Flood Control District of Maricopa County
Contract FCD 89-79

# WICKENBURG AREA DRAINAGE MASTER STUDY

# TECHNICAL DOCUMENTATION REPORT

## Appendix 3.0 Watershed Hydrology Report: Volume IIb

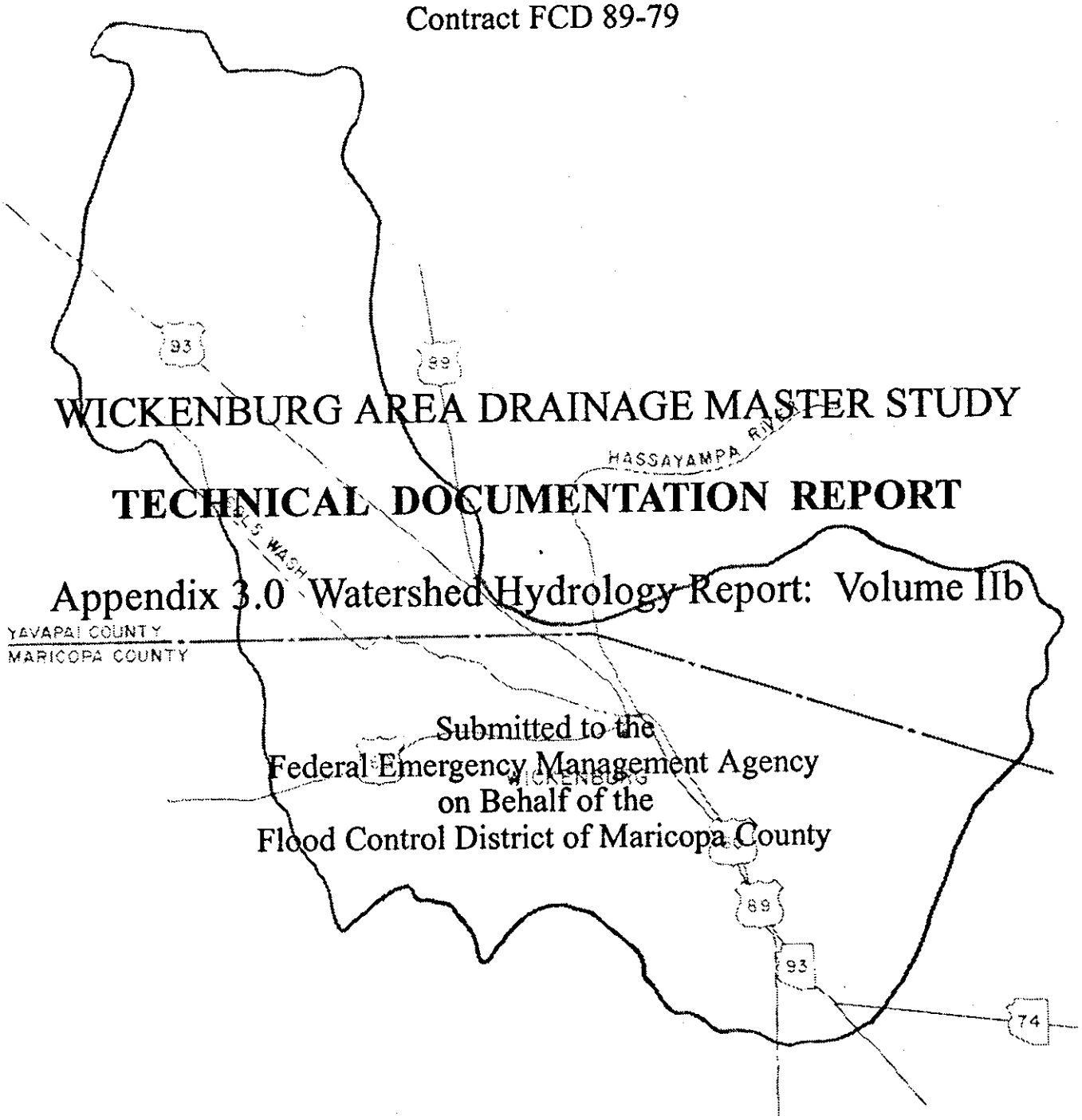
Submitted to the
Federal Emergency Management Agency
on Behalf of the
Flood Control District of Maricopa County

BLACK & VEATCH
PROGRESS BY DESIGN
Project No. 17676

COE & VAN LOO
PLANNING • ENGINEERING
LANDSCAPE ARCHITECTURE
CVL No. 1197-02

May 1994

Flood Control District of Maricopa County
Contract FCD 89-79




# WICKENBURG AREA DRAINAGE MASTER STUDY

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PROGRESS BY DESIGN

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COE & VAN LOO
PLANNING • ENGINEERING
LANDSCAPE ARCHITECTURE

CVL No. 1197-02

May 1994

Wickenburg Area Drainage Master Study

Volume IIb: HEC-1 Output
East Tributaries Area

Contents

**East Tributaries (NMIN = 6) - Including the following washes:**

| Wash Name | Designation |
|---|---|
| Unnamed Wash # 1 | F |
| Unnamed Wash # 2 | G |
| Unnamed Wash # 3 | H |
| Unnamed Wash # 8 | M |
| Unnamed Wash # 11 | N |
| Little San Domingo Wash | S |
| Ox Wash | V |
| Powder House Wash | AAS |

| Section No. | Return Period (years) |
|---|---|
| 1 | 2 |
| 2 | 10 |
| 3 | 25 |
| 4 | 50 |
| 5 | 100 |

**East Tributaries (NMIN = 10) - Including the following washes:**

| Wash Name | Designation |
|---|---|
| Calamity Wash | B |
| Unnamed Wash # 5 | J |
| Unnamed Wash # 6 | K |
| Unnamed Wash # 7 | L |
| Unnamed Wash # 12 | O |
| Unnamed Wash # 13 | P |
| San Domingo Wash | T |
| Unnamed Wash # 9 | AF |

| Section No. | Return Period (years) |
|---|---|
| 1 | 2 |
| 2 | 10 |
| 3 | 25 |
| 4 | 50 |
| 5 | 100 |

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 6)
2-YEAR RETURN PERIOD

FN = E1-2

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*     BY THE COE IN FEBRUARY 1981      *
*          REVISED 02 AUG 88           *
*                                      *
* RUN DATE  04/19/1991  TIME  13:13:52 *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    DODSON AND ASSOCIATES, INC.       *
*  HYDROLOGIST AND CIVIL ENGINEERS     *
*     7015 W TIDWELL SUITE 107         *
*       HOUSTON, TEXAS  77092          *
*          (713) 895-8322              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES AA(POWDER HOUSE), M, N
  3           ID       WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 6 min
  7           ID       E1-2 ; 2-YEAR EVENT
              *DIAGRAM
  8           IT       6                    300
  9           IO       5
 10           IN      30
 11           JD    1.91     .01
 12           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC    .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD    1.87     3.0
 18           JD    1.83     10.
 19           JD    1.76    20.0
 20           JD    1.72    30.0

 21           KK    SAA5
 22           KM   SUB-BASIN AA5
 23           BA    1.33
 24           LG     .15     .32    3.70     .29   10.90
 25           UI    156.    526.   1018.   1438.   1385.    903.    735.    579.    422.    349.
 26           UI    254.    190.    154.    120.     80.     76.     46.     30.     30.     30.
 27           UI     30.     30.      0.      0.      0.      0.      0.      0.      0.      0.
 28           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 29           KK   SAA10
 30           KM   SUB-BASIN AA10
 31           BA     .50
 32           LG     .15     .33    3.93     .33    3.10
 33           UI     87.    331.    563.    690.    415.    321.    230.    168.    120.     85.
 34           UI     62.     44.     35.     20.     14.     14.     14.      0.      0.      0.
 35           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 36           KK   CAA12
 37           KM        COMBINE HYDROGRAPH SAA5 & SAA10
 38           HC       2

 39           KK   RAA14
 40           KM        ROUTE HYDROGRAPH CAA12 THROUGH SAA15
 41           RS       1    FLOW      -1
 42           RC   0.030   0.015   0.030    4000  0.0199
 43           RX       0       0      10      10      40      40      50      50
 44           RY       5       1      .5       0       0      .5       1       5
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  45          KK   SAA15
  46          KM   SUB-BASIN AA15
  47          BA     .12
  48          LG     .12     .30    4.21     .40   23.50
  49          UI    137.    329.    164.     78.     37.     17.      8.      0.      0.      0.
  50          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  51          KK   CAA17
  52          KM        COMBINE HYDROGRAPH RAA14 & SAA15
  53          HC       2

  54          KK     SAF
  55          KM   SUB-BASIN AF
  56          BA     .30
  57          LG     .15     .28    3.72     .26   14.50
  58          UI     71.    269.    476.    345.    241.    169.    117.     78.     56.     38.
  59          UI     24.     17.     10.     10.     10.      0.      0.      0.      0.      0.
  60          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  61          KK      SM
  62          KM   SUB-BASIN M
  63          BA     .30
  64          LG     .15     .30    3.51     .26   10.80
  65          UI     54.    206.    351.    411.    248.    191.    134.    100.     68.     51.
  66          UI     35.     25.     22.      9.      8.      8.      8.      0.      0.      0.
  67          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  68          KK      SN
  69          KM   SUB-BASIN N
  70          BA     .33
  71          LG     .15     .29    3.72     .25   12.30
  72          UI     58.    220.    375.    455.    274.    211.    151.    111.     78.     56.
  73          UI     41.     29.     23.     12.      9.      9.      9.      0.      0.      0.
  74          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  75          KK   NUL
  76          KM   COMBINING WASHES AA, AF, M, & N TO REDUCE THE NO. OF FREE HYDROGRAPHS
  77          HC   4.

  78          KK     SH2
  79          KM   SUB-BASIN SH2
  80          BA    1.34
  81          LG     .15     .30    3.88     .33   18.60
  82          UI    279.   1054.   1827.   1719.   1099.    812.    549.    410.    266.    195.
  83          UI    136.    103.     56.     40.     40.     40.      0.      0.      0.      0.
  84          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  85          KK     RH4
  86          KM        WASH "H"
  87          RS       3    FLOW      -1
  88          RC    .045    .030    .045    7400   .0216
  89          RX     365     373     483     485     515     517     627     635
  90          RY      16      12      12      10      10      12      12      16
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 91           KK    SH6
 92           KM  SUB-BASIN SH6
 93           BA    .42
 94           LG    .15     .34    4.15     .48     .90
 95           UI   120.    449.    733.    454.    325.    210.    148.     91.     64.     40.
 96           UI    28.     15.     15.     15.      0.      0.      0.      0.      0.      0.
 97           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 98           KK    CH8
 99           HC      2

100           KK    SG2
101           KM  SUB-BASIN SG2
102           BA    .40
103           LG    .15     .34    3.97     .34    1.40
104           UI   130.    476.    721.    426.    296.    188.    123.     80.     51.     37.
105           UI    15.     15.     15.      0.      0.      0.      0.      0.      0.      0.
106           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

107           KK    SF2
108           KM  SUB-BASIN SF2
109           BA    .24
110           LG    .15     .33    3.98     .34    7.20
111           UI   122.    440.    414.    238.    139.     81.     50.     29.     14.     11.
112           UI    11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
113           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

114           KK    SV2
115           KM  SUB-BASIN SV2
116           BA   3.16
117           LG    .15     .30    3.70     .25    9.10
118           UI   328.    895.   1882.   2539.   3544.   2250.   1806.   1501.   1215.    908.
119           UI   761.    607.    445.    371.    287.    247.    160.    160.    111.     63.
120           UI    63.     63.     63.     63.      0.      0.      0.      0.      0.      0.
121           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

122           KK    RV3
123           KM        OX WASH
124           RS      3    FLOW     -1
125           RC   .045     .03    .045   11720   .0162
126           RX   429     433     473     475     525     527     567     571
127           RY    16      12      12      10      10      12      12      16

128           KK    SV4
129           KM  SUB-BASIN SV4
130           BA    .74
131           LG    .15     .32    4.16     .38    3.50
132           UI    87.    296.    571.    811.    764.    502.    408.    320.    234.    194.
133           UI   139.    105.     84.     67.     43.     43.     24.     17.     17.     17.
134           UI    17.      0.      0.      0.      0.      0.      0.      0.      0.      0.
135           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 136          KK     CV6
 137          HC       2

 138          KK     RV8
 139          KM        OX WASH U/S OF HWY 60
 140          RS       1    FLOW      -1
 141          RC    .045     .03    .045    2700    .011
 142          RX     429     433     473     475     525     527     567     571
 143          RY      16      12      12      10      10      12      12      16

 144          KK    SV10
 145          KM   SUB-BASIN SV10
 146          BA    1.72
 147          LG     .15     .32    3.86     .33    7.50
 148          UI    208.    742.   1387.   2030.   1674.   1163.    937.    727.    524.    434.
 149          UI    303.    240.    179.    141.    102.     93.     40.     40.     40.     40.
 150          UI     40.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 151          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 152          KK    CV12
 153          HC       2

 154          KK    RV14
 155          KM        OX WASH U/S OF HWY 60
 156          RS       1    FLOW      -1
 157          RC    .045     .03    .045    5100   .0157
 158          RX     429     433     473     475     525     527     567     571
 159          RY      16      12      12      10      10      12      12      16

 160          KK    SV16
 161          KM   SUB-BASIN SV16
 162          BA     .48
 163          LG     .15     .33    4.20     .45    4.30
 164          UI    185.    668.    880.    503.    323.    208.    124.     82.     49.     27.
 165          UI     19.     19.      0.      0.      0.      0.      0.      0.      0.      0.
 166          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 167          KK    CV18
 168          HC       2

 169          KK    RV19
 170          KM        OX WASH D/S OF HWY 60
 171          RS       1    FLOW      -1
 172          RC    .045     .03    .045    5100   .0157
 173          RX     458     462     482     485     515     518     538     542
 174          RY      17      13      13      10      10      13      13      17

 175          KK    SV20
 176          KM   SUB-BASIN SV20
 177          BA     .32
 178          LG     .15     .29    3.64     .28    6.00
 179          UI     70.    264.    462.    395.    261.    190.    128.     93.     61.     44.
 180          UI     30.     25.     10.     10.     10.     10.      0.      0.      0.      0.
 181          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 182          KK    SV22
 183          KM   SUB-BASIN SV22
 184          BA    .19
 185          LG    .15     .32    3.79     .31    3.30
 186          UI   125.    431.    291.    170.     96.     52.     29.     15.      9.      0.
 187          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 188          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 189          KK    CV24
 190          HC       3

 191          KK   NUL
 192          KM   COMBINING WASHES H, G, F, & V TO REDUCE THE NO. OF FREE HYDROGRAPHS
 193          HC   4.

 194          KK     SS2
 195          KM   SUB-BASIN SS2
 196          BA   4.60
 197          LG    .15     .31    3.69     .29    8.80
 198          UI   237.    237.    454.    820.   1194.   1490.   1712.   1919.   2408.   2726.
 199          UI  1786.   1511.   1378.   1255.   1149.   1045.    942.    843.    726.    617.
 200          UI   573.    541.    495.    403.    360.    302.    286.    259.    253.    181.
 201          UI   181.    181.    128.    116.    116.    116.    116.     68.     45.     45.
 202          UI    45.     45.     45.     45.     45.     45.     45.     45.     45.     45.
 203          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 204          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 205          KK     RS4
 206          KM        LITTLE SAN DOMINGO WASH
 207          RS       2    FLOW      -1
 208          RC    .045     .03    .045    8400   .0131
 209          RX    439     443     488     490     510     512     557     561
 210          RY     16      12      12      10      10      12      12      16

 211          KK     SS6
 212          KM   SUB-BASIN SS6
 213          BA   1.60
 214          LG    .15     .30    4.18     .46     .00
 215          UI   142.    291.    674.    963.   1222.   1524.    953.    795.    681.    573.
 216          UI   462.    361.    320.    260.    197.    167.    145.    109.     96.     69.
 217          UI    69.     55.     27.     27.     27.     27.     27.     27.     27.      0.
 218          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 219          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 220          KK     CS8
 221          HC       2

 222          KK    RS10
 223          KM        LITTLE SAN DOMINGO WASH
 224          RS       1    FLOW      -1
 225          RC    .045     .03    .045    6400   .0172
 226          RX    429     435     475     480     520     525     565     571
 227          RY     17      13      13      10      10      13      13      17
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 228          KK    SS12
 229          KM   SUB-BASIN SS12
 230          BA     .86
 231          LG     .15     .31    4.15     .47     .00
 232          UI    108.    411.    739.   1104.    773.    579.    461.    341.    259.    201.
 233          UI    140.    113.     83.     59.     53.     30.     21.     21.     21.     21.
 234          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 235          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 236          KK    SS14
 237          KM   SUB-BASIN SS14
 238          BA    1.31
 239          LG     .15     .30    3.81     .61     .00
 240          UI    330.   1257.   2181.   1453.   1040.    707.    498.    318.    221.    150.
 241          UI    110.     55.     43.     43.     43.      0.      0.      0.      0.      0.
 242          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 243          KK    CS16
 244          HC       3

 245          KK    RS18
 246          KM        LITTLE SAN DOMINGO WASH
 247          RS       1    FLOW      -1
 248          RC    .045     .03    .045    3200   .0156
 249          RX     433     437     477     480     520     523     563     567
 250          RY      17      13      13      10      10      13      13      17

 251          KK    SS20
 252          KM   SUB-BASIN SS20
 253          BA     .41
 254          LG     .15     .34    3.86     .58     .00
 255          UI    193.    687.    732.    415.    249.    150.     90.     54.     32.     18.
 256          UI     18.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 257          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 258          KK    CS22
 259          HC       2
 260          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
 NO.       (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 21         SAA5
             .
             .
 29          .       SAA10
             .          .
             .          .
 36       CAA12............
             V
             V
 39       RAA14
             .
             .
 45          .       SAA15
             .          .
             .          .
 51       CAA17............
             .
             .
 54          .        SAF
             .          .
             .          .
 61          .          .          SM
             .          .           .
             .          .           .
 68          .          .           .          SN
             .          .           .           .
             .          .           .           .
 75       NUL  ...................................
             .
             .
 78          .        SH2
             .          V
             .          V
 85          .        RH4
             .          .
             .          .
 91          .          .         SH6
             .          .           .
             .          .           .
 98          .        CH8............
             .          .
             .          .
100          .          .         SG2
             .          .           .
             .          .           .
107          .          .           .         SF2
             .          .           .           .
             .          .           .           .
114          .          .           .           .        SV2
             .          .           .           .          V
             .          .           .           .          V
122          .          .           .           .        RV3
             .          .           .           .          .
```

```
128                                                  SV4
136                                          CV6............
                                              V
                                              V
138                                          RV8
144                                                  SV10
152                                          CV12...........
                                              V
                                              V
154                                          RV14
160                                                  SV16
167                                          CV18...........
                                              V
                                              V
169                                          RV19
175                                                  SV20
182                                                          SV22
189                                          CV24......................
191                 NUL ...............................
194                         SS2
                             V
                             V
205                         RS4
211                                   SS6
220                         CS8............
                             V
                             V
222                        RS10
228                                   SS12
236                                          SS14
```

```
            .         .         .         .         .
243         .         .       CS16.......................
            .         .         V
            .         .         V
245         .         .       RS18
            .         .         .
            .         .         .
251         .         .         .       SS20
            .         .         .         .
            .         .         .         .
258         .         .       CS22............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*      BY THE COE IN FEBRUARY 1981     *
*          REVISED 02 AUG 88           *
*                                      *
*  RUN DATE  04/19/1991  TIME  13:13:52 *
*                                      *
****************************************
```

```
****************************************
*                                      *
*     DODSON AND ASSOCIATES, INC.      *
*   HYDROLOGIST AND CIVIL ENGINEERS    *
*      7015 W TIDWELL SUITE 107        *
*        HOUSTON, TEXAS  77092         *
*           (713) 895-8322             *
*                                      *
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                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES AA(POWDER HOUSE), M, N
                    WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 6 min
                    E1-2 ; 2-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                   NMIN          6  MINUTES IN COMPUTATION INTERVAL
                  IDATE      1   0  STARTING DATE
                  ITIME       0000  STARTING TIME
                     NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE      2   0  ENDING DATE
                 NDTIME       0554  ENDING TIME
                  ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .10 HOURS
                 TOTAL TIME BASE   29.90 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                  STRM        1.91  PRECIPITATION DEPTH
                  TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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17 JD INDEX STORM NO. 2

STRM 1.87 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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18 JD INDEX STORM NO. 3

STRM 1.83 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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19 JD INDEX STORM NO. 4

STRM 1.76 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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20 JD INDEX STORM NO. 5

STRM 1.72 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | SAA5 | 372. | 12.20 | 56. | 16. | 13. | 1.33 | | |
| HYDROGRAPH AT | SAA10 | 111. | 12.20 | 13. | 3. | 3. | .50 | | |
| 2 COMBINED AT | CAA12 | 480. | 12.20 | 68. | 19. | 16. | 1.83 | | |
| ROUTED TO | RAA14 | 460. | 12.30 | 68. | 19. | 16. | 1.83 | .89 | 12.30 |
| HYDROGRAPH AT | SAA15 | 47. | 12.00 | 6. | 2. | 1. | .12 | | |
| 2 COMBINED AT | CAA17 | 473. | 12.30 | 74. | 21. | 17. | 1.95 | | |
| HYDROGRAPH AT | SAF | 124. | 12.10 | 16. | 5. | 4. | .30 | | |
| HYDROGRAPH AT | SM | 110. | 12.10 | 14. | 4. | 3. | .30 | | |
| HYDROGRAPH AT | SN | 124. | 12.10 | 17. | 5. | 4. | .33 | | |
| 4 COMBINED AT | NUL | 806. | 12.20 | 120. | 34. | 28. | 2.88 | | |
| HYDROGRAPH AT | SH2 | 440. | 12.10 | 63. | 19. | 16. | 1.34 | | |
| ROUTED TO | RH4 | 415. | 12.30 | 63. | 19. | 16. | 1.34 | 11.26 | 12.30 |
| HYDROGRAPH AT | SH6 | 31. | 12.20 | 3. | 1. | 1. | .42 | | |
| 2 COMBINED AT | CH8 | 433. | 12.30 | 65. | 20. | 16. | 1.76 | | |
| HYDROGRAPH AT | SG2 | 94. | 12.10 | 9. | 2. | 2. | .40 | | |
| HYDROGRAPH AT | SF2 | 72. | 12.10 | 7. | 2. | 2. | .24 | | |
| HYDROGRAPH AT | SV2 | 911. | 12.20 | 144. | 40. | 32. | 3.16 | | |
| ROUTED TO | RV3 | 825. | 12.50 | 144. | 40. | 32. | 3.16 | 11.55 | 12.50 |
| HYDROGRAPH AT | SV4 | 110. | 12.20 | 15. | 4. | 3. | .74 | | |
| 2 COMBINED AT | CV6 | 880. | 12.50 | 157. | 44. | 35. | 3.90 | | |
| ROUTED TO | RV8 | 841. | 12.60 | 157. | 44. | 35. | 3.90 | 11.78 | 12.60 |
| HYDROGRAPH AT | SV10 | 391. | 12.20 | 55. | 16. | 13. | 1.72 | | |
| 2 COMBINED AT | CV12 | 1027. | 12.50 | 207. | 58. | 47. | 5.62 | | |
| ROUTED TO | RV14 | 969. | 12.60 | 206. | 58. | 47. | 5.62 | 11.73 | 12.70 |
| HYDROGRAPH AT | SV16 | 66. | 12.10 | 7. | 2. | 2. | .48 | | |
| 2 COMBINED AT | CV18 | 976. | 12.60 | 211. | 60. | 48. | 6.10 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ROUTED TO | RV19 | 958. | 12.70 | 211. | 60. | 48. | 6.10 | 12.32 | 12.80 |
| HYDROGRAPH AT | SV20 | 111. | 12.10 | 13. | 4. | 3. | .32 346 | | |
| HYDROGRAPH AT | SV22 | 64. | 12.10 | 6. | 2. | 1. | .19 337 | | |
| 3 COMBINED AT | CV24 | 976. | 12.70 | 228. | 64. | 52. | 6.61 148 | | |
| 4 COMBINED AT | NUL | 1179. | 12.60 | 299. | 86. | 69. | 9.01 131 | | |
| HYDROGRAPH AT | SS2 | 691. | 12.70 | 180. | 51. | 41. | 4.60 150 | | |
| ROUTED TO | RS4 | 587. | 13.00 | 180. | 51. | 41. | 4.60 | 12.23 | 13.00 |
| HYDROGRAPH AT | SS6 | 105. | 12.40 | 14. | 4. | 3. | 1.60 156 ? | | |
| 2 COMBINED AT | CS8 | 608. | 13.00 | 190. | 53. | 43. | 6.20 98 | | |
| ROUTED TO | RS10 | 589. | 13.10 | 189. | 53. | 43. | 6.20 | 11.40 | 13.20 |
| HYDROGRAPH AT | SS12 | 64. | 12.30 | 7. | 2. | 1. | .86 74 | | |
| HYDROGRAPH AT | SS14 | 32. | 12.20 | 2. | 1. | 0. | 1.31 24 | | |
| 3 COMBINED AT | CS16 | 589. | 13.10 | 194. | 55. | 44. | 8.37 70 | | |
| ROUTED TO | RS18 | 582. | 13.20 | 193. | 54. | 44. | 8.37 | 11.46 | 13.30 |
| HYDROGRAPH AT | SS20 | 8. | 12.20 | 1. | 0. | 0. | .41 | | |
| 2 COMBINED AT | CS22 | 582. | 13.20 | 193. | 54. | 44. | 8.78 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 6)
10-YEAR RETURN PERIOD

FN= E1-10

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*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*      BY THE COE IN FEBRUARY 1981      *
*            REVISED 02 AUG 88          *
*                                       *
*  RUN DATE  04/19/1991  TIME  13:19:09 *
*                                       *
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*****************************************
*                                       *
*     DODSON AND ASSOCIATES, INC.       *
*   HYDROLOGIST AND CIVIL ENGINEERS     *
*      7015 W TIDWELL SUITE 107         *
*        HOUSTON, TEXAS  77092          *
*           (713) 895-8322              *
*                                       *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
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X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES AA(POWDER HOUSE), M, N
  3           ID       WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 6 min
  7           ID       E1-10 ; 10-YEAR EVENT
              *DIAGRAM
  8           IT       6                    300
  9           IO       5
 10           IN      30
 11           JD    2.85     .01
 12           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC    .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD    2.79     3.0
 18           JD    2.74     10.
 19           JD    2.62    20.0
 20           JD    2.57    30.0

 21           KK    SAA5
 22           KM   SUB-BASIN AA5
 23           BA    1.33
 24           LG     .15     .32    3.70     .29   10.90
 25           UI    156.    526.   1018.   1438.   1385.    903.    735.    579.    422.    349.
 26           UI    254.    190.    154.    120.     80.     76.     46.     30.     30.     30.
 27           UI     30.     30.      0.      0.      0.      0.      0.      0.      0.      0.
 28           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 29           KK   SAA10
 30           KM   SUB-BASIN AA10
 31           BA     .50
 32           LG     .15     .33    3.93     .33    3.10
 33           UI     87.    331.    563.    690.    415.    321.    230.    168.    120.     85.
 34           UI     62.     44.     35.     20.     14.     14.     14.      0.      0.      0.
 35           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 36           KK   CAA12
 37           KM        COMBINE HYDROGRAPH SAA5 & SAA10
 38           HC       2

 39           KK   RAA14
 40           KM        ROUTE HYDROGRAPH CAA12 THROUGH SAA15
 41           RS       1    FLOW      -1
 42           RC   0.030   0.015   0.030    4000  0.0199
 43           RX       0       0      10      10      40      40      50      50
 44           RY       5       1      .5       0       0      .5       1       5
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  45          KK   SAA15
  46          KM   SUB-BASIN AA15
  47          BA     .12
  48          LG     .12     .30    4.21     .40    23.5
  49          UI    137.    329.    164.     78.     37.     17.      8.      0.      0.      0.
  50          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  51          KK   CAA17
  52          KM        COMBINE HYDROGRAPH RAA14 & SAA15
  53          HC       2

  54          KK     SAF
  55          KM   SUB-BASIN AF
  56          BA     .30
  57          LG     .15     .28    3.72     .26    14.50
  58          UI     71.    269.    476.    345.    241.    169.    117.     78.     56.     38.
  59          UI     24.     17.     10.     10.     10.      0.      0.      0.      0.      0.
  60          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  61          KK      SM
  62          KM   SUB-BASIN M
  63          BA     .30
  64          LG     .15     .30    3.51     .26    10.80
  65          UI     54.    206.    351.    411.    248.    191.    134.    100.     68.     51.
  66          UI     35.     25.     22.      9.      8.      8.      8.      0.      0.      0.
  67          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  68          KK      SN
  69          KM   SUB-BASIN N
  70          BA     .33
  71          LG     .15     .29    3.72     .25    12.30
  72          UI     58.    220.    375.    455.    274.    211.    151.    111.     78.     56.
  73          UI     41.     29.     23.     12.      9.      9.      9.      0.      0.      0.
  74          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  75          KK   NUL
  76          KM   COMBINING WASHES AA, AF, M, & N TO REDUCE THE NO. OF FREE HYDROGRAPHS
  77          HC   4.

