	DIFWSF	DIFWSX	DIFKWS	TOPWID	XLCH
2090.000	160.00	627.51	0.00	0.34	0.00	13.00	20.00
2090.000	310.00	628.64	1.13	0.60	0.00	13.00	20.00
2090.000	370.00	629.05	0.41	0.73	0.00	13.00	20.00
2090.000	480.00	629.80	0.75	1.05	0.00	13.00	20.00
2110.000	160.00	627.67	0.00	0.16	0.00	13.00	20.00
2110.000	310.00	628.87	1.20	0.23	0.00	13.00	20.00
2110.000	370.00	629.30	0.43	0.25	0.00	13.00	20.00
2110.000	480.00	630.05	0.75	0.26	0.00	13.00	20.00
2111.000	160.00	627.68	0.00	0.01	0.00	13.00	1.00
2111.000	310.00	628.88	1.21	0.01	0.00	13.00	1.00
2111.000	370.00	629.32	0.44	0.02	0.00	13.00	1.00
2111.000	480.00	630.12	0.80	0.07	0.00	13.00	1.00
2160.000	160.00	628.05	0.00	0.37	0.00	23.46	49.00
2160.000	310.00	629.47	1.43	0.59	0.00	29.43	49.00
2160.000	370.00	629.99	0.52	0.67	0.00	31.59	49.00
2160.000	480.00	630.91	0.92	0.79	0.00	35.42	49.00
2310.000	160.00	628.27	0.00	0.22	0.00	24.39	150.00
2310.000	310.00	629.71	1.44	0.23	0.00	30.41	150.00
2310.000	370.00	630.22	0.51	0.23	0.00	32.54	150.00
2310.000	480.00	631.12	0.90	0.21	0.00	36.32	150.00
2660.000	160.00	628.86	0.00	0.59	0.00	18.50	350.00
2660.000	310.00	630.25	1.38	0.54	0.00	26.40	350.00
2660.000	370.00	630.73	0.48	0.51	0.00	29.15	350.00
2660.000	480.00	631.57	0.84	0.45	0.00	53.69	350.00
4950.000	160.00	635.17	0.00	6.31	0.00	30.33	2290.00
4950.000	310.00	636.22	1.05	5.98	0.00	39.99	2290.00
4950.000	370.00	636.55	0.33	5.82	0.00	42.20	2290.00
4950.000	480.00	637.06	0.51	5.50	0.00	51.18	2290.00

PRINTED IN U.S.A.

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=     0.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.000  PROFILE= 4  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=   152.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   152.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   152.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   162.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   162.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   162.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   162.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   162.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   162.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   162.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   162.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   162.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   162.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   162.000  PROFILE= 4  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   200.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   200.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   200.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   200.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   200.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   200.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   200.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   200.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   200.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=   200.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   200.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   200.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  1180.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  1180.000  PROFILE= 3  MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=  1538.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1538.000  PROFILE= 2  MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=  1538.000  PROFILE= 4  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=  1588.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=  1538.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1588.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1538.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1588.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1588.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1538.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1588.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1588.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1588.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1588.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  1638.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1638.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1638.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1638.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1638.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1638.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1638.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1638.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1638.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1638.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1638.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1638.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  1722.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1722.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1722.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1722.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1722.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1722.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1722.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1722.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1722.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  1722.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  1722.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  1722.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOOD INSURANCE ZONE DATA FOR 10-YEAR FLOW

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10	2	0.2
0.000	0.	-0.72	-0.17	0.29
99.000	99.	-1.14	-0.26	0.41
100.000	100.	-1.15	-0.26	0.41
121.000	121.	-1.21	-0.28	0.46
122.000	122.	-1.21	-0.28	0.46
142.000	142.	-1.45	-0.40	0.69
152.000	152.	-1.27	-0.45	0.72
162.000	162.	-1.03	-0.27	0.44
200.000	200.	-1.03	-0.28	0.45
277.000	277.	-3.47	-1.55	3.29
428.000	428.	-2.68	-1.41	3.17
429.000	429.	-2.68	-1.41	3.16
440.000	440.	-2.67	-1.39	3.17
441.000	441.	-2.67	-1.39	3.19
491.000	491.	-2.65	-1.36	3.15
613.000	613.	-2.52	-1.23	3.08
715.000	715.	-1.91	-0.92	3.03
850.000	850.	-1.34	-0.26	2.07
990.000	990.	-1.31	-0.31	1.43
1180.000	1180.	-0.97	-0.26	0.42
1370.000	1370.	-0.94	-0.23	0.36
1538.000	1538.	-0.97	-0.25	0.42
1588.000	1588.	-0.97	-0.26	0.42
1638.000	1638.	-1.22	-0.32	0.54
1639.000	1639.	-0.85	-0.31	0.53
1643.000	1643.	-1.44	-0.35	0.62
1690.000	1690.	-1.65	-0.43	0.71
1691.000	1691.	-1.73	-0.46	0.82
1717.000	1717.	-1.92	-0.51	0.90
1722.000	1722.	-0.89	-0.21	0.36
1732.000	1732.	-1.00	-0.25	0.41
1799.000	1799.	-1.03	-0.25	0.41
1800.000	1800.	-1.03	-0.25	0.41
1843.000	1843.	-1.12	-0.28	0.46
1844.000	1844.	-1.13	-0.28	0.46
1894.000	1894.	-1.29	-0.33	0.56
1994.000	1994.	-1.14	-0.29	0.49
2069.000	2069.	-1.15	-0.27	0.42
2070.000	2070.	-1.15	-0.27	0.43
2090.000	2090.	-1.54	-0.41	0.75
2110.000	2110.	-1.63	-0.43	0.75
2111.000	2111.	-1.64	-0.44	0.80
2160.000	2160.	-1.94	-0.52	0.92
2310.000	2310.	-1.95	-0.51	0.90

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2660.000      2660.   -1.86      -0.48      0.84
4950.000      4950.   -1.39      -0.33      0.51
-----------------------------------------------
WEIGHTED AVG FOR REACH  -1.61      -0.47      0.98

FHF FOR THE REACH = C15 WITH  75.1 PERCENT OF THE REACH WITHIN 0.5 FEET
ZONE FOR THE REACH = A 3
-----------------------------------------------
-----------------------------------------------


CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

INC     TOTAL       AVG ELEVATION DATA          WTD.              PERCENT
NO.     LENGTH     10        1        DIFF.     AVG.     FHF       WITHIN

          0.                                     SEC.      0.000
         99.                                     SEC.     99.000
  1     100.   602.78   603.71   -0.93      -0.93    C10        100.
         100.                                     SEC.    100.000
         121.                                     SEC.    121.000
         122.                                     SEC.    122.000
         142.                                     SEC.    142.000
         152.                                     SEC.    152.000
         162.                                     SEC.    162.000
  2     200.   604.63   605.72   -1.09      -1.01    C10        100.
         200.                                     SEC.    200.000
         277.                                     SEC.    277.000
  3     300.   606.43   608.62   -2.19      -1.40    C15         67.
  4     400.   607.57   610.66   -3.09      -1.82    C20         25.
         428.                                     SEC.    428.000
         429.                                     SEC.    429.000
         440.                                     SEC.    440.000
         441.                                     SEC.    441.000
         491.                                     SEC.    491.000
  5     500.   608.06   610.79   -2.73      -2.01    C20         60.
  6     600.   608.29   610.88   -2.59      -2.10    C20         67.
         613.                                     SEC.    613.000
  7     700.   608.68   610.95   -2.27      -2.13    C20         71.
         715.                                     SEC.    715.000
  8     800.   609.56   611.33   -1.77      -2.08    C20         75.
         850.                                     SEC.    850.000
  9     900.   610.60   612.04   -1.44      -2.01    C20         78.
         990.                                     SEC.    990.000
 10    1000.   611.38   612.69   -1.31      -1.94    C20         40.
 11    1100.   612.15   613.36   -1.21      -1.87    C20         36.
        1180.                                     SEC.   1180.000
 12    1200.   613.10   614.15   -1.05      -1.81    C20         42.
 13    1300.   614.31   615.27   -0.96      -1.74    C15         31.
        1370.                                     SEC.   1370.000
 14    1400.   615.68   616.63   -0.95      -1.68    C15         29.
 15    1500.   616.92   617.88   -0.96      -1.64    C15         27.
```

	1533.				SEC.	1538.000	
	1538.				SEC.	1588.000	
16	1600.	618.68	619.68	-1.00	-1.60	C15	25.
	1638.				SEC.	1638.000	
	1639.				SEC.	1639.000	
	1643.				SEC.	1643.000	
	1690.				SEC.	1690.000	
	1691.				SEC.	1691.000	
17	1700.	621.27	622.68	-1.41	-1.59	C15	35.
	1717.				SEC.	1717.000	
	1722.				SEC.	1722.000	
	1732.				SEC.	1732.000	
	1799.				SEC.	1799.000	
18	1800.	624.17	625.58	-1.41	-1.58	C15	39.
	1800.				SEC.	1800.000	
	1843.				SEC.	1843.000	
	1844.				SEC.	1844.000	
	1894.				SEC.	1894.000	
19	1900.	625.85	627.01	-1.16	-1.55	C15	47.
	1994.				SEC.	1994.000	
20	2000.	626.26	627.47	-1.21	-1.54	C15	50.
	2069.				SEC.	2069.000	
	2070.				SEC.	2070.000	
	2090.				SEC.	2090.000	
21	2100.	627.04	628.40	-1.36	-1.53	C15	52.
	2110.				SEC.	2110.000	
	2111.				SEC.	2111.000	
	2160.				SEC.	2160.000	
22	2200.	627.85	629.61	-1.76	-1.54	C15	55.
23	2300.	628.18	630.13	-1.95	-1.56	C15	52.
	2310.				SEC.	2310.000	
24	2400.	628.34	630.28	-1.94	-1.57	C15	54.
25	2500.	628.51	630.42	-1.91	-1.59	C15	56.
26	2600.	628.68	630.57	-1.89	-1.60	C15	54.
	2660.				SEC.	2660.000	
27	2700.	628.87	630.73	-1.86	-1.61	C15	56.
28	2800.	629.11	630.95	-1.84	-1.62	C15	57.
29	2900.	629.39	631.21	-1.82	-1.62	C15	59.
30	3000.	629.66	631.46	-1.80	-1.63	C15	60.
31	3100.	629.94	631.72	-1.78	-1.63	C15	61.
32	3200.	630.21	631.97	-1.76	-1.64	C15	63.
33	3300.	630.49	632.23	-1.74	-1.64	C15	64.
34	3400.	630.76	632.48	-1.72	-1.64	C15	65.
35	3500.	631.04	632.73	-1.69	-1.64	C15	66.
36	3600.	631.32	632.99	-1.67	-1.64	C15	67.
37	3700.	631.59	633.24	-1.65	-1.65	C15	68.
38	3800.	631.87	633.50	-1.63	-1.64	C15	68.
39	3900.	632.14	633.75	-1.61	-1.64	C15	69.
40	4000.	632.42	634.01	-1.59	-1.64	C15	70.
41	4100.	632.69	634.26	-1.57	-1.64	C15	71.
42	4200.	632.97	634.52	-1.55	-1.64	C15	71.
43	4300.	633.25	634.77	-1.52	-1.64	C15	72.
44	4400.	633.52	635.02	-1.50	-1.63	C15	73.
45	4500.	633.80	635.28	-1.48	-1.63	C15	73.

46	4600.	634.07	635.53	-1.46	-1.63	C15	74.
47	4700.	634.35	635.79	-1.44	-1.62	C15	74.
48	4800.	634.62	636.04	-1.42	-1.62	C15	75.
49	4900.	634.90	636.30	-1.40	-1.61	C15	76.
	4950.				SEC.	4950.CCO	

THIS REACH CAN BE SUBDIVIDED BY INC NO. TO MEET FIA REQUIREMENTS
INPUT 2CN WHERE N IS THE NUMBER OF REACHES AND THEN INPUT THE END
OF EACH REACH BY INC NO. FOR EXAMPLE 2C2 2 49
A NEGATIVE INC NO. WILL SUPPRESS INTERMEDIATE INC OUTPUT.

CONTINUOUS FLOOD HAZARD FACTORS BY EVEN INCREMENTS

INC NO.	TOTAL LENGTH	WEIGHTED AVG DIFFERENCE BETWEEN BASE FLOOD AND 10	2	0.2
2	200.	-1.01	-0.24	0.39

FHF FOR REACH 1 = 010 WITH 100. PERCENT OF THE REACH WITHIN 0.5 FEET
ZONE FOR THE REACH = A 2
==========

11	1100.	-2.07	-0.88	2.45

FHF FOR REACH 2 = 020 WITH 89. PERCENT OF THE REACH WITHIN 1.0 FEET
ZONE FOR THE REACH = A 4
==========

49	4900.	-1.54	-0.39	0.66

FHF FOR REACH 3 = 015 WITH 89. PERCENT OF THE REACH WITHIN 0.5 FEET
ZONE FOR THE REACH = A 3
==========

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THIS RUN EXECUTED 3 APR 85 15:27:25

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************
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===> CDED,H2ASHMUN
===> FREE ALL
```

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00BREAK00

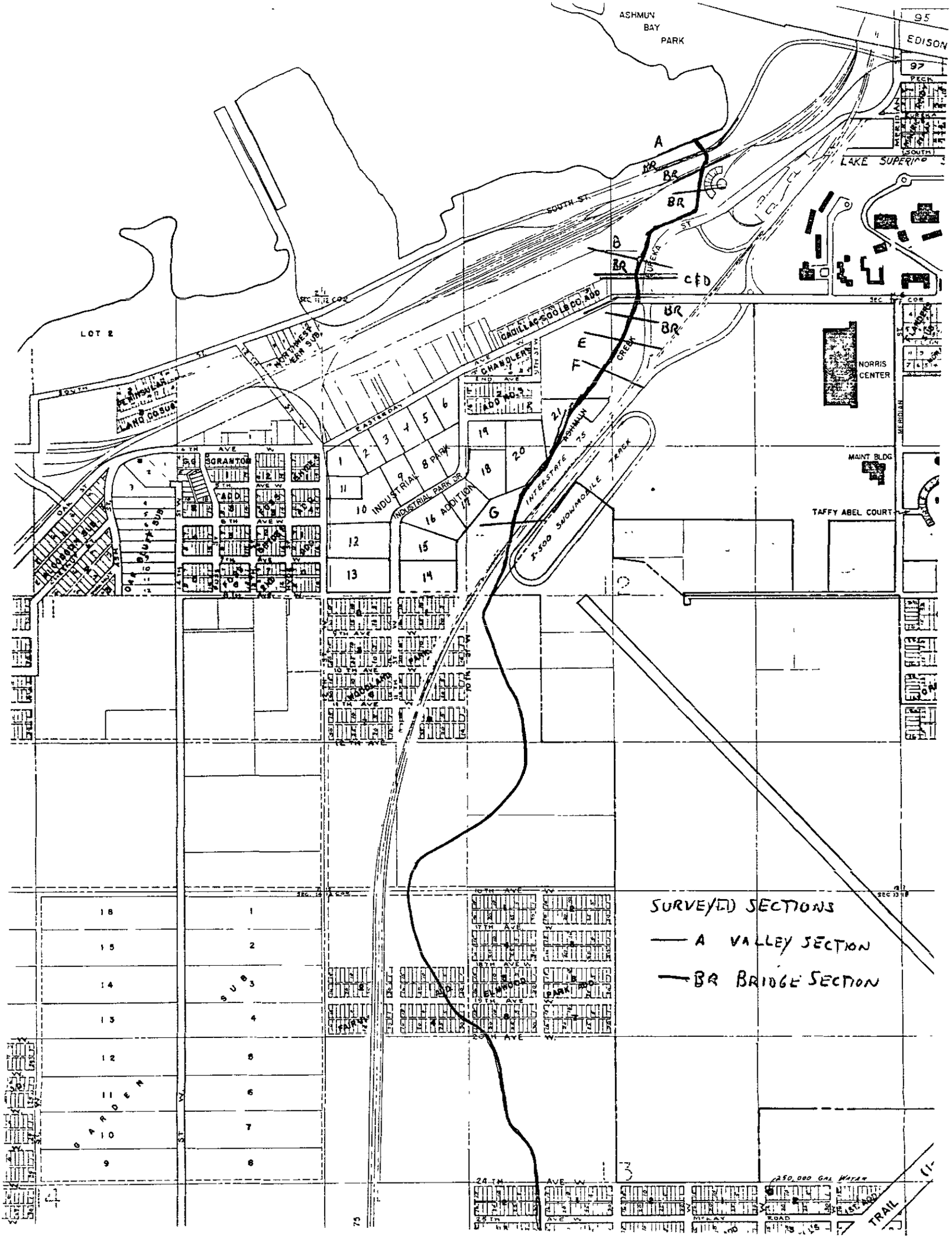
1) COUNTY: Chippewa

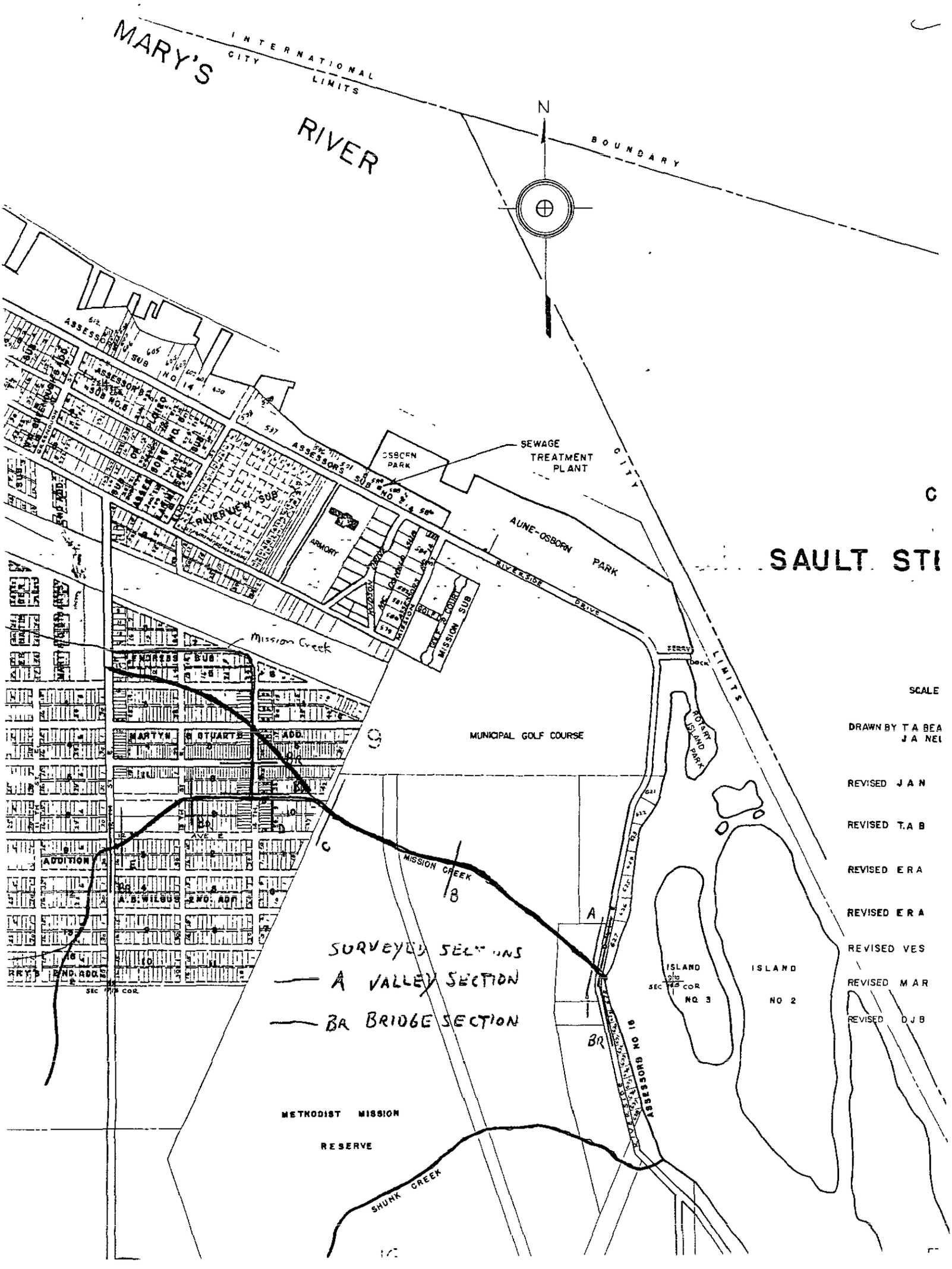
2) STUDY NAME: Sault Ste. Marie

3) WATERCOURSE: Mission & Ashman creek

4) DOCUMENT TYPE: Maps

00BREAK00


ASHMUN BAY PARK
EDISON
LAKE SUPERIOR
SOUTH ST.
EUREKA ST
LOT 2
NORTHWESTERN SUB
PENINSULAR LAND CO SUB
CADILLAC SOO LB CO ADD
CHANDLER'S ADD
EASTERDAY
SCRANTON ADD
INDUSTRIAL PARK DR
INDUSTRIAL PARK ADDITION
ROHMAN CREEK
INTERSTATE 75
I-500 SNOWMOBILE TRACK
NORRIS CENTER
MAINT BLDG
TAFFY ABEL COURT
MERIDIAN
WOODLAND PARK
ELMWOOD PARK RD
GARDEN SUB
24TH AVE W
25TH AVE W
McKAY ROAD
250,000 GAL WATER
TRAIL
SURVEYED SECTIONS
A VALLEY SECTION
BR BRIDGE SECTION


MARY'S RIVER
INTERNATIONAL BOUNDARY
CITY LIMITS
N
SEWAGE TREATMENT PLANT
OSBORN PARK
ASSESSOR'S SUB NO 14
ASSESSOR'S SUB NO 8
ASSESSOR'S SUB NO 2
RIVERVIEW SUB
ARMORY
AUNE-OSBORN PARK
RIVERSIDE DRIVE
MISSION SUB
Mission Creek
MARTYN & STUARTS ADD
MUNICIPAL GOLF COURSE
ROTARY ISLAND PARK
FERRY DOCK
CITY LIMITS
ADDITION
A.B. WILBUS 2ND ADD
MISSION CREEK
SURVEYED SECTIONS
A VALLEY SECTION
BR BRIDGE SECTION
ISLAND NO 3
ISLAND NO 2
ASSESSOR'S NO 10
METHODIST MISSION RESERVE
SHUNK CREEK
SAULT STE
SCALE
DRAWN BY T A BEA
J A NEL
REVISED JAN
REVISED T.A B
REVISED E R A
REVISED E R A
REVISED VES
REVISED MAR
REVISED D J B

00BREAK00

1) COUNTY: Chippewa

2) STUDY NAME: Sault ste. Marie

3) WATERCOURSE: Mission Creek

4) DOCUMENT TYPE: Encroachment

00BREAK00

```
*********************************************
*  WATER SURFACE PROFILES                   *
*  VERSION OF NOVEMBER 1976                 *
*  UPDATED MAY 1984                         *
*                                           *
*  RUN DATE   3 APR 85 TIME   11:38:55      *
*********************************************
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*************************************
*  U.S. ARMY CORPS OF ENGINEERS     *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D       *
*  DAVIS, CALIFORNIA 95616          *
*  (916) 440-2105 (FTS) 448-2105    *
*************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
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CITY OF SAULT STE. MARIE, MI.
ENCROACHED RUN
MISSION CREEK
FINAL RUN

PRINTED IN U.S.A.

THIS RUN EXECUTED 3 APR 85 11:38:56

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************
```

```
C
T1      CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2      MISSION CREEK
T3      100-YEAR FLOW UNENCROACHED RUN

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
       0.      2.       0.       0.  0.000000    0.00     0.0      0.    580.700   0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE
     1.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

   150.000  110.000  200.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

NC     0.070    0.070    0.030    0.100    0.300    0.000    0.000    0.000    0.000    0.000
GT     2.000  280.000  280.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
                BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
X1     0.000   22.000   81.000  114.000    0.000    0.000    0.000    0.000    0.000    0.000
X3     0.000    0.000    0.000   63.000    0.000  132.000    0.000    0.000    0.000    0.000
GR   579.200    0.000  579.200   18.000  579.200   25.000  579.200   50.000  579.200   69.000
GR   579.200   75.000  579.200   76.000  579.200   81.000  578.300   87.000  578.000   93.000
GR   577.900   99.000  578.400  104.000  579.400  109.000  580.200  114.000  580.200  116.000
GR   580.200  119.000  580.200  120.000  580.200  122.000  580.200  128.000  580.200  147.000
GR   580.200  155.000  580.200  172.000    0.000    0.000    0.000    0.000    0.000    0.000

X1    56.000   25.000   81.000  114.000   56.000   56.000   56.000    0.000    0.000    0.000
GR   586.300    0.000  586.200   18.000  586.100   25.000  585.700   50.000  584.900   69.000
GR   580.500   75.000  580.500   76.000  579.200   81.000  579.200   81.100  578.300   87.000
GR   578.000   93.000  577.900   99.000  578.400  104.000  579.400  109.000  580.200  113.900
GR   580.200  114.000  580.900  116.000  582.900  119.000  584.400  120.000  585.800  122.000
GR   586.000  128.000  586.600  147.000  586.600  155.000  586.600  172.000  586.600  189.000

NC     0.020    0.020    0.028    0.000    0.000    0.000    0.000    0.000    0.000    0.000
                DOWNSTREAM FACE RIVERSIDE DRIVE
X1    57.000    0.000    0.000    0.000    1.000    1.000    1.000    0.000    0.000    0.000
ET   -11.000    0.000  587.200    0.000   25.000  586.900    0.000   50.000  586.900    0.000
ET     0.000   75.000  586.700    0.000   81.000  586.700  579.200   81.100  589.000  583.700
ET     0.000  113.900  589.000  583.700  114.000  586.700  580.200  147.000  586.900    0.000
ET     0.000  172.000  587.100    0.000  189.000  587.200    0.000    0.000    0.000    0.000
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                    UPSTREAM FACE RIVERSIDE DRIVE
X1      90.000      0.000      0.000      0.000     33.000     33.000     33.000      0.000      0.000      0.000
X2       0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000

NC       0.035      0.070      0.030      0.000      0.000      0.000      0.000      0.000      0.000      0.000
X1      91.000      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000

                    VALLEY SECTION A
X1     201.000     23.000     83.000    127.000    110.000    110.000    110.000      0.000      0.000      0.000
GR     587.500      0.000    586.900     25.000    585.200     50.000    583.700     75.000    581.700     83.000
GR     581.100     84.000    580.600     88.000    580.400     94.000    579.900     97.000    579.100    100.000
GR     577.800    105.000    577.900    110.000    578.000    115.000    578.400    120.000    581.000    126.000
GR     582.000    127.000    581.900    138.000    584.900    147.000    585.500    151.000    585.600    157.000
GR     585.200    182.000    584.600    207.000    584.600    232.000      0.000      0.000      0.000      0.000

NC       0.060      0.060      0.040      0.000      0.000      0.000      0.000      0.000      0.000      0.000
                    VALLEY SECTION B
X1    1700.000     26.000     81.000    104.000   1499.000   1499.000   1499.000      0.000      0.000      0.000
GR     590.300      0.000    590.100     25.000    589.900     50.000    589.600     65.000    588.700     69.000
GR     587.600     77.000    586.000     81.000    582.000     83.000    581.000     84.000    580.800     85.000
GR     579.300     89.000    580.100     94.000    580.800     98.000    581.100     99.000    582.500    101.000
GR     585.900    104.000    587.700    109.000    587.400    115.000    586.600    125.000    584.800    129.000
GR     584.300    139.000    586.400    154.000    588.900    161.000    588.900    167.000    589.400    175.000
GR     589.400    199.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

NC       0.070      0.070      0.040      0.000      0.000      0.000      0.000      0.000      0.000      0.000
                    VALLEY SECTION C
X1    3120.000     19.000     55.000     82.000   1420.000   1420.000   1420.000      0.000      0.000      0.000
GR     590.600      0.000    590.800     10.000    590.200     20.000    590.800     40.000    590.800     50.000
GR     588.000     55.000    585.500     56.000    584.500     57.000    583.800     58.000    583.400     60.000
GR     583.200     62.000    583.900     65.000    584.500     67.000    586.200     71.000    587.000     72.000
GR     587.900     78.000    590.600     82.000    590.700    107.000    590.700    132.000      0.000      0.000

NC       0.060      0.060      0.040      0.000      0.000      0.000      0.000      0.000      0.000      0.000
                    VALLEY SECTION D
X1    3375.000     20.000     59.000     76.000    755.000    755.000    755.000      0.000      0.000      0.000
GR     592.700      0.000    593.000      5.000    593.700     25.000    593.700     50.000    592.800     55.000
GR     588.900     57.000    588.500     59.000    587.600     60.000    587.400     61.000    586.800     62.000
GR     585.900     63.000    585.500     67.000    586.200     72.000    587.700     73.000    588.300     76.000
GR     589.600     73.000    591.300     86.000    593.700     89.000    593.700    114.000    593.600    139.000

                    CONFLLENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
X1    4100.000      0.000      0.000      0.000    225.000    225.000    225.000      0.000      1.400      0.000

GT       2.000    150.000    150.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
X1    4109.000      0.000      0.000      0.000      9.000      9.000      9.000      0.000      0.000      0.000

X1    4404.000      0.000      0.000      0.000    295.000    295.000    295.000      0.000      1.400      0.000
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X1   4504.000    0.000    0.000    0.000  100.000  100.000  100.000    0.000    1.000    0.000

NH      5.000    0.040  134.000    0.070  143.000    0.040  150.000    0.070  160.000    0.040
NH    250.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
X1   4599.000   25.000  142.000  152.000   95.000   95.000   95.000    0.000    0.000    0.000
GR    598.200    0.000  597.500   75.000  597.400  100.000  597.800  122.000  597.900  129.000
GR    597.700  133.000  597.000  134.000  595.000  137.000  593.800  140.000  597.000  141.000
GR    597.000  142.000  590.800  142.100  590.500  143.000  589.700  144.000  589.900  146.000
GR    597.000  146.100  597.000  147.000  590.200  147.100  590.500  150.000  592.700  152.000
GR    597.000  160.000  598.400  184.000  598.300  225.000  597.500  241.000  598.000  250.000

NC      0.040    0.040    0.030    0.000    0.000    0.000    0.000    0.000    0.000    0.000
                DOWNSTREAM FACE PRIVATE DRIVE
X1   4600.000    0.000    0.000    0.000    1.000    1.000    1.000    0.000    0.000    0.000
ET    -16.000    0.000  598.200    0.000   75.000  597.500    0.000  100.000  597.600    0.000
ET      0.000  122.000  597.900    0.000  129.000  597.900    0.000  134.000  597.900  597.000
ET      0.000  141.000  597.400  597.000  142.000  597.400  597.000  142.100  597.400  597.000
ET      0.000  146.100  597.400  597.000  147.000  597.400  597.000  160.000  597.500  597.000
ET      0.000  184.000  598.400    0.000  225.000  598.300    0.000  241.000  597.500    0.000
ET      0.000  250.000  598.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

                UPSTREAM FACE PRIVATE DRIVE
X1   4612.000    0.000    0.000    0.000   12.000   12.000   12.000    0.000    0.000    0.000
X2      0.000    0.000    0.000    0.000    0.000    0.000    0.000    1.000    0.000    0.000

NH      5.000    0.040  134.000    0.070  143.000    0.040  150.000    0.070  160.000    0.040
NH    250.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
X1   4613.000    0.000    0.000    0.000    1.000    1.000    1.000    0.000    0.000    0.000

NC      0.060    0.060    0.040    0.000    0.000    0.000    0.000    0.000    0.000    0.000
                VALLEY SECTION E
X1   5400.000   18.000   78.000   95.000  787.000  787.000  787.000    0.000    0.000    0.000
GR    605.600    0.000  606.000   20.000  605.500   45.000  597.900   55.000  597.900   64.000
GR    600.900   70.000  600.200   75.000  596.400   78.000  595.900   81.000  595.300   85.000
GR    595.100   90.000  594.600   91.000  595.600   95.000  597.400  101.000  602.900  107.000
GR    603.900  127.000  605.400  129.000  606.200  154.000    0.000    0.000    0.000    0.000

X1   5500.000   26.000  135.000  148.000  100.000  100.000  100.000    0.000    0.000    0.000
X3      0.000    0.000    0.000  135.000    0.000  148.000    0.000    0.000    0.000    0.000
GR    607.800    0.000  607.200   56.000  606.900   81.000  604.600  106.000  603.900  121.000
GR    599.000  131.000  596.500  135.000  596.500  135.400  596.500  137.400  596.500  139.400
GR    596.500  141.400  596.500  143.400  596.500  145.400  596.500  147.400  596.500  148.000
GR    599.100  150.000  603.000  158.000  607.600  169.000  608.500  179.000  607.900  183.000
GR    609.600  189.000  609.900  193.000  610.400  214.000  610.500  235.000  611.000  275.000
GR    611.500  300.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000

NC      0.030    0.030    0.035    0.000    0.000    0.000    0.000    0.000    0.000    0.000
                DOWNSTREAM FACE SHUNK ROAD
X1   5501.000    0.000    0.000    0.000    1.000    1.000    1.000    0.000    0.000    0.000
X3      0.000    0.000    0.000  135.000    0.000  148.000    0.000    0.000    0.000    0.000
ET    -15.000    0.000  607.800    0.000  121.000  608.900    0.000  135.000  609.000  596.500
ET      0.000  135.400  609.000  600.900  137.400  609.100  603.500  139.400  609.100  604.400
ET      0.000  141.400  609.100  604.700  143.400  609.100  604.400  145.400  609.100  603.500
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ET      0.000   147.400   609.100   600.900   148.000   609.100   596.500   179.000   609.500     0.000
ET      0.000   193.000   609.900     0.000   214.000   610.400     0.000   275.000   611.000     0.000

                UPSTREAM FACE SHLNK ROAD
X1   5601.000     0.000     0.000     0.000   100.000   100.000   100.000     0.000     0.000     0.000
X2      0.000     0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   135.000     0.000   148.000     0.000     0.000     0.000     0.000

X1   5602.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   135.000     0.000   148.000     0.000     0.000     0.000     0.000

NC      0.040     0.040     0.030     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1  -4100.000    20.000    59.000    76.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    592.700     0.000   593.000     5.000   593.700    25.000   593.700    50.000   592.800    55.000
GR    588.900    57.000   588.500    59.000   587.600    60.000   587.400    61.000   586.800    62.000
GR    585.900    63.000   585.500    67.000   586.200    72.000   587.700    73.000   588.300    76.000
GR    589.600    78.000   591.300    86.000   593.700    89.000   593.700   114.000   593.600   139.000

GT      2.000   130.000   130.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1      0.100    25.000   144.800   149.100     0.100     0.100     0.100     0.000     0.000     0.000
GR    595.300     0.000   593.600    56.000   594.300    81.000   594.300   106.000   595.100   120.000
GR    595.100   127.000   594.600   136.000   594.600   139.000   593.600   142.000   590.300   144.800
GR    590.300   144.900   589.300   145.900   589.000   147.000   589.300   148.100   590.300   149.100
GR    590.300   149.200   590.400   150.000   590.800   151.000   592.400   153.000   592.700   157.000
GR    594.500   160.000   595.000   175.000   595.000   180.000   595.600   200.000   596.300   300.000

X1      5.000     0.000     0.000     0.000     5.000     5.000     5.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   143.000     0.000   150.000     0.000     0.000     0.000     0.000

SB      0.000     3.300     3.000     0.000     5.000     0.000    15.900     0.000     0.000     0.000
                UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
X1     46.000     0.000     0.000     0.000    41.000    41.000    41.000     0.000     0.000     0.000
X2      0.000     0.000     1.000   592.100   594.900     0.000     0.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   141.000     0.000   152.000     0.000     0.000     0.000     0.000
ET    -14.000     0.000   595.300     0.000    56.000   594.900     0.000   106.000   594.900     0.000
ET      0.000   120.000   595.100     0.000   127.000   595.200     0.000   144.800   595.200   590.300
ET      0.000   144.900   595.200   592.300   145.900   595.200   593.300   147.000   595.200   593.600
ET      0.000   148.100   595.200   593.300   149.100   595.200   592.300   149.200   595.200   590.300
ET      0.000   200.000   595.600     0.000   300.000   596.300     0.000     0.000     0.000     0.000

NC      0.050     0.050     0.040     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     4.100   125.000   175.000     0.000     0.000     0.000     0.000     0.000
X1    331.000    24.000   142.000   148.000   285.000   285.000   285.000     0.000     0.000     0.000
GR    595.700     0.000   595.600    75.000   594.100    82.000   594.100    92.000   594.600   102.000
GR    595.000   112.000   594.300   137.000   592.100   138.000   591.500   140.000   591.000   141.000
GR    590.500   142.000   590.500   142.100   590.000   143.000   590.000   145.000   590.000   147.000
GR    590.500   147.900   590.500   148.000   591.500   150.000   592.500   152.000   594.000   154.000
GR    594.300   179.000   594.500   204.000   595.600   225.000   596.000   300.000     0.000     0.000
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SB      0.000     2.900     3.000     0.000     6.000     0.000    28.300     0.000     0.000     0.000
NC      0.000     0.000     0.030     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     4.110    75.000   225.000     0.000     0.000     0.000     0.000     0.000
                UPSTREAM FACE AT 10TH AVE
X1    376.000     0.000     0.000     0.000    45.000    45.000    45.000     0.000     0.000     0.000
X2      0.000     0.000     1.000   593.500   595.600     0.000     0.000     0.000     0.000     0.000
ET    -15.000     0.000   595.700     0.000    75.000   595.600     0.000   102.000   595.800     0.000
ET      0.000   112.000   596.000     0.000   142.000   596.000   590.500   142.100   596.000   591.500
ET      0.000   143.000   596.000   593.000   145.000   596.000   593.500   147.000   596.000   593.000
ET      0.000   147.900   596.000   591.500   148.000   596.000   590.500   179.000   595.800     0.000
ET      0.000   204.000   595.600     0.000   225.000   595.600     0.000   300.000   596.000     0.000
EJ      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 1

CCHV=   0.100 CEHV=   0.300
*SECNO 0.000
3230 CROSS SECTION      0.00 EXTENDED      0.50 FEET

3470 ENCROACHMENT STATIONS=      63.0      132.0  TYPE=     1  TARGET=      69.000
                 BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
      0.00      2.80    580.70      0.00    580.70    580.87      0.17      0.00      0.00    579.20
      280.       31.       244.       5.       27.       70.       9.        0.        0.     580.20
      0.00      1.14      3.50      0.57     0.070     0.030     0.070     0.000    577.90     63.00
  0.001858        0.        0.        0.         0         0         0      0.00     69.00    132.00

*SECNO 56.000
     56.00      2.87    580.77      0.00      0.00    581.00      0.22      0.11      0.02    579.20
      280.       4.       276.       0.        5.       72.       0.        0.        0.     580.20
      0.00      0.87      3.82      0.41     0.070     0.030     0.070     0.000    577.90     74.63
  0.002126       56.       56.       56.         2         0         0      0.00     41.01    115.64

*SECNO 57.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 DOWNSTREAM FACE RIVERSIDE DRIVE
     57.00      2.87    580.77      0.00      0.00    581.00      0.23      0.00      0.00    579.20
      280.       0.       280.       0.        0.       72.       0.        0.        0.     580.20
      0.00      0.00      3.88      0.00     0.000     0.028     0.000     0.000    577.90     74.63
  0.002077        1.        1.        1.         0         0         0     -5.45     41.01    115.64

*SECNO 90.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 UPSTREAM FACE RIVERSIDE DRIVE
     90.00      2.95    580.85      0.00      0.00    581.07      0.22      0.07      0.00    579.20
      280.       0.       280.       0.        0.       74.       0.        0.        0.     580.20
      0.01      0.00      3.77      0.00     0.000     0.028     0.000     0.000    577.90     74.53
  0.001887       33.       33.       33.         1         0         0     -6.00     41.30    115.83
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    SECNO      DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q          QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME       VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE      XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 91.000
    91.00      2.98    580.88      0.00      0.00    581.07      0.19      0.00      0.00    579.20
     230.       9.       270.       0.        6.       76.       1.        0.        0.      580.20
     0.01      1.68      3.58      0.42      0.035    0.030     0.070     0.000    577.90    74.48
 0.001745       1.        1.        1.        2        0         0       0.00     41.46    115.94

*SECNO 201.000
                VALLEY SECTION A
   201.00      3.30    581.10      0.00      0.00    581.29      0.19      0.21      0.00    581.70
     280.       0.       230.       0.        0.       80.       0.        0.        0.      582.00
     0.02      0.00      3.51      0.00      0.000    0.030     0.000     0.000    577.80    84.10
 0.002189      110.      110.      110.       1        0         0       0.00     41.98    126.09

*SECNO 1700.000

3265 DIVIDED FLOW
                VALLEY SECTION B
  1700.00      4.67    584.47      0.00      0.00    584.69      0.22      3.40      0.01    586.00
     280.       0.       280.       0.        0.       74.       0.        3.        1.      585.90
     0.13      0.00      3.77      0.24      0.000    0.040     0.060     0.000    579.80    81.76
 0.002351      1499.     1499.     1499.      2        0         0       0.00     25.94    140.30

*SECNO 3120.000
                VALLEY SECTION C
  3120.00      5.13    588.33      0.00      0.00    588.58      0.25      3.88      0.01    588.00
     280.       0.       280.       0.        0.       70.       0.        5.        2.      590.60
     0.22      0.01      3.98      0.00      0.070    0.040     0.000     0.000    583.20    54.41
 0.003209      1420.     1420.     1420.      3        0         0       0.00     24.23     78.64

*SECNO 3875.000
                VALLEY SECTION D
  3875.00      4.90    590.40      0.00      0.00    590.66      0.26      2.08      0.00    588.50
     280.       6.       269.       5.        4.       65.       4.        7.        3.      588.30
     0.28      1.54      4.14      1.13      0.060    0.040     0.060     0.000    585.50    56.23
 0.002388       755.      755.      755.       1        0         0       0.00     25.56     81.79
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
 SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 4100.000
                CONFLUENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
  4100.00      4.15    591.05      0.00      0.00    591.48      0.43      0.77      0.05    589.90
     280.        3.     275.        2.        2.       52.        1.        7.        3.    589.70
     0.29      1.62      5.30      1.24      0.060     0.040     0.060     0.000    586.90     56.62
 0.005254      225.     225.      225.         1         0         0      0.00     21.58     78.19

*SECNO 4109.000
  4109.00      4.54    591.44      0.00      0.00    591.53      0.09      0.02      0.03    589.90
     150.        3.     146.        2.        3.       59.        3.        7.        3.    589.70
     0.29      0.86      2.48      0.65      0.060     0.040     0.060     0.000    586.90     56.41
 0.000977        9.       9.        9.         2         0         0      0.00     23.67     80.08

*SECNO 4404.000
  4404.00      3.55    591.85      0.00      0.00    592.04      0.20      0.48      0.03    591.30
     150.        0.     149.        0.        1.       42.        0.        7.        3.    591.10
     0.31      0.67      3.57      0.64      0.060     0.040     0.060     0.000    588.30     56.93
 0.003191      295.     295.      295.         2         0         0      0.00     20.22     77.15

*SECNO 4504.000
  4504.00      2.92    592.22      0.00      0.00    592.58      0.36      0.49      0.05    592.30
     150.        0.     150.        0.        0.       31.        0.        7.        3.    592.10
     0.32      0.00      4.80      0.02      0.000     0.040     0.060     0.000    589.30     59.08
 0.005395      100.     100.      100.         2         0         0      0.00     17.12     76.20

1490 NH CARD USED
*SECNO 4599.000

3265 DIVIDED FLOW

  4599.00      3.57    593.27      0.00      0.00    593.85      0.58      1.21      0.07    597.00
     150.        0.     150.        0.        0.       25.        0.        8.        3.    592.70
     0.32      0.00      6.11      1.24      0.000     0.042     0.070     0.000    589.70    142.06
 0.021403       95.      95.       95.         3         0         0      0.00     10.00    153.07

*SECNO 4600.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA     LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3265 DIVIDED FLOW


3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD=  597.40 MAX ELLC=  597.00

                 DOWNSTREAM FACE PRIVATE DRIVE
  4600.00     3.60    593.30      0.00      0.00    593.87      0.57      0.01      0.00    597.00
     150.       0.       149.       1.        0.       25.        0.        8.        3.    592.70
     0.32     0.00      5.07      1.56      0.000    0.030     0.040     0.000    589.70    142.06
 0.010675       1.        1.        1.         0         0         0      0.00     10.03    153.10


*SECNO 4612.000

3265 DIVIDED FLOW

                 UPSTREAM FACE PRIVATE DRIVE
  4612.00     3.80    593.50      0.00      0.00    593.99      0.49      0.12      0.01    597.00
     150.       0.       149.       1.        0.       26.        1.        8.        3.    592.70
     0.32     0.00      5.63      1.72      0.000    0.030     0.040     0.000    589.70    142.06
 0.008701      12.       12.       12.         1         0         0      0.00     10.42    153.48


1490 NH CARD USED
*SECNO 4613.000

3265 DIVIDED FLOW

  4613.00     3.82    593.52      0.00      0.00    594.00      0.48      0.01      0.00    597.00
     150.       0.       149.       1.        0.       27.        1.        8.        3.    592.70
     0.32     0.00      5.60      1.40      0.000    0.042     0.070     0.000    589.70    142.06
 0.017146       1.        1.        1.         0         0         0      0.00     10.45    153.51


*SECNO 5400.000
                 VALLEY SECTION E
  5400.00     3.28    597.88      0.00      0.00    598.04      0.16      4.00      0.03    596.40
     150.       1.       137.      12.        1.       42.        8.        8.        3.    595.60
     0.39     0.72      3.28      1.45      0.060    0.040     0.060     0.000    594.60     76.83
 0.002399     787.      787.      787.         6         0         0      0.00     24.69    101.52
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
 Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 5500.000

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
  5500.00      1.60    598.10    598.10      0.00    598.91      0.81      0.57      0.19    596.50
     150.        C.      150.        0.        0.       21.        C.        8.        3. 100000.00
     0.40      0.00      7.20      0.00     0.000     0.040     0.000     0.000    596.50    135.00
 0.026877      100.      100.      100.        20        11         0      0.00     13.00    148.00

*SECNO 5501.000

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    DOWNSTREAM FACE SHUNK ROAD
  5501.00      1.63    598.13    598.11      0.00    598.93      0.80      0.02      0.00    596.50
     150.        C.      150.        0.        0.       21.        0.        8.        3. 100000.00
     0.40      0.00      7.18      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.020543        1.        1.        1.         C        18         0     -0.30     13.00    148.00

*SECNO 5601.000

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    UPSTREAM FACE SHUNK ROAD
  5601.00      2.95    599.45      0.00      0.00    599.70      0.25      0.72      0.06    596.50
     150.        C.      150.        0.        0.       37.        C.        8.        3. 100000.00
     0.40      0.00      4.01      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.003600      100.      100.      100.         3         0         0     -0.99     13.00    148.00
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 5602.000

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=       13.000
  5602.00      2.97    599.47      0.00      0.00    599.71      0.24      0.00      0.00    596.50
     150.        0.      150.        0.        0.       39.        0.        8.        3. 100000.00
     0.40      0.00      3.89      0.00      0.000     0.035     0.000     0.000    596.50    135.00
 0.003257        1.        1.        1.         0         0         0      0.00     13.00    148.00

*SECNO -4100.000
START TRIB COMP
  -4100.000  4100.000   591.049
 -4100.00      5.55    591.05      0.00      0.00    591.10      0.05      0.00      0.00    588.50
     150.        5.      140.        5.        6.       76.        9.        8.        3.    588.30
     0.40      0.83      1.84      0.60      0.040     0.030     0.040     0.000    585.50     55.90
 0.003215        0.        0.        0.         0         0         0      0.00     28.92     84.82

*SECNO 0.100

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     0.10      3.21    592.21    592.21      0.00    593.26      1.04      0.00      0.30    590.30
     130.        4.      104.       21.        2.       12.        5.        8.        3.    590.30
     0.40      2.81      8.88      4.68      0.040     0.030     0.040     0.000    589.00    143.18
 0.010869        0.        0.        0.         20        14         0      0.00      9.59    152.77

*SECNO 5.000
3685 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      143.0      150.0  TYPE=      1  TARGET=        7.000
     5.00      3.39    592.39    592.39      0.00    593.67      1.28      0.06      0.07    590.30
     130.        6.      119.        6.        2.       13.        2.        8.        3.    590.30
     0.40      3.05      9.47      3.19      0.040     0.030     0.040     0.000    589.00    143.03
 0.011372        5.        5.        5.         20         8         0      0.00      6.97    150.00
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Mission Creek

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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
 Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TCPWID      ENDST


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      3.30      3.00      0.00      5.00      0.00      15.90     0.00      589.00    589.00

*SECNO 46.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                             AREA
 595.81    593.29    0.00      16.       115.      16.       15.           592.10    594.90


3470 ENCROACHMENT STATIONS=     141.0     152.0  TYPE=     1  TARGET=     11.000
                UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
 46.00     5.92      594.92    0.00      0.00      595.09    0.17      1.42      0.00      590.30
 130.      14.       89.       27.       9.        23.       12.       8.        3.        590.30
 0.41      1.51      3.81      2.20      0.040     0.030     0.040     0.000     589.00    141.00
0.000799   41.       41.       41.       2         0         5         0.00      11.00     152.00


*SECNO 331.000
 331.00    5.20      595.20    0.00      0.00      595.23    0.02      0.12      0.02      590.50
 130.      34.       54.       42.       58.       31.       70.       9.        4.        590.50
 0.48      0.59      1.76      0.60      0.050     0.040     0.050     0.000     590.00    76.85
0.000270   285.      285.      285.      3         0         0         0.00      140.60    217.45


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      2.90      3.00      0.00      6.00      0.00      28.30     0.00      590.00    590.00

*SECNO 376.000
3230 CROSS SECTION     376.00 EXTENDED      0.10 FEET
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QRCB	ALOB	ACH	AROE	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRCB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
596.15	595.24	0.00	28.	103.	28.	21.	593.50	595.60

UPSTREAM FACE AT 10TH AVE

376.00	5.79	595.79	0.00	0.00	595.80	0.01	0.57	0.00	590.50
130.	38.	49.	44.	108.	34.	118.	9.	4.	590.50
0.50	0.35	1.39	0.38	0.050	0.030	0.050	0.000	590.00	0.00
0.000082	45.	45.	45.	1	0	4	0.00	261.64	261.64

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THIS RUN EXECUTED 3 APR 85 11:39:12

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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T1      CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2      MISSION CREEK
T3      100-YEAR ENCROACHED FLOW
```