  78          KK     SH2
  79          KM   SUB-BASIN SH2
  80          BA    1.34
  81          LG     .15     .30    3.88     .33    18.60
  82          UI    279.   1054.   1827.   1719.   1099.    812.    549.    410.    266.    195.
  83          UI    136.    103.     56.     40.     40.     40.      0.      0.      0.      0.
  84          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  85          KK     RH4
  86          KM        WASH "H"
  87          RS       3    FLOW      -1
  88          RC    .045    .030    .045    7400   .0216
  89          RX     365     373     483     485     515     517     627     635
  90          RY      16      12      12      10      10      12      12      16
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  91          KK    SH6
  92          KM   SUB-BASIN SH6
  93          BA    .42
  94          LG    .15     .34    4.15     .48     .90
  95          UI   120.    449.    733.    454.    325.    210.    148.     91.     64.     40.
  96          UI    28.     15.     15.     15.      0.      0.      0.      0.      0.      0.
  97          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  98          KK    CH8
  99          HC      2

 100          KK    SG2
 101          KM   SUB-BASIN SG2
 102          BA    .40
 103          LG    .15     .34    3.97     .34    1.40
 104          UI   130.    476.    721.    426.    296.    188.    123.     80.     51.     37.
 105          UI    15.     15.     15.      0.      0.      0.      0.      0.      0.      0.
 106          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 107          KK    SF2
 108          KM   SUB-BASIN SF2
 109          BA    .24
 110          LG    .15     .33    3.98     .34    7.20
 111          UI   122.    440.    414.    238.    139.     81.     50.     29.     14.     11.
 112          UI    11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 113          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 114          KK    SV2
 115          KM   SUB-BASIN SV2
 116          BA   3.16
 117          LG    .15     .30    3.70     .25    9.10
 118          UI   328.    895.   1882.   2539.   3544.   2250.   1806.   1501.   1215.    908.
 119          UI   761.    607.    445.    371.    287.    247.    160.    160.    111.     63.
 120          UI    63.     63.     63.     63.      0.      0.      0.      0.      0.      0.
 121          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 122          KK    RV3
 123          KM        OX WASH
 124          RS      3    FLOW     -1
 125          RC   .045     .03    .045   11720   .0162
 126          RX   429     433     473     475     525     527     567     571
 127          RY    16      12      12      10      10      12      12      16

 128          KK    SV4
 129          KM   SUB-BASIN SV4
 130          BA    .74
 131          LG    .15     .32    4.16     .38    3.50
 132          UI    87.    296.    571.    811.    764.    502.    408.    320.    234.    194.
 133          UI   139.    105.     84.     67.     43.     43.     24.     17.     17.     17.
 134          UI    17.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 135          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 136          KK     CV6
 137          HC       2

 138          KK     RV8
 139          KM        OX WASH U/S OF HWY 60
 140          RS       1    FLOW      -1
 141          RC    .045     .03    .045    2700    .011
 142          RX     429     433     473     475     525     527     567     571
 143          RY      16      12      12      10      10      12      12      16

 144          KK    SV10
 145          KM   SUB-BASIN SV10
 146          BA    1.72
 147          LG     .15     .32    3.86     .33    7.50
 148          UI    208.    742.   1387.   2030.   1674.   1163.    937.    727.    524.    434.
 149          UI    303.    240.    179.    141.    102.     93.     40.     40.     40.     40.
 150          UI     40.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 151          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 152          KK    CV12
 153          HC       2

 154          KK    RV14
 155          KM        OX WASH U/S OF HWY 60
 156          RS       1    FLOW      -1
 157          RC    .045     .03    .045    5100   .0157
 158          RX     429     433     473     475     525     527     567     571
 159          RY      16      12      12      10      10      12      12      16

 160          KK    SV16
 161          KM   SUB-BASIN SV16
 162          BA     .48
 163          LG     .15     .33    4.20     .45    4.30
 164          UI    185.    668.    880.    503.    323.    208.    124.     82.     49.     27.
 165          UI     19.     19.      0.      0.      0.      0.      0.      0.      0.      0.
 166          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 167          KK    CV18
 168          HC       2

 169          KK    RV19
 170          KM        OX WASH D/S OF HWY 60
 171          RS       1    FLOW      -1
 172          RC    .045     .03    .045    5100   .0157
 173          RX     458     462     482     485     515     518     538     542
 174          RY      17      13      13      10      10      13      13      17

 175          KK    SV20
 176          KM   SUB-BASIN SV20
 177          BA     .32
 178          LG     .15     .29    3.64     .28    6.00
 179          UI     70.    264.    462.    395.    261.    190.    128.     93.     61.     44.
 180          UI     30.     25.     10.     10.     10.     10.      0.      0.      0.      0.
 181          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 182          KK   SV22
 183          KM   SUB-BASIN SV22
 184          BA    .19
 185          LG    .15     .32    3.79     .31    3.30
 186          UI   125.    431.    291.    170.     96.     52.     29.     15.      9.      0.
 187          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 188          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 189          KK   CV24
 190          HC      3

 191          KK   NUL
 192          KM   COMBINING WASHES H, G, F, & V TO REDUCE THE NO. OF FREE HYDROGRAPHS
 193          HC   4.

 194          KK    SS2
 195          KM   SUB-BASIN SS2
 196          BA   4.60
 197          LG    .15     .31    3.69     .29    8.80
 198          UI   237.    237.    454.    820.   1194.   1490.   1712.   1919.   2408.   2726.
 199          UI  1786.   1511.   1378.   1255.   1149.   1045.    942.    843.    726.    617.
 200          UI   573.    541.    495.    403.    360.    302.    286.    259.    253.    181.
 201          UI   181.    181.    128.    116.    116.    116.    116.     68.     45.     45.
 202          UI    45.     45.     45.     45.     45.     45.     45.     45.     45.     45.
 203          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 204          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 205          KK    RS4
 206          KM       LITTLE SAN DOMINGO WASH
 207          RS      2    FLOW     -1
 208          RC   .045     .03    .045    8400   .0131
 209          RX   439     443     488     490     510     512     557     561
 210          RY    16      12      12      10      10      12      12      16

 211          KK    SS6
 212          KM   SUB-BASIN SS6
 213          BA   1.60
 214          LG    .15     .30    4.18     .46     .00
 215          UI   142.    291.    674.    963.   1222.   1524.    953.    795.    681.    573.
 216          UI   462.    361.    320.    260.    197.    167.    145.    109.     96.     69.
 217          UI    69.     55.     27.     27.     27.     27.     27.     27.     27.      0.
 218          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 219          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 220          KK    CS8
 221          HC      2

 222          KK   RS10
 223          KM       LITTLE SAN DOMINGO WASH
 224          RS      1    FLOW     -1
 225          RC   .045     .03    .045    6400   .0172
 226          RX   429     435     475     480     520     525     565     571
 227          RY    17      13      13      10      10      13      13      17
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 228          KK   SS12
 229          KM   SUB-BASIN SS12
 230          BA    .86
 231          LG    .15     .31    4.15     .47     .00
 232          UI   108.    411.    739.   1104.    773.    579.    461.    341.    259.    201.
 233          UI   140.    113.     83.     59.     53.     30.     21.     21.     21.     21.
 234          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 235          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 236          KK   SS14
 237          KM   SUB-BASIN SS14
 238          BA   1.31
 239          LG    .15     .30    3.81     .61     .00
 240          UI   330.   1257.   2181.   1453.   1040.    707.    498.    318.    221.    150.
 241          UI   110.     55.     43.     43.     43.      0.      0.      0.      0.      0.
 242          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 243          KK   CS16
 244          HC      3

 245          KK   RS18
 246          KM       LITTLE SAN DOMINGO WASH
 247          RS      1    FLOW      -1
 248          RC   .045     .03    .045    3200   .0156
 249          RX   433     437     477     480     520     523     563     567
 250          RY    17      13      13      10      10      13      13      17

 251          KK   SS20
 252          KM   SUB-BASIN SS20
 253          BA    .41
 254          LG    .15     .34    3.86     .58     .00
 255          UI   193.    687.    732.    415.    249.    150.     90.     54.     32.     18.
 256          UI    18.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 257          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 258          KK   CS22
 259          HC      2
 260          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
 NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  21       SAA5
              .
              .
  29          .       SAA10
              .          .
              .          .
  36      CAA12............
              V
              V
  39      RAA14
              .
              .
  45          .       SAA15
              .          .
              .          .
  51      CAA17............
              .
              .
  54          .         SAF
              .          .
              .          .
  61          .          .         SM
              .          .          .
              .          .          .
  68          .          .          .         SN
              .          .          .          .
              .          .          .          .
  75      NUL  ................................
              .
              .
  78          .         SH2
              .          V
              .          V
  85          .         RH4
              .          .
              .          .
  91          .          .        SH6
              .          .          .
              .          .          .
  98          .        CH8............
              .          .
              .          .
 100          .          .        SG2
              .          .          .
              .          .          .
 107          .          .          .        SF2
              .          .          .          .
              .          .          .          .
 114          .          .          .          .        SV2
              .          .          .          .          V
              .          .          .          .          V
 122          .          .          .          .        RV3
              .          .          .          .          .
```

```
128                                   SV4
136                          CV6............
                              V
                              V
138                          RV8
144                                   SV10
152                          CV12...........
                              V
                              V
154                          RV14
160                                   SV16
167                          CV18...........
                              V
                              V
169                          RV19
175                                   SV20
182                                            SV22
189                          CV24......................
191                 NUL ...............................
194                     SS2
                         V
                         V
205                     RS4
211                                SS6
220                     CS8...........
                         V
                         V
222                     RS10
8                                  SS12
236                                       SS14
```

```
              .          .          .          .          .
243           .          .       CS16.......................
              .          .          V
              .          .          V
245           .          .       RS18
              .          .          .
              .          .          .
251           .          .          .       SS20
              .          .          .          .
              .          .          .          .
258           .          .       CS22............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*      BY THE COE IN FEBRUARY 1981     *
*          REVISED 02 AUG 88           *
*                                      *
*  RUN DATE  04/19/1991  TIME  13:19:09 *
*                                      *
****************************************
```

```
****************************************
*                                      *
*     DODSON AND ASSOCIATES, INC.      *
*   HYDROLOGIST AND CIVIL ENGINEERS    *
*      7015 W TIDWELL SUITE 107        *
*        HOUSTON, TEXAS  77092         *
*           (713) 895-8322             *
*                                      *
****************************************
```

```
                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES AA(POWDER HOUSE), M, N
                    WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 6 min
                    E1-10 ; 10-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                   NMIN          6  MINUTES IN COMPUTATION INTERVAL
                  IDATE      1   0  STARTING DATE
                  ITIME       0000  STARTING TIME
                     NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE      2   0  ENDING DATE
                 NDTIME       0554  ENDING TIME
                  ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .10 HOURS
                 TOTAL TIME BASE   29.90 HOURS

       ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                  STRM       2.85  PRECIPITATION DEPTH
                  TRDA        .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

17 JD INDEX STORM NO. 2

STRM 2.79 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

18 JD INDEX STORM NO. 3

STRM 2.74 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

19 JD INDEX STORM NO. 4

STRM 2.62 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

20 JD INDEX STORM NO. 5

STRM 2.57 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | SAA5 | 831. | 12.20 | 121. | 33. | 27. | 1.33 | | |
| HYDROGRAPH AT | SAA10 | 310. | 12.10 | 37. | 10. | 8. | .50 | | |
| 2 COMBINED AT | CAA12 | 1127. | 12.20 | 157. | 43. | 34. | 1.83 | | |
| ROUTED TO | RAA14 | 1116. | 12.20 | 157. | 43. | 34. | 1.83 | 1.56 | 12.20 |
| HYDROGRAPH AT | SAA15 | 108. | 12.00 | 12. | 4. | 3. | .12 | | |
| 2 COMBINED AT | CAA17 | 1164. | 12.20 | 169. | 46. | 37. | 1.95 | | |
| HYDROGRAPH AT | SAF | 246. | 12.10 | 30. | 9. | 7. | .30 | | |
| HYDROGRAPH AT | SM | 227. | 12.10 | 29. | 8. | 6. | .30 | | |
| HYDROGRAPH AT | SN | 251. | 12.10 | 33. | 9. | 7. | .33 | | |
| 4 COMBINED AT | NUL | 1835. | 12.20 | 259. | 72. | 57. | 2.88 | | |
| HYDROGRAPH AT | SH2 | 982. | 12.10 | 131. | 38. | 31. | 1.34 | | |
| ROUTED TO | RH4 | 795. | 12.40 | 131. | 38. | 31. | 1.34 | 11.99 | 12.40 |
| HYDROGRAPH AT | SH6 | 214. | 12.10 | 22. | 5. | 4. | .42 | | |
| 2 COMBINED AT | CH8 | 896. | 12.20 | 152. | 44. | 35. | 1.76 | | |
| HYDROGRAPH AT | SG2 | 274. | 12.10 | 28. | 7. | 6. | .40 | | |
| HYDROGRAPH AT | SF2 | 183. | 12.00 | 19. | 5. | 4. | .24 | | |
| HYDROGRAPH AT | SV2 | 1910. | 12.20 | 294. | 80. | 64. | 3.16 | | |
| ROUTED TO | RV3 | 1609. | 12.50 | 294. | 80. | 64. | 3.16 | 12.37 | 12.60 |
| HYDROGRAPH AT | SV4 | 375. | 12.20 | 50. | 13. | 11. | .74 | | |
| 2 COMBINED AT | CV6 | 1806. | 12.50 | 342. | 92. | 74. | 3.90 | | |
| ROUTED TO | RV8 | 1773. | 12.60 | 342. | 92. | 74. | 3.90 | 12.71 | 12.60 |
| HYDROGRAPH AT | SV10 | 1002. | 12.20 | 139. | 38. | 30. | 1.72 | | |
| 2 COMBINED AT | CV12 | 2268. | 12.40 | 474. | 128. | 103. | 5.62 | | |
| ROUTED TO | RV14 | 2196. | 12.60 | 474. | 128. | 103. | 5.62 | 12.76 | 12.60 |
| HYDROGRAPH AT | SV16 | 285. | 12.10 | 29. | 8. | 6. | .48 | | |
| 2 COMBINED AT | CV18 | 2228. | 12.60 | 501. | 135. | 109. | 6.10 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ROUTED TO | RV19 | 2186. | 12.70 | 500. | 135. | 109. | 6.10 | 13.83 | 12.70 |
| HYDROGRAPH AT | SV20 | 242. | 12.10 | 28. | 7. | 6. | .32 | | |
| HYDROGRAPH AT | SV22 | 158. | 12.00 | 15. | 4. | 3. | .19 | | |
| 3 COMBINED AT | CV24 | 2232. | 12.60 | 541. | 146. | 118. | 6.61 | | |
| 4 COMBINED AT | NUL | 3036. | 12.50 | 727. | 199. | 160. | 9.01 | | |
| HYDROGRAPH AT | SS2 | 1585. | 12.60 | 401. | 109. | 88. | 4.60 | | |
| ROUTED TO | RS4 | 1461. | 12.90 | 400. | 109. | 88. | 4.60 | 13.18 | 12.90 |
| HYDROGRAPH AT | SS6 | 567. | 12.30 | 88. | 22. | 18. | 1.60 | | |
| 2 COMBINED AT | CS8 | 1653. | 12.80 | 483. | 130. | 104. | 6.20 | | |
| ROUTED TO | RS10 | 1612. | 12.90 | 482. | 130. | 104. | 6.20 | 12.70 | 13.00 |
| HYDROGRAPH AT | SS12 | 375. | 12.20 | 46. | 12. | 9. | .86 | | |
| HYDROGRAPH AT | SS14 | 550. | 12.10 | 56. | 14. | 11. | 1.31 | | |
| 3 COMBINED AT | CS16 | 1692. | 12.90 | 574. | 153. | 123. | 8.37 | | |
| ROUTED TO | RS18 | 1668. | 13.00 | 573. | 153. | 123. | 8.37 | 12.91 | 13.00 |
| HYDROGRAPH AT | SS20 | 189. | 12.10 | 17. | 4. | 3. | .41 | | |
| 2 COMBINED AT | CS22 | 1668. | 13.00 | 588. | 156. | 126. | 8.78 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 6)
25-YEAR RETURN PERIOD

FN= E1-25

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*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*      BY THE COE IN FEBRUARY 1981      *
*           REVISED 02 AUG 88           *
*                                       *
*  RUN DATE  04/19/1991  TIME  13:22:23 *
*                                       *
*****************************************
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*****************************************
*                                       *
*     DODSON AND ASSOCIATES, INC.       *
*   HYDROLOGIST AND CIVIL ENGINEERS     *
*      7015 W TIDWELL SUITE 107         *
*        HOUSTON, TEXAS  77092          *
*           (713) 895-8322              *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X              X
XXXXXXX  XXXX    X       XXXXX  X
X     X  X       X              X
X     X  X       X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES AA(POWDER HOUSE), M, N
  3           ID       WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 6 min
  7           ID       E1-25 ; 25-YEAR EVENT
              *DIAGRAM
  8           IT       6                    300
  9           IO       5
 10           IN      30
 11           JD    3.43     .01
 12           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC    .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD    3.36     3.0
 18           JD    3.29     10.
 19           JD    3.16    20.0
 20           JD    3.09    30.0

 21           KK    SAA5
 22           KM   SUB-BASIN AA5
 23           BA    1.33
 24           LG     .15     .32    3.70     .29   10.90
 25           UI    156.    526.   1018.   1438.   1385.    903.    735.    579.    422.    349.
 26           UI    254.    190.    154.    120.     80.     76.     46.     30.     30.     30.
 27           UI     30.     30.      0.      0.      0.      0.      0.      0.      0.      0.
 28           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 29           KK   SAA10
 30           KM   SUB-BASIN AA10
 31           BA     .50
 32           LG     .15     .33    3.93     .33    3.10
 33           UI     87.    331.    563.    690.    415.    321.    230.    168.    120.     85.
 34           UI     62.     44.     35.     20.     14.     14.     14.      0.      0.      0.
 35           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 36           KK   CAA12
 37           KM        COMBINE HYDROGRAPH SAA5 & SAA10
 38           HC       2

 39           KK   RAA14
 40           KM        ROUTE HYDROGRAPH CAA12 THROUGH SAA15
 41           RS       1    FLOW      -1
 42           RC   0.030   0.015   0.030    4000  0.0199
 43           RX       0       0      10      10      40      40      50      50
 44           RY       5       1      .5       0       0      .5       1       5
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 45           KK   SAA15
 46           KM   SUB-BASIN AA15
 47           BA     .12
 48           LG     .12     .30    4.21     .40   23.50
 49           UI    137.    329.    164.     78.    37.     17.      8.      0.      0.      0.
 50           UI      0.      0.      0.      0.     0.      0.      0.      0.      0.      0.

 51           KK   CAA17
 52           KM        COMBINE HYDROGRAPH RAA14 & SAA15
 53           HC       2

 54           KK     SAF
 55           KM   SUB-BASIN AF
 56           BA     .30
 57           LG     .15     .28    3.72     .26   14.50
 58           UI     71.    269.    476.    345.   241.    169.    117.     78.     56.     38.
 59           UI     24.     17.     10.     10.    10.      0.      0.      0.      0.      0.
 60           UI      0.      0.      0.      0.     0.      0.      0.      0.      0.      0.

 61           KK      SM
 62           KM   SUB-BASIN M
 63           BA     .30
 64           LG     .15     .30    3.51     .26   10.80
 65           UI     54.    206.    351.    411.   248.    191.    134.    100.     68.     51.
 66           UI     35.     25.     22.      9.     8.      8.      8.      0.      0.      0.
 67           UI      0.      0.      0.      0.     0.      0.      0.      0.      0.      0.

 68           KK      SN
 69           KM   SUB-BASIN N
 70           BA     .33
 71           LG     .15     .29    3.72     .25   12.30
 72           UI     58.    220.    375.    455.   274.    211.    151.    111.     78.     56.
 73           UI     41.     29.     23.     12.     9.      9.      9.      0.      0.      0.
 74           UI      0.      0.      0.      0.     0.      0.      0.      0.      0.      0.

 75           KK   NUL
 76           KM   COMBINING WASHES AA, AF, M, & N TO REDUCE THE NO. OF FREE HYDROGRAPHS
 77           HC   4.

 78           KK     SH2
 79           KM   SUB-BASIN SH2
 80           BA    1.34
 81           LG     .15     .30    3.88     .33   18.60
 82           UI    279.   1054.   1827.   1719.  1099.    812.    549.    410.    266.    195.
 83           UI    136.    103.     56.     40.    40.     40.      0.      0.      0.      0.
 84           UI      0.      0.      0.      0.     0.      0.      0.      0.      0.      0.

 85           KK     RH4
 86           KM        WASH "H"
 87           RS       3    FLOW      -1
 88           RC    .045    .030    .045    7400  .0216
 89           RX     365     373     483     485    515     517     627     635
 90           RY      16      12      12      10     10      12      12      16
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 91           KK    SH6
 92           KM   SUB-BASIN SH6
 93           BA    .42
 94           LG    .15     .34    4.15     .48     .90
 95           UI   120.    449.    733.    454.    325.    210.    148.     91.     64.     40.
 96           UI    28.     15.     15.     15.      0.      0.      0.      0.      0.      0.
 97           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 98           KK    CH8
 99           HC      2

100           KK    SG2
101           KM   SUB-BASIN SG2
102           BA    .40
103           LG    .15     .34    3.97     .34    1.40
104           UI   130.    476.    721.    426.    296.    188.    123.     80.     51.     37.
105           UI    15.     15.     15.      0.      0.      0.      0.      0.      0.      0.
106           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

107           KK    SF2
108           KM   SUB-BASIN SF2
109           BA    .24
110           LG    .15     .33    3.98     .34    7.20
111           UI   122.    440.    414.    238.    139.     81.     50.     29.     14.     11.
112           UI    11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
113           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

114           KK    SV2
115           KM   SUB-BASIN SV2
116           BA   3.16
117           LG    .15     .30    3.70     .25    9.10
118           UI   328.    895.   1882.   2539.   3544.   2250.   1806.   1501.   1215.    908.
119           UI   761.    607.    445.    371.    287.    247.    160.    160.    111.     63.
120           UI    63.     63.     63.     63.      0.      0.      0.      0.      0.      0.
121           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

122           KK    RV3
123           KM        OX WASH
124           RS      3    FLOW     -1
125           RC   .045     .03    .045   11720   .0162
126           RX   429     433     473     475     525     527     567     571
127           RY    16      12      12      10      10      12      12      16

128           KK    SV4
129           KM   SUB-BASIN SV4
130           BA    .74
131           LG    .15     .32    4.16     .38    3.50
132           UI    87.    296.    571.    811.    764.    502.    408.    320.    234.    194.
133           UI   139.    105.     84.     67.     43.     43.     24.     17.     17.     17.
134           UI    17.      0.      0.      0.      0.      0.      0.      0.      0.      0.
135           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 136          KK     CV6
 137          HC       2

 138          KK     RV8
 139          KM        OX WASH U/S OF HWY 60
 140          RS       1    FLOW      -1
 141          RC    .045     .03    .045    2700    .011
 142          RX     429     433     473     475     525     527     567     571
 143          RY      16      12      12      10      10      12      12      16

 144          KK    SV10
 145          KM   SUB-BASIN SV10
 146          BA    1.72
 147          LG     .15     .32    3.86     .33    7.50
 148          UI    208.    742.   1387.   2030.   1674.   1163.    937.    727.    524.    434.
 149          UI    303.    240.    179.    141.    102.     93.     40.     40.     40.     40.
 150          UI     40.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 151          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 152          KK    CV12
 153          HC       2

 154          KK    RV14
 155          KM        OX WASH U/S OF HWY 60
 156          RS       1    FLOW      -1
 157          RC    .045     .03    .045    5100   .0157
 158          RX     429     433     473     475     525     527     567     571
 159          RY      16      12      12      10      10      12      12      16

 160          KK    SV16
 161          KM   SUB-BASIN SV16
 162          BA     .48
 163          LG     .15     .33    4.20     .45    4.30
 164          UI    185.    668.    880.    503.    323.    208.    124.     82.     49.     27.
 165          UI     19.     19.      0.      0.      0.      0.      0.      0.      0.      0.
 166          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 167          KK    CV18
 168          HC       2

 169          KK    RV19
 170          KM        OX WASH D/S OF HWY 60
 171          RS       1    FLOW      -1
 172          RC    .045     .03    .045    5100   .0157
 173          RX     458     462     482     485     515     518     538     542
 174          RY      17      13      13      10      10      13      13      17

 175          KK    SV20
 176          KM   SUB-BASIN SV20
 177          BA     .32
 178          LG     .15     .29    3.64     .28    6.00
 179          UI     70.    264.    462.    395.    261.    190.    128.     93.     61.     44.
 180          UI     30.     25.     10.     10.     10.     10.      0.      0.      0.      0.
 181          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 182          KK    SV22
 183          KM   SUB-BASIN SV22
 184          BA     .19
 185          LG     .15     .32    3.79     .31    3.30
 186          UI    125.    431.    291.    170.     96.     52.     29.     15.      9.      0.
 187          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 188          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 189          KK    CV24
 190          HC       3

 191          KK   NUL
 192          KM   COMBINING WASHES H, G, F, & V TO REDUCE THE NO. OF FREE HYDROGRAPHS
 193          HC   4.