J1	ICHECK	INQ	NINV	IDIP	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	3.	0.	0.	0.000000	0.00	0.0	0.	580.700	0.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15.000	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    3         QLOB      QCH       QRCB      ALCB      ACH       ARCB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLCPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *PROF 2

 CCHV=   0.100 CEHV=   0.300
 *SECNO 0.000
 3230 CROSS SECTION      0.00 EXTENDED      0.50 FEET

 3470 ENCROACHMENT STATIONS=      63.0      132.0  TYPE=     1  TARGET=      69.000
                 BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
      0.00      2.80    580.70      0.00    580.70    580.87      0.17      0.00      0.00    579.20
      280.       31.      244.        5.       27.       70.        9.        0.        0.    580.20
      0.00      1.14      3.50      0.57      0.070     0.030     0.070     0.000    577.90     63.00
 0.001858         0.        0.        0.         0         0         0      0.00     69.00    132.00

 *SECNO 56.000
     56.00      2.87    580.77      0.00      0.00    581.00      0.22      0.11      0.02    579.20
      280.        4.      276.        0.        5.       72.        0.        0.        0.    580.20
      0.00      0.87      3.82      0.41      0.070     0.030     0.070     0.000    577.90     74.63
 0.002126        56.       56.       56.         2         0         0      0.00     41.01    115.64

 *SECNO 57.000

 3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 DOWNSTREAM FACE RIVERSIDE DRIVE
     57.00      2.87    580.77      0.00      0.00    581.00      0.23      0.00      0.00    579.20
      280.        0.      280.        0.        0.       72.        0.        0.        0.    580.20
      0.00      0.00      3.88      0.00      0.000     0.028     0.000     0.000    577.90     74.63
 0.002077         1.        1.        1.         0         0         0     -5.45     41.01    115.64

 *SECNO 90.000

 3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 UPSTREAM FACE RIVERSIDE DRIVE
     90.00      2.95    580.85      0.00      0.00    581.07      0.22      0.07      0.00    579.20
      280.        0.      280.        0.        0.       74.        0.        0.        0.    580.20
      0.01      0.00      3.77      0.00      0.000     0.028     0.000     0.000    577.90     74.53
 0.001887        33.       33.       33.         1         0         0     -6.00     41.30    115.83
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
    Q          QLOB       SCH        CRCB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
    TIME       VLOB       VCH        VRCB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
    SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

 *SECNO 91.000
     91.00      2.93     580.88       0.00       0.00     581.07       0.19       0.00       0.00     579.20
       280.        9.       270.        0.         6.        76.         1.         0.         0.     580.20
      0.01      1.68       3.58       0.42      0.035      0.030      0.070      0.000     577.90      74.48
  0.001745        1.         1.         1.          2          0          0       0.00      41.46     115.94

 *SECNO 201.000
                VALLEY SECTION A
    201.00      3.30     581.10       0.00       0.00     581.29       0.19       0.21       0.00     581.70
       230.        0.        280.        0.         0.        80.         0.         0.         0.     582.00
      0.02      0.00       3.51       0.00      0.000      0.030      0.000      0.000     577.80      84.10
  0.002189      110.       110.       110.          1          0          0       0.00      41.98     126.09

 *SECNO 1700.000

 3265 DIVIDED FLOW

                VALLEY SECTION B
   1700.00      4.67     584.47       0.00       0.00     584.69       0.22       3.40       0.01     586.00
       230.        0.        280.        0.         0.        74.         0.         3.         1.     585.90
      0.13      0.00       3.77       0.24      0.000      0.040      0.060      0.000     579.80      81.76
  0.002351     1499.      1499.      1499.          2          0          0       0.00      25.94     140.30

 *SECNO 3120.000
                VALLEY SECTION C
   3120.00      5.13     588.33       0.00       0.00     588.58       0.25       3.88       0.01     588.00
       230.        0.        280.        0.         0.        70.         0.         5.         2.     590.60
      0.22      0.01       3.98       0.00      0.070      0.040      0.000      0.000     583.20      54.41
  0.003209     1420.      1420.      1420.          3          0          0       0.00      24.23      78.64

 *SECNO 3875.000
                VALLEY SECTION D
   3875.00      4.90     590.40       0.00       0.00     590.66       0.26       2.08       0.00     588.50
       280.        6.        269.        5.         4.        65.         4.         7.         3.     588.30
      0.28      1.54       4.14       1.13      0.060      0.040      0.060      0.000     585.50      56.23
  0.002386       755.       755.       755.          1          0          0       0.00      25.56      81.79
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
  Q         DLOB      GCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
  TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
  SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 4100.000
                CONFLUENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
  4100.00     4.15    591.05     0.00      0.00    591.48      0.43      0.77      0.05    589.90
     230.       3.      275.       2.        2.       52.        1.        7.        3.    589.70
     0.29     1.62      5.30     1.24      0.060    0.040     0.060     0.000    586.90     56.62
 0.005254     225.      225.     225.         1         0         0      0.00     21.58     78.19

*SECNO 4109.000
  4109.00     4.54    591.44     0.00      0.00    591.53      0.09      0.02      0.03    589.90
     150.       3.      146.       2.        3.       59.        3.        7.        3.    589.70
     0.29     0.86      2.48     0.65      0.060    0.040     0.060     0.000    586.90     56.41
 0.000977       9.        9.       9.         2         0         0      0.00     23.67     80.08

*SECNO 4404.000
  4404.00     3.55    591.85     0.00      0.00    592.04      0.20      0.48      0.03    591.30
     150.       0.      149.       0.        1.       42.        0.        7.        3.    591.10
     0.31     0.67      3.57     0.64      0.060    0.040     0.060     0.000    588.30     56.93
 0.003191     295.      295.     295.         2         0         0      0.00     20.22     77.15

*SECNO 4504.000
  4504.00     2.92    592.22     0.00      0.00    592.58      0.36      0.49      0.05    592.30
     150.       0.      150.       0.        0.       31.        0.        7.        3.    592.10
     0.32     0.00      4.80     0.02      0.000    0.040     0.060     0.000    589.30     59.08
 0.008395     100.      100.     100.         2         0         0      0.00     17.12     76.20

1490 NH CARD USED
*SECNO 4599.000

3265 DIVIDED FLOW

  4599.00     3.57    593.27     0.00      0.00    593.85      0.58      1.21      0.07    597.00
     150.       0.      150.       0.        0.       25.        0.        8.        3.    592.70
     0.32     0.00      6.11     1.24      0.000    0.042     0.070     0.000    589.70    142.06
 0.021403       95.       95.      95.         3         0         0      0.00     10.00    153.07

*SECNO 4600.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN        SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID       ENDST

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD=  597.40 MAX ELLC=  597.00

                DOWNSTREAM FACE PRIVATE DRIVE
 4600.00     3.60    593.30     0.00      0.00    593.87     0.57      0.01      0.00    597.00
    150.       0.       149.      1.        0.      25.       0.        8.        3.     592.70
    0.32     0.00      6.07     1.56      0.000    0.030    0.040    0.000    589.70    142.06
0.013675       1.        1.      1.         0        0        0     0.00     10.03    153.10

*SECNO 4612.000

3265 DIVIDED FLOW

                UPSTREAM FACE PRIVATE DRIVE
 4612.00     3.80    593.50     0.00      0.00    593.99     0.49      0.12      0.01    597.00
    130.       0.       149.      1.        0.      26.       1.        8.        3.     592.70
    0.32     0.00      5.63     1.72      0.000    0.030    0.040    0.000    589.70    142.06
0.008701      12.       12.     12.         1        0        0     0.00     10.42    153.48

1490 NH CARD USED
*SECNO 4613.000

3265 DIVIDED FLOW

 4613.00     3.82    593.52     0.00      0.00    594.00     0.48      0.01      0.00    597.00
    150.       0.       149.      1.        0.      27.       1.        8.        3.     592.70
    0.32     0.00      5.60     1.40      0.000    0.042    0.070    0.000    589.70    142.06
0.017146       1.        1.      1.         0        0        0     0.00     10.45    153.51

*SECNO 5400.000
                VALLEY SECTION E
 5400.00     3.28    597.88     0.00      0.00    598.04     0.16      4.00      0.03    596.40
    150.       1.       137.     12.        1.      42.       8.        8.        3.     595.60
    0.39     0.72      3.28     1.45      0.060    0.040    0.060    0.000    594.60     76.83
0.002399     787.      787.    787.         6        0        0     0.00     24.69    101.52
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 5500.000

 3301 HV CHANGED MORE THAN HVINS

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

 3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
   5500.00      1.60    598.10    598.10      0.00    598.51      0.81      0.57      0.19    596.50
      150.        0.      150.        0.        0.       21.        0.        8.        3. 100000.00
      0.40      0.00      7.20      0.00     0.000     0.040     0.000     0.000    596.50    135.00
  0.026377      100.      100.      100.        20        11         0      0.00     13.00    148.00

 *SECNO 5501.000

 3370 NORMAL BRIDGE/NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

 3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    DOWNSTREAM FACE SHUNK ROAD
   5501.00      1.63    598.13    598.11      0.00    598.53      0.80      0.02      0.00    596.50
      150.        0.      150.        0.        0.       21.        0.        8.        3. 100000.00
      0.40      0.00      7.18      0.00     0.000     0.035     0.000     0.000    596.50    135.00
  0.020543        1.        1.        1.         0        18         0     -0.30     13.00    148.00

 *SECNO 5601.000

 3301 HV CHANGED MORE THAN HVINS

 3370 NORMAL BRIDGE/NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

 3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    UPSTREAM FACE SHUNK ROAD
   5601.00      2.95    599.45      0.00      0.00    599.70      0.25      0.72      0.06    596.50
      150.        0.      150.        0.        0.       37.        0.        8.        3. 100000.00
      0.40      0.00      4.01      0.00     0.000     0.035     0.000     0.000    596.50    135.00
  0.003600      100.      100.      100.         3         0         0     -0.99     13.00    148.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         GLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 5602.000

 3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=       13.000
   5602.00      2.97    599.47      0.00      0.00    599.71      0.24      0.00      0.00    596.50
     150.        0.      150.        0.        0.       39.        0.        8.        3. 100000.00
      0.40      0.00      3.89      0.00     0.000     0.035     0.000     0.000    596.50    135.00
  0.003257        1.        1.        1.         0         0         0      0.00     13.00    148.00

 *SECNO -4100.000
 START TRIB COMP
   -4100.000  4100.000   591.049
  -4100.00      5.55    591.05      0.00      0.00    591.10      0.05      0.00      0.00    588.50
     150.        5.      140.        5.        6.       76.        9.        8.        3.    588.30
      0.40      0.83      1.84      0.60     0.040     0.030     0.040     0.000    585.50     55.90
  0.000215        0.        0.        0.         0         0         0      0.00     28.92     84.82

 *SECNO 0.100

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL/CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      0.10      3.21    592.21    592.21      0.00    593.26      1.04      0.00      0.30    590.30
     130.        4.      104.       21.        2.       12.        5.        8.        3.    590.30
      0.40      2.81      8.88      4.68     0.040     0.030     0.040     0.000    589.00    143.18
  0.010869        0.        0.        0.         20        14         0      0.00      9.59    152.77

 *SECNO 5.000
 3685 20 TRIALS ATTEMPTED WSEL/CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      143.0      150.0  TYPE=      1  TARGET=        7.000
      5.00      3.39    592.39    592.39      0.00    593.67      1.28      0.06      0.07    590.30
     130.        6.      119.        6.        2.       13.        2.        8.        3.    590.30
      0.40      3.05      9.47      3.19     0.040     0.030     0.040     0.000    589.00    143.03
  0.011372        5.        5.        5.         20         8         0      0.00      6.97    150.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
3         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFB      RDLEN     EWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      3.30      3.00      0.00      5.00      0.00      15.90     0.00      589.00    589.00

*SECNO 45.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                             AREA
 595.81    593.29    0.00      16.       115.      16.       15.           592.10    594.90


3470 ENCROACHMENT STATIONS=     141.0     152.0  TYPE=     1  TARGET=     11.000
                 UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                 DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
   46.00     5.92    594.92     0.00      0.00    595.09      0.17      1.42      0.00    590.30
    130.      14.      89.      27.       9.      23.       12.       8.        3.     590.30
    0.41     1.51     3.81     2.20     0.040    0.030     0.040    0.000    589.00    141.00
0.000799      41.      41.      41.         2         0         5     0.00     11.00    152.00


*SECNO 331.000

3470 ENCROACHMENT STATIONS=     125.0     175.0  TYPE=     1  TARGET=     50.000
  331.00     5.22    595.22     0.00    595.20    595.26      0.04      0.16      0.01    590.50
    130.      27.      66.      37.       26.      31.       42.       9.        4.     590.50
    0.46     1.01     2.16     0.89     0.050    0.040     0.050    0.000    590.00    125.00
0.000403     285.     285.     285.         3         0         0     0.00     50.00    175.00


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

SB  XK        XKOR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.90      3.00      0.00      6.00      0.00     28.30      0.00    590.00    590.00

*SECNO 376.000
     3700.   BRIDGE STENCL=     75.00    STENCR=     225.00
PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        GWEIR     GFR       SAREA   TRAPEZOID     ELLC      ELTRD
                                                             AREA
   596.17    595.25     0.00       22.      109.       28.       21.    593.50    595.60


3470 ENCROACHMENT STATIONS=      75.0      225.0  TYPE=     1  TARGET=     150.000
                 UPSTREAM FACE AT 10TH AVE
   376.00      5.87    595.87      0.00    595.79    595.88      0.01      0.62      0.00    590.50
     130.       38.       46.       45.      102.       35.      120.        9.        4.    590.50
     0.48      0.37      1.34      0.38     0.050     0.030     0.050     0.000    590.00     75.00
 0.000074       45.       45.       45.         1         0         0      0.00    150.00    225.00
```

IN U.S.A.

THIS RUN EXECUTED 3 APR 85 11:39:20

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  C1,02,03,C4,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

100-YEAR FLOW JNENCROACH

SUMMARY PRINTOUT TABLE 110

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
0.000	580.70	0.00	580.87	69.00	30.89	244.01	5.10	69.00	63.00	81.00	114.00	132.00
0.000	580.70	0.00	580.87	69.00	30.89	244.01	5.10	69.00	63.00	81.00	114.00	132.00
56.000	580.77	0.00	581.00	41.01	4.30	275.51	0.19	0.00	0.00	81.00	114.00	0.00
56.000	580.77	0.00	581.00	41.01	4.30	275.51	0.19	0.00	0.00	81.00	114.00	0.00
57.000	580.77	0.00	581.00	41.01	0.00	280.00	0.00	0.00	0.00	81.00	114.00	0.00
57.000	580.77	0.00	581.00	41.01	0.00	280.00	0.00	0.00	0.00	81.00	114.00	0.00
90.000	580.85	0.00	581.07	41.30	0.00	280.00	0.00	0.00	0.00	81.00	114.00	0.00
90.000	580.85	0.00	581.07	41.30	0.00	280.00	0.00	0.00	0.00	81.00	114.00	0.00
91.000	580.88	0.00	581.07	41.46	9.46	270.27	0.27	0.00	0.00	81.00	114.00	0.00
91.000	580.88	0.00	581.07	41.46	9.46	270.27	0.27	0.00	0.00	81.00	114.00	0.00
201.000	581.10	0.00	581.29	41.98	0.00	280.00	0.00	0.00	0.00	83.00	127.00	0.00
201.000	581.10	0.00	581.29	41.98	0.00	280.00	0.00	0.00	0.00	83.00	127.00	0.00
1700.000	584.47	0.00	584.69	25.94	0.00	279.89	0.11	0.00	0.00	81.00	104.00	0.00
1700.000	584.47	0.00	584.69	25.94	0.00	279.89	0.11	0.00	0.00	81.00	104.00	0.00
3120.000	588.33	0.00	588.58	24.23	0.00	280.00	0.00	0.00	0.00	55.00	82.00	0.00
3120.000	588.33	0.00	588.58	24.23	0.00	280.00	0.00	0.00	0.00	55.00	82.00	0.00
3875.000	590.40	0.00	590.66	25.56	6.15	268.84	5.01	0.00	0.00	59.00	76.00	0.00
3875.000	590.40	0.00	590.66	25.56	6.15	268.84	5.01	0.00	0.00	59.00	76.00	0.00
4100.000	591.05	0.00	591.48	21.58	3.28	274.99	1.73	0.00	0.00	59.00	76.00	0.00
4100.000	591.05	0.00	591.48	21.58	3.28	274.99	1.73	0.00	0.00	59.00	76.00	0.00
4109.000	591.44	0.00	591.53	23.67	2.60	145.67	1.73	0.00	0.00	59.00	76.00	0.00
4109.000	591.44	0.00	591.53	23.67	2.60	145.67	1.73	0.00	0.00	59.00	76.00	0.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	4404.000	591.85	0.00	592.04	20.22	0.47	149.25	0.28	0.00	0.00	59.00	76.00	0.00
	4404.000	591.85	0.00	592.04	20.22	0.47	149.25	0.28	0.00	0.00	59.00	76.00	0.00
	4504.000	592.22	0.00	592.58	17.12	0.00	150.00	0.00	0.00	0.00	59.00	76.00	0.00
	4504.000	592.22	0.00	592.58	17.12	0.00	150.00	0.00	0.00	0.00	59.00	76.00	0.00
	4599.000	593.27	0.00	593.85	10.00	0.00	149.62	0.38	0.00	0.00	142.00	152.00	0.00
	4599.000	593.27	0.00	593.85	10.00	0.00	149.62	0.38	0.00	0.00	142.00	152.00	0.00
	4600.000	593.30	0.00	593.87	10.03	0.00	149.50	0.50	0.00	0.00	142.00	152.00	0.00
	4600.000	593.30	0.00	593.87	10.03	0.00	149.50	0.50	0.00	0.00	142.00	152.00	0.00
	4612.000	593.50	0.00	593.99	10.42	0.00	148.99	1.01	0.00	0.00	142.00	152.00	0.00
	4612.000	593.50	0.00	593.99	10.42	0.00	148.99	1.01	0.00	0.00	142.00	152.00	0.00
	4613.000	593.52	0.00	594.00	10.45	0.00	149.14	0.86	0.00	0.00	142.00	152.00	0.00
	4613.000	593.52	0.00	594.00	10.45	0.00	149.14	0.86	0.00	0.00	142.00	152.00	0.00
	5400.000	597.88	0.00	598.04	24.69	0.62	137.21	12.16	0.00	0.00	78.00	95.00	0.00
	5400.000	597.88	0.00	598.04	24.69	0.62	137.21	12.16	0.00	0.00	78.00	95.00	0.00
*	5500.000	598.10	0.00	598.91	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
*	5500.000	598.10	0.00	598.91	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
	5501.000	598.13	0.00	598.93	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
	5501.000	598.13	0.00	598.93	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
	5601.000	599.45	0.00	599.70	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
	5601.000	599.45	0.00	599.70	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
	5602.000	599.47	0.00	599.71	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
	5602.000	599.47	0.00	599.71	13.00	0.00	150.00	0.00	13.00	135.00	135.00	148.00	148.00
	-4100.000	591.05	0.00	591.10	28.92	4.87	139.65	5.48	0.00	0.00	59.00	76.00	0.00
	-4100.000	591.05	0.00	591.10	28.92	4.87	139.65	5.48	0.00	0.00	59.00	76.00	0.00
*	0.100	592.21	0.00	593.26	9.59	4.36	104.40	21.24	0.00	0.00	144.80	149.10	0.00
*	0.100	592.21	0.00	593.26	9.59	4.36	104.40	21.24	0.00	0.00	144.80	149.10	0.00
*	5.000	592.39	0.00	593.67	6.97	5.64	118.50	5.85	7.00	143.00	144.80	149.10	150.00
*	5.000	592.39	0.00	593.67	6.97	5.64	118.50	5.85	7.00	143.00	144.80	149.10	150.00
	46.000	594.92	0.00	595.09	11.00	14.29	89.05	26.66	11.00	141.00	144.80	149.10	152.00
	46.000	594.92	0.00	595.09	11.00	14.29	89.05	26.66	11.00	141.00	144.80	149.10	152.00
	331.000	595.20	0.00	595.23	140.60	34.20	54.02	41.78	0.00	0.00	142.00	148.00	0.00
	331.000	595.22	0.01	595.26	50.00	26.54	66.29	37.17	50.00	125.00	142.00	148.00	175.00
	376.000	595.79	0.00	595.80	261.64	37.89	47.65	44.46	0.00	0.00	142.00	148.00	0.00
	376.000	595.87	0.08	595.88	150.00	38.13	46.40	45.47	150.00	75.00	142.00	148.00	225.00

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100-YEAR FLOW UNENCROACH

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
0.000	0.00	0.00	0.00	577.90	280.00	580.70	0.00	580.87	18.58	3.50	105.75	64.95
0.000	0.00	0.00	0.00	577.90	280.00	580.70	0.00	580.87	18.58	3.50	105.75	64.95
56.000	56.00	0.00	0.00	577.90	280.00	580.77	0.00	581.00	21.26	3.82	77.45	60.72
56.000	56.00	0.00	0.00	577.90	280.00	580.77	0.00	581.00	21.26	3.82	77.45	60.72
57.000	1.00	586.70	583.70	577.90	280.00	580.77	0.00	581.00	20.77	3.88	72.08	61.44
57.000	1.00	586.70	583.70	577.90	280.00	580.77	0.00	581.00	20.77	3.88	72.08	61.44
90.000	33.00	586.70	583.70	577.90	280.00	580.85	0.00	581.07	18.87	3.77	74.29	64.45
90.000	33.00	586.70	583.70	577.90	280.00	580.85	0.00	581.07	18.87	3.77	74.29	64.45
91.000	1.00	0.00	0.00	577.90	280.00	580.88	0.00	581.07	17.45	3.58	81.87	67.04
91.000	1.00	0.00	0.00	577.90	280.00	580.88	0.00	581.07	17.45	3.58	81.87	67.04
201.000	110.00	0.00	0.00	577.80	280.00	581.10	0.00	581.29	21.89	3.51	79.87	59.85
201.000	110.00	0.00	0.00	577.80	280.00	581.10	0.00	581.29	21.89	3.51	79.87	59.85
1700.000	1499.00	0.00	0.00	579.80	280.00	584.47	0.00	584.69	23.51	3.77	74.71	57.75
1700.000	1499.00	0.00	0.00	579.80	280.00	584.47	0.00	584.69	23.51	3.77	74.71	57.75
3120.000	1420.00	0.00	0.00	583.20	280.00	588.33	0.00	588.58	32.09	3.98	70.41	49.43
3120.000	1420.00	0.00	0.00	583.20	280.00	588.33	0.00	588.58	32.09	3.98	70.41	49.43
3875.000	755.00	0.00	0.00	585.50	280.00	590.40	0.00	590.66	23.86	4.14	73.30	57.32
3875.000	755.00	0.00	0.00	585.50	280.00	590.40	0.00	590.66	23.86	4.14	73.30	57.32
4100.000	225.00	0.00	0.00	586.90	280.00	591.05	0.00	591.48	52.54	5.30	55.31	38.63
4100.000	225.00	0.00	0.00	586.90	280.00	591.05	0.00	591.48	52.54	5.30	55.31	38.63
4109.000	9.00	0.00	0.00	586.90	150.00	591.44	0.00	591.53	9.77	2.48	64.40	48.00
4109.000	9.00	0.00	0.00	586.90	150.00	591.44	0.00	591.53	9.77	2.48	64.40	48.00
4404.000	295.00	0.00	0.00	588.30	150.00	591.85	0.00	592.04	31.91	3.57	42.90	26.55
4404.000	295.00	0.00	0.00	588.30	150.00	591.85	0.00	592.04	31.91	3.57	42.90	26.55
4504.000	100.00	0.00	0.00	589.30	150.00	592.22	0.00	592.58	83.95	4.80	31.29	16.37
4504.000	100.00	0.00	0.00	589.30	150.00	592.22	0.00	592.58	83.95	4.80	31.29	16.37
4599.000	95.00	0.00	0.00	589.70	150.00	593.27	0.00	593.85	214.03	6.11	24.81	10.25
4599.000	95.00	0.00	0.00	589.70	150.00	593.27	0.00	593.85	214.03	6.11	24.81	10.25
4600.000	1.00	597.40	597.00	589.70	150.00	593.30	0.00	593.87	106.75	6.07	24.97	14.52
4600.000	1.00	597.40	597.00	589.70	150.00	593.30	0.00	593.87	106.75	6.07	24.97	14.52
4612.000	12.00	0.00	0.00	589.70	150.00	593.50	0.00	593.99	87.01	5.63	27.07	16.08
4612.000	12.00	0.00	0.00	589.70	150.00	593.50	0.00	593.99	87.01	5.63	27.07	16.08

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	4613.000	1.00	0.00	0.00	589.70	150.00	593.52	0.00	594.00	171.46	5.60	27.25	11.46
	4613.000	1.00	0.00	0.00	589.70	150.00	593.52	0.00	594.00	171.46	5.60	27.25	11.46
	5400.000	787.00	0.00	0.00	594.60	150.00	597.88	0.00	598.04	23.99	3.28	51.15	30.62
	5400.000	787.00	0.00	0.00	594.60	150.00	597.88	0.00	598.04	23.99	3.28	51.15	30.62
*	5500.000	100.00	0.00	0.00	596.50	150.00	598.10	598.10	598.91	268.77	7.20	20.83	9.15
*	5500.000	100.00	0.00	0.00	596.50	150.00	598.10	598.10	598.91	268.77	7.20	20.83	9.15
	5501.000	1.00	607.80	604.70	596.50	150.00	598.13	598.11	598.93	205.43	7.18	20.88	10.47
	5501.000	1.00	607.80	604.70	596.50	150.00	598.13	598.11	598.93	205.43	7.18	20.88	10.47
	5601.000	100.00	607.80	604.70	596.50	150.00	599.45	0.00	599.70	36.00	4.01	37.41	25.00
	5601.000	100.00	607.80	604.70	596.50	150.00	599.45	0.00	599.70	36.00	4.01	37.41	25.00
	5602.000	1.00	0.00	0.00	596.50	150.00	599.47	0.00	599.71	32.57	3.89	38.54	26.28
	5602.000	1.00	0.00	0.00	596.50	150.00	599.47	0.00	599.71	32.57	3.89	38.54	26.28
	-4100.000	0.00	0.00	0.00	585.50	150.00	591.05	0.00	591.10	2.15	1.84	90.86	102.22
	-4100.000	0.00	0.00	0.00	585.50	150.00	591.05	0.00	591.10	2.15	1.84	90.86	102.22
*	0.100	0.10	0.00	0.00	589.00	130.00	592.21	592.21	593.26	108.69	8.88	17.84	12.47
*	0.100	0.10	0.00	0.00	589.00	130.00	592.21	592.21	593.26	108.69	8.88	17.84	12.47
*	5.000	5.00	0.00	0.00	589.00	130.00	592.39	592.39	593.67	113.72	9.47	16.20	12.19
*	5.000	5.00	0.00	0.00	589.00	130.00	592.39	592.39	593.67	113.72	9.47	16.20	12.19
	46.000	41.00	594.90	592.10	589.00	130.00	594.92	0.00	595.09	7.99	3.81	44.98	46.00
	46.000	41.00	594.90	592.10	589.00	130.00	594.92	0.00	595.09	7.99	3.81	44.98	46.00
	331.000	285.00	0.00	0.00	590.00	130.00	595.20	0.00	595.23	2.70	1.76	158.16	79.14
	331.000	285.00	0.00	0.00	590.00	130.00	595.22	0.00	595.26	4.03	2.16	98.68	64.73
	376.000	45.00	595.60	593.50	590.00	130.00	595.79	0.00	595.80	0.82	1.39	259.45	143.53
	376.000	45.00	595.60	593.50	590.00	130.00	595.87	0.00	595.88	0.74	1.34	257.25	150.97

100-YEAR FLOW UNENCROACH

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
0.000	280.00	580.70	0.00	0.00	0.00	69.00	0.00
0.000	280.00	580.70	0.00	0.00	0.00	69.00	0.00
56.000	280.00	580.77	0.00	0.07	0.00	41.01	56.00
56.000	280.00	580.77	0.00	0.07	0.00	41.01	56.00
57.000	280.00	580.77	0.00	-0.01	0.00	41.01	1.00
57.000	280.00	580.77	0.00	-0.01	0.00	41.01	1.00
90.000	280.00	580.85	0.00	0.08	0.00	41.30	33.00
90.000	280.00	580.85	0.00	0.08	0.00	41.30	33.00
91.000	280.00	580.88	0.00	0.03	0.00	41.46	1.00
91.000	280.00	580.88	0.00	0.03	0.00	41.46	1.00
201.000	280.00	581.10	0.00	0.22	0.00	41.98	110.00
201.000	280.00	581.10	0.00	0.22	0.00	41.98	110.00
1700.000	280.00	584.47	0.00	3.38	0.00	25.94	1499.00
1700.000	280.00	584.47	0.00	3.38	0.00	25.94	1499.00
3120.000	280.00	588.33	0.00	3.86	0.00	24.23	1420.00
3120.000	280.00	588.33	0.00	3.86	0.00	24.23	1420.00
3875.000	280.00	590.40	0.00	2.07	0.00	25.56	755.00
3875.000	280.00	590.40	0.00	2.07	0.00	25.56	755.00
4100.000	280.00	591.05	0.00	0.65	0.00	21.58	225.00
4100.000	280.00	591.05	0.00	0.65	0.00	21.58	225.00
4109.000	150.00	591.44	0.00	0.39	0.00	23.67	9.00
4109.000	150.00	591.44	0.00	0.39	0.00	23.67	9.00
4404.000	150.00	591.85	0.00	0.40	0.00	20.22	295.00
4404.000	150.00	591.85	0.00	0.40	0.00	20.22	295.00
4504.000	150.00	592.22	0.00	0.38	0.00	17.12	100.00
4504.000	150.00	592.22	0.00	0.38	0.00	17.12	100.00
4599.000	150.00	593.27	0.00	1.05	0.00	10.00	95.00
4599.000	150.00	593.27	0.00	1.05	0.00	10.00	95.00
4600.000	150.00	593.30	0.00	0.02	0.00	10.03	1.00
4600.000	150.00	593.30	0.00	0.02	0.00	10.03	1.00
4612.000	150.00	593.50	0.00	0.20	0.00	10.42	12.00
4612.000	150.00	593.50	0.00	0.20	0.00	10.42	12.00

PRINTED IN U.S.A.

	SECNO	G	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	4613.000	150.00	593.52	0.00	0.02	0.00	10.45	1.00
	4613.000	150.00	593.52	0.00	0.02	0.00	10.45	1.00
	5400.000	150.00	597.88	0.00	4.36	0.00	24.69	787.00
	5400.000	150.00	597.88	0.00	4.36	0.00	24.69	787.00
*	5500.000	150.00	598.10	0.00	0.22	0.00	13.00	100.00
*	5500.000	150.00	598.10	0.00	0.22	0.00	13.00	100.00
	5501.000	150.00	598.13	0.00	0.03	0.00	13.00	1.00
	5501.000	150.00	598.13	0.00	0.03	0.00	13.00	1.00
	5601.000	150.00	599.45	0.00	1.32	0.00	13.00	100.00
	5601.000	150.00	599.45	0.00	1.32	0.00	13.00	100.00
	5602.000	150.00	599.47	0.00	0.02	0.00	13.00	1.00
	5602.000	150.00	599.47	0.00	0.02	0.00	13.00	1.00
	-4100.000	150.00	591.05	0.00	-8.42	0.00	28.92	0.00
	-4100.000	150.00	591.05	0.00	-8.42	0.00	28.92	0.00
*	0.100	130.00	592.21	0.00	1.16	0.00	9.59	0.10
*	0.100	130.00	592.21	0.00	1.16	0.00	9.59	0.10
*	5.000	130.00	592.39	0.00	0.18	0.00	6.97	5.00
*	5.000	130.00	592.39	0.00	0.18	0.00	6.97	5.00
	46.000	130.00	594.92	0.00	2.53	0.00	11.00	41.00
	46.000	130.00	594.92	0.00	2.53	0.00	11.00	41.00
	331.000	130.00	595.20	0.00	0.29	0.00	140.60	285.00
	331.000	130.00	595.22	0.01	0.30	0.01	50.00	285.00
	376.000	130.00	595.79	0.00	0.59	0.00	261.64	45.00
	376.000	130.00	595.87	0.08	0.66	0.08	150.00	45.00

INUSA

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION  SECNO=  5500.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  5500.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  5500.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  5500.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  5500.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  5500.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=     0.100  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.100  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     0.100  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     0.100  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.100  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     0.100  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=     5.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     5.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     5.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     5.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     5.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     5.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOODWAY DATA, 100-YEAR FLOW UNENCROACH
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
0.000	69.	106.	2.6	580.7	580.7	0.0
56.000	41.	77.	3.6	580.8	580.8	0.0
57.000	41.	72.	3.9	580.8	580.8	0.0
90.000	41.	74.	3.8	580.8	580.8	0.0
91.000	41.	82.	3.4	580.9	580.9	0.0
201.000	42.	80.	3.5	581.1	581.1	0.0
1700.000	59.	75.	3.7	584.5	584.5	0.0
3120.000	24.	70.	4.0	588.3	588.3	0.0
3675.000	26.	73.	3.8	590.4	590.4	0.0
4100.000	22.	55.	5.1	591.0	591.0	0.0
4109.000	24.	64.	2.3	591.4	591.4	0.0
4404.000	20.	43.	3.5	591.8	591.8	0.0
4504.000	17.	31.	4.8	592.2	592.2	0.0
4599.000	11.	25.	6.0	593.3	593.3	0.0
4600.000	11.	25.	6.0	593.3	593.3	0.0
4612.000	11.	27.	5.5	593.5	593.5	0.0
4613.000	11.	27.	5.5	593.5	593.5	0.0
5400.000	25.	51.	2.9	597.9	597.9	0.0
5500.000	13.	21.	7.2	598.1	598.1	0.0
5501.000	13.	21.	7.2	598.1	598.1	0.0
5601.000	13.	37.	4.0	599.5	599.5	0.0
5602.000	13.	39.	3.9	599.5	599.5	0.0
-4100.000	29.	91.	1.7	591.0	591.0	0.0
0.100	10.	18.	7.3	592.2	592.2	0.0
5.000	7.	16.	8.0	592.4	592.4	0.0
46.000	11.	45.	2.9	594.9	594.9	0.0
331.000	50.	99.	1.3	595.2	595.2	0.0
376.000	150.	257.	0.5	595.9	595.8	0.1

PRIN IN U.S.A.

THIS RUN EXECUTED 3 APR 85 11:39:26

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************
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===> COED,EMMISION
===> FREE ALL
```

PRINTED IN U.S.A.

00BREAK00

1) COUNTY: Chippewa

2) STUDY NAME: Sault Ste. Marie

3) WATERCOURSE: Mission Creek

4) DOCUMENT TYPE: Multiple profiles

00BREAK00

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*************************************************
*  WATER SURFACE PROFILES                       *
*  VERSION OF NOVEMBER 1976                     *
*  UPDATED MAY 1984                             *
*                                               *
*  RUN DATE   3 APR 85 TIME   10:57:58          *
*************************************************

                                        ***************************************
                                        *  U.S. ARMY CORPS OF ENGINEERS       *
                                        *  THE HYDROLOGIC ENGINEERING CENTER  *
                                        *  609 SECOND STREET, SUITE D         *
                                        *  DAVIS, CALIFORNIA 95616            *
                                        *  (916) 440-2105 (FTS) 448-2105      *
                                        ***************************************

X      X  XXXXXXX   XXXXX              XXXXX
X      X  X         X     X            X     X
X      X  X         X                  X
XXXXXXX   XXXX      X          XXXXX    XXXXX
X      X  X         X
X      X  X         X     X            X
X      X  XXXXXXX   XXXXX              XXXXXXX
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CITY OF SAULT STE. MARIE, MI
MULTIPLE PROFILE RUN
MISSION CREEK
FINAL RUN

THIS RUN EXECUTED 3 APR 85 10:58:00

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*****************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*****************************************

C
T1      CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2      MISSION CREEK
T3      10-YEAR FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       0.       2.        0.        0.  0.000000     0.00       0.0       0.   580.700     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
   150.000   201.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      0.070     0.070     0.030     0.100     0.300     0.000     0.000     0.000     0.000     0.000
ET      4.000   130.000   240.000   280.000   370.000     0.000     0.000     0.000     0.000     0.000
                BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
X1      0.000    22.000    81.000   114.000     0.000     0.000     0.000     0.000     0.000     0.000
X3      0.000     0.000     0.000    63.000     0.000   132.000     0.000     0.000     0.000     0.000
GR    579.200     0.000   579.200    18.000   579.200    25.000   579.200    50.000   579.200    69.000
GR    579.200    75.000   579.200    76.000   579.200    81.000   578.300    87.000   578.000    93.000
GR    577.900    99.000   578.400   104.000   579.400   109.000   580.200   114.000   580.200   116.000
GR    580.200   119.000   580.200   120.000   580.200   122.000   580.200   128.000   580.200   147.000
GR    580.200   155.000   580.200   172.000     0.000     0.000     0.000     0.000     0.000     0.000

X1     56.000    25.000    81.000   114.000    56.000    56.000    56.000     0.000     0.000     0.000
GR    586.300     0.000   586.200    18.000   586.100    25.000   585.700    50.000   584.900    69.000
GR    580.500    75.000   580.500    76.000   579.200    81.000   579.200    81.100   578.300    87.000
GR    578.000    93.000   577.900    99.000   578.400   104.000   579.400   109.000   580.200   113.900
GR    580.200   114.000   580.900   116.000   582.900   119.000   584.400   120.000   585.800   122.000
GR    586.000   128.000   586.600   147.000   586.600   155.000   586.600   172.000   586.600   189.000

NC      0.020     0.020     0.028     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                DOWNSTREAM FACE RIVERSIDE DRIVE
X1     57.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
ET    -11.000     0.000   587.200     0.000    25.000   586.900     0.000    50.000   586.900     0.000
ET      0.000    75.000   586.700     0.000    81.000   586.700   579.200    81.100   589.000   583.700
ET      0.000   113.900   589.000   583.700   114.000   586.700   580.200   147.000   586.900     0.000
ET      0.000   172.000   587.100     0.000   189.000   587.200     0.000     0.000     0.000     0.000
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                    UPSTREAM FACE RIVERSIDE DRIVE
X1      90.000      0.000      0.000      0.000     33.000     33.000     33.000      0.000      0.000      0.000
X2       0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000

NC       0.035      0.070      0.030      0.000      0.000      0.000      0.000      0.000      0.000      0.000
X1      91.000      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000

                    VALLEY SECTION A
X1     201.000     23.000     83.000    127.000    110.000    110.000    110.000      0.000      0.000      0.000
GR     587.500      0.000    586.900     25.000    585.200     50.000    583.700     75.000    581.700     83.000
GR     581.100     84.000    580.600     88.000    580.400     94.000    579.900     97.000    579.100    100.000
GR     577.800    105.000    577.900    110.000    578.000    115.000    578.400    120.000    581.000    126.000
GR     582.000    127.000    581.900    138.000    584.900    147.000    585.500    151.000    585.600    157.000
GR     585.200    182.000    584.600    207.000    584.600    232.000      0.000      0.000      0.000      0.000

NC       0.060      0.060      0.040      0.000      0.000      0.000      0.000      0.000      0.000      0.000
                    VALLEY SECTION B
X1    1700.000     26.000     81.000    104.000   1499.000   1499.000   1499.000      0.000      0.000      0.000
GR     590.300      0.000    590.100     25.000    589.900     50.000    589.600     65.000    588.700     69.000
GR     587.600     77.000    586.000     81.000    582.000     83.000    581.000     84.000    580.800     85.000
GR     579.800     89.000    580.100     94.000    580.800     98.000    581.100     99.000    582.500    101.000
GR     585.900    104.000    587.700    109.000    587.400    115.000    586.600    125.000    584.800    129.000
GR     584.300    139.000    586.400    154.000    588.900    161.000    588.900    167.000    589.400    175.000
GR     589.400    199.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

NC       0.070      0.070      0.040      0.000      0.000      0.000      0.000      0.000      0.000      0.000
                    VALLEY SECTION C
X1    3120.000     19.000     55.000     82.000   1420.000   1420.000   1420.000      0.000      0.000      0.000
GR     590.600      0.000    590.800     10.000    590.200     20.000    590.800     40.000    590.800     50.000
GR     588.000     55.000    585.500     56.000    584.500     57.000    583.800     58.000    583.400     60.000
GR     583.200     62.000    583.900     65.000    584.500     67.000    586.200     71.000    587.000     72.000
GR     587.900     78.000    590.600     82.000    590.700    107.000    590.700    132.000      0.000      0.000