 194          KK     SS2
 195          KM   SUB-BASIN SS2
 196          BA    4.60
 197          LG     .15     .31    3.69     .29    8.80
 198          UI    237.    237.    454.    820.   1194.   1490.   1712.   1919.   2408.   2726.
 199          UI   1786.   1511.   1378.   1255.   1149.   1045.    942.    843.    726.    617.
 200          UI    573.    541.    495.    403.    360.    302.    286.    259.    253.    181.
 201          UI    181.    181.    128.    116.    116.    116.    116.     68.     45.     45.
 202          UI     45.     45.     45.     45.     45.     45.     45.     45.     45.     45.
 203          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 204          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 205          KK     RS4
 206          KM        LITTLE SAN DOMINGO WASH
 207          RS       2    FLOW      -1
 208          RC    .045     .03    .045    8400   .0131
 209          RX     439     443     488     490     510     512     557     561
 210          RY      16      12      12      10      10      12      12      16

 211          KK     SS6
 212          KM   SUB-BASIN SS6
 213          BA    1.60
 214          LG     .15     .30    4.18     .46     .00
 215          UI    142.    291.    674.    963.   1222.   1524.    953.    795.    681.    573.
 216          UI    462.    361.    320.    260.    197.    167.    145.    109.     96.     69.
 217          UI     69.     55.     27.     27.     27.     27.     27.     27.     27.      0.
 218          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 219          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 220          KK     CS8
 221          HC       2

 222          KK    RS10
 223          KM        LITTLE SAN DOMINGO WASH
 224          RS       1    FLOW      -1
 225          RC    .045     .03    .045    6400   .0172
 226          RX     429     435     475     480     520     525     565     571
 227          RY      17      13      13      10      10      13      13      17
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 228          KK   SS12
 229          KM   SUB-BASIN SS12
 230          BA    .86
 231          LG    .15     .31    4.15     .47     .00
 232          UI   108.    411.    739.   1104.    773.    579.    461.    341.    259.    201.
 233          UI   140.    113.     83.     59.     53.     30.     21.     21.     21.     21.
 234          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 235          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 236          KK   SS14
 237          KM   SUB-BASIN SS14
 238          BA   1.31
 239          LG    .15     .30    3.81     .61     .00
 240          UI   330.   1257.   2181.   1453.   1040.    707.    498.    318.    221.    150.
 241          UI   110.     55.     43.     43.     43.      0.      0.      0.      0.      0.
 242          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 243          KK   CS16
 244          HC      3

 245          KK   RS18
 246          KM       LITTLE SAN DOMINGO WASH
 247          RS      1    FLOW     -1
 248          RC   .045     .03    .045    3200   .0156
 249          RX   433     437     477     480     520     523     563     567
 250          RY    17      13      13      10      10      13      13      17

 251          KK   SS20
 252          KM   SUB-BASIN SS20
 253          BA    .41
 254          LG    .15     .34    3.86     .58     .00
 255          UI   193.    687.    732.    415.    249.    150.     90.     54.     32.     18.
 256          UI    18.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 257          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 258          KK   CS22
 259          HC      2
 260          ZZ
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SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

 NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  21        SAA5
            .
            .
  29        .       SAA10
            .           .
            .           .
  36      CAA12............
            V
            V
  39      RAA14
            .
            .
  45        .       SAA15
            .           .
            .           .
  51      CAA17............
            .
            .
  54        .         SAF
            .           .
            .           .
  61        .           .          SM
            .           .           .
            .           .           .
  68        .           .           .          SN
            .           .           .           .
            .           .           .           .
  75      NUL  ..................................
            .
            .
  78        .         SH2
            .           V
            .           V
  85        .         RH4
            .           .
            .           .
  91        .           .        SH6
            .           .          .
            .           .          .
  98        .         CH8............
            .           .
            .           .
 100        .           .        SG2
            .           .          .
            .           .          .
 107        .           .          .        SF2
            .           .          .         .
            .           .          .         .
   4        .           .          .         .        SV2
            .           .          .         .          V
            .           .          .         .          V
 122        .           .          .         .        RV3
            .           .          .         .          .
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128                                                  SV4
                                                      .
                                                      .
6                                                CV6............
                                                   V
                                                   V
138                                              RV8
                                                   .
                                                   .
144                                                  SV10
                                                      .
                                                      .
152                                              CV12...........
                                                   V
                                                   V
154                                              RV14
                                                   .
                                                   .
160                                                  SV16
                                                      .
                                                      .
167                                              CV18...........
                                                   V
                                                   V
169                                              RV19
                                                   .
                                                   .
175                                                  SV20
                                                      .
                                                      .
182                                                           SV22
                                                                 .
                                                                 .
189                                              CV24......................
                                                   .
                                                   .
191                 NUL ...............................
                        .
                        .
194                     .        SS2
                        .          V
                        .          V
205                     .        RS4
                        .          .
                        .          .
211                     .          .        SS6
                        .          .          .
                        .          .          .
220                     .        CS8............
                        .          V
                        .          V
222                     .       RS10
                        .          .
                        .          .
3                       .          .       SS12
                        .          .          .
                        .          .          .
236                     .          .          .        SS14
                        .          .          .          .
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            .         .         .         .         .
243         .         .       CS16.......................
            .         .         V
            .         .         V
245         .         .       RS18
            .         .         .
            .         .         .
251         .         .         .       SS20
            .         .         .         .
            .         .         .         .
258         .         .       CS22............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*      BY THE COE IN FEBRUARY 1981     *
*           REVISED 02 AUG 88          *
*                                      *
*  RUN DATE  04/19/1991  TIME  13:22:23 *
*                                      *
****************************************
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****************************************
*                                      *
*     DODSON AND ASSOCIATES, INC.      *
*   HYDROLOGIST AND CIVIL ENGINEERS    *
*      7015 W TIDWELL SUITE 107        *
*        HOUSTON, TEXAS  77092         *
*           (713) 895-8322             *
*                                      *
****************************************
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                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES AA(POWDER HOUSE), M, N
                    WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 6 min
                    E1-25 ; 25-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                  NMIN          6  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      2   0  ENDING DATE
                NDTIME       0554  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .10 HOURS
                 TOTAL TIME BASE   29.90 HOURS

       ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                 STRM       3.43  PRECIPITATION DEPTH
                 TRDA        .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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17 JD INDEX STORM NO. 2

STRM 3.36 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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18 JD INDEX STORM NO. 3

STRM 3.29 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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19 JD INDEX STORM NO. 4

STRM 3.16 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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20 JD INDEX STORM NO. 5

STRM 3.09 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | SAA5 | 1101. | 12.20 | 159. | 44. | 35. | 1.33 | | |
| HYDROGRAPH AT | SAA10 | 427. | 12.10 | 51. | 13. | 11. | .50 | | |
| 2 COMBINED AT | CAA12 | 1508. | 12.20 | 209. | 57. | 45. | 1.83 | | |
| ROUTED TO | RAA14 | 1501. | 12.20 | 209. | 57. | 45. | 1.83 | 1.86 | 12.20 |
| HYDROGRAPH AT | SAA15 | 144. | 12.00 | 16. | 5. | 4. | .12 | | |
| 2 COMBINED AT | CAA17 | 1564. | 12.20 | 225. | 61. | 49. | 1.95 | | |
| HYDROGRAPH AT | SAF | 319. | 12.10 | 39. | 11. | 9. | .30 | | |
| HYDROGRAPH AT | SM | 295. | 12.10 | 37. | 10. | 8. | .30 | | |
| HYDROGRAPH AT | SN | 325. | 12.10 | 42. | 12. | 9. | .33 | | |
| 4 COMBINED AT | NUL | 2439. | 12.10 | 341. | 93. | 75. | 2.88 | | |
| HYDROGRAPH AT | SH2 | 1301. | 12.10 | 171. | 49. | 40. | 1.34 | | |
| ROUTED TO | RH4 | 1054. | 12.40 | 171. | 49. | 40. | 1.34 | 12.22 | 12.40 |
| HYDROGRAPH AT | SH6 | 326. | 12.10 | 34. | 9. | 7. | .42 | | |
| 2 COMBINED AT | CH8 | 1179. | 12.40 | 204. | 58. | 46. | 1.76 | | |
| HYDROGRAPH AT | SG2 | 380. | 12.10 | 39. | 10. | 8. | .40 | | |
| HYDROGRAPH AT | SF2 | 251. | 12.00 | 26. | 7. | 6. | .24 | | |
| HYDROGRAPH AT | SV2 | 2494. | 12.20 | 383. | 103. | 83. | 3.16 | | |
| ROUTED TO | RV3 | 2179. | 12.50 | 382. | 103. | 83. | 3.16 | 12.73 | 12.50 |
| HYDROGRAPH AT | SV4 | 531. | 12.20 | 71. | 19. | 15. | .74 | | |
| 2 COMBINED AT | CV6 | 2455. | 12.50 | 450. | 121. | 97. | 3.90 | | |
| ROUTED TO | RV8 | 2389. | 12.50 | 450. | 121. | 97. | 3.90 | 13.13 | 12.60 |
| HYDROGRAPH AT | SV10 | 1360. | 12.20 | 188. | 50. | 40. | 1.72 | | |
| 2 COMBINED AT | CV12 | 3099. | 12.40 | 629. | 169. | 136. | 5.62 | | |
| ROUTED TO | RV14 | 3010. | 12.60 | 629. | 169. | 136. | 5.62 | 13.21 | 12.60 |
| HYDROGRAPH AT | SV16 | 416. | 12.10 | 43. | 11. | 9. | .48 | | |
| 2 COMBINED AT | CV18 | 3084. | 12.50 | 669. | 179. | 144. | 6.10 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ROUTED TO | RV19 | 3036. | 12.60 | 669. | 179. | 144. | 6.10 | 14.47 | 12.60 |
| HYDROGRAPH AT | SV20 | 319. | 12.10 | 37. | 10. | 8. | .32 | | |
| HYDROGRAPH AT | SV22 | 214. | 12.00 | 20. | 5. | 4. | .19 | | |
| 3 COMBINED AT | CV24 | 3116. | 12.60 | 722. | 193. | 156. | 6.61 | | |
| 4 COMBINED AT | NUL | 4215. | 12.50 | 975. | 264. | 212. | 9.01 | | |
| HYDROGRAPH AT | SS2 | 2106. | 12.60 | 528. | 143. | 115. | 4.60 | | |
| ROUTED TO | RS4 | 1968. | 12.90 | 528. | 143. | 115. | 4.60 | 13.59 | 12.90 |
| HYDROGRAPH AT | SS6 | 849. | 12.30 | 133. | 33. | 27. | 1.60 | | |
| 2 COMBINED AT | CS8 | 2302. | 12.80 | 653. | 174. | 140. | 6.20 | | |
| ROUTED TO | RS10 | 2181. | 12.90 | 652. | 174. | 140. | 6.20 | 13.22 | 13.00 |
| HYDROGRAPH AT | SS12 | 563. | 12.20 | 70. | 18. | 14. | .86 | | |
| HYDROGRAPH AT | SS14 | 893. | 12.10 | 93. | 23. | 19. | 1.31 | | |
| 3 COMBINED AT | CS16 | 2302. | 12.90 | 802. | 212. | 170. | 8.37 | | |
| ROUTED TO | RS18 | 2279. | 13.00 | 802. | 212. | 170. | 8.37 | 13.43 | 13.00 |
| HYDROGRAPH AT | SS20 | 304. | 12.10 | 29. | 7. | 6. | .41 | | |
| 2 COMBINED AT | CS22 | 2279. | 13.00 | 828. | 218. | 175. | 8.78 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 6)
50-YEAR RETURN PERIOD

FN-E1-50

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*     BY THE COE IN FEBRUARY 1981      *
          REVISED 02 AUG 88            *
*                                      *
* RUN DATE  04/19/1991  TIME  13:25:43 *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    DODSON AND ASSOCIATES, INC.       *
*  HYDROLOGIST AND CIVIL ENGINEERS     *
*     7015 W TIDWELL SUITE 107         *
*       HOUSTON, TEXAS  77092          *
*          (713) 895-8322              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X       XXXXX   X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES AA(POWDER HOUSE), M, N
  3           ID       WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 6 min
  7           ID       E1-50 ; 50-YEAR EVENT
              *DIAGRAM
  8           IT       6                    300
  9           IO       5
 10           IN      30
 11           JD    3.84     .01
 12           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC    .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD    3.76     3.0
 18           JD    3.69     10.
 19           JD    3.53    20.0
 20           JD    3.46    30.0

 21           KK    SAA5
 22           KM   SUB-BASIN AA5
 23           BA    1.33
 24           LG     .15     .32    3.70     .29   10.90
 25           UI    156.    526.   1018.   1438.   1385.    903.    735.    579.    422.    349.
 26           UI    254.    190.    154.    120.     80.     76.     46.     30.     30.     30.
 27           UI     30.     30.      0.      0.      0.      0.      0.      0.      0.      0.
 28           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 29           KK   SAA10
 30           KM   SUB-BASIN AA10
 31           BA     .50
 32           LG     .15     .33    3.93     .33    3.10
 33           UI     87.    331.    563.    690.    415.    321.    230.    168.    120.     85.
 34           UI     62.     44.     35.     20.     14.     14.     14.      0.      0.      0.
 35           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 36           KK   CAA12
 37           KM        COMBINE HYDROGRAPH SAA5 & SAA10
 38           HC       2

 39           KK   RAA14
 40           KM        ROUTE HYDROGRAPH CAA12 THROUGH SAA15
 41           RS       1    FLOW      -1
 42           RC   0.030   0.015   0.030    4000  0.0199
 43           RX       0       0      10      10      40      40      50      50
 44           RY       5       1      .5       0       0      .5       1       5
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 45           KK   SAA15
 46           KM   SUB-BASIN AA15
 47           BA     .12
 48           LG     .12     .30    4.21     .40   23.50
 49           UI    137.    329.    164.     78.     37.     17.      8.      0.      0.      0.
 50           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 51           KK   CAA17
 52           KM       COMBINE HYDROGRAPH RAA14 & SAA15
 53           HC       2

 54           KK     SAF
 55           KM   SUB-BASIN AF
 56           BA     .30
 57           LG     .15     .28    3.72     .26   14.50
 58           UI     71.    269.    476.    345.    241.    169.    117.     78.     56.     38.
 59           UI     24.     17.     10.     10.     10.      0.      0.      0.      0.      0.
 60           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 61           KK      SM
 62           KM   SUB-BASIN M
 63           BA     .30
 64           LG     .15     .30    3.51     .26   10.80
 65           UI     54.    206.    351.    411.    248.    191.    134.    100.     68.     51.
 66           UI     35.     25.     22.      9.      8.      8.      8.      0.      0.      0.
 67           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 68           KK      SN
 69           KM   SUB-BASIN N
 70           BA     .33
 71           LG     .15     .29    3.72     .25   12.30
 72           UI     58.    220.    375.    455.    274.    211.    151.    111.     78.     56.
 73           UI     41.     29.     23.     12.      9.      9.      9.      0.      0.      0.
 74           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 75           KK   NUL
 76           KM   COMBINING WASHES AA, AF, M, & N TO REDUCE THE NO. OF FREE HYDROGRAPHS
 77           HC   4.

 78           KK     SH2
 79           KM   SUB-BASIN SH2
 80           BA    1.34
 81           LG     .15     .30    3.88     .33   18.60
 82           UI    279.   1054.   1827.   1719.   1099.    812.    549.    410.    266.    195.
 83           UI    136.    103.     56.     40.     40.     40.      0.      0.      0.      0.
 84           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 85           KK     RH4
 86           KM       WASH "H"
 87           RS       3    FLOW      -1
 88           RC    .045    .030    .045    7400   .0216
 89           RX     365     373     483     485     515     517     627     635
 90           RY      16      12      12      10      10      12      12      16
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  91          KK     SH6
  92          KM   SUB-BASIN SH6
  93          BA     .42
  94          LG     .15     .34    4.15     .48     .90
  95          UI    120.    449.    733.    454.    325.    210.    148.     91.     64.     40.
  96          UI     28.     15.     15.     15.      0.      0.      0.      0.      0.      0.
  97          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  98          KK     CH8
  99          HC       2

 100          KK     SG2
 101          KM   SUB-BASIN SG2
 102          BA     .40
 103          LG     .15     .34    3.97     .34    1.40
 104          UI    130.    476.    721.    426.    296.    188.    123.     80.     51.     37.
 105          UI     15.     15.     15.      0.      0.      0.      0.      0.      0.      0.
 106          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 107          KK     SF2
 108          KM   SUB-BASIN SF2
 109          BA     .24
 110          LG     .15     .33    3.98     .34    7.20
 111          UI    122.    440.    414.    238.    139.     81.     50.     29.     14.     11.
 112          UI     11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 113          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 114          KK     SV2
 115          KM   SUB-BASIN SV2
 116          BA    3.16
 117          LG     .15     .30    3.70     .25    9.10
 118          UI    328.    895.   1882.   2539.   3544.   2250.   1806.   1501.   1215.    908.
 119          UI    761.    607.    445.    371.    287.    247.    160.    160.    111.     63.
 120          UI     63.     63.     63.     63.      0.      0.      0.      0.      0.      0.
 121          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 122          KK     RV3
 123          KM         OX WASH
 124          RS       3    FLOW      -1
 125          RC    .045     .03    .045   11720   .0162
 126          RX    429     433     473     475     525     527     567     571
 127          RY     16      12      12      10      10      12      12      16

 128          KK     SV4
 129          KM   SUB-BASIN SV4
 130          BA     .74
 131          LG     .15     .32    4.16     .38    3.50
 132          UI     87.    296.    571.    811.    764.    502.    408.    320.    234.    194.
 133          UI    139.    105.     84.     67.     43.     43.     24.     17.     17.     17.
 134          UI     17.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 135          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 136          KK     CV6
 137          HC       2

 138          KK     RV8
 139          KM        OX WASH U/S OF HWY 60
 140          RS       1    FLOW      -1
 141          RC    .045     .03    .045    2700    .011
 142          RX     429     433     473     475     525     527     567     571
 143          RY      16      12      12      10      10      12      12      16

 144          KK    SV10
 145          KM   SUB-BASIN SV10
 146          BA    1.72
 147          LG     .15     .32    3.86     .33    7.50
 148          UI    208.    742.   1387.   2030.   1674.   1163.    937.    727.    524.    434.
 149          UI    303.    240.    179.    141.    102.     93.     40.     40.     40.     40.
 150          UI     40.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 151          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 152          KK    CV12
 153          HC       2

 154          KK    RV14
 155          KM        OX WASH U/S OF HWY 60
 156          RS       1    FLOW      -1
 157          RC    .045     .03    .045    5100   .0157
 158          RX     429     433     473     475     525     527     567     571
 159          RY      16      12      12      10      10      12      12      16

 160          KK    SV16
 161          KM   SUB-BASIN SV16
 162          BA     .48
 163          LG     .15     .33    4.20     .45    4.30
 164          UI    185.    668.    880.    503.    323.    208.    124.     82.     49.     27.
 165          UI     19.     19.      0.      0.      0.      0.      0.      0.      0.      0.
 166          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 167          KK    CV18
 168          HC       2

 169          KK    RV19
 170          KM        OX WASH D/S OF HWY 60
 171          RS       1    FLOW      -1
 172          RC    .045     .03    .045    5100   .0157
 173          RX     458     462     482     485     515     518     538     542
 174          RY      17      13      13      10      10      13      13      17

 175          KK    SV20
 176          KM   SUB-BASIN SV20
 177          BA     .32
 178          LG     .15     .29    3.64     .28    6.00
 179          UI     70.    264.    462.    395.    261.    190.    128.     93.     61.     44.
 180          UI     30.     25.     10.     10.     10.     10.      0.      0.      0.      0.
 181          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 182          KK   SV22
 183          KM   SUB-BASIN SV22
 184          BA    .19
 185          LG    .15     .32    3.79     .31    3.30
 186          UI   125.    431.    291.    170.     96.     52.     29.     15.      9.      0.
 187          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 188          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 189          KK   CV24
 190          HC      3

 191          KK   NUL
 192          KM   COMBINING WASHES H, G, F, & V TO REDUCE THE NO. OF FREE HYDROGRAPHS
 193          HC   4.

 194          KK    SS2
 195          KM   SUB-BASIN SS2
 196          BA   4.60
 197          LG    .15     .31    3.69     .29    8.80
 198          UI   237.    237.    454.    820.   1194.   1490.   1712.   1919.   2408.   2726.
 199          UI  1786.   1511.   1378.   1255.   1149.   1045.    942.    843.    726.    617.
 200          UI   573.    541.    495.    403.    360.    302.    286.    259.    253.    181.
 201          UI   181.    181.    128.    116.    116.    116.    116.     68.     45.     45.
 202          UI    45.     45.     45.     45.     45.     45.     45.     45.     45.     45.
 203          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 204          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 205          KK    RS4
 206          KM       LITTLE SAN DOMINGO WASH
 207          RS      2    FLOW     -1
 208          RC   .045     .03    .045    8400   .0131
 209          RX    439     443     488     490     510     512     557     561
 210          RY     16      12      12      10      10      12      12      16

 211          KK    SS6
 212          KM   SUB-BASIN SS6
 213          BA   1.60
 214          LG    .15     .30    4.18     .46     .00
 215          UI   142.    291.    674.    963.   1222.   1524.    953.    795.    681.    573.
 216          UI   462.    361.    320.    260.    197.    167.    145.    109.     96.     69.
 217          UI    69.     55.     27.     27.     27.     27.     27.     27.     27.      0.
 218          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 219          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 220          KK    CS8
 221          HC      2

 222          KK   RS10
 223          KM       LITTLE SAN DOMINGO WASH
 224          RS      1    FLOW     -1
 225          RC   .045     .03    .045    6400   .0172
 226          RX    429     435     475     480     520     525     565     571
 227          RY     17      13      13      10      10      13      13      17
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 228          KK    SS12
 229          KM   SUB-BASIN SS12
 230          BA     .86
 231          LG     .15     .31    4.15     .47     .00
 232          UI    108.    411.    739.   1104.    773.    579.    461.    341.    259.    201.
 233          UI    140.    113.     83.     59.     53.     30.     21.     21.     21.     21.
 234          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 235          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 236          KK    SS14
 237          KM   SUB-BASIN SS14
 238          BA    1.31
 239          LG     .15     .30    3.81     .61     .00
 240          UI    330.   1257.   2181.   1453.   1040.    707.    498.    318.    221.    150.
 241          UI    110.     55.     43.     43.     43.      0.      0.      0.      0.      0.
 242          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 243          KK    CS16
 244          HC       3

 245          KK    RS18
 246          KM        LITTLE SAN DOMINGO WASH
 247          RS       1    FLOW      -1
 248          RC    .045     .03    .045    3200   .0156
 249          RX     433     437     477     480     520     523     563     567
 250          RY      17      13      13      10      10      13      13      17

 251          KK    SS20
 252          KM   SUB-BASIN SS20
 253          BA     .41
 254          LG     .15     .34    3.86     .58     .00
 255          UI    193.    687.    732.    415.    249.    150.     90.     54.     32.     18.
 256          UI     18.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 257          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 258          KK    CS22
 259          HC       2
 260          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
NO.       (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 21        SAA5
            .
            .
 29         .       SAA10
            .          .
            .          .
 36      CAA12............
            V
            V
 39      RAA14
            .
            .
 45         .       SAA15
            .          .
            .          .
 51      CAA17............
            .
            .
 54         .         SAF
            .          .
            .          .
 61         .          .          SM
            .          .           .
            .          .           .
 68         .          .           .          SN
            .          .           .           .
            .          .           .           .
 75      NUL  ................................
            .
            .
 78         .         SH2
            .          V
            .          V
 85         .         RH4
            .          .
            .          .
 91         .          .         SH6
            .          .           .
            .          .           .
 98         .         CH8............
            .          .
            .          .
100         .          .         SG2
            .          .           .
            .          .           .
107         .          .           .         SF2
            .          .           .           .
            .          .           .           .
  4         .          .           .           .        SV2
            .          .           .           .         V
            .          .           .           .         V
122         .          .           .           .        RV3
            .          .           .           .          .
```

```
128                                                  SV4
                                                      .
                                                      .
136                                          CV6............
                                              V
                                              V
138                                          RV8
                                              .
                                              .
144                                                  SV10
                                                      .
                                                      .
152                                          CV12...........
                                              V
                                              V
154                                          RV14
                                              .
                                              .
160                                                  SV16
                                                      .
                                                      .
167                                          CV18...........
                                              V
                                              V
169                                          RV19
                                              .
                                              .
175                                                  SV20
                                                      .
                                                      .
182                                                          SV22
                                                                .
                                                                .
189                                          CV24......................
                                              .
                                              .
191                 NUL ...............................
                     .
                     .
194                      SS2
                          V
                          V
205                      RS4
                          .
                          .
211                                  SS6
                                      .
                                      .
220                      CS8...........
                          V
                          V
222                     RS10
                          .
                          .
                                     SS12
                                      .
                                      .
236                                          SS14
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            .          .          .          .          .
243         .          .       CS16.......................
            .          .          V
            .          .          V
245         .          .       RS18
            .          .          .
            .          .          .
251         .          .          .       SS20
            .          .          .          .
            .          .          .          .
258         .          .       CS22............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*      BY THE COE IN FEBRUARY 1981     *
*          REVISED 02 AUG 88           *
*                                      *
*  RUN DATE  04/19/1991  TIME  13:25:43 *
*                                      *
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****************************************
*                                      *
*     DODSON AND ASSOCIATES, INC.      *
*   HYDROLOGIST AND CIVIL ENGINEERS    *
*      7015 W TIDWELL SUITE 107        *
*        HOUSTON, TEXAS  77092         *
*           (713) 895-8322             *
*                                      *
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                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES AA(POWDER HOUSE), M, N
                    WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 6 min
                    E1-50 ; 50-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                  NMIN          6  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      2   0  ENDING DATE
                NDTIME       0554  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .10 HOURS
                 TOTAL TIME BASE   29.90 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                 STRM        3.84  PRECIPITATION DEPTH
                 TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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17 JD INDEX STORM NO. 2

STRM 3.76 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
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18 JD INDEX STORM NO. 3

STRM 3.69 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

19 JD INDEX STORM NO. 4

STRM 3.53 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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20 JD INDEX STORM NO. 5

STRM 3.46 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | SAA5 | 1286. | 12.20 | 186. | 51. | 41. | 1.33 | | |
| HYDROGRAPH AT | SAA10 | 507. | 12.10 | 60. | 16. | 12. | .50 | | |
| 2 COMBINED AT | CAA12 | 1768. | 12.20 | 245. | 66. | 53. | 1.83 | | |
| ROUTED TO | RAA14 | 1765. | 12.20 | 245. | 66. | 53. | 1.83 | 2.05 | 12.20 |
| HYDROGRAPH AT | SAA15 | 169. | 12.00 | 18. | 5. | 4. | .12 | | |
| 2 COMBINED AT | CAA17 | 1839. | 12.20 | 263. | 71. | 57. | 1.95 | | |
| HYDROGRAPH AT | SAF | 369. | 12.10 | 46. | 13. | 10. | .30 | | |
| HYDROGRAPH AT | SM | 343. | 12.10 | 44. | 12. | 10. | .30 | | |
| HYDROGRAPH AT | SN | 377. | 12.10 | 50. | 14. | 11. | .33 | | |
| 4 COMBINED AT | NUL | 2864. | 12.10 | 401. | 109. | 88. | 2.88 | | |
| HYDROGRAPH AT | SH2 | 1521. | 12.10 | 199. | 57. | 46. | 1.34 | | |
| ROUTED TO | RH4 | 1237. | 12.40 | 199. | 57. | 46. | 1.34 | 12.33 | 12.40 |
| HYDROGRAPH AT | SH6 | 403. | 12.10 | 42. | 11. | 8. | .42 | | |
| 2 COMBINED AT | CH8 | 1394. | 12.30 | 240. | 67. | 54. | 1.76 | | |
| HYDROGRAPH AT | SG2 | 453. | 12.10 | 47. | 12. | 9. | .40 | | |
| HYDROGRAPH AT | SF2 | 298. | 12.00 | 31. | 8. | 7. | .24 | | |
| HYDROGRAPH AT | SV2 | 2902. | 12.20 | 453. | 122. | 98. | 3.16 | | |
| ROUTED TO | RV3 | 2583. | 12.50 | 453. | 122. | 98. | 3.16 | 12.96 | 12.50 |
| HYDROGRAPH AT | SV4 | 637. | 12.20 | 86. | 22. | 18. | .74 | | |
| 2 COMBINED AT | CV6 | 2917. | 12.50 | 535. | 143. | 115. | 3.90 | | |
| ROUTED TO | RV8 | 2874. | 12.50 | 535. | 143. | 115. | 3.90 | 13.39 | 12.50 |
| HYDROGRAPH AT | SV10 | 1606. | 12.20 | 221. | 59. | 47. | 1.72 | | |
| 2 COMBINED AT | CV12 | 3738. | 12.40 | 747. | 200. | 161. | 5.62 | | |
| ROUTED TO | RV14 | 3642. | 12.50 | 747. | 200. | 161. | 5.62 | 13.50 | 12.50 |
| HYDROGRAPH AT | SV16 | 506. | 12.10 | 52. | 14. | 11. | .48 | | |
| 2 COMBINED AT | CV18 | 3734. | 12.50 | 796. | 213. | 171. | 6.10 | | |

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 6)
100-YEAR RETURN PERIOD

FN: E1-100

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*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*      BY THE COE IN FEBRUARY 1981      *
*           REVISED 02 AUG 88           *
*                                       *
*  RUN DATE  04/19/1991  TIME  13:29:05 *
*                                       *
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*****************************************
*                                       *
*     DODSON AND ASSOCIATES, INC.       *
*   HYDROLOGIST AND CIVIL ENGINEERS     *
*      7015 W TIDWELL SUITE 107         *
*        HOUSTON, TEXAS  77092          *
*           (713) 895-8322              *
*                                       *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES AA(POWDER HOUSE), M, N
  3           ID       WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 6 min
  7           ID       E1-100 ; 100-YEAR EVENT
              *DIAGRAM
  8           IT       6                    300
  9           IO       5
 10           IN      30
 11           JD    4.25     .01
 12           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC    .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD    4.17     3.0
 18           JD    4.08     10.
 19           JD    3.91    20.0

 20           KK    SAA5
 21           KM   SUB-BASIN AA5
 22           BA    1.33
 23           LG     .15     .32    3.70     .29   10.90
 24           UI    156.    526.   1018.   1438.   1385.    903.    735.    579.    422.    349.
 25           UI    254.    190.    154.    120.     80.     76.     46.     30.     30.     30.
 26           UI     30.     30.     0.      0.      0.      0.      0.      0.      0.      0.
 27           UI      0.      0.     0.      0.      0.      0.      0.      0.      0.      0.

 28           KK   SAA10
 29           KM   SUB-BASIN AA10
 30           BA     .50
 31           LG     .15     .33    3.93     .33    3.10
 32           UI     87.    331.    563.    690.    415.    321.    230.    168.    120.     85.
 33           UI     62.     44.     35.     20.     14.     14.     14.      0.      0.      0.
 34           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 35           KK   CAA12
 36           KM        COMBINE HYDROGRAPH SAA5 & SAA10
 37           HC       2

 38           KK   RAA14
 39           KM        ROUTE HYDROGRAPH CAA12 THROUGH SAA15
 40           RS       1    FLOW      -1
 41           RC   0.030   0.015   0.030    4000  0.0199
 42           RX       0       0      10      10      40      40      50      50
 43           RY       5       1      .5       0       0      .5       1       5

 44           KK   SAA15
 45           KM   SUB-BASIN AA15
 46           BA     .12
 47           LG     .12     .30    4.21     .40   23.50
 48           UI    137.    329.    164.     78.     37.     17.      8.      0.      0.      0.
 49           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  50          KK   CAA17
  51          KM        COMBINE HYDROGRAPH RAA14 & SAA15
  52          HC       2

  53          KK     SAF
  54          KM   SUB-BASIN AF
  55          BA     .30
  56          LG     .15     .28    3.72     .26   14.50
  57          UI     71.    269.    476.    345.    241.    169.    117.     78.     56.     38.
  58          UI     24.     17.     10.     10.     10.      0.      0.      0.      0.      0.
  59          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  60          KK      SM
  61          KM   SUB-BASIN M
  62          BA     .30
  63          LG     .15     .30    3.51     .26   10.80
  64          UI     54.    206.    351.    411.    248.    191.    134.    100.     68.     51.
  65          UI     35.     25.     22.      9.      8.      8.      8.      0.      0.      0.
  66          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  67          KK      SN
  68          KM   SUB-BASIN N
  69          BA     .33
  70          LG     .15     .29    3.72     .25   12.30
  71          UI     58.    220.    375.    455.    274.    211.    151.    111.     78.     56.
  72          UI     41.     29.     23.     12.      9.      9.      9.      0.      0.      0.
  73          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  74          KK   NUL
  75          KM   COMBINING WASHES AA, AF, M, & N TO REDUCE THE NO. OF FREE HYDROGRAPHS
  76          HC   4.

  77          KK     SH2
  78          KM   SUB-BASIN SH2
  79          BA    1.34
  80          LG     .15     .30    3.88     .33   18.60
  81          UI    279.   1054.   1827.   1719.   1099.    812.    549.    410.    266.    195.
  82          UI    136.    103.     56.     40.     40.     40.      0.      0.      0.      0.
  83          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  84          KK     RH4
  85          KM        WASH "H"
  86          RS       3    FLOW      -1
  87          RC    .045    .030    .045    7400   .0216
  88          RX     365     373     483     485     515     517     627     635
  89          RY      16      12      12      10      10      12      12      16

  90          KK     SH6
  91          KM   SUB-BASIN SH6
  92          BA     .42
  93          LG     .15     .34    4.15     .48     .90
  94          UI    120.    449.    733.    454.    325.    210.    148.     91.     64.     40.
  95          UI     28.     15.     15.     15.      0.      0.      0.      0.      0.      0.
  96          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 97           KK     CH8
 98           HC       2

 99           KK     SG2
100           KM   SUB-BASIN SG2
101           BA     .40
102           LG     .15     .34    3.97     .34    1.40
103           UI    130.    476.    721.    426.    296.    188.    123.     80.     51.     37.
104           UI     15.     15.     15.      0.      0.      0.      0.      0.      0.      0.
105           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

106           KK     SF2
107           KM   SUB-BASIN SF2
108           BA     .24
109           LG     .15     .33    3.98     .34    7.20
110           UI    122.    440.    414.    238.    139.     81.     50.     29.     14.     11.
111           UI     11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
112           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

113           KK     SV2
114           KM   SUB-BASIN SV2
115           BA    3.16
116           LG     .15     .30    3.70     .25    9.10
117           UI    328.    895.   1882.   2539.   3544.   2250.   1806.   1501.   1215.    908.
118           UI    761.    607.    445.    371.    287.    247.    160.    160.    111.     63.
119           UI     63.     63.     63.     63.      0.      0.      0.      0.      0.      0.
120           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

121           KK     RV3
122           KM         OX WASH
123           RS       3    FLOW      -1
124           RC    .045     .03    .045   11720   .0162
125           RX     429     433     473     475     525     527     567     571
126           RY      16      12      12      10      10      12      12      16

127           KK     SV4
128           KM   SUB-BASIN SV4
129           BA     .74
130           LG     .15     .32    4.16     .38    3.50
131           UI     87.    296.    571.    811.    764.    502.    408.    320.    234.    194.
132           UI    139.    105.     84.     67.     43.     43.     24.     17.     17.     17.
133           UI     17.      0.      0.      0.      0.      0.      0.      0.      0.      0.
134           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

135           KK     CV6
136           HC       2

137           KK     RV8
138           KM         OX WASH U/S OF HWY 60
139           RS       1    FLOW      -1
140           RC    .045     .03    .045    2700    .011
141           RX     429     433     473     475     525     527     567     571
142           RY      16      12      12      10      10      12      12      16
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 143          KK   SV10
 144          KM   SUB-BASIN SV10
 145          BA   1.72
 146          LG    .15     .32    3.86     .33    7.50
 147          UI   208.    742.   1387.   2030.   1674.   1163.    937.    727.    524.    434.
 148          UI   303.    240.    179.    141.    102.     93.     40.     40.     40.     40.
 149          UI    40.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 150          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 151          KK   CV12
 152          HC      2

 153          KK   RV14
 154          KM       OX WASH U/S OF HWY 60
 155          RS      1    FLOW      -1
 156          RC   .045     .03    .045    5100   .0157
 157          RX   429     433     473     475     525     527     567     571
 158          RY    16      12      12      10      10      12      12      16

 159          KK   SV16
 160          KM   SUB-BASIN SV16
 161          BA    .48
 162          LG    .15     .33    4.20     .45    4.30
 163          UI   185.    668.    880.    503.    323.    208.    124.     82.     49.     27.
 164          UI    19.     19.      0.      0.      0.      0.      0.      0.      0.      0.
 165          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 166          KK   CV18
 167          HC      2

 168          KK   RV19
 169          KM       OX WASH D/S OF HWY 60
 170          RS      1    FLOW      -1
 171          RC   .045     .03    .045    5100   .0157
 172          RX   458     462     482     485     515     518     538     542
 173          RY    17      13      13      10      10      13      13      17

 174          KK   SV20
 175          KM   SUB-BASIN SV20
 176          BA    .32
 177          LG    .15     .29    3.64     .28    6.00
 178          UI    70.    264.    462.    395.    261.    190.    128.     93.     61.     44.
 179          UI    30.     25.     10.     10.     10.     10.      0.      0.      0.      0.
 180          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 181          KK   SV22
 182          KM   SUB-BASIN SV22
 183          BA    .19
 184          LG    .15     .32    3.79     .31    3.30
 185          UI   125.    431.    291.    170.     96.     52.     29.     15.      9.      0.
 186          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 187          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

188           KK    CV24
189           HC       3

190           KK   NUL
191           KM   COMBINING WASHES H, G, F, & V TO REDUCE THE NO. OF FREE HYDROGRAPHS
192           HC   4.

193           KK     SS2
194           KM   SUB-BASIN SS2
195           BA    4.60
196           LG     .15     .31    3.69     .29    8.80
197           UI    237.    237.    454.    820.   1194.   1490.   1712.   1919.   2408.   2726.
198           UI   1786.   1511.   1378.   1255.   1149.   1045.    942.    843.    726.    617.
199           UI    573.    541.    495.    403.    360.    302.    286.    259.    253.    181.
200           UI    181.    181.    128.    116.    116.    116.    116.     68.     45.     45.
201           UI     45.     45.     45.     45.     45.     45.     45.     45.     45.     45.
202           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
203           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

204           KK     RS4
205           KM        LITTLE SAN DOMINGO WASH
206           RS       2    FLOW      -1
207           RC    .045     .03    .045    8400   .0131
208           RX     439     443     488     490     510     512     557     561
209           RY      16      12      12      10      10      12      12      16

210           KK     SS6
211           KM   SUB-BASIN SS6
212           BA    1.60
213           LG     .15     .30    4.18     .46     .00
214           UI    142.    291.    674.    963.   1222.   1524.    953.    795.    681.    573.
215           UI    462.    361.    320.    260.    197.    167.    145.    109.     96.     69.
216           UI     69.     55.     27.     27.     27.     27.     27.     27.     27.      0.
217           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
218           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

219           KK     CS8
220           HC       2

221           KK    RS10
222           KM        LITTLE SAN DOMINGO WASH
223           RS       1    FLOW      -1
224           RC    .045     .03    .045    6400   .0172
225           RX     429     435     475     480     520     525     565     571
226           RY      17      13      13      10      10      13      13      17

227           KK    SS12
228           KM   SUB-BASIN SS12
229           BA     .86
230           LG     .15     .31    4.15     .47     .00
231           UI    108.    411.    739.   1104.    773.    579.    461.    341.    259.    201.
232           UI    140.    113.     83.     59.     53.     30.     21.     21.     21.     21.
233           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
234           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 235          KK    SS14
 236          KM   SUB-BASIN SS14
 237          BA    1.31
 238          LG     .15     .30    3.81     .61     .00
 239          UI    330.   1257.   2181.   1453.   1040.    707.    498.    318.    221.    150.
 240          UI    110.     55.     43.     43.     43.      0.      0.      0.      0.      0.
 241          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 242          KK    CS16
 243          HC       3

 244          KK    RS18
 245          KM        LITTLE SAN DOMINGO WASH
 246          RS       1    FLOW      -1
 247          RC    .045     .03    .045    3200   .0156
 248          RX     433     437     477     480     520     523     563     567
 249          RY      17      13      13      10      10      13      13      17

 250          KK    SS20
 251          KM   SUB-BASIN SS20
 252          BA     .41
 253          LG     .15     .34    3.86     .58     .00
 254          UI    193.    687.    732.    415.    249.    150.     90.     54.     32.     18.
 255          UI     18.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 256          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 257          KK    CS22
 258          HC       2
 259          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

NO.       (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 20        SAA5
            .
            .
 28         .       SAA10
            .          .
            .          .
 35       CAA12............
            V
            V
 38       RAA14
            .
            .
 44         .       SAA15
            .          .
            .          .
 50       CAA17............
            .
            .
 53         .        SAF
            .          .
            .          .
 60         .          .         SM
            .          .          .
            .          .          .
 67         .          .          .         SN
            .          .          .          .
            .          .          .          .
 74       NUL  ...................................
            .
            .
 77         .        SH2
            .          V
            .          V
 84         .        RH4
            .          .
            .          .
 90         .          .        SH6
            .          .          .
            .          .          .
 97         .        CH8............
            .          .
            .          .
 99         .          .        SG2
            .          .          .
            .          .          .
106         .          .          .        SF2
            .          .          .          .
            .          .          .          .
            .          .          .          .        SV2
            .          .          .          .          V
            .          .          .          .          V
121         .          .          .          .        RV3
            .          .          .          .          .
```

```
                .         .         .         .         .
127             .         .         .         .         .         SV4
                .         .         .         .         .          .
                .         .         .         .         .          .
35              .         .         .         .       CV6............
                .         .         .         .         V
                .         .         .         .         V
137             .         .         .         .       RV8
                .         .         .         .         .
                .         .         .         .         .
143             .         .         .         .         .        SV10
                .         .         .         .         .          .
                .         .         .         .         .          .
151             .         .         .         .      CV12............
                .         .         .         .         V
                .         .         .         .         V
153             .         .         .         .      RV14
                .         .         .         .         .
                .         .         .         .         .
159             .         .         .         .         .        SV16
                .         .         .         .         .          .
                .         .         .         .         .          .
166             .         .         .         .      CV18............
                .         .         .         .         V
                .         .         .         .         V
168             .         .         .         .      RV19
                .         .         .         .         .
                .         .         .         .         .
174             .         .         .         .         .        SV20
                .         .         .         .         .          .
                .         .         .         .         .          .
181             .         .         .         .         .          .       SV22
                .         .         .         .         .          .         .
                .         .         .         .         .          .         .
188             .         .         .         .      CV24......................
                .         .         .         .         .
                .         .         .         .         .
190             .       NUL ...............................
                .         .
                .         .
193             .         .       SS2
                .         .         V
                .         .         V
204             .         .       RS4
                .         .         .
                .         .         .
210             .         .         .       SS6
                .         .         .         .
                .         .         .         .
219             .         .       CS8............
                .         .         V
                .         .         V
221             .         .      RS10
                .         .         .
                .         .         .
7               .         .         .      SS12
                .         .         .         .
                .         .         .         .
235             .         .         .         .      SS14
                .         .         .         .         .
```

```
            .         .         .         .         .
242         .         .       CS16.......................
            .         .         V
            .         .         V
244         .         .       RS18
            .         .         .
            .         .         .
250         .         .         .       SS20
            .         .         .         .
            .         .         .         .
257         .         .       CS22............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*     BY THE COE IN FEBRUARY 1981      *
*          REVISED 02 AUG 88           *
*                                      *
* RUN DATE  04/19/1991  TIME  13:29:05 *
*                                      *
****************************************
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****************************************
*                                      *
*     DODSON AND ASSOCIATES, INC.      *
*   HYDROLOGIST AND CIVIL ENGINEERS    *
*      7015 W TIDWELL SUITE 107        *
*        HOUSTON, TEXAS  77092         *
*           (713) 895-8322             *
*                                      *
****************************************
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                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES AA(POWDER HOUSE), M, N
                    WASHES H, G, F, V(OX WASH), & S(LITTLE SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 6 min
                    E1-100 ; 100-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                   NMIN          6  MINUTES IN COMPUTATION INTERVAL
                  IDATE      1   0  STARTING DATE
                  ITIME       0000  STARTING TIME
                     NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE      2   0  ENDING DATE
                 NDTIME       0554  ENDING TIME
                  ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .10 HOURS
                 TOTAL TIME BASE   29.90 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

11 JD       INDEX STORM NO. 1
                  STRM        4.25  PRECIPITATION DEPTH
                  TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI        PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

17 JD INDEX STORM NO. 2

STRM 4.17 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

18 JD INDEX STORM NO. 3

STRM 4.08 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .00 | .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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19 JD INDEX STORM NO. 4

STRM 3.91 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .01 | .01 | .01 | .01 | .01 | .08 | .08 | .08 | .08 | .08 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
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| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | SAA5 | 1476. | 12.20 | 216. | 59. | 47. | 1.33 | | |
| HYDROGRAPH AT | SAA10 | 587. | 12.10 | 70. | 18. | 14. | .50 | | |
| 2 COMBINED AT | CAA12 | 2034. | 12.20 | 285. | 77. | 62. | 1.83 | | |
| ROUTED TO | RAA14 | 2030. | 12.20 | 285. | 77. | 62. | 1.83 | 2.26 | 12.20 |
| HYDROGRAPH AT | SAA15 | 194. | 12.00 | 21. | 6. | 5. | .12 | | |
| 2 COMBINED AT | CAA17 | 2114. | 12.20 | 306. | 83. | 66. | 1.95 | | |
| HYDROGRAPH AT | SAF | 420. | 12.10 | 53. | 15. | 12. | .30 | | |
| HYDROGRAPH AT | SM | 390. | 12.10 | 51. | 14. | 11. | .30 | | |
| HYDROGRAPH AT | SN | 429. | 12.10 | 57. | 16. | 13. | .33 | | |
| 4 COMBINED AT | NUL | 3291. | 12.10 | 465. | 126. | 101. | 2.88 | | |
| HYDROGRAPH AT | SH2 | 1742. | 12.10 | 228. | 65. | 52. | 1.34 | | |
| ROUTED TO | RH4 | 1432. | 12.40 | 228. | 65. | 52. | 1.34 | 12.46 | 12.40 |
| HYDROGRAPH AT | SH6 | 480. | 12.10 | 50. | 13. | 10. | .42 | | |
| 2 COMBINED AT | CH8 | 1631. | 12.30 | 277. | 77. | 62. | 1.76 | | |
| HYDROGRAPH AT | SG2 | 526. | 12.10 | 54. | 14. | 11. | .40 | | |
| HYDROGRAPH AT | SF2 | 345. | 12.00 | 35. | 9. | 8. | .24 | | |
| HYDROGRAPH AT | SV2 | 3315. | 12.20 | 526. | 141. | 113. | 3.16 | | |
| ROUTED TO | RV3 | 3001. | 12.50 | 525. | 141. | 113. | 3.16 | 13.23 | 12.50 |
| HYDROGRAPH AT | SV4 | 744. | 12.20 | 100. | 26. | 21. | .74 | | |
| 2 COMBINED AT | CV6 | 3390. | 12.40 | 621. | 165. | 133. | 3.90 | | |
| ROUTED TO | RV8 | 3375. | 12.50 | 621. | 165. | 133. | 3.90 | 13.73 | 12.50 |
| HYDROGRAPH AT | SV10 | 1853. | 12.20 | 255. | 68. | 55. | 1.72 | | |
| 2 COMBINED AT | CV12 | 4406. | 12.40 | 865. | 231. | 185. | 5.62 | | |
| ROUTED TO | RV14 | 4295. | 12.50 | 864. | 231. | 185. | 5.62 | 13.85 | 12.50 |
| HYDROGRAPH AT | SV16 | 597. | 12.10 | 62. | 16. | 13. | .48 | | |
| 2 COMBINED AT | CV18 | 4402. | 12.50 | 922. | 246. | 198. | 6.10 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ROUTED TO | RV19 | 4323. | 12.60 | 922. | 246. | 198. | 6.10 | 15.39 | 12.60 |
| HYDROGRAPH AT | SV20 | 426. | 12.10 | 51. | 13. | 11. | .32 | | |
| HYDROGRAPH AT | SV22 | 289. | 12.00 | 28. | 7. | 6. | .19 | | |
| 3 COMBINED AT | CV24 | 4447. | 12.60 | 996. | 265. | 213. | 6.61 | | |
| 4 COMBINED AT | NUL | 5998. | 12.50 | 1341. | 360. | 290. | 9.01 | | |
| HYDROGRAPH AT | SS2 | 2849. | 12.60 | 722. | 194. | 156. | 4.60 | | |
| ROUTED TO | RS4 | 2714. | 12.80 | 721. | 194. | 156. | 4.60 | 14.13 | 12.80 |
| HYDROGRAPH AT | SS6 | 1234. | 12.30 | 194. | 48. | 39. | 1.60 | | |
| 2 COMBINED AT | CS8 | 3224. | 12.80 | 905. | 239. | 193. | 6.20 | | |
| ROUTED TO | RS10 | 3107. | 12.90 | 903. | 239. | 193. | 6.20 | 13.82 | 12.90 |
| HYDROGRAPH AT | SS12 | 821. | 12.20 | 103. | 26. | 21. | .86 | | |
| HYDROGRAPH AT | SS14 | 1362. | 12.10 | 143. | 36. | 29. | 1.31 | | |
| 3 COMBINED AT | CS16 | 3299. | 12.20 | 1133. | 297. | 239. | 8.37 | | |
| ROUTED TO | RS18 | 3287. | 12.90 | 1133. | 297. | 239. | 8.37 | 14.09 | 12.90 |
| HYDROGRAPH AT | SS20 | 464. | 12.00 | 45. | 11. | 9. | .41 | | |
| 2 COMBINED AT | CS22 | 3403. | 12.30 | 1173. | 307. | 247. | 8.78 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 10)
2-YEAR RETURN PERIOD

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*            FEBRUARY 1981             *
*           REVISED 02 AUG 88          *
*                                      *
*  RUN DATE  12/02/1991  TIME  16:34:16 *
*                                      *
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X               X
XXXXXXX  XXXX    X       XXXXX   X
X     X  X       X               X
X     X  X       X     X         X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID      WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID      WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
  3           ID      WASHES K, L, O, P, & T(SAN DOMINGO)
  4           ID      SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID      AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID      NMIN = 10 min
  7           ID      E2-2 ; 2-YEAR EVENT
              *DIAGRAM
  8           IT     10                   300
  9           IO      5
 10           IN     30
 11           JD   1.91     .01
 12           PC   .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC   .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC   .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC   .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC   .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD   1.87     3.0
 18           JD   1.83     10.
 19           JD   1.76    20.0
 20           JD   1.72    30.0

 21           KK    SB5
 22           KM   SUB-BASIN B5
 23           BA   3.17
 24           LG    .15     .34    4.21     .38    5.20
 25           UI   264.   1041.   1798.   2591.   1626.   1266.    976.    690.    556.    375.
 26           UI   291.    212.    158.    123.     85.     48.     48.     48.     48.      0.
 27           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 28           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 29           KK    RB7
 30           KM      ROUTE SB5 THROUGH SB10
 31           RS      1    FLOW      -1
 32           RC  0.040   0.025   0.040 11985.6  0.0284
 33           RX      0       8     108     109     139     140     240     248
 34           RY      6       4       3       0       0       3       4       6