NC       0.060      0.060      0.040      0.000      0.000      0.000      0.000      0.000      0.000      0.000
                    VALLEY SECTION D
X1    3875.000     20.000     59.000     76.000    755.000    755.000    755.000      0.000      0.000      0.000
GR     592.700      0.000    593.000      5.000    593.700     25.000    593.700     50.000    592.800     55.000
GR     588.900     57.000    583.500     59.000    587.600     60.000    587.400     61.000    586.800     62.000
GR     585.900     63.000    585.500     67.000    586.200     72.000    587.700     73.000    588.300     76.000
GR     589.600     78.000    591.300     86.000    593.700     89.000    593.700    114.000    593.600    139.000

                    CONFLUENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
X1    4100.000      0.000      0.000      0.000    225.000    225.000    225.000      0.000      1.400      0.000

GT       4.000     70.000    130.000    150.000    200.000      0.000      0.000      0.000      0.000      0.000
X1    4109.000      0.000      0.000      0.000      9.000      9.000      9.000      0.000      0.000      0.000

X1    4404.000      0.000      0.000      0.000    295.000    295.000    295.000      0.000      1.400      0.000
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X1    4504.000     0.000     0.000     0.000   100.000   100.000   100.000     0.000     1.000     0.000

NH       5.000     0.040   134.000     0.070   143.000     0.040   150.000     0.070   160.000     0.040
NH     250.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1    4599.000    25.000   142.000   152.000    95.000    95.000    95.000     0.000     0.000     0.000
GR     598.200     0.000   597.500    75.000   597.400   100.000   597.800   122.000   597.900   129.000
GR     597.700   133.000   597.000   134.000   595.000   137.000   593.800   140.000   597.000   141.000
GR     597.000   142.000   590.800   142.100   590.500   143.000   589.700   144.000   589.900   146.000
GR     597.000   146.100   597.000   147.000   590.200   147.100   590.500   150.000   592.700   152.000
GR     597.000   160.000   598.400   184.000   598.300   225.000   597.500   241.000   598.000   250.000

NC       0.040     0.040     0.030     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                DOWNSTREAM FACE PRIVATE DRIVE
X1    4600.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
ET     -16.000     0.000   598.200     0.000    75.000   597.500     0.000   100.000   597.600     0.000
ET       0.000   122.000   597.800     0.000   129.000   597.900     0.000   134.000   597.900   597.000
ET       0.000   141.000   597.400   597.000   142.000   597.400   597.000   142.100   597.400   597.000
ET       0.000   146.100   597.400   597.000   147.000   597.400   597.000   160.000   597.500   597.000
ET       0.000   184.000   598.400     0.000   225.000   598.300     0.000   241.000   597.500     0.000
ET       0.000   250.000   598.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

                UPSTREAM FACE PRIVATE DRIVE
X1    4612.000     0.000     0.000     0.000    12.000    12.000    12.000     0.000     0.000     0.000
X2       0.000     0.000     0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000

NH       5.000     0.040   134.000     0.070   143.000     0.040   150.000     0.070   160.000     0.040
NH     250.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1    4613.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000

NC       0.060     0.060     0.040     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                VALLEY SECTION E
X1    5400.000    13.000    78.000    95.000   787.000   787.000   787.000     0.000     0.000     0.000
GR     605.600     0.000   606.000    20.000   605.500    45.000   597.900    55.000   597.900    64.000
GR     600.900    70.000   600.200    75.000   596.400    73.000   595.900    81.000   595.300    85.000
GR     595.100    90.000   594.600    91.000   595.600    95.000   597.400   101.000   602.900   107.000
GR     603.900   127.000   605.400   129.000   606.200   154.000     0.000     0.000     0.000     0.000

X1    5500.000    26.000   135.000   148.000   100.000   100.000   100.000     0.000     0.000     0.000
X3       0.000     0.000     0.000   135.000     0.000   148.000     0.000     0.000     0.000     0.000
GR     607.300     0.000   607.200    56.000   606.900    81.000   604.600   106.000   603.900   121.000
GR     599.000   131.000   596.500   135.000   596.500   135.400   596.500   137.400   596.500   139.400
GR     596.500   141.400   596.500   143.400   596.500   145.400   596.500   147.400   596.500   148.000
GR     599.100   150.000   603.000   158.000   607.600   169.000   608.500   179.000   607.900   183.000
GR     609.600   189.000   609.900   193.000   610.400   214.000   610.500   235.000   611.000   275.000
GR     611.500   300.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC       0.030     0.030     0.035     0.000     0.000     0.000     0.000     0.000     0.000     0.000
                DOWNSTREAM FACE SHUNK ROAD
X1    5501.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
X3       0.000     0.000     0.000   135.000     0.000   148.000     0.000     0.000     0.000     0.000
ET     -15.000     0.000   607.800     0.000   121.000   608.900     0.000   135.000   609.000   596.500
ET       0.000   135.400   609.000   600.900   137.400   609.100   603.500   139.400   609.100   604.400
ET       0.000   141.400   609.100   604.700   143.400   609.100   604.400   145.400   609.100   603.500
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ET      0.000   147.400   609.100   600.900   148.000   609.100   596.500   179.000   609.500     0.000
ET      0.000   193.000   609.900     0.000   214.000   610.400     0.000   275.000   611.000     0.000

                UPSTREAM FACE SHUNK ROAD
X1   5601.000     0.000     0.000     0.000   100.000   100.000   100.000     0.000     0.000     0.000
X2      0.000     0.000     0.000     0.000     0.000     0.000     1.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   135.000     0.000   148.000     0.000     0.000     0.000     0.000

X1   5602.000     0.000     0.000     0.000     1.000     1.000     1.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   135.000     0.000   148.000     0.000     0.000     0.000     0.000

NC      0.040     0.040     0.030     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1  -4100.000    20.000    59.000    76.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    592.700     0.000   593.000     5.000   593.700    25.000   593.700    50.000   592.800    55.000
GR    588.900    57.000   588.500    59.000   587.600    60.000   587.400    61.000   586.800    62.000
GR    585.900    63.000   585.500    67.000   586.200    72.000   587.700    73.000   588.300    76.000
GR    589.600    78.000   591.300    86.000   593.700    89.000   593.700   114.000   593.600   139.000

GT      4.000    60.000   110.000   130.000   160.000     0.000     0.000     0.000     0.000     0.000
X1      0.100    25.000   144.800   149.100     0.100     0.100     0.100     0.000     0.000     0.000
GR    595.300     0.000   593.600    56.000   594.300    81.000   594.300   106.000   595.100   120.000
GR    595.100   127.000   594.600   136.000   594.600   139.000   593.600   142.000   590.300   144.800
GR    590.300   144.900   589.300   145.900   589.000   147.000   589.300   148.100   590.300   149.100
GR    590.300   149.200   590.400   150.000   590.800   151.000   592.400   153.000   592.700   157.000
GR    594.500   160.000   595.000   175.000   595.000   180.000   595.600   200.000   596.300   300.000

X1      5.000     0.000     0.000     0.000     5.000     5.000     5.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   143.000     0.000   150.000     0.000     0.000     0.000     0.000

SB      0.000     3.300     3.000     0.000     5.000     0.000    15.900     0.000     0.000     0.000
                UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
X1     46.000     0.000     0.000     0.000    41.000    41.000    41.000     0.000     0.000     0.000
X2      0.000     0.000     1.000   592.100   594.900     0.000     0.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   141.000     0.000   152.000     0.000     0.000     0.000     0.000
ET    -14.000     0.000   595.300     0.000    56.000   594.900     0.000   106.000   594.900     0.000
ET      0.000   120.000   595.100     0.000   127.000   595.200     0.000   144.800   595.200   590.300
ET      0.000   144.900   595.200   592.300   145.900   595.200   593.300   147.000   595.200   593.600
ET      0.000   148.100   595.200   593.300   149.100   595.200   592.300   149.200   595.200   590.300
ET      0.000   200.000   595.600     0.000   300.000   596.300     0.000     0.000     0.000     0.000

NC      0.050     0.050     0.040     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ET      0.000     0.000     1.400     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1    331.000    24.000   142.000   148.000   285.000   285.000   285.000     0.000     0.000     0.000
GR    595.700     0.000   595.600    75.000   594.100    82.000   594.100    92.000   594.600   102.000
GR    595.000   112.000   594.300   137.000   592.100   138.000   591.500   140.000   591.000   141.000
GR    590.500   142.000   590.500   142.100   590.000   143.000   590.000   145.000   590.000   147.000
GR    590.500   147.900   590.500   148.000   591.500   150.000   592.500   152.000   594.000   154.000
GR    594.300   179.000   594.500   204.000   595.600   225.000   596.000   300.000     0.000     0.000
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SB	0.000	2.900	3.000	0.000	6.000	0.000	28.300	0.000	0.000	0.000
NC	0.000	0.000	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	0.000	1.410	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		UPSTREAM FACE AT 10TH AVE								
X1	375.000	0.000	0.000	0.000	45.000	45.000	45.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	593.500	595.600	0.000	0.000	0.000	0.000	0.000
ET	-15.000	0.000	595.700	0.000	75.000	595.600	0.000	102.000	595.800	0.000
ET	0.000	112.000	596.000	0.000	142.000	596.000	590.500	142.100	596.000	591.500
ET	0.000	143.000	596.000	593.000	145.000	596.000	593.500	147.000	596.000	593.000
ET	0.000	147.900	596.000	591.500	148.000	596.000	590.500	179.000	595.800	0.000
ET	0.000	204.000	595.600	0.000	225.000	595.600	0.000	300.000	596.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         GLOB      GCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 1

CCHV=   0.100 CEHV=   0.300
*SECNO 0.000
3280 CROSS SECTION      0.00 EXTENDED      0.50 FEET

3470 ENCROACHMENT STATIONS=      63.0      132.0  TYPE=      1  TARGET=      69.000
                 BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
      0.00      2.80    580.70      0.00    580.70    580.74      0.04      0.00      0.00    579.20
      130.       14.       113.        2.       27.       70.        9.        0.        0.    580.20
      0.00      0.53      1.62      0.26      0.070     0.030     0.070     0.000    577.90     63.00
  0.000401        0.        0.        0.         0         0         0      0.00     69.00    132.00

*SECNO 56.000
     56.00      2.81    580.71      0.00      0.00    580.77      0.05      0.02      0.00    579.20
      130.        2.       128.        0.        5.       70.        0.        0.        0.    580.20
      0.01      0.41      1.82      0.19      0.070     0.030     0.070     0.000    577.90     74.70
  0.000496       56.       56.       56.         0         0         0      0.00     40.80    115.49

*SECNO 57.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 DOWNSTREAM FACE RIVERSIDE DRIVE
     57.00      2.81    580.71      0.00      0.00    580.77      0.05      0.00      0.00    579.20
      130.        0.       130.        0.        0.       70.        0.        0.        0.    580.20
      0.01      0.00      1.85      0.00      0.000     0.028     0.000     0.000    577.90     74.71
  0.000488        1.        1.        1.         0         0         0     -4.98     40.77    115.47

*SECNO 90.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 UPSTREAM FACE RIVERSIDE DRIVE
     90.00      2.83    580.73      0.00      0.00    580.78      0.05      0.02      0.00    579.20
      130.        0.       130.        0.        0.       71.        0.        0.        0.    580.20
      0.01      0.00      1.84      0.00      0.000     0.028     0.000     0.000    577.90     74.69
  0.000478       33.       33.       33.         0         0         0     -5.09     40.83    115.51
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         GLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 91.000
     91.00      2.84    580.74      0.00      0.00    580.78      0.05      0.00      0.00    579.20
       130.       4.       126.       0.       5.       71.       0.        0.        0.      580.20
      0.01      0.30      1.79      0.18     0.035     0.030     0.070     0.000    577.90     74.69
  0.000476       1.        1.        1.        0         0         0      0.00     40.83    115.52

 *SECNO 201.000
                VALLEY SECTION A
    201.00      2.99    580.79      0.00      0.00    580.85      0.06      0.06      0.00    581.70
       130.       0.       130.       0.       0.       68.       0.        0.        0.      582.00
      0.03      0.00      1.92      0.00     0.000     0.030     0.000     0.000    577.80     86.50
  0.000740      110.      110.      110.        0         0         0      0.00     39.01    125.51

 *SECNO 1700.000
                VALLEY SECTION B
   1700.00      2.93    582.73      0.00      0.00    582.90      0.17      2.02      0.03    586.00
       130.       0.       130.       0.       0.       40.       0.        2.        1.      585.90
      0.16      0.00      3.27      0.00     0.000     0.040     0.000     0.000    579.80     82.63
  0.003142      1499.     1499.     1499.        2         0         0      0.00     18.58    101.21

 *SECNO 3120.000
                VALLEY SECTION C
   3120.00      3.68    586.88      0.00      0.00    587.04      0.16      4.14      0.00    588.00
       130.       0.       130.       0.       0.       40.       0.        4.        2.      590.60
      0.28      0.00      3.22      0.00     0.000     0.040     0.000     0.000    583.20     55.45
  0.002693      1420.     1420.     1420.        4         0         0      0.00     16.40     71.85

 *SECNO 3875.000
                VALLEY SECTION D
   3375.00      3.44    583.94      0.00      0.00    589.10      0.16      2.06      0.00    588.50
       130.       0.       130.       0.       0.       40.       0.        4.        2.      588.30
      0.34      0.50      3.24      0.54     0.060     0.040     0.060     0.000    585.50     56.98
  0.002775       755.      755.      755.        2         0         0      0.00     20.01     76.99

 *SECNO 4100.000
                CONFLUENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
   4100.00      2.89    589.79      0.00      0.00    590.07      0.28      0.93      0.04    589.90
       130.       0.       130.       0.       0.       31.       0.        4.        2.      589.70
      0.36      0.00      4.25      0.02     0.000     0.040     0.060     0.000    586.90     59.13
  0.006776       225.      225.      225.        3         0         0      0.00     17.01     76.13
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 4109.000
   4109.00      3.16    590.06      0.00      0.00    590.12      0.06      0.03      0.02    589.90
       70.        0.        70.        0.        0.       35.        0.        4.        2.    589.70
      0.36      0.01      1.99      0.01     0.060     0.040     0.060     0.000    586.90     58.22
  0.001246        9.        9.        9.         2         0         0      0.00     18.33     76.55

 *SECNO 4404.000
   4404.00      2.32    590.62      0.00      0.00    590.78      0.16      0.64      0.03    591.30
       70.        0.        70.        0.        0.       22.        0.        5.        2.    591.10
      0.39      0.00      3.19      0.00     0.000     0.040     0.000     0.000    588.30     59.74
  0.004603       295.      295.      295.         2         0         0      0.00     13.92     73.67

 *SECNO 4504.000
   4504.00      1.89    591.19      0.00      0.00    591.47      0.29      0.65      0.04    592.30
       70.        0.        70.        0.        0.       16.        0.        5.        2.    592.10
      0.39      0.00      4.30      0.00     0.000     0.040     0.000     0.000    589.30     61.02
  0.009954       100.      100.      100.         2         0         0      0.00     11.78     72.79

 1490 NH CARD USED
 *SECNO 4599.000

 3265 DIVIDED FLOW

   4599.00      2.62    592.32      0.00      0.00    592.62      0.29      1.14      0.00    597.00
       70.        0.        70.        0.        0.       16.        0.        5.        2.    592.70
      0.40      0.00      4.36      0.00     0.000     0.042     0.000     0.000    589.70    142.08
  0.014823        95.       95.       95.         2         0         0      0.00      8.54    151.65

 *SECNO 4600.000

 3265 DIVIDED FLOW

 3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD=  597.40 MAX ELLC=  597.00

                    DOWNSTREAM FACE PRIVATE DRIVE
   4600.00      2.64    592.34      0.00      0.00    592.63      0.29      0.01      0.00    597.00
       70.        0.        70.        0.        0.       16.        0.        5.        2.    592.70
      0.40      0.00      4.32      0.00     0.000     0.030     0.000     0.000    589.70    142.08
  0.007328         1.        1.        1.         0         0         0      0.00      8.56    151.67
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
Q         ALOB      CCH       ORCB      ALCB      ACH       ARCB      VOL       TWA     LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 4612.000

3265 DIVIDED FLOW

                 UPSTREAM FACE PRIVATE DRIVE
  4612.00      2.76    592.46      0.00      0.00    592.71      0.25      0.08      0.00    597.00
     70.        0.        70.        0.        0.       17.        0.        5.        2.    592.70
     0.40      0.00      4.04      0.00     0.000     0.030     0.000     0.000    589.70    142.07
 0.006147       12.       12.       12.         1         0         0      0.00      8.68    151.79

1490 NH CARD USED
*SECNO 4613.000

3265 DIVIDED FLOW

  4613.00      2.77    592.47      0.00      0.00    592.72      0.25      0.01      0.00    597.00
     70.        0.        70.        0.        0.       17.        0.        5.        2.    592.70
     0.40      0.00      4.04      0.00     0.000     0.043     0.000     0.000    589.70    142.07
 0.012400        1.        1.        1.         0         0         0      0.00      8.68    151.79

*SECNO 5400.000
                 VALLEY SECTION E
  5400.00      2.31    596.91      0.00      0.00    597.02      0.10      4.28      0.01    596.40
     70.        0.        67.        3.        0.       25.        3.        5.        3.    595.60
     0.48      0.40      2.64      1.00     0.060     0.040     0.060     0.000    594.60     77.60
 0.003040       787.      787.      787.         6         0         0      0.00     21.77     99.37

*SECNO 5500.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
  5500.00      0.97    597.47    597.47      0.00    597.95      0.48      0.69      0.11    596.50
     70.        0.        70.        0.        0.       13.        0.        5.        3. 100000.00
     0.49      0.00      5.58      0.00     0.000     0.040     0.000     0.000    596.50    135.00
 0.028388       100.      100.      100.         4        14         0      0.00     13.00    148.00

*SECNO 5501.000
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70


3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                DOWNSTREAM FACE SHUNK ROAD
  5501.00      1.07    597.57      0.00      0.00    597.98      0.40      0.02      0.01    596.50
     70.        0.        70.       0.        0.       14.        0.        5.        3. 100000.00
     0.49      0.00      5.10      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.016435       1.        1.        1.         4         0         0     -0.13     13.00    148.00


*SECNO 5601.000

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70


3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                UPSTREAM FACE SHUNK ROAD
  5601.00      1.93    598.43      0.00      0.00    598.55      0.13      0.55      0.03    596.50
     70.        0.        70.       0.        0.       25.        0.        5.        3. 100000.00
     0.50      0.00      2.94      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.002703      100.      100.      100.         4         0         0     -0.42     13.00    148.00


*SECNO 5602.000

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
  5602.00      1.94    598.44      0.00      0.00    598.56      0.12      0.00      0.00    596.50
     70.        0.        70.       0.        0.       25.        0.        5.        3. 100000.00
     0.50      0.00      2.78      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.002513       1.        1.        1.         0         0         0      0.00     13.00    148.00


*SECNO -4100.000
START TRIB COMP
  -4100.000  4100.000   589.786
  -4100.00      4.29    589.79      0.00      0.00    589.81      0.02      0.00      0.00    588.50
     70.        1.        68.       1.        2.       54.        2.        5.        3.      588.30
     0.50      0.46      1.26      0.35     0.040     0.030     0.040     0.000    585.50     56.55
 0.000156       0.        0.        0.         0         0         0      0.00     22.33     78.87
```

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     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
     Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
     TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 0.100

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL/CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
       0.10      2.32    591.32    591.32      0.00    591.97      0.65      0.00      0.19    590.30
        60.        1.       54.        6.        0.        8.        2.        5.        3.    590.30
       0.50      1.83      6.77      3.19     0.040     0.030     0.040     0.000    589.00    143.94
   0.010706        0.        0.        0.        20        12         0      0.00      7.71    151.65

 *SECNO 3.000
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      143.0      150.0  TYPE=      1  TARGET=       7.000
       5.00      2.31    591.31    591.31      0.00    592.08      0.77      0.06      0.04    590.30
        60.        1.       57.        2.        0.        8.        1.        5.        3.    590.30
       0.50      1.95      7.22      2.60     0.040     0.030     0.040     0.000    589.00    143.94
   0.012212        5.        5.        5.         3         7         0      0.00      6.06    150.00

 SPECIAL BRIDGE

 5070/VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
 SB  XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
       0.00      3.30      3.00      0.00      5.00      0.00     15.90      0.00    589.00    589.00

 *SECNO 46.000

 6070/LOW FLOW BY NORMAL BRIDGE

 EGPRS=      0.000  EGLWC=   591.969  ELLC=   592.100  PCWSE=   591.312  ELTRD=   594.900

 3370 NORMAL BRIDGE/NFD= 14 MIN ELTRD=  594.90 MAX ELLC=  592.10

 3470 ENCROACHMENT STATIONS=      141.0      152.0  TYPE=      1  TARGET=      11.000
                 UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                 DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
      40.00      3.00    592.00      0.00      0.00    592.48      0.48      0.37      0.03    590.30
        60.        0.       60.        0.        0.       11.        0.        5.        3.    590.30
       0.30      0.00      5.57      0.03     0.000     0.030     0.040     0.000    589.00    143.36
   0.006994       41.       41.       41.         3         0         0     -4.90      8.64    152.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         GLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 331.000
    331.00     3.07    593.07      0.00      0.00    593.14      0.07      0.62      0.04    590.50
       60.       9.       43.       8.        7.       18.       7.        5.        3.      590.50
      0.54      1.29      2.41      1.24     0.050    0.040     0.050     0.000    590.00    137.56
  0.001038     285.      295.      285.        4        0         0      0.00     15.20    152.76


 SPECIAL BRIDGE

 5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
 SB   XK        XKCR       COFQ       RDLEN      BWC       BWP       BAREA     SS        ELCHU     ELCHD
       0.00      2.90       3.00       0.00       6.00      0.00      28.30     0.00     590.00    590.00

 *SECNO 376.000

 6070,LOW FLOW BY NORMAL BRIDGE

 EGPRS=     0.000  EGLWC=   593.155  ELLC=   593.500  PCWSE=   593.070  ELTRD=   595.600

 337C NORMAL BRIDGE,NRD= 15 MIN ELTRD=  595.6C MAX ELLC=  593.50

                 UPSTREAM FACE AT 10TH AVE
    376.00     3.05    593.05      0.00      0.00    593.27      0.22      0.08      0.04    590.50
       50.       0.       60.       0.        0.       16.       0.        5.        3.      590.50
      0.54     0.00      3.78      0.00     0.000    0.030     0.000     0.000    590.00    137.57
  0.004075      45.       45.       45.        2        0         0    -15.04     15.16    152.73
```

THIS RUN EXECUTED 3 APR 85 10:58:25

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  C1,02,03,C4,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************