 35           KK    SB10
 36           KM   SUB-BASIN B10
 37           BA   1.11
 38           LG    .15     .30    3.74     .30   10.70
 39           UI   219.    800.   1202.    709.    491.    312.    202.    132.     84.     62.
 40           UI    25.     25.     25.      0.      0.      0.      0.      0.      0.      0.
 41           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 42           KK    CB12
 43           KM      COMBINE RB7 & SB10
 44           HC      2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  45          KK    SC5
  46          KM   SUB-BASIN C5
  47          BA    4.43
  48          LG     .15     .31    3.68     .29    7.00
  49          UI    231.    453.   1069.   1544.   1933.   2542.   1608.   1323.   1136.    964.
  50          UI    794.    617.    542.    452.    346.    285.    253.    187.    177.    117.
  51          UI    113.    113.     51.     44.     44.     44.     44.     44.     44.     0.
  52          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.
  53          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  54          KK    RC7
  55          KM       ROUTE HYDROGRAPH SC5 (RC7) THROUGH SC10
  56          RS      2    FLOW     -1
  57          RC  0.040   0.025   0.040 24024.0  0.0233
  58          RX      0       3       5       6      36      37      39      42
  59          RY     10       3       2       0       0       2       3      10

  60          KK    SC10
  61          KM   SUB-BASIN C10
  62          BA    3.66
  63          LG     .15     .34    4.28     .41    9.40
  64          UI    247.    780.   1540.   2120.   2422.   1504.   1233.    994.    745.    590.
  65          UI    470.    340.    278.    207.    170.    121.    121.     51.     47.     47.
  66          UI     47.     47.     47.      0.      0.      0.      0.      0.      0.     0.
  67          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  68          KK    CC12
  69          KM       COMBINE HYDROGRAPHS RC7 & SC10
  70          HC      2

  71          KK    RC14
  72          KM       ROUTE HYDROGRAPH CC12 THROUGH SC15
  73          RS      3    FLOW     -1
  74          RC  0.040   0.025   0.040 22017.6  0.024
  75          RX      0       8     108     109     139     140     240     248
  76          RY      6       4       3       0       0       3       4       6

  77          KK    SC15
  78          KM   SUB-BASIN C15
  79          BA    2.31
  80          LG     .15     .34    4.19     .38    6.15
  81          UI    160.    524.   1022.   1425.   1486.    945.    770.    615.    451.    367.
  82          UI    285.    201.    170.    123.     94.     78.     61.     31.     31.     31.
  83          UI     31.     31.      0.      0.      0.      0.      0.      0.      0.     0.
  84          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  85          KK    CC17
  86          KM       COMBINE HYDROGRAPHS SC15 & RC14
  87          HC      2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 88           KK    RC19
 89           KM        ROUTE HYDROGRAPH CC17 THROUGH SC20
 90           RS       1    FLOW      -1
 91           RC   0.033   0.025   0.033    5016  0.0199
 92           RX       0       8     108     109     149     150     250     258
 93           RY       6       4       3       0       0       3       4       6

 94           KK    SC20
 95           KM   SUB-BASIN C20
 96           BA    .43
 97           LG    .15     .32    4.23     .44    9.10
 98           UI   374.    736.    319.    138.     59.     22.      0.      0.      0.      0.
 99           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

100           KK    CC22
101           KM        COMBINE HYDROGRAPHS RC19 & SC20
102           HC       2

103           KK     SD5
104           KM   SUB-BASIN D5
105           BA   5.42
106           LG    .15     .33    4.16     .38    8.10
107           UI   208.    208.    649.    996.   1330.   1568.   1912.   2406.   1549.   1282.
108           UI  1153.   1029.    911.    808.    681.    562.    502.    462.    396.    327.
109           UI   266.    243.    228.    175.    160.    151.    102.    102.    102.    100.
110           UI    40.     40.     40.     40.     40.     40.     40.     40.     40.     40.
111           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
112           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

113           KK    SD10
114           KM   SUB-BASIN D10
115           BA   3.80
116           LG    .15     .33    4.02     .35    8.60
117           UI   162.    216.    558.    889.   1123.   1341.   1833.   1325.   1009.    894.
118           UI   787.    688.    595.    484.    407.    372.    322.    259.    206.    186.
119           UI   176.    124.    124.     95.     79.     79.     79.     35.     31.     31.
120           UI    31.     31.     31.     31.     31.     31.      0.      0.      0.      0.
121           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

122           KK    CD12
123           KM        COMBINE HYDROGRAPHS SD5 & SD10
124           HC       2

125           KK    RD14
126           KM        ROUTE HYDROGRAPH CD12 THROGH SD15
127           RS       1    FLOW      -1
128           RC   0.040   0.025   0.040 11510.4  0.0209
129           RX       0       8     108     109     139     140     240     248
130           RY       6       4       3       0       0       3       4       6
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 131          KK   SD15
 132          KM   SUB-BASIN D15
 133          BA    .93
 134          LG    .15     .34    4.24     .43    1.30
 135          UI   172.    634.    994.    598.    422.    270.    181.    119.     76.     51.
 136          UI    28.     20.     20.      0.      0.      0.      0.      0.      0.      0.
 137          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 138          KK   CD17
 139          KM       COMBINE HYDROGRAPHS SD15 & RD14
 140          HC      2

 141          KK   SD20
 142          KM   SUB-BASIN D20
 143          BA    .58
 144          LG    .15     .33    4.16     .38    4.20
 145          UI   107.    394.    619.    373.    264.    168.    113.     74.     47.     32.
 146          UI    18.     12.     12.      0.      0.      0.      0.      0.      0.      0.
 147          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 148          KK   RD22
 149          KM       ROUTE HYDROGRAPH SD20 THROUGH SD15
 150          RS      1    FLOW      -1
 151          RC  0.040   0.025   0.040    2500  0.0283
 152          RX      0       8     108     109     149     150     250     258
 153          RY      6       4       3       0       0       3       4       6

 154          KK   CD24
 155          KM       COMBINE HYDROGRAPHS RD22 & CD17
 156          HC      2

 157          KK    E5
 158          KM   SUB-BASIN E5
 159          BA    .37
 160          LG    .15     .31    3.95     .35   16.70
 161          UI    94.    336.    405.    229.    142.     90.     54.     32.     22.      9.
 162          UI     9.      9.      0.      0.      0.      0.      0.      0.      0.      0.
 163          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 164          KK   E10
 165          KM   SUB-BASIN E10
 166          BA    .94
 167          LG    .15     .30    3.93     .34   10.50
 168          UI    66.    223.    431.    608.    588.    383.    312.    246.    179.    148.
 169          UI   108.     81.     65.     51.     34.     32.     20.     13.     13.     13.
 170          UI    13.     13.      0.      0.      0.      0.      0.      0.      0.      0.
 171          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 172          KK   CE12
 173          KM       COMBINE HYDROGRAPHS FROM E5 & E10
 174          HC      2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 175          KK   RE14
 176          KM       ROUTE HYDROGRAPH CE12 THROUGH E20
 177          RS      1   FLOW     -1
 178          RC  0.040  0.025  0.040   3000  0.0244
 179          RX      0      8    108    109    149    150    250    258
 180          RY      6      4      3      0      0      3      4      6

 181          KK    E15
 182          KM  SUB-BASIN E15
 183          BA   4.41
 184          LG    .15    .33   4.24    .43   8.20
 185          UI   251.   593.  1294.  1801.  2453.  2294.  1533.  1293.  1089.   886.
 186          UI   677.   582.   473.   354.   295.   248.   193.   154.   123.   123.
 187          UI    65.    48.    48.    48.    48.    48.    48.     0.     0.     0.
 188          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 189          KK   RE17
 190          KM       ROUTE HYDROGRAPH FROM E15 THROUGH E20
 191          RS      2   FLOW     -1
 192          RC  0.040  0.025  0.040 19008.0  0.0244
 193          RX      0      8    108    109    139    140    240    248
 194          RY      6      4      3      0      0      3      4      6

 195          KK   CE19
 196          KM       COMBINE HYDROGRAPHS RE17 & RE14
 197          HC      2

 198          KK   SE20
 199          KM  SUB-BASIN E20
 200          BA   1.11
 201          LG    .15    .32   4.24    .44   7.20
 202          UI    88.   351.   612.   897.   574.   445.   347.   248.   196.   139.
 203          UI   103.    78.    59.    42.    35.    17.    17.    17.    17.     0.
 204          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
 205          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 206          KK   CE22
 207          KM       COMBINE HYDROGRAPHS E20 & CE19  (E)
 208          HC      2

 209          KK  NUL
 210          KM  COMBINING WASHES B, C, D, & E TO REDUCE THE NO. OF FREE HYDROGRAPHS
 211          HC  4.

 212          KK    S15
 213          KM  SUB-BASIN I5
 214          BA    .41
 215          LG    .15    .31   3.58    .27   7.90
 216          UI    68.   257.   425.   267.   191.   124.    87.    54.    38.    24.
 217          UI    18.     8.     8.     8.     0.     0.     0.     0.     0.     0.
 218          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 219          KK   SI10
 220          KM  SUB-BASIN I10
 221          BA   1.61
 222          LG    .15     .31    3.77     .30    3.20
 223          UI   121.    456.    823.   1231.    875.    651.    518.    386.    292.    227.
 224          UI   160.    128.     92.     68.     59.     36.     23.     23.     23.     23.
 225          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 226          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 227          KK   CI12
 228          KM      COMBINE SI5 & SI10
 229          HC      2

 230          KK   RI14
 231          KM      ROUTE COMBINED HYDROGRAPHS FROM SI5 & SI10 (SI12) THROUGH SI15
 232          RS      1   FLOW     -1
 233          RC  0.040  0.025   0.040    5016  0.0279
 234          RX      0       8     108     109     139     140     240     248
 235          RY      6       4       3       0       0       3       4       6

 236          KK   SI15
 237          KM  SUB-BASIN I15
 238          BA    .25
 239          LG    .15     .34    3.91     .33    2.20
 240          UI   204.    424.    191.     85.     37.     15.     10.      0.      0.      0.
 241          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 242          KK   CI17
 243          KM      COMBINE RI14 & SI15
 244          HC      2

 245          KK     SJ
 246          KM  SUB-BASIN J
 247          BA    .42
 248          LG    .15     .32    3.74     .30    6.30
 249          UI   109.    389.    458.    259.    160.    100.     60.     36.     24.     11.
 250          UI    11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 251          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 252          KK    SK5
 253          KM  SUB-BASIN K5
 254          BA    .84
 255          LG    .15     .31    3.78     .30     .00
 256          UI   145.    540.    881.    545.    389.    252.    177.    109.     76.     48.
 257          UI    33.     18.     18.     18.      0.      0.      0.      0.      0.      0.
 258          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 259          KK   SK10
 260          KM  SUB-BASIN K10
 261          BA   1.04
 262          LG    .15     .30    3.92     .24    3.70
 263          UI   106.    405.    689.    863.    520.    402.    291.    212.    154.    107.
 264          UI    80.     58.     44.     28.     17.     17.     17.     17.      0.      0.
 265          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 266          KK    CK12
 267          KM        COMBINE HYDROGRAPHS FROM SK5 & SK10
 268          HC       2

 269          KK    RK14
 270          KM        ROUTE COMBINED HYDROGRRAPHS SK5 & SK10 (CK12) THROUGH SK15
 271          RS       1    FLOW      -1
 272          RC   0.040   0.025   0.040 13992.0  0.0243
 273          RX       0       8     108     109     149     150     250     258
 274          RY       6       4       3       0       0       3       4       6

 275          KK    SK15
 276          KM   SUB-BASIN K15
 277          BA    1.09
 278          LG     .15     .30    3.51     .26    9.70
 279          UI    117.    445.    757.    897.    542.    417.    295.    219.    151.    111.
 280          UI     78.     55.     47.     22.     18.     18.     18.      0.      0.      0.
 281          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 282          KK    CK17
 283          KM        COMBINE HYDROGRAPHS FROM SK15 & RK14
 284          HC       2

 285          KK      SL
 286          KM   SUB-BASIN L
 287          BA     .79
 288          LG     .15     .32    3.69     .29    7.05
 289          UI    126.    478.    809.    519.    372.    247.    174.    109.     76.     50.
 290          UI     38.     16.     16.     16.      0.      0.      0.      0.      0.      0.
 291          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 292          KK   NUL
 293          KM   COMBINING WASHES I, J, K, & L TO REDUCE THE NO. OF FREE HYDROGRAPHS
 294          HC   5.

 295          KK      SO
 296          KM   SUB-BASIN O
 297          BA    2.90
 298          LG     .15     .30    3.55     .26    5.90
 299          UI    166.    393.    856.   1190.   1626.   1500.   1008.    850.    715.    580.
 300          UI    443.    382.    309.    231.    193.    161.    127.     99.     81.     81.
 301          UI     40.     32.     32.     32.     32.     32.     32.      0.      0.      0.
 302          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 303          KK      SP
 304          KM   SUB-BASIN P
 305          BA     .87
 306          LG     .15     .32    3.76     .30    8.70
 307          UI    148.    554.    909.    566.    405.    262.    185.    114.     80.     51.
 308          UI     36.     18.     18.     18.      0.      0.      0.      0.      0.      0.
 309          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 310          KK   NUL
 311          KM   COMBINING WASHES O & P TO REDUCE THE NO. OF FREE HYDROGRAPHS
 312          HC   3.

 313          KK     ST2
 314          KM   SUB-BASIN ST2
 315          BA    4.50
 316          LG     .15     .32    3.82     .31     .50
 317          UI    928.   3373.   4908.   2863.   1947.   1247.    779.    507.    323.    224.
 318          UI    102.    102.    102.      0.      0.      0.      0.      0.      0.      0.
 319          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 320          KK     RT4
 321          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST6
 322          RS       1    FLOW      -1
 323          RC    .045     .03    .045    9200   .0337
 324          RX     442     446     476     480     520     524     554     558
 325          RY      16      12      12      10      10      12      12      16

 326          KK     ST6
 327          KM   SUB-BASIN ST6
 328          BA    3.93
 329          LG     .15     .34    4.12     .37    3.30
 330          UI    920.   3322.   4323.   2465.   1578.   1017.    605.    392.    240.    125.
 331          UI     94.     94.      0.      0.      0.      0.      0.      0.      0.      0.
 332          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 333          KK     CT8
 334          HC       2

 335          KK     RT9
 336          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST10
 337          RS       1    FLOW      -1
 338          RC    .045     .03    .045   17800   .0264
 339          RX     442     446     476     480     520     524     554     558
 340          RY      16      12      12      10      10      12      12      16

 341          KK    ST10
 342          KM   SUB-BASIN ST10
 343          BA    2.70
 344          LG     .15     .32    3.86     .32    9.80
 345          UI    385.   1460.   2579.   1857.   1301.    912.    631.    421.    299.    202.
 346          UI    132.     93.     52.     52.     52.      0.      0.      0.      0.      0.
 347          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 348          KK    ST12
 349          KM   SUB-BASIN ST12
 350          BA    3.50
 351          LG     .15     .33    4.00     .35    7.30
 352          UI    352.   1348.   2294.   2906.   1751.   1355.    986.    715.    528.    361.
 353          UI    272.    198.    146.     99.     57.     57.     57.     57.      0.      0.
 354          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 355          KK    CT11
 356          HC       3

 357          KK    RT13
 358          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST16
 359          RS       1    FLOW     -1
 360          RC    .045     .03    .045    4000   .0175
 361          RX     436     446     476     480     520     524     554     564
 362          RY      22      12      12      10      10      12      12      22

 363          KK    ST14
 364          KM   SUB-BASIN ST14
 365          BA    2.76
 366          LG     .15     .30    3.61     .28   10.60
 367          UI    460.   1730.   2865.   1802.   1290.    841.    591.    368.    257.    165.
 368          UI    120.     57.     57.     57.      0.      0.      0.      0.      0.      0.
 369          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 370          KK    CT14
 371          HC       2

 372          KK    RT15
 373          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST16
 374          RS       1    FLOW     -1
 375          RC    .045     .03    .045   10200   .0206
 376          RX     444     454     474     480     520     526     546     556
 377          RY      23      13      13      10      10      13      13      23

 378          KK    ST16
 379          KM   SUB-BASIN ST16
 380          BA    1.35
 381          LG     .15     .29    3.78     .32   15.40
 382          UI    250.    920.   1443.    868.    613.    391.    262.    172.    110.     74.
 383          UI     41.     29.     29.      0.      0.      0.      0.      0.      0.      0.
 384          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 385          KK    CT17
 386          HC       2

 387          KK    RT18
 388          KM        SAN DOMINGO WITHIN WASH WITHIN SUB BASIN ST20
 389          RS       1    FLOW     -1
 390          RC    .045     .03    .045    4600   .0174
 391          RX     434     444     474     480     520     526     556     566
 392          RY      23      13      13      10      10      13      13      23

 393          KK    ST20
 394          KM   SUB-BASIN ST20
 395          BA     .28
 396          LG     .15     .34    3.68     .69    3.70
 397          UI    287.    484.    191.     75.     29.     13.      0.      0.      0.      0.
 398          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 399          KK   ST22
 400          KM   SUB-BASIN ST22
 401          BA    .72
 402          LG    .15     .29    3.82     .33   21.80
 403          UI   216.    774.    753.    431.    253.    149.     90.     53.     27.     19.
 404          UI    19.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 405          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 406          KK   CT24
 407          HC      3

 408          KK   RT25
 409          KM       SAN DOMINGO WASH WITHIN SUB BASIN ST26
 410          RS      1    FLOW     -1
 411          RC   .045     .03    .045    5000    .010
 412          RX    404     414     464     470     530     536     586     596
 413          RY     23      13      13      10      10      13      13      23

 414          KK   ST26
 415          KM   SUB-BASIN ST26
 416          BA    .59
 417          LG    .15     .33    4.10     .50    6.20
 418          UI   376.    953.    497.    241.    115.     58.     22.     22.      0.      0.
 419          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 420          KK   CT30
 421          HC      2
 422          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
NO.       (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

21          SB5
             V
             V
29         RB7
             .
             .
35           .        SB10
             .          .
             .          .
42         CB12............
             .
             .
45           .        SC5
             .          V
             .          V
54           .        RC7
             .          .
             .          .
60           .          .        SC10
             .          .          .
             .          .          .
68           .        CC12............
             .          V
             .          V
71           .        RC14
             .          .
             .          .
77           .          .        SC15
             .          .          .
             .          .          .
85           .        CC17............
             .          V
             .          V
88           .        RC19
             .          .
             .          .
94           .          .        SC20
             .          .          .
             .          .          .
100          .        CC22............
             .          .
             .          .
103          .          .        SD5
             .          .          .
             .          .          .
113          .          .          .        SD10
             .          .          .          .
             .          .          .          .
122          .          .        CD12............
             .          .          V
             .          .          V
125          .          .        RD14
             .          .          .
```

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                .         .         .
131             .         .         .       SD15
                .         .         .         .
                .         .         .         .
3               .         .       CD17............
                .         .         .
                .         .         .
141             .         .         .       SD20
                .         .         .         V
                .         .         .         V
148             .         .         .       RD22
                .         .         .         .
                .         .         .         .
154             .         .       CD24............
                .         .         .
                .         .         .
157             .         .         .         E5
                .         .         .         .
                .         .         .         .
164             .         .         .         .         E10
                .         .         .         .           .
                .         .         .         .           .
172             .         .         .       CE12............
                .         .         .         V
                .         .         .         V
175             .         .         .       RE14
                .         .         .         .
                .         .         .         .
181             .         .         .         .         E15
                .         .         .         .           V
                .         .         .         .           V
189             .         .         .         .        RE17
                .         .         .         .           .
                .         .         .         .           .
195             .         .         .       CE19............
                .         .         .         .
                .         .         .         .
198             .         .         .         .        SE20
                .         .         .         .           .
                .         .         .         .           .
206             .         .         .       CE22............
                .         .         .         .
                .         .         .         .
209       NUL  ................................
                .
                .
212             .       SI5
                .         .
                .         .
219             .         .       SI10
                .         .         .
                .         .         .
227             .       CI12............
                .         V
                .         V
230             .       RI14
                .         .
                .         .
236             .         .       SI15
                .         .         .
```

```
242          CI17............
                 .
                 .
245                  SJ
                     .
                     .
252                  .        SK5
                     .         .
                     .         .
259                  .         .        SK10
                     .         .          .
                     .         .          .
266                  .        CK12............
                     .         V
                     .         V
269                  .        RK14
                     .         .
                     .         .
275                  .         .        SK15
                     .         .          .
                     .         .          .
282                  .        CK17............
                     .         .
                     .         .
285                  .         .          SL
                     .         .          .
                     .         .          .
292     NUL  ..............................................
                 .
                 .
295          SO
                 .
                 .
303                  SP
                     .
                     .
310     NUL  ........................
                 .
                 .
313          ST2
                 V
                 V
320          RT4
                 .
                 .
326                  ST6
                     .
                     .
333          CT8............
                 V
                 V
335          RT9
                 .
                 .
341                  ST10
                     .
                     .
348                  .        ST12
                     .         .
```

```
                .          .          .          .
355             .       CT11.......................
                .          V
                .          V
357             .       RT13
                .          .
                .          .
363             .          .       ST14
                .          .          .
                .          .          .
370             .       CT14............
                .          V
                .          V
372             .       RT15
                .          .
                .          .
378             .          .       ST16
                .          .          .
                .          .          .
385             .       CT17............
                .          V
                .          V
387             .       RT18
                .          .
                .          .
393             .          .       ST20
                .          .          .
                .          .          .
399             .          .          .       ST22
                .          .          .          .
                .          .          .          .
406             .       CT24.......................
                .          V
                .          V
408             .       RT25
                .          .
                .          .
414             .          .       ST26
                .          .          .
                .          .          .
420             .       CT30............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            FEBRUARY 1981              *
*          REVISED 02 AUG 88            *
*                                       *
*  RUN DATE  12/02/1991  TIME  16:34:16 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*  THE HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748              *
*                                       *
*****************************************
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```
                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
                    WASHES K, L, O, P, & T(SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 10 min
                    E2-2 ; 2-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                  NMIN         10  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1    0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      3    0  ENDING DATE
                NDTIME       0150  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .17 HOURS
                 TOTAL TIME BASE   49.83 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                 STRM        1.91  PRECIPITATION DEPTH
                 TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI         PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .01      .01      .01      .01      .01      .01
                 .01      .01      .01      .01      .01      .01      .02      .02      .02      .13
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

17 JD INDEX STORM NO. 2

STRM 1.87 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

18 JD INDEX STORM NO. 3

STRM 1.83 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

19 JD INDEX STORM NO. 4

STRM 1.76 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

20 JD INDEX STORM NO. 5

STRM 1.72 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | HYDROGRAPH AT | SB5 | 328. | 12.50 | 62. | 18. | 9. | 3.17 | | |
| + | ROUTED TO | RB7 | 262. | 12.67 | 62. | 18. | 9. | 3.17 | | |
| + | | | | | | | | | .68 | 12.67 |
| + | HYDROGRAPH AT | SB10 | 302. | 12.17 | 46. | 13. | 6. | 1.11 | | |
| + | 2 COMBINED AT | CB12 | 427. | 12.33 | 105. | 31. | 15. | 4.28 | | |
| + | HYDROGRAPH AT | SC5 | 653. | 12.67 | 165. | 46. | 22. | 4.43 | | |
| + | ROUTED TO | RC7 | 531. | 13.00 | 164. | 46. | 22. | 4.43 | | |
| + | | | | | | | | | 1.27 | 13.17 |
| | HYDROGRAPH AT | SC10 | 332. | 12.50 | 80. | 25. | 12. | 3.66 | | |
| + | 2 COMBINED AT | CC12 | 695. | 13.00 | 232. | 68. | 33. | 8.09 | | |
| + | ROUTED TO | RC14 | 658. | 13.33 | 231. | 68. | 33. | 8.09 | | |
| + | | | | | | | | | 1.45 | 13.33 |
| + | HYDROGRAPH AT | SC15 | 231. | 12.50 | 49. | 14. | 7. | 2.31 | | |
| + | 2 COMBINED AT | CC17 | 714. | 13.33 | 268. | 80. | 39. | 10.40 | | |
| + | ROUTED TO | RC19 | 712. | 13.33 | 267. | 80. | 39. | 10.40 | | |
| + | | | | | | | | | 1.36 | 13.50 |
| + | HYDROGRAPH AT | SC20 | 74. | 12.17 | 9. | 3. | 1. | .43 | | |
| + | 2 COMBINED AT | CC22 | 712. | 13.33 | 273. | 82. | 40. | 10.83 | | |
| + | HYDROGRAPH AT | SD5 | 379. | 13.00 | 125. | 38. | 18. | 5.42 | | |
| + | HYDROGRAPH AT | SD10 | 350. | 12.83 | 108. | 32. | 15. | 3.80 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 COMBINED AT | | | | | | | | |
| + | | CD12 | 692. | 13.00 | 222. | 67. | 33. | 9.22 | |
| | ROUTED TO | | | | | | | | |
| + | | RD14 | 641. | 13.17 | 221. | 67. | 33. | 9.22 | |
| + | | | | | | | | | 1.49 13.17 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD15 | 74. | 12.33 | 9. | 3. | 1. | .93 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD17 | 644. | 13.17 | 227. | 69. | 33. | 10.15 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD20 | 80. | 12.33 | 12. | 3. | 2. | .58 | |
| | ROUTED TO | | | | | | | | |
| + | | RD22 | 77. | 12.33 | 12. | 3. | 2. | .58 | |
| + | | | | | | | | | .23 12.33 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD24 | 651. | 13.17 | 234. | 71. | 34. | 10.73 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E5 | 99. | 12.17 | 15. | 5. | 2. | .37 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E10 | 156. | 12.50 | 34. | 10. | 5. | .94 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE12 | 232. | 12.33 | 49. | 15. | 7. | 1.31 | |
| | ROUTED TO | | | | | | | | |
| + | | RE14 | 225. | 12.33 | 49. | 15. | 7. | 1.31 | |
| + | | | | | | | | | .62 12.50 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E15 | 318. | 12.67 | 84. | 26. | 13. | 4.41 | |
| | ROUTED TO | | | | | | | | |
| + | | RE17 | 254. | 13.00 | 83. | 26. | 13. | 4.41 | |
| + | | | | | | | | | .73 13.17 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE19 | 362. | 12.83 | 128. | 40. | 19. | 5.72 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SE20 | 100. | 12.50 | 20. | 6. | 3. | 1.11 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE22 | 410. | 12.83 | 145. | 45. | 22. | 6.83 | |
| | 4 COMBINED AT | | | | | | | | |
| + | | NUL | 1357. | 13.17 | 582. | 183. | 89. | 32.67 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SI5 | 113. | 12.17 | 17. | 5. | 2. | .41 | |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | SI10 | 278. | 12.33 | 52. | 14. | 7. | 1.61 | | |
| | 2 COMBINED AT | | | | | | | | | |
| | | CI12 | 385. | 12.33 | 69. | 18. | 9. | 2.02 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RI14 | 366. | 12.50 | 69. | 18. | 9. | 2.02 | | |
| + | | | | | | | | | .97 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SI15 | 61. | 12.00 | 6. | 2. | 1. | .25 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CI17 | 380. | 12.33 | 75. | 20. | 10. | 2.27 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SJ | 113. | 12.17 | 15. | 4. | 2. | .42 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SK5 | 178. | 12.17 | 24. | 6. | 3. | .84 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SK10 | 252. | 12.33 | 42. | 11. | 5. | 1.04 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CK12 | 423. | 12.33 | 66. | 17. | 8. | 1.88 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RK14 | 295. | 12.50 | 66. | 17. | 8. | 1.88 | | |
| | | | | | | | | | .71 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SK15 | 285. | 12.33 | 51. | 14. | 7. | 1.09 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CK17 | 539. | 12.50 | 115. | 31. | 15. | 2.97 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SL | 190. | 12.17 | 30. | 8. | 4. | .79 | | |
| | 5 COMBINED AT | | | | | | | | | |
| + | | NUL | 1744. | 12.50 | 729. | 223. | 108. | 39.12 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SO | 519. | 12.50 | 122. | 33. | 16. | 2.90 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SP | 209. | 12.17 | 33. | 9. | 5. | .87 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | NUL | 2183. | 12.50 | 829. | 252. | 122. | 42.89 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST2 | 907. | 12.17 | 116. | 29. | 14. | 4.50 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT4 | 788. | 12.33 | 116. | 29. | 14. | 4.50 | | |
| + | | | | | | | | | 11.25 | 12.33 |
| | HYDROGRAPH AT | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | ST6 | 552. | 12.17 | 72. | 20. | 10. | 3.93 | | |
| | 2 COMBINED AT | | | | | | | | | |
| | | CT8 | 1236. | 12.33 | 179. | 47. | 23. | 8.43 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT9 | 818. | 12.67 | 177. | 47. | 23. | 8.43 | | |
| + | | | | | | | | | 11.37 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST10 | 573. | 12.33 | 97. | 28. | 14. | 2.70 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST12 | 525. | 12.33 | 96. | 28. | 13. | 3.50 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT11 | 1471. | 12.50 | 324. | 91. | 44. | 14.63 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT13 | 1414. | 12.50 | 324. | 91. | 44. | 14.63 | | |
| + | | | | | | | | | 12.25 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST14 | 760. | 12.17 | 123. | 35. | 17. | 2.76 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT14 | 1781. | 12.50 | 418. | 119. | 57. | 17.39 | | |
| | ROUTED TO | | | | | | | | | |
| | | RT15 | 1674. | 12.67 | 417. | 119. | 57. | 17.39 | | |
| | | | | | | | | | 12.59 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST16 | 367. | 12.17 | 61. | 18. | 9. | 1.35 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT17 | 1789. | 12.67 | 462. | 133. | 64. | 18.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT18 | 1776. | 12.67 | 462. | 133. | 64. | 18.74 | | |
| + | | | | | | | | | 12.85 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST20 | 9. | 12.00 | 1. | 1. | 0. | .28 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST22 | 241. | 12.17 | 37. | 12. | 6. | .72 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT24 | 1827. | 12.67 | 490. | 142. | 69. | 19.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT25 | 1771. | 12.83 | 489. | 142. | 69. | 19.74 | | |
| + | | | | | | | | | 12.71 | 12.83 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST26 | 62. | 12.17 | 8. | 2. | 1. | .59 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT30 | 1771. | 12.83 | 493. | 144. | 70. | 20.33 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 10)
10-YEAR RETURN PERIOD

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*            FEBRUARY 1981             *
*          REVISED 02 AUG 88           *
*                                      *
*  RUN DATE  12/02/1991  TIME  15:12:04 *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 551-1748              *
*                                      *
****************************************
```