T1      CITY OF SAULT STE. MARIE, MI, FLCCD INSURANCE STUDY
T2      MISSION CREEK
T3      50-YEAR  FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        C.        3.        C.        C.  0.CCCCOO    0.00      0.0       0.    58C.70C   0.000
J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
       2.COO     C.OOO    -1.000     0.00C     0.000     0.00C     0.000     C.00C     0.000     0.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROE      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TCPWID      ENDST

 *PROF 2

 CCHV=   0.100 CEHV=   0.300
 *SECNO 0.000
 3280 CROSS SECTION      0.00 EXTENDED      0.50 FEET

 3470 ENCROACHMENT STATIONS=      63.0      132.0  TYPE=     1  TARGET=      69.000
                  BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
      0.00      2.80    580.70      0.00    580.70    580.82      0.12      0.00      0.00    579.20
      240.       26.       209.       4.       27.       70.       9.        0.        0.     580.20
      0.00      0.98      3.00      0.49     0.070     0.030     0.070     0.000    577.90     63.00
  0.001365       0.        0.        0.        0         0         0      0.00     69.00    132.00

 *SECNO 56.000
     56.00      2.85    580.75      0.00      0.00    580.92      0.17      0.08      0.01    579.20
      240.       4.       236.       0.        5.       71.       0.        0.        0.     580.20
      0.00      0.75      3.31      0.35     0.070     0.030     0.070     0.000    577.90     74.66
  0.001613       56.       56.       56.        2         0         0      0.00     40.92    115.58

 *SECNO 57.000

 3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                  DOWNSTREAM FACE RIVERSIDE DRIVE
     57.00      2.85    580.75      0.00      0.00    580.92      0.18      0.00      0.00    579.20
      240.       0.       240.       0.        0.       71.       0.        0.        0.     580.20
      0.00      0.00      3.36      0.00     0.000     0.028     0.000     0.000    577.90     74.65
  0.001572       1.        1.        1.        0         0         0     -5.28     40.93    115.58

 *SECNO 90.000

 3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                  UPSTREAM FACE RIVERSIDE DRIVE
     90.00      2.91    580.81      0.00      0.00    580.97      0.17      0.05      0.00    579.20
      240.       0.       240.       0.        0.       73.       0.        0.        0.     580.20
      0.01      0.00      3.29      0.00     0.000     0.028     0.000     0.000    577.90     74.59
  0.001469       33.       33.       33.        0         0         0     -5.66     41.13    115.72
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
    G          QLOB       QCH        QRCS       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
    TIME       VLOB       VCH        VRCS       XML        XNCH       XNR        WTN        ELMIN       SSTA
    SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

*SECNO 91.000
     91.00      2.93     580.83       0.00       0.00     580.98       0.15       0.00       0.00     579.20
      240.        8.       232.         0.         5.        74.         1.         0.         0.     580.20
      0.01      1.46       3.14       0.35       0.035      0.030      0.070      0.000     577.90      74.55
 0.001386         1.         1.         1.          2          0          0       0.00      41.24     115.80

*SECNO 201.000
                VALLEY SECTION A
    201.00      3.20     581.00       0.00       0.00     581.15       0.16       0.18       0.00     581.70
      240.        0.       240.         0.         0.        76.         0.         0.         0.     582.00
      0.02      0.00       3.15       0.00       0.000      0.030      0.000      0.000     577.80      84.86
 0.001849      110.       110.       110.          1          0          0       0.00      41.12     125.98

*SECNO 1700.000
                VALLEY SECTION B
   1700.00      4.30     584.10       0.00       0.00     584.31       0.20       3.14       0.01     586.00
      240.        0.       240.         0.         0.        66.         0.         3.         1.     585.90
      0.13      0.00       3.62       0.00       0.000      0.040      0.000      0.000     579.80      81.95
 0.002386     1499.      1499.      1499.          3          0          0       0.00      20.46     102.41

*SECNO 3120.000
                VALLEY SECTION C
   3120.00      4.83     588.03       0.00       0.00     588.25       0.22       3.94       0.01     588.00
      240.        0.       240.         0.         0.        63.         0.         5.         2.     590.60
      0.24      0.00       3.79       0.00       0.000      0.040      0.000      0.000     583.20      54.95
 0.003265     1420.      1420.      1420.          3          0          0       0.00      23.25      78.19

*SECNO 3875.000
                VALLEY SECTION D
   3875.00      4.60     590.10       0.00       0.00     590.33       0.23       2.08       0.00     588.50
      240.        4.       233.         3.         3.        60.         3.         6.         2.     588.30
      0.29      1.37       3.89       1.03       0.060      0.040      0.060      0.000     585.50      56.38
 0.002353      755.       755.       755.          1          0          0       0.00      23.98      80.36

*SECNO 4100.000
                CONFLUENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
   4100.00      3.86     590.76       0.00       0.00     591.15       0.39       0.77       0.05     589.90
      240.        2.       237.         1.         1.        47.         1.         6.         3.     589.70
      0.30      1.31       5.04       1.06       0.060      0.040      0.060      0.000     586.90      56.76
 0.005410      225.       235.       225.          2          0          0       0.00      20.86      77.63
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XML       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 4109.000
   4109.00      4.21    591.11      0.00      0.00    591.20      0.09      0.02      0.03    589.90
      130.        2.      127.        1.        2.       53.        2.        6.        3.    589.70
      0.31      0.76      2.40      0.58      0.060     0.040     0.060     0.000    586.90     56.58
 0.001040        9.        9.        9.         2         0         0      0.00     21.97     78.55

 *SECNO 4404.000
   4404.00      3.26    591.56      0.00      0.00    591.75      0.19      0.52      0.03    591.30
      130.        0.      130.        0.        0.       37.        0.        7.        3.    591.10
      0.33      0.38      3.51      0.50      0.060     0.040     0.060     0.000    588.30     57.69
 0.003635       295.      295.      295.         2         0         0      0.00     19.02     76.71

 *SECNO 4504.000
   4504.00      2.70    592.00      0.00      0.00    592.35      0.35      0.55      0.05    592.30
      130.        0.      130.        0.        0.       28.        0.        7.        3.    592.10
      0.33      0.00      4.72      0.00      0.000     0.040     0.000     0.000    589.30     59.33
 0.009072       100.      100.      100.         2         0         0      0.00     16.19     75.52

 1490 NH CARD USED
 *SECNO 4599.000

 3265 DIVIDED FLOW

   4599.00      3.40    593.10      0.00      0.00    593.60      0.50      1.21      0.04    597.00
      130.        0.      130.        0.        0.       23.        0.        7.        3.    592.70
      0.34      0.00      5.65      0.92      0.000     0.042     0.070     0.000    589.70    142.06
 0.019049        95.       95.       95.         3         0         0      0.00      9.67    152.75

 *SECNO 4600.000

 3265 DIVIDED FLOW

 3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD=  597.40 MAX ELLC=  597.00

                  DOWNSTREAM FACE PRIVATE DRIVE
   4600.00      3.42    593.12      0.00      0.00    593.61      0.49      0.01      0.00    597.00
      130.        0.      130.        0.        0.       23.        0.        7.        3.    592.70
      0.34      0.00      5.62      1.18      0.000     0.030     0.040     0.000    589.70    142.06
 0.009627         1.        1.        1.         0         0         0      0.00      9.70    152.77
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
 G         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
 SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 4612.000

3265 DIVIDED FLOW

                 UPSTREAM FACE PRIVATE DRIVE
  4612.00     3.60    593.30      0.00      0.00    593.72      0.43      0.10      0.01    597.00
     130.       0.      130.        0.        0.       25.        0.        7.        3.    592.70
     0.34     0.00      5.25      1.36      0.000     0.030     0.040     0.000    589.70    142.06
 0.007980      12.       12.       12.         0         0         0      0.00     10.04    153.10

1490 NH CARD USED
*SECNO 4613.000

3265 DIVIDED FLOW

  4613.00     3.61    593.31      0.00      0.00    593.73      0.42      0.01      0.00    597.00
     130.       0.      130.        0.        0.       25.        0.        7.        3.    592.70
     0.34     0.00      5.23      1.10      0.000     0.042     0.070     0.000    589.70    142.06
 0.015602       1.        1.        1.         0         0         0      0.00     10.06    153.13

*SECNO 5400.000
                 VALLEY SECTION E
  5400.00     3.06    597.66      0.00      0.00    597.81      0.15      4.05      0.03    596.40
     130.       0.      120.        9.        1.       38.        7.        7.        3.    595.60
     0.41     0.66      3.16      1.33      0.060     0.040     0.060     0.000    594.60     77.01
 0.002530      787.      787.      787.         5         0         0      0.00     24.27    101.28

*SECNO 5500.000

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
  5500.00     1.46    597.96    597.96      0.00    598.69      0.73      0.59      0.18    596.50
     130.       0.      130.        0.        0.       19.        0.        8.        3. 100000.00
     0.42     0.00      6.85      0.00      0.000     0.040     0.000     0.000    596.50    135.00
 0.026948      100.      100.      100.        20        11         0      0.00     13.00    148.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 5501.000

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

3470 ENCROACHMENT STATIONS=     135.0     148.0  TYPE=     1  TARGET=     13.000
                  DOWNSTREAM FACE SHUNK ROAD
  5501.00      1.49    597.99    597.96      0.00    598.71      0.72      0.02      0.00    596.50
     130.        0.      130.        0.        0.       19.        0.        8.        3. 100000.00
     0.42      0.00      6.82      0.00      0.000     0.035     0.000     0.000    596.50    135.00
 0.020396        1.        1.        1.         0        22         0     -0.25     13.00    148.00

*SECNO 5601.000

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

3470 ENCROACHMENT STATIONS=     135.0     148.0  TYPE=     1  TARGET=     13.000
                  UPSTREAM FACE SHUNK ROAD
  5601.00      2.73    599.23      0.00      0.00    599.45      0.22      0.68      0.05    596.50
     130.        0.      130.        0.        0.       35.        0.        8.        3. 100000.00
     0.42      0.00      3.75      0.00      0.000     0.035     0.000     0.000    596.50    135.00
 0.003382      100.      100.      100.         3         0         0     -0.84     13.00    148.00

*SECNO 5602.000

3470 ENCROACHMENT STATIONS=     135.0     148.0  TYPE=     1  TARGET=     13.000
  5602.00      2.74    599.24      0.00      0.00    599.45      0.21      0.00      0.00    596.50
     130.        0.      130.        0.        0.       36.        0.        8.        3. 100000.00
     0.42      0.00      3.65      0.00      0.000     0.035     0.000     0.000    596.50    135.00
 0.003083        1.        1.        1.         0         0         0      0.00     13.00    148.00

*SECNO -4100.000
START TRIB COMP
  -4100.000  4100.000   590.758
  -4100.00      5.26    590.76      0.00      0.00    590.80      0.04      0.00      0.00    588.50
     130.        4.      123.        4.        5.       71.        7.        8.        3.    588.30
     0.42      0.76      1.73      0.55      0.040     0.030     0.040     0.000    585.50     56.05
 0.000207        0.        0.        0.         0         0         0      0.00     27.40     83.45
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 0.100

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      0.10      3.01    592.01    592.01      0.00    592.93      0.92      0.00      0.26    590.30
      110.        3.       90.       17.        1.       11.        4.        8.        3.    590.30
      0.42      2.57      8.29      4.32     0.040     0.030     0.040     0.000    589.00    143.35
  0.010494        0.        0.        0.        20        11         0      0.00      9.16    152.51

 *SECNO 5.000
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      143.0      150.0  TYPE=      1  TARGET=        7.000
      5.00      3.09    592.09    592.09      0.00    593.26      1.18      0.06      0.08    590.30
      110.        4.      101.        5.        1.       11.        2.        8.        3.    590.30
      0.42      2.82      9.02      3.12     0.040     0.030     0.040     0.000    589.00    143.28
  0.011924        5.        5.        5.        20         8         0      0.00      6.72    150.00


 SPECIAL BRIDGE

 3070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
 SB   XK        XKCR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      0.00      3.30      3.00      0.00      5.00      0.00     15.90      0.00    589.00    589.00

 *SECNO 46.000

 3301 HV CHANGED MORE THAN HVINS

 PRESSURE FLOW

  EGPRS     EGLWC     F3        QWEIR     QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                              AREA
     594.54    592.95      0.00        0.       110.       16.       15.    592.10    594.90
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOCL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      141.0      152.0  TYPE=      1  TARGET=       11.000
                 UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                 DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
     46.00      5.38    594.38      C.00      C.CC    594.54      0.16      1.28      0.00    590.30
     110.        10.       77.       22.        7.       21.       11.        8.        3.    590.30
      0.43      1.39      3.67      2.11     C.040     0.030     0.C40     0.000    589.00    141.C0
  0.000852       41.       41.       41.         2         0         0      0.00     11.00    152.C0


*SECNO 331.000
 2300 NAT Q1=      18.62  WSEL=     593.07  ENC Q1=      18.62  WSEL=     593.17  RATIO=  0.C000
 NAT Q1=      20.  RATIOS LOB,CH,ROB=  0.1521  0.7092  0.1387  WSEL=     593.17

3470 ENCROACHMENT STATIONS=      138.9      15C.4  TYPE=      4  TARGET=        C.065
    331.00      4.68    594.68      C.00    593.07    594.79      0.10      0.24      0.01    590.50
     110.        16.       79.       14.       11.       28.        8.        8.        3.    590.50
      0.46      1.55      2.87      1.70     C.050     C.040     0.C50     0.000    590.00    138.92
  0.000829      235.      285.      285.         2         0         0      0.00     11.43    150.35


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      CCFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.90      3.00      0.CC      6.00      0.C0     28.30      0.00    590.0C    590.00

*SECNO 376.000
     3700.   BRIDGE STENCL=     138.92    STENCR=     150.35
 2300 NAT Q1=       9.40  WSEL=     593.05  ENC Q1=      18.60  WSEL=     593.15  RATIO= -0.9789
 NAT Q1=      24.  RATIOS LOB,CH,ROB=  0.1222  0.7665  0.1113  WSEL=     593.15
PRESSURE FLOW


 ESPRS     EGLWC     H3        QWEIR     QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                              AREA
    595.36    594.74      0.CC        0.      110.       28.       21.    593.50    595.60


3470 ENCROACHMENT STATIONS=      142.0      148.0  TYPE=      4  TARGET=        0.234
                 UPSTREAM FACE AT 10TH AVE
   376.00      5.16    595.16      C.CO    593.05    595.36      0.20      0.58      0.00    590.50
     110.        C.       110.       0.        .0.       3C.        0.        8.        3.    590.50
      0.46     0.CO      3.62      C.00     C.0CC     C.030     0.C00     0.000    590.00    142.C0
  0.002194       45.       45.       45.         3         0         0      0.00      6.00    148.00
```

THIS RUN EXECUTED 3 APR 85 10:58:41

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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T1      CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2      MISSION CREEK
T3      100-YEAR FLOW
```

J1	ICHECK	ING	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	4.	0.	0.	0.000000	0.00	0.0	0.	580.700	0.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3.000	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PRINTED IN U S A

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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      CCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *PROF 3

 CCHV=   0.100 CEHV=   0.300
 *SECNO 0.000
 3230 CROSS SECTION       0.00 EXTENDED       0.50 FEET

 3470 ENCROACHMENT STATIONS=       63.0      132.0  TYPE=      1  TARGET=       69.000
                  BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
      0.00      2.80    580.70      0.00    580.70    580.87      0.17      0.00      0.00    579.20
      280.       31.      244.        5.       27.       70.       9.        0.        0.    580.20
      0.00      1.14      3.50      0.57      0.070     0.030     0.070     0.000    577.90     63.00
  0.001858        0.        0.        0.         0         0         0      0.00     69.00    132.00

 *SECNO 56.000
     56.00      2.87    580.77      0.00      0.00    581.00      0.22      0.11      0.02    579.20
      280.        4.      276.        0.        5.       72.        0.        0.        0.    580.20
      0.00      0.87      3.82      0.41      0.070     0.030     0.070     0.000    577.90     74.63
  0.002126       56.       56.       56.         2         0         0      0.00     41.01    115.64

 *SECNO 57.000

 3370 NORMAL BRIDGE,NPD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                  DOWNSTREAM FACE RIVERSIDE DRIVE
     57.00      2.87    580.77      0.00      0.00    581.00      0.23      0.00      0.00    579.20
      280.        0.      280.        0.        0.       72.        0.        0.        0.    580.20
      0.00      0.00      3.88      0.00      0.000     0.028     0.000     0.000    577.90     74.63
  0.002077        1.        1.        1.         0         0         0     -5.45     41.01    115.64

 *SECNO 90.000

 3370 NORMAL BRIDGE,NPD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                  UPSTREAM FACE RIVERSIDE DRIVE
     90.00      2.95    580.85      0.00      0.00    581.07      0.22      0.07      0.00    579.20
      280.        0.      280.        0.        0.       74.        0.        0.        0.    580.20
      0.01      0.00      3.77      0.00      0.000     0.028     0.000     0.000    577.90     74.53
  0.001867       33.       33.       33.         1         0         0     -6.00     41.30    115.83
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
    Q          QLOB       QCH        QRCB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
    TIME       VLOB       VCH        VRCB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
    SLOPE      XLOBL      XLCH       XLCBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

 *SECNO 91.000
      91.00      2.93     580.88       0.00       0.00     581.07       0.19       0.00       0.00     579.20
       280.        9.       270.        0.        6.        76.        1.         0.         0.      580.20
       0.01       1.68       3.58       0.42      0.035      0.030      0.070      0.000     577.90      74.48
  0.001745         1.         1.         1.         2          0          0       0.00      41.46     115.94

 *SECNO 201.000
                 VALLEY SECTION A
     201.00      3.30     581.10       0.00       0.00     581.29       0.19       0.21       0.00     581.70
       280.        0.       280.        0.        0.        80.        0.         0.         0.      582.00
       0.02       0.00       3.51       0.00      0.000      0.030      0.000      0.090     577.80      84.10
  0.002189       110.       110.       110.         1          0          0       0.00      41.98     126.09

 *SECNO 1700.000

 3265 DIVIDED FLOW

                 VALLEY SECTION B
    1700.00      4.67     584.47       0.00       0.00     584.69       0.22       3.40       0.01     586.00
       280.        0.       280.        0.        0.        74.        0.         3.         1.      585.90
       0.13       0.00       3.77       0.24      0.000      0.040      0.060      0.000     579.80      81.76
  0.002351      1499.      1499.      1499.         2          0          0       0.00      25.94     140.30

 *SECNO 3120.000
                 VALLEY SECTION C
    3120.00      5.13     588.33       0.00       0.00     588.58       0.25       3.88       0.01     583.00
       280.        0.       280.        0.        0.        70.        0.         5.         2.      590.60
       0.22       0.01       3.98       0.00      0.070      0.040      0.000      0.000     583.20      54.41
  0.003209      1420.      1420.      1420.         3          0          0       0.00      24.23      78.64

 *SECNO 3875.000
                 VALLEY SECTION D
    3875.00      4.90     590.40       0.00       0.00     590.66       0.26       2.08       0.00     588.50
       280.        6.       269.        5.        4.        65.        4.         7.         3.      588.30
       0.28       1.54       4.14       1.13      0.060      0.040      0.060      0.000     585.50      56.23
  0.002386       755.       755.       755.         1          0          0       0.00      25.56      81.79
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 4100.000
                CONFLUENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
  4100.00     4.15    591.05      0.00      0.00    591.48      0.43      0.77      0.05    589.90
     280.       3.     275.        2.        2.       52.        1.        7.        3.    589.70
    0.29      1.62      5.30      1.24     0.060     0.040     0.060     0.000    586.90     56.62
0.005254      225.     225.      225.         1         0         0      0.00     21.58     78.19

*SECNO 4109.000
  4109.00     4.54    591.44      0.00      0.00    591.53      0.09      0.02      0.03    589.90
     150.       3.     146.        2.        3.       59.        3.        7.        3.    589.70
    0.29      0.86      2.48      0.65     0.060     0.040     0.060     0.000    586.90     56.41
0.000977        9.       9.        9.         2         0         0      0.00     23.67     80.08

*SECNO 4404.000
  4404.00     3.55    591.85      0.00      0.00    592.04      0.20      0.48      0.03    591.30
     150.       0.     149.        0.        1.       42.        0.        7.        3.    591.10
    0.31      0.67      3.57      0.64     0.060     0.040     0.060     0.000    588.30     56.93
0.003191      295.     295.      295.         2         0         0      0.00     20.22     77.15

*SECNO 4504.000
  4504.00     2.92    592.22      0.00      0.00    592.58      0.36      0.49      0.05    592.30
     150.       0.     150.        0.        0.       31.        0.        7.        3.    592.10
    0.32      0.00      4.80      0.02     0.000     0.040     0.060     0.000    589.30     59.08
0.006395      100.     100.      100.         2         0         0      0.00     17.12     76.20

1490 NH CARD USED
*SECNO 4599.000

3265 DIVIDED FLOW

  4599.00     3.57    593.27      0.00      0.00    593.85      0.58      1.21      0.07    597.00
     150.       0.     150.        0.        0.       25.        0.        8.        3.    592.70
    0.32      0.00      6.11      1.24     0.000     0.042     0.070     0.000    589.70    142.06
0.021403       95.      95.       95.         3         0         0      0.00     10.00    153.07

*SECNO 4600.000
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLCER     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NBD= 16 MIN ELTRD=  597.40 MAX ELLC=  597.00

                 DOWNSTREAM FACE PRIVATE DRIVE
  4600.00     3.60    593.30      0.00      0.00    593.87      0.57      0.01      0.00    597.00
     150.       0.       149.       1.        0.       25.        0.        8.        3.    592.70
     0.32     0.00      6.07      1.56      0.000    0.030     0.040     0.000    589.70    142.06
 0.010675       1.        1.        1.         0         0         0      0.00     10.03    153.10

*SECNO 4612.000

3265 DIVIDED FLOW

                 UPSTREAM FACE PRIVATE DRIVE
  4612.00     3.80    593.50      0.00      0.00    593.99      0.49      0.12      0.01    597.00
     150.       0.       149.       1.        0.       26.        1.        8.        3.    592.70
     0.32     0.00      5.63      1.72      0.000    0.030     0.040     0.000    589.70    142.06
 0.008701      12.       12.       12.         1         0         0      0.00     10.42    153.48

1490 NH CARD USED
*SECNO 4613.000

3265 DIVIDED FLOW

  4613.00     3.82    593.52      0.00      0.00    594.00      0.48      0.01      0.00    597.00
     150.       0.       149.       1.        0.       27.        1.        8.        3.    592.70
     0.32     0.00      5.60      1.40      0.000    0.042     0.070     0.000    589.70    142.06
 0.017146       1.        1.        1.         0         0         0      0.00     10.45    153.51

*SECNO 5400.000
                 VALLEY SECTION E
  5400.00     3.28    597.88      0.00      0.00    598.04      0.16      4.00      0.03    596.40
     150.       1.       137.      12.        1.       42.        8.        8.        3.    595.60
     0.39     0.72      3.28      1.45      0.060    0.040     0.060     0.000    594.60     76.83
 0.002399     787.      787.      787.         6         0         0      0.00     24.69    101.52
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 5500.000

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
  5500.00      1.60    598.10    598.10      0.00    598.91      0.81      0.57      0.19    596.50
     150.        0.      150.        0.        0.       21.        0.        8.        3. 100000.00
     0.40      0.00      7.20      0.00     0.000     0.040     0.000     0.000    596.50    135.00
 0.026877      100.      100.      100.        20        11         0      0.00     13.00    148.00

*SECNO 5501.000

3370 NORMAL BRIDGE/NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    DOWNSTREAM FACE SHUNK ROAD
  5501.00      1.63    598.13    598.11      0.00    598.93      0.80      0.02      0.00    596.50
     150.        0.      150.        0.        0.       21.        0.        8.        3. 100000.00
     0.40      0.00      7.18      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.020543        1.        1.        1.         0        18         0     -0.30     13.00    148.00

*SECNO 5601.000

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE/NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    UPSTREAM FACE SHUNK ROAD
  5601.00      2.95    599.45      0.00      0.00    599.70      0.25      0.72      0.06    596.50
     150.        0.      150.        0.        0.       37.        0.        8.        3. 100000.00
     0.40      0.00      4.01      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.003600      100.      100.      100.         3         0         0     -0.99     13.00    148.00
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 5602.000

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=       13.000
  5602.00      2.97    599.47      C.00      C.CC    599.71      0.24      C.00      0.00    596.50
     150.        C.      15C.        0.        0.       39.        0.        8.        3. 10C000.00
     0.40      0.CO      3.89      C.00     C.000     C.035     0.000     0.000    596.50    135.00
 0.003257        1.        1.        1.         C         0         0      0.00     13.00    148.CO

*SECNO -4100.000
START TRIB COMP
  -4100.000  4100.000   591.049
 -4100.CO      5.55    591.C5      C.00      C.CC    591.10      0.C5      0.00      0.00    588.50
     15C.        5.      14C.        5.        6.       76.        9.        8.        3.    588.30
     C.4C      0.83      1.84      C.60     C.04C     0.030     0.C40     0.000    585.5C     55.90
 0.CCC215        C.        C.        0.         C         0         0      0.00     28.92     84.82

*SECNO C.100

3301 HV CHANGED MORE THAN HVINS

3605 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     0.10      3.21    592.21    592.21      C.CC    593.26      1.C4      0.00      0.3C    590.30
     130.        4.      1C4.       21.        2.       12.        5.        8.        3.    590.30
     0.4C      2.81      8.88      4.68     C.04C     0.030     0.C40     0.000    589.00    143.18
 0.010869        C.        C.        0.        2C        14         0      0.00      9.59    152.77

*SECNO 5.000
3685 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      143.0      15C.0  TYPE=      1  TARGET=        7.000
     5.CO      3.39    592.39    592.39      C.CC    593.67      1.28      C.06      0.07    590.30
     130.        6.      119.        6.        2.       13.        2.        8.        3.    590.30
     0.40      3.C5      9.47      3.19     C.04C     C.030     0.C40     0.000    589.00    143.C3
 0.011372        5.        5.        5.        2C         8         0      0.00      6.97    150.CO
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


SPECIAL BRIDGE

3070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      CCFQ      RDLEN     EWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      3.30      3.00      0.00      5.00      0.00     15.90      0.00    589.00    589.00

*SECNO 46.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                           AREA
    595.81    593.29      0.00        16.       115.        16.       15.    592.10    594.90


3470 ENCROACHMENT STATIONS=      141.0      152.0  TYPE=      1  TARGET=      11.000
                 UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                 DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
     46.00      5.92    594.92      0.00      0.00    595.09      0.17      1.42      0.00    590.30
      130.       14.       89.       27.        9.       23.       12.        8.        3.    590.30
      0.41      1.51      3.81      2.20      0.040     0.030     0.040     0.000    589.00    141.00
  0.000799       41.       41.       41.         2         0         5      0.00     11.00    152.00


*SECNO 331.000
    331.00      5.20    595.20      0.00      0.00    595.23      0.02      0.12      0.02    590.50
      130.       34.       54.       42.       58.       31.       70.        9.        4.    590.50
      0.48      0.59      1.76      0.60      0.050     0.040     0.050     0.000    590.00     76.85
  0.000270       285.      285.      285.         3         0         0      0.00    140.60    217.45


SPECIAL BRIDGE

3070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKOR      CCFQ      RDLEN     EWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.90      3.00      0.00      6.00      0.00     28.30      0.00    590.00    590.00

*SECNO 376.000
3280 CROSS SECTION     376.00 EXTENDED       0.10 FEET
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	GLOB	GCH	GROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HJ	QWEIR	QFR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
596.13	595.24	0.00	28.	103.	28.	21.	593.50	595.60

UPSTREAM FACE AT 10TH AVE

376.00	5.79	595.79	0.00	0.00	595.80	0.01	0.57	0.00	590.50
130.	38.	48.	44.	108.	34.	118.	9.	4.	590.50
0.50	0.35	1.39	0.38	0.050	0.030	0.050	0.000	590.00	0.00
0.000042	45.	45.	45.	1	0	4	0.00	261.64	261.64

PRINTED IN U.S.A.

THIS RUN EXECUTED 3 APR 85 10:58:52

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
*************************************************