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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
  3           ID       WASHES K, L, O, P, & T(SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 10 min
  7           ID       E2-10 ; 10-YEAR EVENT
              *DIAGRAM
  8           IT     10                    300
  9           IO      5
 10           IN     30
 11           JD   2.85     .01
 12           PC   .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC   .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC   .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC   .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC   .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD   2.79     3.0
 18           JD   2.74     10.
 19           JD   2.62    20.0
 20           JD   2.57    30.0

 21           KK    SB5
 22           KM   SUB-BASIN B5
 23           BA   3.17
 24           LG    .15     .34    4.21     .38    5.20
 25           UI   264.   1041.   1798.   2591.   1626.   1266.    976.    690.    556.    375.
 26           UI   291.    212.    158.    123.     85.     48.     48.     48.     48.      0.
 27           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 28           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 29           KK   RB7
 30           KM       ROUTE SB5 THROUGH SB10
 31           RS      1    FLOW      -1
 32           RC  0.040   0.025   0.040 11985.6  0.0284
 33           RX      0       8     108     109     139     140     240     248
 34           RY      6       4       3       0       0       3       4       6

 35           KK    SB10
 36           KM   SUB-BASIN B10
 37           BA   1.11
 38           LG    .15     .30    3.74     .30   10.70
 39           UI   219.    800.   1202.    709.    491.    312.    202.    132.     84.     62.
 40           UI    25.     25.     25.      0.      0.      0.      0.      0.      0.      0.
 41           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 42           KK   CB12
 43           KM       COMBINE RB7 & SB10
 44           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  45          KK    SC5
  46          KM   SUB-BASIN C5
  47          BA   4.43
  48          LG    .15     .31    3.68     .29    7.00
  49          UI   231.    453.   1069.   1544.   1933.   2542.   1608.   1323.   1136.    964.
  50          UI   794.    617.    542.    452.    346.    285.    253.    187.    177.    117.
  51          UI   113.    113.     51.     44.     44.     44.     44.     44.     44.     0.
  52          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.
  53          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  54          KK    RC7
  55          KM       ROUTE HYDROGRAPH SC5 (RC7) THROUGH SC10
  56          RS      2    FLOW      -1
  57          RC  0.040   0.025   0.040 24024.0  0.0233
  58          RX      0       3       5       6      36      37      39      42
  59          RY     10       3       2       0       0       2       3      10

  60          KK   SC10
  61          KM   SUB-BASIN C10
  62          BA   3.66
  63          LG    .15     .34    4.28     .41    9.40
  64          UI   247.    780.   1540.   2120.   2422.   1504.   1233.    994.    745.    590.
  65          UI   470.    340.    278.    207.    170.    121.    121.     51.     47.     47.
  66          UI    47.     47.     47.      0.      0.      0.      0.      0.      0.     0.
  67          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  68          KK   CC12
  69          KM       COMBINE HYDROGRAPHS RC7 & SC10
  70          HC      2

  71          KK   RC14
  72          KM       ROUTE HYDROGRAPH CC12 THROUGH SC15
  73          RS      3    FLOW      -1
  74          RC  0.040   0.025   0.040 22017.6   0.024
  75          RX      0       8     108     109     139     140     240     248
  76          RY      6       4       3       0       0       3       4       6

  77          KK   SC15
  78          KM   SUB-BASIN C15
  79          BA   2.31
  80          LG    .15     .34    4.19     .38    6.15
  81          UI   160.    524.   1022.   1425.   1486.    945.    770.    615.    451.    367.
  82          UI   285.    201.    170.    123.     94.     78.     61.     31.     31.     31.
  83          UI    31.     31.      0.      0.      0.      0.      0.      0.      0.     0.
  84          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  85          KK   CC17
  86          KM       COMBINE HYDROGRAPHS SC15 & RC14
  87          HC      2
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```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 88           KK    RC19
 89           KM        ROUTE HYDROGRAPH CC17 THROUGH SC20
 90           RS       1    FLOW      -1
 91           RC   0.033   0.025   0.033    5016  0.0199
 92           RX       0       8     108     109     149     150     250     258
 93           RY       6       4       3       0       0       3       4       6

 94           KK    SC20
 95           KM   SUB-BASIN C20
 96           BA     .43
 97           LG     .15     .32    4.23     .44    9.10
 98           UI    374.    736.    319.    138.     59.     22.      0.      0.      0.      0.
 99           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

100           KK    CC22
101           KM        COMBINE HYDROGRAPHS RC19 & SC20
102           HC       2

103           KK     SD5
104           KM   SUB-BASIN D5
105           BA    5.42
106           LG     .15     .33    4.16     .38    8.10
107           UI    208.    208.    649.    996.   1330.   1568.   1912.   2406.   1549.   1282.
108           UI   1153.   1029.    911.    808.    681.    562.    502.    462.    396.    327.
109           UI    266.    243.    228.    175.    160.    151.    102.    102.    102.    100.
110           UI     40.     40.     40.     40.     40.     40.     40.     40.     40.     40.
111           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
112           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

113           KK    SD10
114           KM   SUB-BASIN D10
115           BA    3.80
116           LG     .15     .33    4.02     .35    8.60
117           UI    162.    216.    558.    889.   1123.   1341.   1833.   1325.   1009.    894.
118           UI    787.    688.    595.    484.    407.    372.    322.    259.    206.    186.
119           UI    176.    124.    124.     95.     79.     79.     79.     35.     31.     31.
120           UI     31.     31.     31.     31.     31.     31.      0.      0.      0.      0.
121           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

122           KK    CD12
123           KM        COMBINE HYDROGRAPHS SD5 & SD10
124           HC       2

125           KK    RD14
126           KM        ROUTE HYDROGRAPH CD12 THROGH SD15
127           RS       1    FLOW      -1
128           RC   0.040   0.025   0.040 11510.4  0.0209
129           RX       0       8     108     109     139     140     240     248
130           RY       6       4       3       0       0       3       4       6
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 131          KK   SD15
 132          KM   SUB-BASIN D15
 133          BA    .93
 134          LG    .15     .34    4.24     .43    1.30
 135          UI   172.    634.    994.    598.    422.    270.    181.    119.     76.     51.
 136          UI    28.     20.     20.      0.      0.      0.      0.      0.      0.      0.
 137          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 138          KK   CD17
 139          KM       COMBINE HYDROGRAPHS SD15 & RD14
 140          HC      2

 141          KK   SD20
 142          KM   SUB-BASIN D20
 143          BA    .58
 144          LG    .15     .33    4.16     .38    4.20
 145          UI   107.    394.    619.    373.    264.    168.    113.     74.     47.     32.
 146          UI    18.     12.     12.      0.      0.      0.      0.      0.      0.      0.
 147          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 148          KK   RD22
 149          KM       ROUTE HYDROGRAPH SD20 THROUGH SD15
 150          RS      1    FLOW      -1
 151          RC  0.040   0.025   0.040    2500  0.0283
 152          RX      0       8     108     109     149     150     250     258
 153          RY      6       4       3       0       0       3       4       6

 154          KK   CD24
 155          KM       COMBINE HYDROGRAPHS RD22 & CD17
 156          HC      2

 157          KK    E5
 158          KM   SUB-BASIN E5
 159          BA    .37
 160          LG    .15     .31    3.95     .35   16.70
 161          UI    94.    336.    405.    229.    142.     90.     54.     32.     22.      9.
 162          UI     9.      9.      0.      0.      0.      0.      0.      0.      0.      0.
 163          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 164          KK   E10
 165          KM   SUB-BASIN E10
 166          BA    .94
 167          LG    .15     .30    3.93     .34   10.50
 168          UI    66.    223.    431.    608.    588.    383.    312.    246.    179.    148.
 169          UI   108.     81.     65.     51.     34.     32.     20.     13.     13.     13.
 170          UI    13.     13.      0.      0.      0.      0.      0.      0.      0.      0.
 171          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 172          KK   CE12
 173          KM       COMBINE HYDROGRAPHS FROM E5 & E10
 174          HC      2
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 175          KK   RE14
 176          KM       ROUTE HYDROGRAPH CE12 THROUGH E20
 177          RS     1   FLOW     -1
 178          RC 0.040  0.025  0.040   3000  0.0244
 179          RX     0      8    108    109    149    150    250    258
 180          RY     6      4      3      0      0      3      4      6

 181          KK    E15
 182          KM  SUB-BASIN E15
 183          BA   4.41
 184          LG    .15    .33   4.24    .43   8.20
 185          UI   251.   593.  1294.  1801.  2453.  2294.  1533.  1293.  1089.   886.
 186          UI   677.   582.   473.   354.   295.   248.   193.   154.   123.   123.
 187          UI    65.    48.    48.    48.    48.    48.    48.     0.     0.     0.
 188          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 189          KK   RE17
 190          KM       ROUTE HYDROGRAPH FROM E15 THROUGH E20
 191          RS     2   FLOW     -1
 192          RC 0.040  0.025  0.040 19008.0  0.0244
 193          RX     0      8    108    109    139    140    240    248
 194          RY     6      4      3      0      0      3      4      6

 195          KK   CE19
 196          KM       COMBINE HYDROGRAPHS RE17 & RE14
 197          HC     2

 198          KK   SE20
 199          KM  SUB-BASIN E20
 200          BA   1.11
 201          LG    .15    .32   4.24    .44   7.20
 202          UI    88.   351.   612.   897.   574.   445.   347.   248.   196.   139.
 203          UI   103.    78.    59.    42.    35.    17.    17.    17.    17.     0.
 204          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
 205          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 206          KK   CE22
 207          KM       COMBINE HYDROGRAPHS E20 & CE19  (E)
 208          HC     2

 209          KK  NUL
 210          KM  COMBINING WASHES B, C, D, & E TO REDUCE THE NO. OF FREE HYDROGRAPHS
 211          HC  4.

 212          KK    SI5
 213          KM  SUB-BASIN I5
 214          BA    .41
 215          LG    .15    .31   3.58    .27   7.90
 216          UI    68.   257.   425.   267.   191.   124.    87.    54.    38.    24.
 217          UI    18.     8.     8.     8.     0.     0.     0.     0.     0.     0.
 218          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 219          KK   SI10
 220          KM  SUB-BASIN I10
 221          BA   1.61
 222          LG    .15     .31    3.77     .30    3.20
 223          UI   121.    456.    823.   1231.    875.    651.    518.    386.    292.    227.
 224          UI   160.    128.     92.     68.     59.     36.     23.     23.     23.     23.
 225          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 226          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 227          KK   CI12
 228          KM      COMBINE SI5 & SI10
 229          HC      2

 230          KK   RI14
 231          KM      ROUTE COMBINED HYDROGRAPHS FROM SI5 & SI10 (SI12) THROUGH SI15
 232          RS      1   FLOW     -1
 233          RC  0.040   0.025   0.040    5016  0.0279
 234          RX      0       8     108     109     139     140     240     248
 235          RY      6       4       3       0       0       3       4       6

 236          KK   SI15
 237          KM  SUB-BASIN I15
 238          BA    .25
 239          LG    .15     .34    3.91     .33    2.20
 240          UI   204.    424.    191.     85.     37.     15.     10.      0.      0.      0.
 241          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 242          KK   CI17
 243          KM      COMBINE RI14 & SI15
 244          HC      2

 245          KK     SJ
 246          KM  SUB-BASIN J
 247          BA    .42
 248          LG    .15     .32    3.74     .30    6.30
 249          UI   109.    389.    458.    259.    160.    100.     60.     36.     24.     11.
 250          UI    11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 251          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 252          KK    SK5
 253          KM  SUB-BASIN K5
 254          BA    .84
 255          LG    .15     .31    3.78     .30     .00
 256          UI   145.    540.    881.    545.    389.    252.    177.    109.     76.     48.
 257          UI    33.     18.     18.     18.      0.      0.      0.      0.      0.      0.
 258          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 259          KK   SK10
 260          KM  SUB-BASIN K10
 261          BA   1.04
 262          LG    .15     .30    3.92     .24    3.70
 263          UI   106.    405.    689.    863.    520.    402.    291.    212.    154.    107.
 264          UI    80.     58.     44.     28.     17.     17.     17.     17.      0.      0.
 265          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 266          KK   CK12
 267          KM       COMBINE HYDROGRAPHS FROM SK5 & SK10
 268          HC      2

 269          KK   RK14
 270          KM       ROUTE COMBINED HYDROGRRAPHS SK5 & SK10 (CK12) THROUGH SK15
 271          RS      1   FLOW     -1
 272          RC  0.040  0.025  0.040 13992.0  0.0243
 273          RX      0      8    108     109     149     150     250     258
 274          RY      6      4      3       0       0       3       4       6

 275          KK   SK15
 276          KM  SUB-BASIN K15
 277          BA   1.09
 278          LG    .15    .30   3.51     .26    9.70
 279          UI   117.   445.   757.   897.   542.   417.   295.   219.   151.   111.
 280          UI    78.    55.    47.    22.    18.    18.    18.     0.     0.     0.
 281          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 282          KK   CK17
 283          KM       COMBINE HYDROGRAPHS FROM SK15 & RK14
 284          HC      2

 285          KK     SL
 286          KM  SUB-BASIN L
 287          BA    .79
 288          LG    .15    .32   3.69     .29    7.05
 289          UI   126.   478.   809.   519.   372.   247.   174.   109.    76.    50.
 290          UI    38.    16.    16.    16.     0.     0.     0.     0.     0.     0.
 291          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 292          KK  NUL
 293          KM  COMBINING WASHES I, J, K, & L TO REDUCE THE NO. OF FREE HYDROGRAPHS
 294          HC  5.

 295          KK     SO
 296          KM  SUB-BASIN O
 297          BA   2.90
 298          LG    .15    .30   3.55     .26    5.90
 299          UI   166.   393.   856.  1190.  1626.  1500.  1008.   850.   715.   580.
 300          UI   443.   382.   309.   231.   193.   161.   127.    99.    81.    81.
 301          UI    40.    32.    32.    32.    32.    32.    32.     0.     0.     0.
 302          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 303          KK     SP
 304          KM  SUB-BASIN P
 305          BA    .87
 306          LG    .15    .32   3.76     .30    8.70
 307          UI   148.   554.   909.   566.   405.   262.   185.   114.    80.    51.
 308          UI    36.    18.    18.    18.     0.     0.     0.     0.     0.     0.
 309          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 310          KK   NUL
 311          KM   COMBINING WASHES O & P TO REDUCE THE NO. OF FREE HYDROGRAPHS
 312          HC   3.

 313          KK     ST2
 314          KM   SUB-BASIN ST2
 315          BA    4.50
 316          LG     .15     .32    3.82     .31     .50
 317          UI    928.   3373.   4908.   2863.   1947.   1247.    779.    507.    323.    224.
 318          UI    102.    102.    102.      0.      0.      0.      0.      0.      0.      0.
 319          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 320          KK     RT4
 321          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST6
 322          RS       1    FLOW      -1
 323          RC    .045     .03    .045    9200   .0337
 324          RX     442     446     476     480     520     524     554     558
 325          RY      16      12      12      10      10      12      12      16

 326          KK     ST6
 327          KM   SUB-BASIN ST6
 328          BA    3.93
 329          LG     .15     .34    4.12     .37    3.30
 330          UI    920.   3322.   4323.   2465.   1578.   1017.    605.    392.    240.    125.
 331          UI     94.     94.      0.      0.      0.      0.      0.      0.      0.      0.
 332          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 333          KK     CT8
 334          HC       2

 335          KK     RT9
 336          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST10
 337          RS       1    FLOW      -1
 338          RC    .045     .03    .045   17800   .0264
 339          RX     442     446     476     480     520     524     554     558
 340          RY      16      12      12      10      10      12      12      16

 341          KK    ST10
 342          KM   SUB-BASIN ST10
 343          BA    2.70
 344          LG     .15     .32    3.86     .32    9.80
 345          UI    385.   1460.   2579.   1857.   1301.    912.    631.    421.    299.    202.
 346          UI    132.     93.     52.     52.     52.      0.      0.      0.      0.      0.
 347          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 348          KK    ST12
 349          KM   SUB-BASIN ST12
 350          BA    3.50
 351          LG     .15     .33    4.00     .35    7.30
 352          UI    352.   1348.   2294.   2906.   1751.   1355.    986.    715.    528.    361.
 353          UI    272.    198.    146.     99.     57.     57.     57.     57.      0.      0.
 354          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 355          KK    CT11
 356          HC       3

 357          KK    RT13
 358          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST16
 359          RS       1    FLOW      -1
 360          RC    .045     .03    .045    4000    .0175
 361          RX     436     446     476     480     520     524     554     564
 362          RY      22      12      12      10      10      12      12      22

 363          KK    ST14
 364          KM   SUB-BASIN ST14
 365          BA    2.76
 366          LG     .15     .30    3.61     .28   10.60
 367          UI    460.   1730.   2865.   1802.   1290.    841.    591.    368.    257.    165.
 368          UI    120.     57.     57.     57.      0.      0.      0.      0.      0.      0.
 369          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 370          KK    CT14
 371          HC       2

 372          KK    RT15
 373          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST16
 374          RS       1    FLOW      -1
 375          RC    .045     .03    .045   10200    .0206
 376          RX     444     454     474     480     520     526     546     556
 377          RY      23      13      13      10      10      13      13      23

 378          KK    ST16
 379          KM   SUB-BASIN ST16
 380          BA    1.35
 381          LG     .15     .29    3.78     .32   15.40
 382          UI    250.    920.   1443.    868.    613.    391.    262.    172.    110.     74.
 383          UI     41.     29.     29.      0.      0.      0.      0.      0.      0.      0.
 384          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 385          KK    CT17
 386          HC       2

 387          KK    RT18
 388          KM        SAN DOMINGO WITHIN WASH WITHIN SUB BASIN ST20
 389          RS       1    FLOW      -1
 390          RC    .045     .03    .045    4600    .0174
 391          RX     434     444     474     480     520     526     556     566
 392          RY      23      13      13      10      10      13      13      23

 393          KK    ST20
 394          KM   SUB-BASIN ST20
 395          BA     .28
 396          LG     .15     .34    3.68     .69    3.70
 397          UI    287.    484.    191.     75.     29.     13.      0.      0.      0.      0.
 398          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 399          KK   ST22
 400          KM   SUB-BASIN ST22
 401          BA    .72
 402          LG    .15     .29    3.82     .33   21.80
 403          UI   216.    774.    753.    431.    253.    149.     90.     53.     27.     19.
 404          UI    19.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 405          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 406          KK   CT24
 407          HC      3

 408          KK   RT25
 409          KM       SAN DOMINGO WASH WITHIN SUB BASIN ST26
 410          RS      1   FLOW     -1
 411          RC   .045     .03    .045    5000    .010
 412          RX    404     414     464     470     530     536     586     596
 413          RY     23      13      13      10      10      13      13      23

 414          KK   ST26
 415          KM   SUB-BASIN ST26
 416          BA    .59
 417          LG    .15     .33    4.10     .50    6.20
 418          UI   376.    953.    497.    241.    115.     58.     22.     22.      0.      0.
 419          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 420          KK   CT30
 421          HC      2
 422          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
 NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 21        SB5
            V
            V
 29        RB7
            .
            .
 35         .        SB10
            .          .
            .          .
 42        CB12............
            .
            .
 45         .         SC5
            .          V
            .          V
 54         .         RC7
            .          .
            .          .
 60         .          .        SC10
            .          .          .
            .          .          .
 68         .        CC12............
            .          V
            .          V
 71         .        RC14
            .          .
            .          .
 77         .          .        SC15
            .          .          .
            .          .          .
 85         .        CC17............
            .          V
            .          V
 88         .        RC19
            .          .
            .          .
 94         .          .        SC20
            .          .          .
            .          .          .
100         .        CC22............
            .          .
            .          .
103         .          .         SD5
            .          .          .
            .          .          .
113         .          .          .        SD10
            .          .          .          .
            .          .          .          .
122         .          .        CD12............
            .          .          V
            .          .          V
125         .          .        RD14
            .          .          .
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                .         .         .
131             .         .         .       SD15
                .         .         .         .
                .         .         .         .
                .         .       CD17............
                .         .         .
                .         .         .
141             .         .         .       SD20
                .         .         .         V
                .         .         .         V
148             .         .         .       RD22
                .         .         .         .
                .         .         .         .
154             .         .       CD24............
                .         .         .
                .         .         .
157             .         .         .         E5
                .         .         .         .
                .         .         .         .
164             .         .         .         .         E10
                .         .         .         .           .
                .         .         .         .           .
172             .         .         .       CE12............
                .         .         .         V
                .         .         .         V
175             .         .         .       RE14
                .         .         .         .
                .         .         .         .
181             .         .         .         .         E15
                .         .         .         .           V
                .         .         .         .           V
189             .         .         .         .        RE17
                .         .         .         .           .
                .         .         .         .           .
195             .         .         .       CE19............
                .         .         .         .
                .         .         .         .
198             .         .         .         .        SE20
                .         .         .         .           .
                .         .         .         .           .
206             .         .         .       CE22............
                .         .         .         .
                .         .         .         .
209         NUL ..................................
                .
                .
212             .       SI5
                .         .
                .         .
219             .         .       SI10
                .         .         .
                .         .         .
227             .       CI12............
                .         V
                .         V
230             .       RI14
                .         .
                .         .
236             .         .       SI15
                .         .         .
```

```
242          CI17............
                 .
                 .
5                .          SJ
                 .           .
                 .           .
252              .           .        SK5
                 .           .         .
                 .           .         .
259              .           .         .          SK10
                 .           .         .            .
                 .           .         .            .
266              .           .       CK12............
                 .           .         V
                 .           .         V
269              .           .       RK14
                 .           .         .
                 .           .         .
275              .           .         .          SK15
                 .           .         .            .
                 .           .         .            .
282              .           .       CK17............
                 .           .         .
                 .           .         .
285              .           .         .            SL
                 .           .         .            .
                 .           .         .            .
292     NUL ..............................................
                 .
                 .
295              .        SO
                 .         .
                 .         .
303              .         .          SP
                 .         .           .
                 .         .           .
310     NUL ......................
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                 .
313              .       ST2
                 .         V
                 .         V
320              .       RT4
                 .         .
                 .         .
326              .         .        ST6
                 .         .         .
                 .         .         .
333              .       CT8............
                 .         V
                 .         V
335              .       RT9
                 .         .
                 .         .
341              .         .       ST10
                 .         .         .
                 .         .         .
348              .         .         .        ST12
                 .         .         .          .
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                .         .         .         .
355             .       CT11.......................
                .         V
                .         V
357             .       RT13
                .         .
                .         .
363             .         .        ST14
                .         .          .
                .         .          .
370             .       CT14............
                .         V
                .         V
372             .       RT15
                .         .
                .         .
378             .         .        ST16
                .         .          .
                .         .          .
385             .       CT17............
                .         V
                .         V
387             .       RT18
                .         .
                .         .
393             .         .        ST20
                .         .          .
                .         .          .
399             .         .          .        ST22
                .         .          .          .
                .         .          .          .
406             .       CT24.......................
                .         V
                .         V
408             .       RT25
                .         .
                .         .
414             .         .        ST26
                .         .          .
                .         .          .
420             .       CT30............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*            FEBRUARY 1981             *
*          REVISED 02 AUG 88           *
*                                      *
*  RUN DATE  12/02/1991  TIME  15:12:04 *
*                                      *
****************************************
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```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 551-1748              *
*                                      *
****************************************
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```
                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
                    WASHES K, L, O, P, & T(SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 10 min
                    E2-10 ; 10-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT         HYDROGRAPH TIME DATA
                   NMIN         10  MINUTES IN COMPUTATION INTERVAL
                  IDATE      1    0  STARTING DATE
                  ITIME       0000  STARTING TIME
                     NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE      3    0  ENDING DATE
                 NDTIME       0150  ENDING TIME
                  ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .17 HOURS
                 TOTAL TIME BASE   49.83 HOURS

       ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                  STRM       2.85  PRECIPITATION DEPTH
                  TRDA        .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .01      .01      .01      .01      .01      .01
                 .01      .01      .01      .01      .01      .01      .02      .02      .02      .13
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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

17 JD INDEX STORM NO. 2

STRM 2.79 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

18 JD INDEX STORM NO. 3

STRM 2.74 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

19 JD INDEX STORM NO. 4

STRM 2.62 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

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|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

20 JD INDEX STORM NO. 5

STRM 2.57 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | HYDROGRAPH AT | SB5 | 1195. | 12.33 | 215. | 57. | 28. | 3.17 | | |
| + | ROUTED TO | RB7 | 1108. | 12.50 | 215. | 57. | 28. | 3.17 | | |
| + | | | | | | | | | 2.00 | 12.50 |
| + | HYDROGRAPH AT | SB10 | 683. | 12.17 | 100. | 28. | 13. | 1.11 | | |
| + | 2 COMBINED AT | CB12 | 1559. | 12.33 | 311. | 84. | 41. | 4.28 | | |
| + | HYDROGRAPH AT | SC5 | 1513. | 12.67 | 376. | 101. | 49. | 4.43 | | |
| + | ROUTED TO | RC7 | 1351. | 12.83 | 373. | 101. | 49. | 4.43 | | |
| + | | | | | | | | | 2.44 | 13.00 |
| | HYDROGRAPH AT | SC10 | 1197. | 12.50 | 257. | 72. | 35. | 3.66 | | |
| + | 2 COMBINED AT | CC12 | 2114. | 12.67 | 616. | 169. | 82. | 8.09 | | |
| + | ROUTED TO | RC14 | 1943. | 13.17 | 614. | 169. | 82. | 8.09 | | |
| + | | | | | | | | | 3.15 | 13.00 |
| + | HYDROGRAPH AT | SC15 | 788. | 12.50 | 161. | 43. | 21. | 2.31 | | |
| + | 2 COMBINED AT | CC17 | 2258. | 12.83 | 759. | 209. | 101. | 10.40 | | |
| + | ROUTED TO | RC19 | 2253. | 13.00 | 758. | 209. | 101. | 10.40 | | |
| + | | | | | | | | | 3.07 | 13.00 |
| + | HYDROGRAPH AT | SC20 | 275. | 12.00 | 30. | 8. | 4. | .43 | | |
| + | 2 COMBINED AT | CC22 | 2253. | 13.00 | 782. | 216. | 104. | 10.83 | | |
| + | HYDROGRAPH AT | SD5 | 1230. | 13.00 | 386. | 107. | 52. | 5.42 | | |
| + | HYDROGRAPH AT | SD10 | 1007. | 12.83 | 294. | 81. | 39. | 3.80 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 COMBINED AT | | | | | | | | |
| + | | CD12 | 2169. | 12.83 | 667. | 185. | 89. | 9.22 | |
| | ROUTED TO | | | | | | | | |
| + | | RD14 | 1971. | 13.17 | 665. | 185. | 89. | 9.22 | |
| + | | | | | | | | | 3.26 13.00 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD15 | 386. | 12.17 | 53. | 13. | 6. | .93 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD17 | 2021. | 13.00 | 711. | 197. | 95. | 10.15 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD20 | 280. | 12.17 | 40. | 10. | 5. | .58 | |
| | ROUTED TO | | | | | | | | |
| + | | RD22 | 271. | 12.33 | 40. | 10. | 5. | .58 | |
| + | | | | | | | | | .70 12.33 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD24 | 2068. | 13.00 | 743. | 205. | 99. | 10.73 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E5 | 236. | 12.17 | 34. | 10. | 5. | .37 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E10 | 386. | 12.33 | 80. | 22. | 11. | .94 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE12 | 578. | 12.33 | 114. | 32. | 15. | 1.31 | |
| | ROUTED TO | | | | | | | | |
| + | | RE14 | 572. | 12.33 | 114. | 32. | 15. | 1.31 | |
| + | | | | | | | | | 1.19 12.33 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E15 | 1225. | 12.50 | 295. | 82. | 39. | 4.41 | |
| | ROUTED TO | | | | | | | | |
| + | | RE17 | 1146. | 12.83 | 293. | 82. | 39. | 4.41 | |
| + | | | | | | | | | 2.14 12.83 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE19 | 1480. | 12.67 | 402. | 112. | 54. | 5.72 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SE20 | 393. | 12.33 | 74. | 20. | 10. | 1.11 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE22 | 1729. | 12.67 | 470. | 131. | 63. | 6.83 | |
| | 4 COMBINED AT | | | | | | | | |
| | | NUL | 5985. | 12.83 | 1999. | 556. | 269. | 32.67 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | S15 | 246. | 12.17 | 37. | 10. | 5. | .41 | |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | SI10 | 698. | 12.33 | 128. | 33. | 16. | 1.61 | | |
| | 2 COMBINED AT | | | | | | | | | |
| | | CI12 | 926. | 12.33 | 164. | 43. | 21. | 2.02 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RI14 | 906. | 12.33 | 164. | 43. | 21. | 2.02 | | |
| + | | | | | | | | | 1.82 | 12.33 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SI15 | 180. | 12.00 | 18. | 5. | 2. | .25 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CI17 | 976. | 12.33 | 182. | 47. | 23. | 2.27 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SJ | 270. | 12.17 | 35. | 9. | 5. | .42 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SK5 | 460. | 12.17 | 63. | 16. | 8. | .84 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SK10 | 541. | 12.33 | 91. | 24. | 11. | 1.04 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CK12 | 966. | 12.33 | 153. | 39. | 19. | 1.88 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RK14 | 806. | 12.50 | 153. | 39. | 19. | 1.88 | | |
| | | | | | | | | | 1.46 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SK15 | 589. | 12.33 | 103. | 28. | 13. | 1.09 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CK17 | 1317. | 12.33 | 254. | 67. | 32. | 2.97 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SL | 447. | 12.17 | 68. | 18. | 9. | .79 | | |
| | 5 COMBINED AT | | | | | | | | | |
| + | | NUL | 7462. | 12.67 | 2416. | 666. | 322. | 39.12 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SO | 1126. | 12.50 | 257. | 68. | 33. | 2.90 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | SP | 498. | 12.17 | 75. | 21. | 10. | .87 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | NUL | 8544. | 12.50 | 2674. | 736. | 356. | 42.89 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST2 | 2499. | 12.17 | 326. | 82. | 40. | 4.50 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT4 | 2177. | 12.33 | 326. | 82. | 40. | 4.50 | | |
| + | | | | | | | | | 12.48 | 12.33 |
| | HYDROGRAPH AT | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | ST6 | 2011. | 12.17 | 261. | 68. | 33. | 3.93 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT8 | 3797. | 12.33 | 575. | 147. | 71. | 8.43 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT9 | 2869. | 12.50 | 572. | 147. | 71. | 8.43 | | |
| + | | | | | | | | | 12.97 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST10 | 1395. | 12.17 | 229. | 63. | 30. | 2.70 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST12 | 1525. | 12.33 | 267. | 72. | 35. | 3.50 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT11 | 5015. | 12.33 | 999. | 265. | 128. | 14.63 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT13 | 4977. | 12.50 | 999. | 265. | 128. | 14.63 | | |
| + | | | | | | | | | 14.39 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST14 | 1653. | 12.17 | 255. | 70. | 34. | 2.76 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT14 | 6061. | 12.33 | 1211. | 324. | 156. | 17.39 | | |
| | ROUTED TO | | | | | | | | | |
| | | RT15 | 5698. | 12.50 | 1210. | 324. | 156. | 17.39 | | |
| | | | | | | | | | 14.99 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST16 | 820. | 12.17 | 128. | 37. | 18. | 1.35 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT17 | 6090. | 12.50 | 1314. | 354. | 171. | 18.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT18 | 5913. | 12.67 | 1313. | 354. | 171. | 18.74 | | |
| + | | | | | | | | | 15.19 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST20 | 110. | 12.00 | 11. | 3. | 1. | .28 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST22 | 511. | 12.17 | 75. | 22. | 11. | .72 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT24 | 6042. | 12.50 | 1379. | 374. | 181. | 19.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT25 | 5970. | 12.67 | 1378. | 374. | 181. | 19.74 | | |
| + | | | | | | | | | 14.95 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST26 | 301. | 12.00 | 35. | 10. | 5. | .59 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT30 | 5983. | 12.67 | 1402. | 381. | 184. | 20.33 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 10)
25-YEAR RETURN PERIOD

```
*************************************
                                    *
 FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
          FEBRUARY 1981             *
        REVISED 02 AUG 88           *
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RUN DATE  12/02/1991  TIME  15:17:56 *
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X       XXXXX   X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
  3           ID       WASHES K, L, O, P, & T(SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 10 min
  7           ID       E2-25 ; 25-YEAR EVENT
              *DIAGRAM
  8           IT      10                    300
  9           IO       5
 10           IN      30
 11           JD    3.43     .01
 12           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC    .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD    3.36     3.0
 18           JD    3.29     10.
 19           JD    3.16    20.0
 20           JD    3.09    30.0

 21           KK     SB5
 22           KM   SUB-BASIN B5
 23           BA    3.17
 24           LG     .15     .34    4.21     .38    5.20
 25           UI    264.   1041.   1798.   2591.   1626.   1266.    976.    690.    556.    375.
 26           UI    291.    212.    158.    123.     85.     48.     48.     48.     48.      0.
 27           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 28           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 29           KK    RB7
 30           KM       ROUTE SB5 THROUGH SB10
 31           RS       1    FLOW      -1
 32           RC   0.040   0.025   0.040 11985.6  0.0284
 33           RX       0       8     108     109     139     140     240     248
 34           RY       6       4       3       0       0       3       4       6

 35           KK    SB10
 36           KM   SUB-BASIN B10
 37           BA    1.11
 38           LG     .15     .30    3.74     .30   10.70
 39           UI    219.    800.   1202.    709.    491.    312.    202.    132.     84.     62.
 40           UI     25.     25.     25.      0.      0.      0.      0.      0.      0.      0.
 41           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 42           KK    CB12
 43           KM       COMBINE RB7 & SB10
 44           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  45          KK    SC5
  46          KM   SUB-BASIN C5
  47          BA   4.43
  48          LG    .15     .31    3.68     .29    7.00
  49          UI   231.    453.   1069.   1544.   1933.   2542.   1608.   1323.   1136.    964.
  50          UI   794.    617.    542.    452.    346.    285.    253.    187.    177.    117.
  51          UI   113.    113.     51.     44.     44.     44.     44.     44.     44.     0.
  52          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.
  53          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  54          KK    RC7
  55          KM       ROUTE HYDROGRAPH SC5 (RC7) THROUGH SC10
  56          RS      2    FLOW     -1
  57          RC  0.040   0.025   0.040 24024.0  0.0233
  58          RX      0       3       5       6      36      37      39      42
  59          RY     10       3       2       0       0       2       3      10

  60          KK   SC10
  61          KM   SUB-BASIN C10
  62          BA   3.66
  63          LG    .15     .34    4.28     .41    9.40
  64          UI   247.    780.   1540.   2120.   2422.   1504.   1233.    994.    745.    590.
  65          UI   470.    340.    278.    207.    170.    121.    121.     51.     47.     47.
  66          UI    47.     47.     47.      0.      0.      0.      0.      0.      0.     0.
  67          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  68          KK   CC12
  69          KM       COMBINE HYDROGRAPHS RC7 & SC10
  70          HC      2

  71          KK   RC14
  72          KM       ROUTE HYDROGRAPH CC12 THROUGH SC15
  73          RS      3    FLOW     -1
  74          RC  0.040   0.025   0.040 22017.6   0.024
  75          RX      0       8     108     109     139     140     240     248
  76          RY      6       4       3       0       0       3       4       6

  77          KK   SC15
  78          KM   SUB-BASIN C15
  79          BA   2.31
  80          LG    .15     .34    4.19     .38    6.15
  81          UI   160.    524.   1022.   1425.   1486.    945.    770.    615.    451.    367.
  82          UI   285.    201.    170.    123.     94.     78.     61.     31.     31.     31.
  83          UI    31.     31.      0.      0.      0.      0.      0.      0.      0.     0.
  84          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  85          KK   CC17
  86          KM       COMBINE HYDROGRAPHS SC15 & RC14
  87          HC      2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 88           KK    RC19
 89           KM        ROUTE HYDROGRAPH CC17 THROUGH SC20
 90           RS       1    FLOW      -1
 91           RC   0.033   0.025   0.033    5016  0.0199
 92           RX       0       8     108     109     149     150     250     258
 93           RY       6       4       3       0       0       3       4       6

 94           KK    SC20
 95           KM   SUB-BASIN C20
 96           BA     .43
 97           LG     .15     .32    4.23     .44    9.10
 98           UI    374.    736.    319.    138.     59.     22.      0.      0.      0.      0.
 99           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

100           KK    CC22
101           KM        COMBINE HYDROGRAPHS RC19 & SC20
102           HC       2

103           KK     SD5
104           KM   SUB-BASIN D5
105           BA    5.42
106           LG     .15     .33    4.16     .38    8.10
107           UI    208.    208.    649.    996.   1330.   1568.   1912.   2406.   1549.   1282.
108           UI   1153.   1029.    911.    808.    681.    562.    502.    462.    396.    327.
109           UI    266.    243.    228.    175.    160.    151.    102.    102.    102.    100.
110           UI     40.     40.     40.     40.     40.     40.     40.     40.     40.     40.
111           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
112           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

113           KK    SD10
114           KM   SUB-BASIN D10
115           BA    3.80
116           LG     .15     .33    4.02     .35    8.60
117           UI    162.    216.    558.    889.   1123.   1341.   1833.   1325.   1009.    894.
118           UI    787.    688.    595.    484.    407.    372.    322.    259.    206.    186.
119           UI    176.    124.    124.     95.     79.     79.     79.     35.     31.     31.
120           UI     31.     31.     31.     31.     31.     31.      0.      0.      0.      0.
121           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

122           KK    CD12
123           KM        COMBINE HYDROGRAPHS SD5 & SD10
124           HC       2

125           KK    RD14
126           KM        ROUTE HYDROGRAPH CD12 THROGH SD15
127           RS       1    FLOW      -1
128           RC   0.040   0.025   0.040 11510.4  0.0209
129           RX       0       8     108     109     139     140     240     248
130           RY       6       4       3       0       0       3       4       6
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 131          KK   SD15
 132          KM   SUB-BASIN D15
 133          BA    .93
 134          LG    .15     .34    4.24     .43    1.30
 135          UI   172.    634.    994.    598.    422.    270.    181.    119.     76.     51.
 136          UI    28.     20.     20.      0.      0.      0.      0.      0.      0.      0.
 137          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 138          KK   CD17
 139          KM       COMBINE HYDROGRAPHS SD15 & RD14
 140          HC      2

 141          KK   SD20
 142          KM   SUB-BASIN D20
 143          BA    .58
 144          LG    .15     .33    4.16     .38    4.20
 145          UI   107.    394.    619.    373.    264.    168.    113.     74.     47.     32.
 146          UI    18.     12.     12.      0.      0.      0.      0.      0.      0.      0.
 147          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 148          KK   RD22
 149          KM       ROUTE HYDROGRAPH SD20 THROUGH SD15
 150          RS      1    FLOW     -1
 151          RC  0.040   0.025   0.040    2500  0.0283
 152          RX      0       8     108     109     149     150     250     258
 153          RY      6       4       3       0       0       3       4       6

 154          KK   CD24
 155          KM       COMBINE HYDROGRAPHS RD22 & CD17
 156          HC      2

 157          KK    E5
 158          KM   SUB-BASIN E5
 159          BA    .37
 160          LG    .15     .31    3.95     .35   16.70
 161          UI    94.    336.    405.    229.    142.     90.     54.     32.     22.      9.
 162          UI     9.      9.      0.      0.      0.      0.      0.      0.      0.      0.
 163          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 164          KK   E10
 165          KM   SUB-BASIN E10
 166          BA    .94
 167          LG    .15     .30    3.93     .34   10.50
 168          UI    66.    223.    431.    608.    588.    383.    312.    246.    179.    148.
 169          UI   108.     81.     65.     51.     34.     32.     20.     13.     13.     13.
 170          UI    13.     13.      0.      0.      0.      0.      0.      0.      0.      0.
 171          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 172          KK   CE12
 173          KM       COMBINE HYDROGRAPHS FROM E5 & E10
 174          HC      2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 175          KK   RE14
 176          KM       ROUTE HYDROGRAPH CE12 THROUGH E20
 177          RS      1   FLOW     -1
 178          RC  0.040  0.025  0.040   3000  0.0244
 179          RX      0      8    108    109    149    150    250    258
 180          RY      6      4      3      0      0      3      4      6

 181          KK    E15
 182          KM  SUB-BASIN E15
 183          BA   4.41
 184          LG    .15    .33   4.24    .43   8.20
 185          UI   251.   593.  1294.  1801.  2453.  2294.  1533.  1293.  1089.   886.
 186          UI   677.   582.   473.   354.   295.   248.   193.   154.   123.   123.
 187          UI    65.    48.    48.    48.    48.    48.    48.     0.     0.     0.
 188          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 189          KK   RE17
 190          KM       ROUTE HYDROGRAPH FROM E15 THROUGH E20
 191          RS      2   FLOW     -1
 192          RC  0.040  0.025  0.040 19008.0  0.0244
 193          RX      0      8    108    109    139    140    240    248
 194          RY      6      4      3      0      0      3      4      6

 195          KK   CE19
 196          KM       COMBINE HYDROGRAPHS RE17 & RE14
 197          HC      2

 198          KK   SE20
 199          KM  SUB-BASIN E20
 200          BA   1.11
 201          LG    .15    .32   4.24    .44   7.20
 202          UI    88.   351.   612.   897.   574.   445.   347.   248.   196.   139.
 203          UI   103.    78.    59.    42.    35.    17.    17.    17.    17.     0.
 204          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
 205          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 206          KK   CE22
 207          KM       COMBINE HYDROGRAPHS E20 & CE19  (E)
 208          HC      2

 209          KK  NUL
 210          KM  COMBINING WASHES B, C, D, & E TO REDUCE THE NO. OF FREE HYDROGRAPHS
 211          HC  4.

 212          KK    SI5
 213          KM  SUB-BASIN I5
 214          BA    .41
 215          LG    .15    .31   3.58    .27   7.90
 216          UI    68.   257.   425.   267.   191.   124.    87.    54.    38.    24.
 217          UI    18.     8.     8.     8.     0.     0.     0.     0.     0.     0.
 218          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 219          KK   SI10
 220          KM  SUB-BASIN I10
 221          BA   1.61
 222          LG    .15     .31    3.77     .30    3.20
 223          UI   121.    456.    823.   1231.    875.    651.    518.    386.    292.    227.
 224          UI   160.    128.     92.     68.     59.     36.     23.     23.     23.     23.
 225          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 226          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 227          KK   CI12
 228          KM      COMBINE SI5 & SI10
 229          HC      2

 230          KK   RI14
 231          KM      ROUTE COMBINED HYDROGRAPHS FROM SI5 & SI10 (SI12) THROUGH SI15
 232          RS      1   FLOW     -1
 233          RC  0.040   0.025   0.040    5016  0.0279
 234          RX      0       8     108     109     139     140     240     248
 235          RY      6       4       3       0       0       3       4       6

 236          KK   SI15
 237          KM  SUB-BASIN I15
 238          BA    .25
 239          LG    .15     .34    3.91     .33    2.20
 240          UI   204.    424.    191.     85.     37.     15.     10.      0.      0.      0.
 241          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 242          KK   CI17
 243          KM      COMBINE RI14 & SI15
 244          HC      2

 245          KK     SJ
 246          KM  SUB-BASIN J
 247          BA    .42
 248          LG    .15     .32    3.74     .30    6.30
 249          UI   109.    389.    458.    259.    160.    100.     60.     36.     24.     11.
 250          UI    11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 251          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 252          KK    SK5
 253          KM  SUB-BASIN K5
 254          BA    .84
 255          LG    .15     .31    3.78     .30     .00
 256          UI   145.    540.    881.    545.    389.    252.    177.    109.     76.     48.
 257          UI    33.     18.     18.     18.      0.      0.      0.      0.      0.      0.
 258          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 259          KK   SK10
 260          KM  SUB-BASIN K10
 261          BA   1.04
 262          LG    .15     .30    3.92     .24    3.70
 263          UI   106.    405.    689.    863.    520.    402.    291.    212.    154.    107.
 264          UI    80.     58.     44.     28.     17.     17.     17.     17.      0.      0.
 265          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 266          KK   CK12
 267          KM       COMBINE HYDROGRAPHS FROM SK5 & SK10
 268          HC      2

 269          KK   RK14
 270          KM       ROUTE COMBINED HYDROGRRAPHS SK5 & SK10 (CK12) THROUGH SK15
 271          RS      1   FLOW     -1
 272          RC  0.040  0.025  0.040 13992.0  0.0243
 273          RX      0      8    108    109    149    150    250    258
 274          RY      6      4      3      0      0      3      4      6

 275          KK   SK15
 276          KM  SUB-BASIN K15
 277          BA   1.09
 278          LG    .15    .30   3.51    .26   9.70
 279          UI   117.   445.   757.   897.   542.   417.   295.   219.   151.   111.
 280          UI    78.    55.    47.    22.    18.    18.    18.     0.     0.     0.
 281          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 282          KK   CK17
 283          KM       COMBINE HYDROGRAPHS FROM SK15 & RK14
 284          HC      2

 285          KK     SL
 286          KM  SUB-BASIN L
 287          BA    .79
 288          LG    .15    .32   3.69    .29   7.05
 289          UI   126.   478.   809.   519.   372.   247.   174.   109.    76.    50.
 290          UI    38.    16.    16.    16.     0.     0.     0.     0.     0.     0.
 291          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 292          KK  NUL
 293          KM  COMBINING WASHES I, J, K, & L TO REDUCE THE NO. OF FREE HYDROGRAPHS
 294          HC  5.

 295          KK     SO
 296          KM  SUB-BASIN O
 297          BA   2.90
 298          LG    .15    .30   3.55    .26   5.90
 299          UI   166.   393.   856.  1190.  1626.  1500.  1008.   850.   715.   580.
 300          UI   443.   382.   309.   231.   193.   161.   127.    99.    81.    81.
 301          UI    40.    32.    32.    32.    32.    32.    32.     0.     0.     0.
 302          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 303          KK     SP
 304          KM  SUB-BASIN P
 305          BA    .87
 306          LG    .15    .32   3.76    .30   8.70
 307          UI   148.   554.   909.   566.   405.   262.   185.   114.    80.    51.
 308          UI    36.    18.    18.    18.     0.     0.     0.     0.     0.     0.
 309          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 310          KK   NUL
 311          KM   COMBINING WASHES O & P TO REDUCE THE NO. OF FREE HYDROGRAPHS
 312          HC   3.

 313          KK     ST2
 314          KM   SUB-BASIN ST2
 315          BA    4.50
 316          LG     .15     .32    3.82     .31     .50
 317          UI    928.   3373.   4908.   2863.   1947.   1247.    779.    507.    323.    224.
 318          UI    102.    102.    102.      0.      0.      0.      0.      0.      0.      0.
 319          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 320          KK     RT4
 321          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST6
 322          RS       1    FLOW      -1
 323          RC    .045     .03    .045    9200   .0337
 324          RX    442     446     476     480     520     524     554     558
 325          RY     16      12      12      10      10      12      12      16

 326          KK     ST6
 327          KM   SUB-BASIN ST6
 328          BA    3.93
 329          LG     .15     .34    4.12     .37    3.30
 330          UI    920.   3322.   4323.   2465.   1578.   1017.    605.    392.    240.    125.
 331          UI     94.     94.      0.      0.      0.      0.      0.      0.      0.      0.
 332          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 333          KK     CT8
 334          HC       2

 335          KK     RT9
 336          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST10
 337          RS       1    FLOW      -1
 338          RC    .045     .03    .045   17800   .0264
 339          RX    442     446     476     480     520     524     554     558
 340          RY     16      12      12      10      10      12      12      16

 341          KK    ST10
 342          KM   SUB-BASIN ST10
 343          BA    2.70
 344          LG     .15     .32    3.86     .32    9.80
 345          UI    385.   1460.   2579.   1857.   1301.    912.    631.    421.    299.    202.
 346          UI    132.     93.     52.     52.     52.      0.      0.      0.      0.      0.
 347          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 348          KK    ST12
 349          KM   SUB-BASIN ST12
 350          BA    3.50
 351          LG     .15     .33    4.00     .35    7.30
 352          UI    352.   1348.   2294.   2906.   1751.   1355.    986.    715.    528.    361.
 353          UI    272.    198.    146.     99.     57.     57.     57.     57.      0.      0.
 354          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 355          KK   CT11
 356          HC     3

 357          KK   RT13
 358          KM       SAN DOMINGO WASH WITHIN SUB BASIN ST16
 359          RS     1   FLOW     -1
 360          RC  .045    .03   .045   4000   .0175
 361          RX   436    446    476    480    520    524    554    564
 362          RY    22     12     12     10     10     12     12     22

 363          KK   ST14
 364          KM  SUB-BASIN ST14
 365          BA  2.76
 366          LG   .15    .30   3.61    .28  10.60
 367          UI  460.  1730.  2865.  1802.  1290.   841.   591.   368.   257.   165.
 368          UI  120.    57.    57.    57.     0.     0.     0.     0.     0.     0.
 369          UI   0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 370          KK   CT14
 371          HC     2

 372          KK   RT15
 373          KM       SAN DOMINGO WASH WITHIN SUB BASIN ST16
 374          RS     1   FLOW     -1
 375          RC  .045    .03   .045  10200   .0206
 376          RX   444    454    474    480    520    526    546    556
 377          RY    23     13     13     10     10     13     13     23

 378          KK   ST16
 379          KM  SUB-BASIN ST16
 380          BA  1.35
 381          LG   .15    .29   3.78    .32  15.40
 382          UI  250.   920.  1443.   868.   613.   391.   262.   172.   110.    74.
 383          UI   41.    29.    29.     0.     0.     0.     0.     0.     0.     0.
 384          UI   0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 385          KK   CT17
 386          HC     2

 387          KK   RT18
 388          KM       SAN DOMINGO WITHIN WASH WITHIN SUB BASIN ST20
 389          RS     1   FLOW     -1
 390          RC  .045    .03   .045   4600   .0174
 391          RX   434    444    474    480    520    526    556    566
 392          RY    23     13     13     10     10     13     13     23

 393          KK   ST20
 394          KM  SUB-BASIN ST20
 395          BA   .28
 396          LG   .15    .34   3.68    .69   3.70
 397          UI  287.   484.   191.    75.    29.    13.     0.     0.     0.     0.
 398          UI   0.     0.     0.     0.     0.     0.     0.     0.     0.     0.
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 399          KK   ST22
 400          KM   SUB-BASIN ST22
 401          BA    .72
 402          LG    .15     .29    3.82     .33   21.80
 403          UI   216.    774.    753.    431.    253.    149.     90.     53.     27.     19.
 404          UI    19.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 405          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 406          KK   CT24
 407          HC      3

 408          KK   RT25
 409          KM       SAN DOMINGO WASH WITHIN SUB BASIN ST26
 410          RS      1    FLOW     -1
 411          RC   .045     .03    .045    5000    .010
 412          RX    404     414     464     470     530     536     586     596
 413          RY     23      13      13      10      10      13      13      23

 414          KK   ST26
 415          KM   SUB-BASIN ST26
 416          BA    .59
 417          LG    .15     .33    4.10     .50    6.20
 418          UI   376.    953.    497.    241.    115.     58.     22.     22.      0.      0.
 419          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 420          KK   CT30
 421          HC      2
 422          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

21         SB5
             V
             V
29        RB7
             .
             .
35           .        SB10
             .           .
             .           .
42        CB12............
             .
             .
45           .         SC5
             .           V
             .           V
54           .         RC7
             .           .
             .           .
60           .           .        SC10
             .           .           .
             .           .           .
68           .        CC12............
             .           V
             .           V
71           .        RC14
             .           .
             .           .
77           .           .        SC15
             .           .           .
             .           .           .
85           .        CC17............
             .           V
             .           V
88           .        RC19
             .           .
             .           .
94           .           .        SC20
             .           .           .
             .           .           .
100          .        CC22............
             .           .
             .           .
103          .           .         SD5
             .           .           .
             .           .           .
113          .           .           .        SD10
             .           .           .           .
             .           .           .           .
122          .           .        CD12............
             .           .           V
             .           .           V
125          .           .        RD14
             .           .           .
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                .         .         .
131             .         .         .       SD15
                .         .         .         .
                .         .         .         .
                .         .       CD17............
                .         .         .
                .         .         .
141             .         .         .       SD20
                .         .         .         V
                .         .         .         V
148             .         .         .       RD22
                .         .         .         .
                .         .         .         .
154             .         .       CD24............
                .         .         .
                .         .         .
157             .         .         .         E5
                .         .         .         .
                .         .         .         .
164             .         .         .         .         E10
                .         .         .         .           .
                .         .         .         .           .
172             .         .         .       CE12............
                .         .         .         V
                .         .         .         V
175             .         .         .       RE14
                .         .         .         .
                .         .         .         .
181             .         .         .         .         E15
                .         .         .         .           V
                .         .         .         .           V
189             .         .         .         .        RE17
                .         .         .         .           .
                .         .         .         .           .
195             .         .         .       CE19............
                .         .         .         .
                .         .         .         .
198             .         .         .         .        SE20
                .         .         .         .           .
                .         .         .         .           .
206             .         .         .       CE22............
                .         .         .         .
                .         .         .         .
209         NUL ..................................
                .
                .
212             .       SI5
                .         .
                .         .
219             .         .       SI10
                .         .         .
                .         .         .
227             .       CI12............
                .         V
                .         V
230             .       RI14
                .         .
                .         .
236             .         .       SI15
                .         .         .
```