T1       CITY OF SAULT STE. MARIE, MI, FLOOD INSURANCE STUDY
T2       MISSION CREEK
T3       500-YEAR FLOW

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        5.        0.        0.  0.000000      0.00       0.0        0.   580.700     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

```
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    G         GLOB      GCH       QRCB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *PROF 4

 CCHV=   0.100 CEHV=   0.300
 *SECNO 0.000
 3230 CROSS SECTION      0.00 EXTENDED      0.50 FEET

 3470 ENCROACHMENT STATIONS=      63.0      132.0  TYPE=      1  TARGET=      69.000
                 BRIDGE SECTION GR'S MODIFIED AND MOVED DOWNSTREAM
       0.00      2.83    580.70      0.00    580.70    580.99      0.29      0.00      0.00    579.20
       370.       41.      322.        7.       27.       70.       9.        0.        0.    580.20
       0.00      1.51      4.62      0.75      0.070     0.030     0.070     0.000    577.90     63.00
  0.003245        0.        0.        0.         0         0         0      0.00     69.00    132.00

 *SECNO 56.000
      56.00      2.93    580.83      0.00      0.00    581.20      0.37      0.19      0.02    579.20
       370.        6.      364.        0.        5.       74.       1.        0.        0.    580.20
       0.00      1.14      4.91      0.55      0.070     0.030     0.070     0.000    577.90     74.55
  0.003380        56.       56.       56.         2         0         0      0.00     41.26    115.81

 *SECNO 57.000

 3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 DOWNSTREAM FACE RIVERSIDE DRIVE
      57.00      2.92    580.82      0.00      0.00    581.21      0.39      0.00      0.01    579.20
       370.        0.      370.        0.        0.       74.       0.        0.        0.    580.20
       0.00      0.00      5.01      0.00      0.000     0.023     0.000     0.000    577.90     74.55
  0.003350         1.        1.        1.         1         0         0     -5.90     41.25    115.80

 *SECNO 90.000

 3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  586.70 MAX ELLC=  583.70

                 UPSTREAM FACE RIVERSIDE DRIVE
      90.00      3.07    580.97      0.00      0.00    581.32      0.34      0.10      0.00    579.20
       370.        0.      370.        0.        0.       79.       0.        0.        0.    580.20
       0.01      0.00      4.71      0.00      0.000     0.028     0.000     0.000    577.90     74.36
  0.002761        33.       33.       33.         2         0         0     -7.12     41.75    116.11
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```
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOER     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 91.000
    91.00     3.13    581.03      0.00      0.00    581.32      0.29      0.00      0.01    579.20
     370.      14.      355.       1.        7.       81.       1.        0.        0.      580.20
     0.01     2.17      4.40      0.61     0.035     0.030     0.070     0.000    577.90     74.27
 0.002423      1.        1.        1.        2         0         0      0.00     41.92    116.20

*SECNO 201.000
                VALLEY SECTION A
   201.00     3.54    531.34      0.00      0.00    581.60      0.26      0.27      0.00    581.70
     370.       0.      370.       0.        0.       91.       0.        0.        0.      582.00
     0.01     0.00      4.08      0.00     0.000     0.030     0.000     0.000    577.80     83.59
 0.002572     110.      110.      110.        2         0         0      0.00     42.75    126.34

*SECNO 1700.000

3265 DIVIDED FLOW

                VALLEY SECTION B
  1700.00     5.31    535.11      0.00      0.00    585.38      0.26      3.77      0.00    586.00
     370.       0.      364.       6.        0.       88.       8.        4.        2.      585.90
     0.11     0.00      4.14      0.78     0.000     0.040     0.060     0.000    579.80     81.44
 0.002464    1499.     1499.     1499.        2         0         0      0.00     38.38    144.81

*SECNO 3120.000
                VALLEY SECTION C
  3120.00     5.77    583.97      0.00      0.00    589.26      0.29      3.87      0.01    588.00
     370.       1.      369.       0.        1.       86.       0.        7.        3.      590.60
     0.21     0.66      4.30      0.00     0.070     0.040     0.000     0.000    583.20     53.26
 0.003035    1420.     1420.     1420.        2         0         0      0.00     26.34     79.59

*SECNO 3875.000
                VALLEY SECTION D
  3875.00     5.50    591.00      0.00      0.00    591.32      0.31      2.05      0.01    588.50
     370.      11.      348.      12.        6.       75.       9.        8.        3.      588.30
     0.25     1.84      4.63      1.33     0.060     0.040     0.060     0.000    585.50     55.92
 0.002445     755.      755.      755.        1         0         0      0.00     28.71     84.63
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO 4100.000
                CONFLUENCE MAIN TRIB AND MISSION CREEK, SECTION D REPEATED
   4100.00     4.73    591.63      0.00      0.00    592.13      0.50      0.76      0.06    589.90
      370.       7.       357.       5.        3.       62.        3.        9.        3.    589.70
      0.26      2.09      5.78      1.55      0.060    0.040     0.060     0.000    586.90     56.32
  0.004961      225.      225.      225.         1         0         0      0.00     24.61     80.93

 *SECNO 4109.000
   4109.00     5.18    592.08      0.00      0.00    592.19      0.11      0.02      0.04    589.90
      200.       5.       190.       5.        5.       70.        6.        9.        3.    589.70
      0.27      1.05      2.73      0.76      0.060    0.040     0.060     0.000    586.90     56.09
  0.000944       9.        9.        9.         2         0         0      0.00     27.02     83.10

 *SECNO 4404.000
   4404.00     4.14    592.44      0.00      0.00    592.66      0.22      0.44      0.03    591.30
      200.       2.       196.       1.        2.       52.        1.        9.        3.    591.10
      0.29      1.16      3.78      0.89      0.060    0.040     0.060     0.000    588.30     56.62
  0.002669      295.      295.      295.         2         0         0      0.00     21.59     78.21

 *SECNO 4504.000
   4504.00     3.43    592.73      0.00      0.00    593.12      0.39      0.40      0.05    592.30
      200.       0.       199.       0.        0.       40.        0.        9.        3.    592.10
      0.29      0.74      5.02      0.83      0.060    0.040     0.060     0.000    589.30     56.99
  0.006724      100.      100.      100.         2         0         0      0.00     19.98     76.96

 1490 NH CARD USED
 *SECNO 4599.000

 3265 DIVIDED FLOW

   4599.00     3.88    593.58      0.00      0.00    594.40      0.82      1.16      0.13    597.00
      200.       0.       199.       1.        0.       27.        1.        9.        4.    592.70
      0.30      0.00      7.28      1.91      0.000    0.042     0.070     0.000    589.70    142.06
  0.028575       95.       95.       95.         3         0         0      0.00     10.59    153.64

 *SECNO 4600.000
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 SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
 Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA    LEFT/RIGHT
 TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
 SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD=  597.40 MAX ELLC=  597.00

                 DOWNSTREAM FACE PRIVATE DRIVE
  4600.00     3.95   593.65     0.00      0.00    594.43     0.78      0.02      0.00    597.00
     200.       0.     198.       2.        0.      28.       1.        9.        4.     592.70
     0.30      0.00     7.11     2.40     0.000    0.030    0.040     0.000    589.70    142.05
 0.013385       1.       1.       1.         2        0        0      0.00     10.71    153.76

*SECNO 4612.000

3265 DIVIDED FLOW

                 UPSTREAM FACE PRIVATE DRIVE
  4612.00     4.25   593.95     0.00      0.00    594.58     0.63      0.14      0.01    597.00
     200.       0.     196.       4.        0.      31.       1.        9.        4.     592.70
     0.30      0.04     6.43     2.53     0.040    0.030    0.040     0.000    589.70    139.63
 0.010262      12.      12.      12.         2        0        0      0.00     11.71    154.32


1490 NH CARD USED
*SECNO 4613.000

3265 DIVIDED FLOW

  4613.00     4.26   593.96     0.00      0.00    594.59     0.63      0.01      0.00    597.00
     200.       0.     197.       3.        0.      31.       1.        9.        4.     592.70
     0.30      0.03     6.43     2.07     0.070    0.043    0.070     0.000    589.70    139.60
 0.020762       1.       1.       1.         0        0        0      0.00     11.76    154.34

*SECNO 5400.000

3265 DIVIDED FLOW

                 VALLEY SECTION E
  5400.00     3.77   598.37     0.00      0.00    598.54     0.17      3.90      0.05    596.40
     200.       4.     176.      19.        6.      50.      12.       10.        4.     595.60
     0.36      0.71     3.51     1.65     0.060    0.040    0.060     0.000    594.60     54.38
 0.002170     787.     787.     787.         7        0        0      0.00     36.16    102.06
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
Q         QLOB      QCH       QRCB      ALCB      ACH       AROB      VOL       TWA   LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 5500.000

3301 HV CHANGED MORE THAN HVINS

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

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
  5500.00      1.94    598.44    598.44      0.00    599.42      0.98      0.53      0.24    596.50
     200.        0.      200.        0.        0.       25.        0.       10.        4. 100000.00
     0.37      0.00      7.94      0.00      0.000     0.040     0.000     0.000    596.50    135.00
 0.026789      100.      100.      100.        20        11         0      0.00     13.00    148.00

*SECNO 5501.000

3370 NORMAL BRIDGE/NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    DOWNSTREAM FACE SHUNK ROAD
  5501.00      1.95    598.45    598.45      0.00    599.45      1.00      0.02      0.01    596.50
     200.        0.      200.        0.        0.       25.        0.       10.        4. 100000.00
     0.37      0.00      8.03      0.00      0.000     0.035     0.000     0.000    596.50    135.00
 0.021396        1.        1.        1.         0        15         0     -0.43     13.00    148.00

*SECNO 5601.000

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE/NRD= 15 MIN ELTRD=  607.80 MAX ELLC=  604.70

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
                    UPSTREAM FACE SHUNK ROAD
  5601.00      3.48    599.98      0.00      0.00    600.30      0.32      0.79      0.07    596.50
     200.        0.      200.        0.        0.       44.        0.       10.        4. 100000.00
     0.37      0.00      4.56      0.00      0.000     0.035     0.000     0.000    596.50    135.00
 0.004043      100.      100.      100.         3         0         0     -1.37     13.00    148.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

*SECNO 5602.000

3470 ENCROACHMENT STATIONS=      135.0      148.0  TYPE=      1  TARGET=      13.000
  5602.00      3.51    600.01      0.00      0.00    600.31      0.30      0.00      0.00    596.50
     200.        0.       200.       0.        0.       46.       0.        10.        4. 100000.00
     0.37      0.00      4.39      0.00     0.000     0.035     0.000     0.000    596.50    135.00
 0.003578        1.        1.        1.         1         0         0      0.00     13.00    148.00

*SECNO -4100.000
START TRIB COMP
  -4100.000  4100.000   591.629
 -4100.00      6.13    591.63      0.00      0.00    591.69      0.06      0.00      0.00    588.50
     200.        8.       181.      11.        8.       86.      15.        10.        4.     588.30
     0.37      0.98      2.11      0.76     0.040     0.030     0.040     0.000    585.50     55.60
 0.000241        0.        0.        0.         0         0         0      0.00     30.81     86.41

*SECNO 0.100

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     0.10      3.69    592.69    592.69      0.00    593.67      0.98      0.00      0.27    590.30
     160.        7.       122.      31.        2.       14.       7.        10.        4.     590.30
     0.37      2.90      8.79      4.49     0.040     0.030     0.040     0.000    589.00    142.77
 0.008572        0.        0.        0.        20        14         0      0.00     14.16    156.93

*SECNO 5.000
3685 20 TRIALS ATTEMPTED WSEL/CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      143.0      150.0  TYPE=      1  TARGET=       7.000
     5.00      3.77    592.77    592.77      0.00    594.24      1.47      0.05      0.15    590.30
     160.        9.       144.       7.        3.       14.       2.        10.        4.     590.30
     0.37      3.41     10.18      3.31     0.040     0.030     0.040     0.000    589.00    143.00
 0.011124        5.        5.        5.        20         5         0      0.00      7.00    150.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
Q         QLOB      QCH       QRCB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
TIME      VLOB      VCH       VRCB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
SLOPE     XLOBL     XLCH      XLCBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFQ      RDLEN     EWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      3.30      3.00      0.00      5.00      0.00     15.90      0.00    589.00    589.00

*SECNO 46.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                             AREA
   597.95    593.76      0.00        49.       111.        16.       15.    592.10    594.90


3470 ENCROACHMENT STATIONS=      141.0      152.0  TYPE=      1  TARGET=      11.000
                 UPSTREAM FACE AT 11TH AVE AND 14TH ST.
                 DAMAGED CULVERT, APPEARS TO BE 5 FT CMP, USE 4.5 FT DUE TO DAMAG
    46.00      6.00    595.00      0.00      0.00    595.25      0.25      1.01      0.00    590.30
     160.       18.      109.       33.       10.       24.       12.       10.        4.    590.30
     0.98      1.83      4.60      2.65     0.040     0.030     0.040     0.000    589.00    141.00
 0.001139       41.       41.       41.         2         0         7      0.00     11.00    152.00


*SECNO 331.000
   331.00      5.40    595.40      0.00      0.00    595.42      0.02      0.15      0.02    590.50
     160.       45.       60.       55.       70.       32.       84.       11.        5.    590.50
     0.45      0.65      1.88      0.65     0.050     0.040     0.050     0.000    590.00     75.94
 0.000292      285.      285.      285.         3         0         0      0.00    145.22    221.16


SPECIAL BRIDGE

5070,VARIABLE ELCHU OR ELCHD ON CARD SB NOT SPECIFIED
SB  XK        XKCR      CCFQ      RDLEN     EWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      2.90      3.00      0.00      6.00      0.00     28.30      0.00    590.00    590.00

*SECNO 376.000
3230 CROSS SECTION     376.00 EXTENDED      0.20 FEET
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
S	QLOB	QCH	QRCB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRCB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOSL	XLCH	XLCBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

ESPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
596.84	595.44	0.00	65.	95.	28.	21.	593.50	595.60

UPSTREAM FACE AT 10TH AVE

376.00	5.89	595.89	0.00	0.00	595.91	0.02	0.48	0.00	590.50
160.	49.	56.	56.	122.	35.	130.	11.	5.	590.50
0.46	0.40	1.59	0.43	0.050	0.030	0.050	0.000	590.00	0.00
0.000105	45.	45.	45.	1	0	5	0.00	280.94	280.94

THIS RUN EXECUTED 3 APR 85 10:59:00

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

10-YEAR FLOW

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
0.000	0.00	0.00	0.00	577.90	130.00	580.70	0.00	580.74	4.01	1.62	105.75	64.95
0.000	0.00	0.00	0.00	577.90	240.00	580.70	0.00	580.82	13.65	3.00	105.75	64.95
0.000	0.00	0.00	0.00	577.90	280.00	580.70	0.00	580.87	18.58	3.50	105.75	64.95
0.000	0.00	0.00	0.00	577.90	370.00	580.70	0.00	580.99	32.45	4.62	105.75	64.95
56.000	56.00	0.00	0.00	577.90	130.00	580.71	0.00	580.77	4.96	1.82	75.41	58.37
56.000	56.00	0.00	0.00	577.90	240.00	580.75	0.00	580.92	16.13	3.31	76.62	59.76
56.000	56.00	0.00	0.00	577.90	280.00	580.77	0.00	581.00	21.26	3.82	77.45	60.72
56.000	56.00	0.00	0.00	577.90	370.00	580.83	0.00	581.20	33.80	4.91	79.95	63.64
57.000	1.00	586.70	583.70	577.90	130.00	580.71	0.00	580.77	4.88	1.85	70.14	58.84
57.000	1.00	586.70	583.70	577.90	240.00	580.75	0.00	580.92	15.72	3.36	71.40	60.52
57.000	1.00	586.70	583.70	577.90	280.00	580.77	0.00	581.00	20.77	3.88	72.08	61.44
57.000	1.00	586.70	583.70	577.90	370.00	580.82	0.00	581.21	33.50	5.01	73.91	63.93
90.000	33.00	586.70	583.70	577.90	130.00	580.73	0.00	580.78	4.78	1.84	70.61	59.47
90.000	33.00	586.70	583.70	577.90	240.00	580.81	0.00	580.97	14.69	3.29	72.95	62.62
90.000	33.00	586.70	583.70	577.90	280.00	580.85	0.00	581.07	18.87	3.77	74.29	64.45
90.000	33.00	586.70	583.70	577.90	370.00	580.97	0.00	581.32	27.61	4.71	78.57	70.42
91.000	1.00	0.00	0.00	577.90	130.00	580.74	0.00	580.78	4.76	1.79	75.75	59.61
91.000	1.00	0.00	0.00	577.90	240.00	580.83	0.00	580.98	13.86	3.14	79.77	64.46
91.000	1.00	0.00	0.00	577.90	280.00	580.88	0.00	581.07	17.45	3.58	81.87	67.04
91.000	1.00	0.00	0.00	577.90	370.00	581.03	0.00	581.32	24.28	4.40	88.23	75.10
201.000	110.00	0.00	0.00	577.80	130.00	580.79	0.00	580.85	7.40	1.92	67.73	47.78
201.000	110.00	0.00	0.00	577.80	240.00	581.00	0.00	581.15	18.49	3.16	75.94	55.81
201.000	110.00	0.00	0.00	577.80	280.00	581.10	0.00	581.29	21.89	3.51	79.87	59.85
201.000	110.00	0.00	0.00	577.80	370.00	581.34	0.00	581.60	25.72	4.08	90.72	72.95
1700.000	1499.00	0.00	0.00	579.80	130.00	582.73	0.00	582.90	31.62	3.27	39.72	23.12
1700.000	1499.00	0.00	0.00	579.80	240.00	584.10	0.00	584.31	23.86	3.62	66.37	49.13
1700.000	1499.00	0.00	0.00	579.80	280.00	584.47	0.00	584.69	23.51	3.77	74.71	57.75
1700.000	1499.00	0.00	0.00	579.80	370.00	585.11	0.00	585.38	24.64	4.14	95.91	74.54

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ScCNO	XLCH	ELTPD	ELLC	ELMIN	Q	CWSEL	CPIWS	EG	10K*S	VCH	AREA	.01K
3120.000	1420.00	0.00	0.00	583.20	130.00	586.88	0.00	587.04	26.93	3.22	40.42	25.05
3120.000	1420.00	0.00	0.00	583.20	240.00	588.03	0.00	588.25	32.65	3.79	63.26	42.00
3120.000	1420.00	0.00	0.00	583.20	280.00	588.33	0.00	588.58	32.09	3.98	70.41	49.43
3120.000	1420.00	0.00	0.00	583.20	370.00	588.97	0.00	589.26	30.35	4.30	86.70	67.16
3875.000	755.00	0.00	0.00	585.50	130.00	588.94	0.00	589.10	27.75	3.24	40.83	24.68
3875.000	755.00	0.00	0.00	585.50	240.00	590.10	0.00	590.33	23.53	3.89	65.82	49.47
3875.000	755.00	0.00	0.00	585.50	280.00	590.40	0.00	590.66	23.86	4.14	73.30	57.32
3875.000	755.00	0.00	0.00	585.50	370.00	591.00	0.00	591.32	24.45	4.63	89.70	74.83
4100.000	225.00	0.00	0.00	586.90	130.00	589.79	0.00	590.07	67.76	4.25	30.57	15.79
4100.000	225.00	0.00	0.00	586.90	240.00	590.76	0.00	591.15	54.10	5.04	49.32	32.63
4100.000	225.00	0.00	0.00	586.90	280.00	591.05	0.00	591.48	52.54	5.30	55.31	38.63
4100.000	225.00	0.00	0.00	586.90	370.00	591.63	0.00	592.13	49.61	5.78	68.74	52.53
4109.000	9.00	0.00	0.00	586.90	70.00	590.06	0.00	590.12	12.46	1.99	35.33	19.83
4109.000	9.00	0.00	0.00	586.90	130.00	591.11	0.00	591.20	10.40	2.40	56.95	40.30
4109.000	9.00	0.00	0.00	586.90	150.00	591.44	0.00	591.53	9.77	2.48	64.40	48.00
4109.000	9.00	0.00	0.00	586.90	200.00	592.08	0.00	592.19	9.44	2.73	80.65	65.11
4404.000	295.00	0.00	0.00	588.30	70.00	590.62	0.00	590.78	46.03	3.19	21.95	10.32
4404.000	295.00	0.00	0.00	588.30	130.00	591.56	0.00	591.75	36.35	3.51	37.29	21.56
4404.000	295.00	0.00	0.00	588.30	150.00	591.85	0.00	592.04	31.91	3.57	42.90	26.55
4404.000	295.00	0.00	0.00	588.30	200.00	592.44	0.00	592.66	26.69	3.78	55.39	38.71
4504.000	100.00	0.00	0.00	589.30	70.00	591.19	0.00	591.47	99.34	4.30	16.27	7.02
4504.000	100.00	0.00	0.00	589.30	130.00	592.00	0.00	592.35	90.72	4.72	27.54	13.65
4504.000	100.00	0.00	0.00	589.30	150.00	592.22	0.00	592.58	83.95	4.80	31.29	16.37
4504.000	100.00	0.00	0.00	589.30	200.00	592.73	0.00	593.12	67.24	5.02	40.50	24.39
4599.000	95.00	0.00	0.00	589.70	70.00	592.32	0.00	592.62	148.23	4.36	16.07	5.75
4599.000	95.00	0.00	0.00	589.70	130.00	593.10	0.00	593.60	190.49	5.65	23.12	9.42
4599.000	95.00	0.00	0.00	589.70	150.00	593.27	0.00	593.85	214.03	6.11	24.81	10.25
4599.000	95.00	0.00	0.00	589.70	200.00	593.58	0.00	594.40	285.75	7.28	28.01	11.83
4600.000	1.00	597.40	597.00	589.70	70.00	592.34	0.00	592.63	73.28	4.32	16.20	8.18
4600.000	1.00	597.40	597.00	589.70	130.00	593.12	0.00	593.61	96.27	5.62	23.26	13.25
4600.000	1.00	597.40	597.00	589.70	150.00	593.30	0.00	593.87	106.75	6.07	24.97	14.52
4600.000	1.00	597.40	597.00	589.70	200.00	593.65	0.00	594.43	133.85	7.11	28.70	17.29
4612.000	12.00	0.00	0.00	589.70	70.00	592.46	0.00	592.71	61.47	4.04	17.31	8.93
4612.000	12.00	0.00	0.00	589.70	130.00	593.30	0.00	593.72	79.80	5.25	25.01	14.55
4612.000	12.00	0.00	0.00	589.70	150.00	593.50	0.00	593.99	87.01	5.63	27.07	16.08
4612.000	12.00	0.00	0.00	589.70	200.00	593.95	0.00	594.58	102.62	6.43	32.03	19.74
4613.000	1.00	0.00	0.00	589.70	70.00	592.47	0.00	592.72	124.00	4.04	17.31	6.29
4613.000	1.00	0.00	0.00	589.70	130.00	593.31	0.00	593.73	156.02	5.23	25.13	10.41
4613.000	1.00	0.00	0.00	589.70	150.00	593.52	0.00	594.00	171.46	5.60	27.25	11.46
4613.000	1.00	0.00	0.00	589.70	200.00	593.96	0.00	594.59	207.62	6.43	32.17	13.88

	SECNO	XLCH	ELTRD	ELLC	ELMIN	G	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	5400.000	787.00	0.00	0.00	594.60	70.00	596.91	0.00	597.02	30.40	2.64	28.36	12.70
	5400.000	787.00	0.00	0.00	594.60	130.00	597.66	0.00	597.81	25.30	3.16	45.70	25.84
	5400.000	787.00	0.00	0.00	594.60	150.00	597.88	0.00	598.04	23.99	3.28	51.15	30.62
	5400.000	787.00	0.00	0.00	594.60	200.00	598.37	0.00	598.54	21.70	3.51	67.99	42.94
*	5500.000	100.00	0.00	0.00	596.50	70.00	597.47	597.47	597.95	283.88	5.58	12.55	4.15
*	5500.000	100.00	0.00	0.00	596.50	130.00	597.96	597.96	598.69	269.48	6.85	18.97	7.92
*	5500.000	100.00	0.00	0.00	596.50	150.00	598.10	598.10	598.91	268.77	7.20	20.83	9.15
*	5500.000	100.00	0.00	0.00	596.50	200.00	598.44	598.44	599.42	267.89	7.94	25.18	12.22
	5501.000	1.00	607.80	604.70	596.50	70.00	597.57	0.00	597.98	164.55	5.10	13.72	5.46
	5501.000	1.00	607.80	604.70	596.50	130.00	597.99	597.96	598.71	203.96	6.82	19.07	9.10
	5501.000	1.00	607.80	604.70	596.50	150.00	598.13	598.11	598.93	205.43	7.18	20.88	10.47
*	5501.000	1.00	607.80	604.70	596.50	200.00	598.45	598.45	599.45	213.96	8.03	24.90	13.67
	5601.000	100.00	607.80	604.70	596.50	70.00	598.43	0.00	598.55	27.03	2.84	24.64	13.46
	5601.000	100.00	607.80	604.70	596.50	130.00	599.23	0.00	599.45	33.82	3.75	34.65	22.35
	5601.000	100.00	607.80	604.70	596.50	150.00	599.45	0.00	599.70	36.00	4.01	37.41	25.00
	5601.000	100.00	607.80	604.70	596.50	200.00	599.98	0.00	600.30	40.43	4.56	43.88	31.45
	5602.000	1.00	0.00	0.00	596.50	70.00	598.44	0.00	598.56	25.13	2.78	25.18	13.96
	5602.000	1.00	0.00	0.00	596.50	130.00	599.24	0.00	599.45	30.83	3.65	35.61	23.41
	5602.000	1.00	0.00	0.00	596.50	150.00	599.47	0.00	599.71	32.57	3.89	38.54	26.28
	5602.000	1.00	0.00	0.00	596.50	200.00	600.01	0.00	600.31	35.78	4.39	45.52	33.44
	-4100.000	0.00	0.00	0.00	585.50	70.00	589.79	0.00	589.81	1.56	1.26	58.48	55.99
	-4100.000	0.00	0.00	0.00	585.50	130.00	590.76	0.00	590.80	2.07	1.73	82.67	90.26
	-4100.000	0.00	0.00	0.00	585.50	150.00	591.05	0.00	591.10	2.15	1.84	90.86	102.22
	-4100.000	0.00	0.00	0.00	585.50	200.00	591.63	0.00	591.69	2.41	2.11	108.29	128.81
*	0.100	0.10	0.00	0.00	589.00	60.00	591.32	591.32	591.97	107.06	6.77	10.11	5.80
*	0.100	0.10	0.00	0.00	589.00	110.00	592.01	592.01	592.93	104.94	8.29	15.95	10.74
*	0.100	0.10	0.00	0.00	589.00	130.00	592.21	592.21	593.26	108.69	8.88	17.84	12.47
*	0.100	0.10	0.00	0.00	589.00	160.00	592.69	592.69	593.67	85.72	8.79	23.24	17.28
*	5.000	5.00	0.00	0.00	589.00	60.00	591.31	591.31	592.08	122.12	7.22	9.19	5.43
*	5.000	5.00	0.00	0.00	589.00	110.00	592.09	592.09	593.26	119.24	9.02	14.15	10.07
*	5.000	5.00	0.00	0.00	589.00	130.00	592.39	592.39	593.67	113.72	9.47	16.20	12.19
*	5.000	5.00	0.00	0.00	589.00	160.00	592.77	592.77	594.24	111.24	10.18	18.88	15.17
	46.000	41.00	594.90	592.10	589.00	60.00	592.00	0.00	592.48	69.94	5.57	10.87	7.17
	46.000	41.00	594.90	592.10	589.00	110.00	594.38	0.00	594.54	8.52	3.67	39.06	37.67
	46.000	41.00	594.90	592.10	589.00	130.00	594.92	0.00	595.09	7.99	3.81	44.98	46.00
	46.000	41.00	594.90	592.10	589.00	160.00	595.00	0.00	595.25	11.39	4.60	45.92	47.40
	331.000	285.00	0.00	0.00	590.00	60.00	593.07	0.00	593.14	10.38	2.41	31.27	18.62
	331.000	285.00	0.00	0.00	590.00	110.00	594.68	0.00	594.79	8.29	2.87	46.62	38.20
	331.000	285.00	0.00	0.00	590.00	130.00	595.20	0.00	595.23	2.70	1.76	158.16	79.14
	331.000	285.00	0.00	0.00	590.00	160.00	595.40	0.00	595.42	2.92	1.88	185.95	93.65

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SECNO	XLCH	ELTRD	ELLC	ELMIN	G	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
376.000	45.00	595.60	593.50	590.00	60.00	593.05	0.00	593.27	40.75	3.78	15.88	9.40
376.000	45.00	595.60	593.50	590.00	110.00	595.16	0.00	595.36	21.94	3.62	30.37	23.49
376.000	45.00	595.60	593.50	590.00	130.00	595.79	0.00	595.80	0.82	1.39	259.45	143.53
376.000	45.00	595.60	593.50	590.00	160.00	595.89	0.00	595.91	1.05	1.59	287.37	156.21

10-YEAR FLOW

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
0.000	130.00	580.70	0.00	0.00	0.00	69.00	0.00
0.000	240.00	580.70	0.00	0.00	0.00	69.00	0.00
0.000	280.00	580.70	0.00	0.00	0.00	69.00	0.00
0.000	370.00	580.70	0.00	0.00	0.00	69.00	0.00
56.000	130.00	580.71	0.00	0.01	0.00	40.80	56.00
56.000	240.00	580.75	0.04	0.05	0.00	40.92	56.00
56.000	280.00	580.77	0.02	0.07	0.00	41.01	56.00
56.000	370.00	580.83	0.06	0.13	0.00	41.26	56.00
57.000	130.00	580.71	0.00	0.00	0.00	40.77	1.00
57.000	240.00	580.75	0.03	0.00	0.00	40.93	1.00
57.000	280.00	580.77	0.02	-0.01	0.00	41.01	1.00
57.000	370.00	580.82	0.05	-0.01	0.00	41.25	1.00
90.000	130.00	580.73	0.00	0.02	0.00	40.83	33.00
90.000	240.00	580.81	0.08	0.06	0.00	41.13	33.00
90.000	280.00	580.85	0.04	0.08	0.00	41.30	33.00
90.000	370.00	580.97	0.12	0.15	0.00	41.75	33.00
91.000	130.00	580.74	0.00	0.01	0.00	40.83	1.00
91.000	240.00	580.83	0.09	0.02	0.00	41.24	1.00
91.000	280.00	580.88	0.05	0.03	0.00	41.46	1.00
91.000	370.00	581.03	0.15	0.06	0.00	41.92	1.00
201.000	130.00	580.79	0.00	0.06	0.00	39.01	110.00
201.000	240.00	581.00	0.21	0.17	0.00	41.12	110.00
201.000	280.00	581.10	0.10	0.22	0.00	41.98	110.00
201.000	370.00	581.34	0.25	0.31	0.00	42.75	110.00
1700.000	130.00	582.73	0.00	1.94	0.00	18.58	1499.00
1700.000	240.00	584.10	1.37	3.10	0.00	20.46	1499.00
1700.000	280.00	584.47	0.37	3.38	0.00	25.94	1499.00
1700.000	370.00	585.11	0.64	3.77	0.00	38.38	1499.00
3120.000	130.00	586.88	0.00	4.14	0.00	16.40	1420.00
3120.000	240.00	588.03	1.15	3.92	0.00	23.25	1420.00
3120.000	280.00	588.33	0.31	3.86	0.00	24.23	1420.00
3120.000	370.00	588.97	0.64	3.86	0.00	26.34	1420.00
3875.000	130.00	588.94	0.00	2.06	0.00	20.01	755.00
3875.000	240.00	590.10	1.16	2.07	0.00	23.98	755.00
3875.000	280.00	590.40	0.30	2.07	0.00	25.56	755.00
3875.000	370.00	591.00	0.60	2.03	0.00	28.71	755.00

SECNO	Q	CWSEL	DIFWSF	DIFWSX	DIFKWS	TOPWID	XLCH
4100.000	130.00	589.79	0.00	0.85	0.00	17.01	225.00
4100.000	240.00	590.76	0.97	0.66	0.00	20.86	225.00
4100.000	280.00	591.05	0.29	0.65	0.00	21.58	225.00
4100.000	370.00	591.63	0.58	0.63	0.00	24.61	225.00
4109.000	70.00	590.06	0.00	0.27	0.00	18.33	9.00
4109.000	130.00	591.11	1.06	0.36	0.00	21.97	9.00
4109.000	150.00	591.44	0.33	0.39	0.00	23.67	9.00
4109.000	200.00	592.08	0.64	0.45	0.00	27.02	9.00
4404.000	70.00	590.62	0.00	0.57	0.00	13.92	295.00
4404.000	130.00	591.56	0.94	0.45	0.00	19.02	295.00
4404.000	150.00	591.85	0.28	0.40	0.00	20.22	295.00
4404.000	200.00	592.44	0.60	0.36	0.00	21.59	295.00
4504.000	70.00	591.19	0.00	0.56	0.00	11.78	100.00
4504.000	130.00	592.00	0.81	0.44	0.00	16.19	100.00
4504.000	150.00	592.22	0.22	0.38	0.00	17.12	100.00
4504.000	200.00	592.73	0.50	0.28	0.00	19.98	100.00
4599.000	70.00	592.32	0.00	1.14	0.00	8.54	95.00
4599.000	130.00	593.10	0.78	1.10	0.00	9.67	95.00
4599.000	150.00	593.27	0.17	1.05	0.00	10.00	95.00
4599.000	200.00	593.58	0.31	0.86	0.00	10.59	95.00
4600.000	70.00	592.34	0.00	0.01	0.00	8.56	1.00
4600.000	130.00	593.12	0.78	0.02	0.00	9.70	1.00
4600.000	150.00	593.30	0.18	0.02	0.00	10.03	1.00
4600.000	200.00	593.65	0.35	0.06	0.00	10.71	1.00
4612.000	70.00	592.46	0.00	0.12	0.00	8.68	12.00
4612.000	130.00	593.30	0.84	0.17	0.00	10.04	12.00
4612.000	150.00	593.50	0.21	0.20	0.00	10.42	12.00
4612.000	200.00	593.95	0.45	0.30	0.00	11.71	12.00
4613.000	70.00	592.47	0.00	0.01	0.00	8.68	1.00
4613.000	130.00	593.31	0.84	0.01	0.00	10.06	1.00
4613.000	150.00	593.52	0.21	0.02	0.00	10.45	1.00
4613.000	200.00	593.96	0.44	0.01	0.00	11.76	1.00
5400.000	70.00	596.91	0.00	4.44	0.00	21.77	787.00
5400.000	130.00	597.66	0.75	4.35	0.00	24.27	787.00
5400.000	150.00	597.88	0.22	4.36	0.00	24.69	787.00
5400.000	200.00	598.37	0.49	4.41	0.00	36.16	787.00
* 5500.000	70.00	597.47	0.00	0.56	0.00	13.00	100.00
* 5500.000	130.00	597.96	0.49	0.29	0.00	13.00	100.00
* 5500.000	150.00	598.10	0.14	0.22	0.00	13.00	100.00
* 5500.000	200.00	598.44	0.33	0.07	0.00	13.00	100.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	5501.000	70.00	597.57	0.00	0.11	0.00	13.00	1.00
	5501.000	130.00	597.99	0.42	0.03	0.00	13.00	1.00
	5501.000	150.00	598.13	0.14	0.03	0.00	13.00	1.00
*	5501.000	200.00	598.45	0.32	0.01	0.00	13.00	1.00
	5601.000	70.00	598.43	0.00	0.85	0.00	13.00	100.00
	5601.000	130.00	599.23	0.80	1.24	0.00	13.00	100.00
	5601.000	150.00	599.45	0.22	1.32	0.00	13.00	100.00
	5601.000	200.00	599.98	0.53	1.53	0.00	13.00	100.00
	5602.000	70.00	598.44	0.00	0.01	0.00	13.00	1.00
	5602.000	130.00	599.24	0.81	0.02	0.00	13.00	1.00
	5602.000	150.00	599.47	0.23	0.02	0.00	13.00	1.00
	5602.000	200.00	600.01	0.54	0.03	0.00	13.00	1.00
	-4100.000	70.00	589.79	0.00	-8.65	0.00	22.33	0.00
	-4100.000	130.00	590.76	0.97	-8.49	0.00	27.40	0.00
	-4100.000	150.00	591.05	0.29	-8.42	0.00	28.92	0.00
	-4100.000	200.00	591.63	0.58	-8.38	0.00	30.81	0.00
*	0.100	60.00	591.32	0.00	1.53	0.00	7.71	0.10
*	0.100	110.00	592.01	0.69	1.25	0.00	9.16	0.10
*	0.100	130.00	592.21	0.20	1.16	0.00	9.59	0.10
*	0.100	160.00	592.69	0.48	1.07	0.00	14.16	0.10
*	5.000	60.00	591.31	0.00	-0.01	0.00	6.06	5.00
*	5.000	110.00	592.09	0.78	0.08	0.00	6.72	5.00
*	5.000	130.00	592.39	0.30	0.15	0.00	6.97	5.00
*	5.000	160.00	592.77	0.38	0.08	0.00	7.00	5.00
	46.000	60.00	592.00	0.00	0.69	0.00	8.64	41.00
	46.000	110.00	594.38	2.38	2.29	0.00	11.00	41.00
	46.000	130.00	594.92	0.54	2.53	0.00	11.00	41.00
	46.000	160.00	595.00	0.09	2.23	0.00	11.00	41.00
	331.000	60.00	593.07	0.00	1.07	0.00	15.20	285.00
	331.000	110.00	594.68	1.61	0.31	1.61	11.43	285.00
	331.000	130.00	595.20	0.52	0.29	0.00	140.60	285.00
	331.000	160.00	595.40	0.19	0.40	0.00	145.22	285.00
	376.000	60.00	593.05	0.00	-0.02	0.00	15.16	45.00
	376.000	110.00	595.16	2.11	0.48	2.11	6.00	45.00
	376.000	130.00	595.79	0.63	0.59	0.00	261.64	45.00
	376.000	160.00	595.89	0.10	0.49	0.00	280.94	45.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=  5500.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  5500.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  5500.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  5500.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  5500.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  5500.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  5500.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  5500.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=  5500.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  5500.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=  5500.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=  5501.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=  5501.000  PROFILE= 4  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=     0.100  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.100  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     0.100  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     0.100  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.100  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     0.100  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     0.100  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.100  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     0.100  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     0.100  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     0.100  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     0.100  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=     5.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     5.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     5.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     5.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     5.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     5.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     5.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     5.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     5.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     5.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     5.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOOD INSURANCE ZONE DATA FOR 10-YEAR FLOW

FLOOD HAZARD FACTOR FOR ENTIRE REACH USING SECTIONS

SECTION NUMBER	CUMULATIVE DISTANCE	ELEVATION DIFFERENCE BETWEEN BASE FLOOD AND 10	2	0.2
0.000	0.	0.00	0.00	0.00
56.000	56.	-0.06	-0.02	0.06
57.000	57.	-0.05	-0.02	0.05
90.000	90.	-0.12	-0.04	0.12
91.000	91.	-0.14	-0.05	0.15
201.000	201.	-0.30	-0.10	0.25
1700.000	1700.	-1.74	-0.37	0.64
3120.000	3120.	-1.46	-0.31	0.64
3875.000	3875.	-1.46	-0.30	0.60
4100.000	4100.	-1.26	-0.29	0.58
4109.000	4109.	-1.39	-0.33	0.64
4404.000	4404.	-1.22	-0.28	0.60
4504.000	4504.	-1.04	-0.22	0.50
4599.000	4599.	-0.95	-0.17	0.31
4600.000	4600.	-0.96	-0.18	0.35
4612.000	4612.	-1.04	-0.21	0.45
4613.000	4613.	-1.05	-0.21	0.44
5400.000	5400.	-0.97	-0.22	0.49
5500.000	5500.	-0.64	-0.14	0.33
5501.000	5501.	-0.56	-0.14	0.32
5601.000	5601.	-1.02	-0.22	0.53
5602.000	5602.	-1.04	-0.23	0.54
-4100.000	5602.	-1.26	-0.29	0.58
0.100	5602.	-0.89	-0.20	0.48
5.000	5607.	-1.08	-0.30	0.38
46.000	5648.	-2.91	-0.54	0.09
331.000	5933.	-2.13	-0.52	0.19
376.000	5978.	-2.74	-0.63	0.10
WEIGHTED AVG FOR REACH		-1.29	-0.28	0.50

FHF FOR THE REACH = 015 WITH 90.4 PERCENT OF THE REACH WITHIN 0.5 FEET
ZONE FOR THE REACH = A 3

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