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242          C117............
                 .
                 .
                 .          SJ
                 .           .
                 .           .
252              .           .        SK5
                 .           .         .
                 .           .         .
259              .           .         .          SK10
                 .           .         .            .
                 .           .         .            .
266              .           .        CK12...........
                 .           .          V
                 .           .          V
269              .           .        RK14
                 .           .         .
                 .           .         .
275              .           .         .          SK15
                 .           .         .            .
                 .           .         .            .
282              .           .        CK17...........
                 .           .         .
                 .           .         .
285              .           .         .           SL
                 .           .         .            .
                 .           .         .            .
292     NUL ..................................................
                 .
                 .
295              .        SO
                 .         .
                 .         .
303              .         .          SP
                 .         .           .
                 .         .           .
310     NUL ........................
                 .
                 .
313              .        ST2
                 .         V
                 .         V
320              .        RT4
                 .         .
                 .         .
326              .         .          ST6
                 .         .           .
                 .         .           .
333              .        CT8............
                 .         V
                 .         V
335              .        RT9
                 .         .
                 .         .
341              .         .          ST10
                 .         .           .
                 .         .           .
348              .         .           .        ST12
                 .         .           .          .
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              .          .          .          .
355           .       CT11.......................
              .          V
              .          V
357           .       RT13
              .          .
              .          .
363           .          .       ST14
              .          .          .
              .          .          .
370           .       CT14............
              .          V
              .          V
372           .       RT15
              .          .
              .          .
378           .          .       ST16
              .          .          .
              .          .          .
385           .       CT17............
              .          V
              .          V
387           .       RT18
              .          .
              .          .
393           .          .       ST20
              .          .          .
              .          .          .
399           .          .          .       ST22
              .          .          .          .
              .          .          .          .
406           .       CT24.......................
              .          V
              .          V
408           .       RT25
              .          .
              .          .
414           .          .       ST26
              .          .          .
              .          .          .
420           .       CT30............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            FEBRUARY 1981              *
*          REVISED 02 AUG 88            *
*                                       *
* RUN DATE  12/02/1991  TIME  15:17:56  *
*                                       *
*****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*  THE HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748              *
*                                       *
*****************************************
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```
                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
                    WASHES K, L, O, P, & T(SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 10 min
                    E2-25 ; 25-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                  NMIN         10  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1    0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      3    0  ENDING DATE
                NDTIME       0150  ENDING TIME
                 ICENT         19  CENTURY MARK

             COMPUTATION INTERVAL     .17 HOURS
                  TOTAL TIME BASE   49.83 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                 STRM        3.43  PRECIPITATION DEPTH
                 TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .01      .01      .01      .01      .01      .01
                 .01      .01      .01      .01      .01      .01      .02      .02      .02      .13
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

17 JD INDEX STORM NO. 2

STRM 3.36 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

18 JD INDEX STORM NO. 3

STRM 3.29 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

19 JD INDEX STORM NO. 4

STRM 3.16 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

20 JD INDEX STORM NO. 5

STRM 3.09 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | HYDROGRAPH AT | SB5 | 1710. | 12.33 | 306. | 81. | 39. | 3.17 | | |
| + | ROUTED TO | RB7 | 1611. | 12.50 | 305. | 81. | 39. | 3.17 | | |
| + | | | | | | | | | 2.59 | 12.50 |
| + | HYDROGRAPH AT | SB10 | 906. | 12.17 | 132. | 36. | 17. | 1.11 | | |
| + | 2 COMBINED AT | CB12 | 2252. | 12.33 | 432. | 116. | 56. | 4.28 | | |
| + | HYDROGRAPH AT | SC5 | 2011. | 12.67 | 497. | 132. | 64. | 4.43 | | |
| + | ROUTED TO | RC7 | 1852. | 12.83 | 494. | 132. | 64. | 4.43 | | |
| + | | | | | | | | | 2.95 | 12.83 |
| | HYDROGRAPH AT | SC10 | 1715. | 12.50 | 365. | 100. | 48. | 3.66 | | |
| + | 2 COMBINED AT | CC12 | 3018. | 12.67 | 839. | 228. | 110. | 8.09 | | |
| + | ROUTED TO | RC14 | 2575. | 13.33 | 838. | 228. | 110. | 8.09 | | |
| + | | | | | | | | | 3.61 | 13.33 |
| + | HYDROGRAPH AT | SC15 | 1125. | 12.33 | 228. | 61. | 29. | 2.31 | | |
| + | 2 COMBINED AT | CC17 | 2938. | 13.17 | 1046. | 284. | 137. | 10.40 | | |
| + | ROUTED TO | RC19 | 2909. | 13.17 | 1045. | 284. | 137. | 10.40 | | |
| + | | | | | | | | | 3.52 | 13.17 |
| + | HYDROGRAPH AT | SC20 | 397. | 12.00 | 43. | 12. | 6. | .43 | | |
| + | 2 COMBINED AT | CC22 | 2909. | 13.17 | 1081. | 294. | 142. | 10.83 | | |
| | HYDROGRAPH AT | SD5 | 1728. | 13.00 | 539. | 148. | 71. | 5.42 | | |
| + | HYDROGRAPH AT | SD10 | 1390. | 12.83 | 402. | 110. | 53. | 3.80 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 COMBINED AT | | | | | | | | |
| + | | CD12 | 3042. | 12.83 | 923. | 253. | 122. | 9.22 | |
| | ROUTED TO | | | | | | | | |
| + | | RD14 | 2646. | 13.17 | 921. | 253. | 122. | 9.22 | |
| + | | | | | | | | | 3.77 13.17 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD15 | 580. | 12.17 | 79. | 20. | 10. | .93 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD17 | 2700. | 13.17 | 992. | 271. | 131. | 10.15 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD20 | 399. | 12.17 | 56. | 15. | 7. | .58 | |
| | ROUTED TO | | | | | | | | |
| + | | RD22 | 386. | 12.17 | 56. | 15. | 7. | .58 | |
| + | | | | | | | | | .89 12.17 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD24 | 2744. | 13.17 | 1039. | 283. | 137. | 10.73 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E5 | 316. | 12.17 | 46. | 13. | 6. | .37 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E10 | 523. | 12.33 | 107. | 29. | 14. | .94 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE12 | 779. | 12.33 | 153. | 42. | 20. | 1.31 | |
| | ROUTED TO | | | | | | | | |
| + | | RE14 | 774. | 12.33 | 152. | 42. | 20. | 1.31 | |
| + | | | | | | | | | 1.45 12.33 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E15 | 1792. | 12.50 | 423. | 115. | 56. | 4.41 | |
| | ROUTED TO | | | | | | | | |
| + | | RE17 | 1669. | 12.83 | 421. | 115. | 56. | 4.41 | |
| + | | | | | | | | | 2.80 12.83 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE19 | 2158. | 12.67 | 566. | 156. | 75. | 5.72 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SE20 | 574. | 12.33 | 106. | 29. | 14. | 1.11 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE22 | 2522. | 12.67 | 665. | 183. | 88. | 6.83 | |
| | 4 COMBINED AT | | | | | | | | |
| + | | NUL | 8412. | 12.67 | 2861. | 782. | 378. | 32.67 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | S15 | 324. | 12.17 | 48. | 13. | 6. | .41 | |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | SI10 | 941. | 12.33 | 172. | 44. | 21. | 1.61 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CI12 | 1241. | 12.33 | 219. | 57. | 27. | 2.02 | |
| | ROUTED TO | | | | | | | | |
| + | | RI14 | 1224. | 12.33 | 219. | 57. | 27. | 2.02 | |
| + | | | | | | | | | 2.23 12.33 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SI15 | 249. | 12.00 | 25. | 6. | 3. | .25 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CI17 | 1320. | 12.33 | 244. | 63. | 31. | 2.27 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SJ | 361. | 12.17 | 47. | 12. | 6. | .42 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK5 | 623. | 12.17 | 86. | 21. | 10. | .84 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK10 | 710. | 12.33 | 119. | 31. | 15. | 1.04 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CK12 | 1286. | 12.17 | 204. | 52. | 25. | 1.88 | |
| | ROUTED TO | | | | | | | | |
| + | | RK14 | 1105. | 12.50 | 204. | 52. | 25. | 1.88 | |
| | | | | | | | | | 1.80 12.50 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK15 | 768. | 12.33 | 133. | 36. | 17. | 1.09 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CK17 | 1805. | 12.33 | 335. | 88. | 42. | 2.97 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SL | 596. | 12.17 | 90. | 24. | 12. | .79 | |
| | 5 COMBINED AT | | | | | | | | |
| + | | NUL | 11077. | 12.50 | 3425. | 931. | 450. | 39.12 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SO | 1480. | 12.50 | 337. | 89. | 43. | 2.90 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SP | 666. | 12.17 | 100. | 27. | 13. | .87 | |
| | 3 COMBINED AT | | | | | | | | |
| + | | NUL | 12605. | 12.50 | 3768. | 1022. | 494. | 42.89 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | ST2 | 3418. | 12.17 | 447. | 112. | 54. | 4.50 | |
| | ROUTED TO | | | | | | | | |
| | | RT4 | 3056. | 12.33 | 446. | 112. | 54. | 4.50 | |
| + | | | | | | | | | 12.93 12.33 |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | ST6 | 2866. | 12.17 | 371. | 96. | 46. | 3.93 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT8 | 5349. | 12.33 | 801. | 204. | 98. | 8.43 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT9 | 4240. | 12.50 | 798. | 204. | 98. | 8.43 | | |
| + | | | | | | | | | 13.61 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST10 | 1888. | 12.17 | 306. | 84. | 40. | 2.70 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST12 | 2109. | 12.33 | 367. | 98. | 47. | 3.50 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT11 | 7315. | 12.33 | 1394. | 367. | 177. | 14.63 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT13 | 7220. | 12.50 | 1394. | 367. | 177. | 14.63 | | |
| + | | | | | | | | | 15.30 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST14 | 2175. | 12.17 | 333. | 91. | 44. | 2.76 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT14 | 8729. | 12.33 | 1679. | 445. | 215. | 17.39 | | |
| | ROUTED TO | | | | | | | | | |
| | | RT15 | 8371. | 12.50 | 1678. | 445. | 215. | 17.39 | | |
| | | | | | | | | | 16.07 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST16 | 1085. | 12.17 | 168. | 47. | 23. | 1.35 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT17 | 8906. | 12.50 | 1819. | 486. | 234. | 18.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT18 | 8762. | 12.50 | 1819. | 486. | 234. | 18.74 | | |
| + | | | | | | | | | 16.25 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST20 | 194. | 12.00 | 19. | 5. | 2. | .28 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST22 | 671. | 12.17 | 97. | 28. | 14. | .72 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT24 | 9020. | 12.50 | 1912. | 513. | 248. | 19.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT25 | 8816. | 12.67 | 1912. | 513. | 248. | 19.74 | | |
| + | | | | | | | | | 15.95 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| | | ST26 | 461. | 12.00 | 52. | 14. | 7. | .59 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT30 | 8841. | 12.67 | 1952. | 524. | 253. | 20.33 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 10)
50-YEAR RETURN PERIOD

```
****************************************
*                                      *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            FEBRUARY 1981             *
*          REVISED 02 AUG 88           *
*                                      *
* RUN DATE  12/02/1991  TIME  15:22:43 *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET           *
*        DAVIS, CALIFORNIA 95616       *
*           (916) 551-1748             *
*                                      *
****************************************
```

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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
  3           ID       WASHES K, L, O, P, & T(SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 10 min
  7           ID       E2-50 ; 50-YEAR EVENT
              *DIAGRAM
  8           IT      10                    300
  9           IO       5
 10           IN      30
 11           JD    3.84     .01
 12           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC    .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD    3.76     3.0
 18           JD    3.69     10.
 19           JD    3.53    20.0

 20           KK     SB5
 21           KM   SUB-BASIN B5
 22           BA    3.17
 23           LG     .15     .34    4.21     .38    5.20
 24           UI    264.   1041.   1798.   2591.   1626.   1266.    976.    690.    556.    375.
 25           UI    291.    212.    158.    123.     85.     48.     48.     48.     48.      0.
 26           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 27           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 28           KK    RB7
 29           KM       ROUTE SB5 THROUGH SB10
 30           RS       1    FLOW      -1
 31           RC   0.040   0.025   0.040 11985.6  0.0284
 32           RX       0       8     108     109     139     140     240     248
 33           RY       6       4       3       0       0       3       4       6

 34           KK    SB10
 35           KM   SUB-BASIN B10
 36           BA    1.11
 37           LG     .15     .30    3.74     .30   10.70
 38           UI    219.    800.   1202.    709.    491.    312.    202.    132.     84.     62.
 39           UI     25.     25.     25.      0.      0.      0.      0.      0.      0.      0.
 40           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 41           KK    CB12
 42           KM       COMBINE RB7 & SB10
 43           HC       2

 44           KK     SC5
 45           KM   SUB-BASIN C5
 46           BA    4.43
 47           LG     .15     .31    3.68     .29    7.00
 48           UI    231.    453.   1069.   1544.   1933.   2542.   1608.   1323.   1136.    964.
 49           UI    794.    617.    542.    452.    346.    285.    253.    187.    177.    117.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  50          UI    113.    113.     51.     44.     44.     44.     44.     44.     44.     0.
  51          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.
  52          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  53          KK    RC7
  54          KM        ROUTE HYDROGRAPH SC5 (RC7) THROUGH SC10
  55          RS      2    FLOW     -1
  56          RC  0.040   0.025   0.040 24024.0  0.0233
  57          RX      0       3       5       6      36      37      39      42
  58          RY     10       3       2       0       0       2       3      10

  59          KK    SC10
  60          KM   SUB-BASIN C10
  61          BA   3.66
  62          LG    .15     .34    4.28     .41    9.40
  63          UI   247.    780.   1540.   2120.   2422.   1504.   1233.    994.    745.    590.
  64          UI   470.    340.    278.    207.    170.    121.    121.     51.     47.     47.
  65          UI    47.     47.     47.      0.      0.      0.      0.      0.      0.      0.
  66          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  67          KK    CC12
  68          KM        COMBINE HYDROGRAPHS RC7 & SC10
  69          HC      2

  70          KK    RC14
  71          KM        ROUTE HYDROGRAPH CC12 THROUGH SC15
  72          RS      3    FLOW     -1
  73          RC  0.040   0.025   0.040 22017.6  0.024
  74          RX      0       8     108     109     139     140     240     248
  75          RY      6       4       3       0       0       3       4       6

  76          KK    SC15
  77          KM   SUB-BASIN C15
  78          BA   2.31
  79          LG    .15     .34    4.19     .38    6.15
  80          UI   160.    524.   1022.   1425.   1486.    945.    770.    615.    451.    367.
  81          UI   285.    201.    170.    123.     94.     78.     61.     31.     31.     31.
  82          UI    31.     31.      0.      0.      0.      0.      0.      0.      0.      0.
  83          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  84          KK    CC17
  85          KM        COMBINE HYDROGRAPHS SC15 & RC14
  86          HC      2

  87          KK    RC19
  88          KM        ROUTE HYDROGRAPH CC17 THROUGH SC20
  89          RS      1    FLOW     -1
  90          RC  0.033   0.025   0.033    5016  0.0199
  91          RX      0       8     108     109     149     150     250     258
  92          RY      6       4       3       0       0       3       4       6
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 93           KK   SC20
 94           KM   SUB-BASIN C20
 95           BA    .43
 96           LG    .15     .32    4.23     .44    9.10
 97           UI   374.    736.    319.    138.     59.     22.      0.      0.      0.      0.
 98           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 99           KK   CC22
100           KM       COMBINE HYDROGRAPHS RC19 & SC20
101           HC      2

102           KK    SD5
103           KM   SUB-BASIN D5
104           BA   5.42
105           LG    .15     .33    4.16     .38    8.10
106           UI   208.    208.    649.    996.   1330.   1568.   1912.   2406.   1549.   1282.
107           UI  1153.   1029.    911.    808.    681.    562.    502.    462.    396.    327.
108           UI   266.    243.    228.    175.    160.    151.    102.    102.    102.    100.
109           UI    40.     40.     40.     40.     40.     40.     40.     40.     40.     40.
110           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
111           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

112           KK   SD10
113           KM   SUB-BASIN D10
114           BA   3.80
115           LG    .15     .33    4.02     .35    8.60
116           UI   162.    216.    558.    889.   1123.   1341.   1833.   1325.   1009.    894.
117           UI   787.    688.    595.    484.    407.    372.    322.    259.    206.    186.
118           UI   176.    124.    124.     95.     79.     79.     79.     35.     31.     31.
119           UI    31.     31.     31.     31.     31.     31.      0.      0.      0.      0.
120           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

121           KK   CD12
122           KM       COMBINE HYDROGRAPHS SD5 & SD10
123           HC      2

124           KK   RD14
125           KM       ROUTE HYDROGRAPH CD12 THROGH SD15
126           RS      1    FLOW     -1
127           RC  0.040   0.025   0.040 11510.4  0.0209
128           RX      0       8     108     109     139     140     240     248
129           RY      6       4       3       0       0       3       4       6

130           KK   SD15
131           KM   SUB-BASIN D15
132           BA    .93
133           LG    .15     .34    4.24     .43    1.30
134           UI   172.    634.    994.    598.    422.    270.    181.    119.     76.     51.
135           UI    28.     20.     20.      0.      0.      0.      0.      0.      0.      0.
136           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 137          KK    CD17
 138          KM        COMBINE HYDROGRAPHS SD15 & RD14
 139          HC       2

 140          KK    SD20
 141          KM   SUB-BASIN D20
 142          BA     .58
 143          LG     .15     .33    4.16     .38    4.20
 144          UI    107.    394.    619.    373.    264.    168.    113.     74.     47.     32.
 145          UI     18.     12.     12.      0.      0.      0.      0.      0.      0.      0.
 146          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 147          KK    RD22
 148          KM        ROUTE HYDROGRAPH SD20 THROUGH SD15
 149          RS       1    FLOW      -1
 150          RC   0.040   0.025   0.040    2500  0.0283
 151          RX       0       8     108     109     149     150     250     258
 152          RY       6       4       3       0       0       3       4       6

 153          KK    CD24
 154          KM        COMBINE HYDROGRAPHS RD22 & CD17
 155          HC       2

 156          KK     E5
 157          KM   SUB-BASIN E5
 158          BA     .37
 159          LG     .15     .31    3.95     .35   16.70
 160          UI     94.    336.    405.    229.    142.     90.     54.     32.     22.      9.
 161          UI      9.      9.      0.      0.      0.      0.      0.      0.      0.      0.
 162          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 163          KK    E10
 164          KM   SUB-BASIN E10
 165          BA     .94
 166          LG     .15     .30    3.93     .34   10.50
 167          UI     66.    223.    431.    608.    588.    383.    312.    246.    179.    148.
 168          UI    108.     81.     65.     51.     34.     32.     20.     13.     13.     13.
 169          UI     13.     13.      0.      0.      0.      0.      0.      0.      0.      0.
 170          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 171          KK    CE12
 172          KM        COMBINE HYDROGRAPHS FROM E5 & E10
 173          HC       2

 174          KK    RE14
 175          KM        ROUTE HYDROGRAPH CE12 THROUGH E20
 176          RS       1    FLOW      -1
 177          RC   0.040   0.025   0.040    3000  0.0244
 178          RX       0       8     108     109     149     150     250     258
 179          RY       6       4       3       0       0       3       4       6
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 180          KK    E15
 181          KM   SUB-BASIN E15
 182          BA   4.41
 183          LG    .15     .33    4.24     .43    8.20
 184          UI   251.    593.   1294.   1801.   2453.   2294.   1533.   1293.   1089.    886.
 185          UI   677.    582.    473.    354.    295.    248.    193.    154.    123.    123.
 186          UI    65.     48.     48.     48.     48.     48.     48.      0.      0.      0.
 187          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 188          KK   RE17
 189          KM       ROUTE HYDROGRAPH FROM E15 THROUGH E20
 190          RS      2    FLOW      -1
 191          RC  0.040   0.025   0.040 19008.0  0.0244
 192          RX      0       8     108     109     139     140     240     248
 193          RY      6       4       3       0       0       3       4       6

 194          KK   CE19
 195          KM       COMBINE HYDROGRAPHS RE17 & RE14
 196          HC      2

 197          KK   SE20
 198          KM   SUB-BASIN E20
 199          BA   1.11
 200          LG    .15     .32    4.24     .44    7.20
 201          UI    88.    351.    612.    897.    574.    445.    347.    248.    196.    139.
 202          UI   103.     78.     59.     42.     35.     17.     17.     17.     17.      0.
 203          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 204          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 205          KK   CE22
 206          KM       COMBINE HYDROGRAPHS E20 & CE19  (E)
 207          HC      2

 208          KK   NUL
 209          KM   COMBINING WASHES B, C, D, & E TO REDUCE THE NO. OF FREE HYDROGRAPHS
 210          HC   4.

 211          KK    SI5
 212          KM   SUB-BASIN I5
 213          BA    .41
 214          LG    .15     .31    3.58     .27    7.90
 215          UI    68.    257.    425.    267.    191.    124.     87.     54.     38.     24.
 216          UI    18.      8.      8.      8.      0.      0.      0.      0.      0.      0.
 217          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 218          KK   SI10
 219          KM   SUB-BASIN I10
 220          BA   1.61
 221          LG    .15     .31    3.77     .30    3.20
 222          UI   121.    456.    823.   1231.    875.    651.    518.    386.    292.    227.
 223          UI   160.    128.     92.     68.     59.     36.     23.     23.     23.     23.
 224          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 225          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 226          KK    CI12
 227          KM       COMBINE SI5 & SI10
 228          HC       2

 229          KK    RI14
 230          KM       ROUTE COMBINED HYDROGRAPHS FROM SI5 & SI10 (SI12) THROUGH SI15
 231          RS       1    FLOW     -1
 232          RC   0.040   0.025   0.040    5016  0.0279
 233          RX       0       8     108     109     139     140     240     248
 234          RY       6       4       3       0       0       3       4       6

 235          KK    SI15
 236          KM   SUB-BASIN I15
 237          BA     .25
 238          LG     .15     .34    3.91     .33    2.20
 239          UI    204.    424.    191.     85.     37.     15.     10.      0.      0.      0.
 240          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 241          KK    CI17
 242          KM       COMBINE RI14 & SI15
 243          HC       2

 244          KK     SJ
 245          KM   SUB-BASIN J
 246          BA     .42
 247          LG     .15     .32    3.74     .30    6.30
 248          UI    109.    389.    458.    259.    160.    100.     60.     36.     24.     11.
 249          UI     11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 250          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 251          KK     SK5
 252          KM   SUB-BASIN K5
 253          BA     .84
 254          LG     .15     .31    3.78     .30     .00
 255          UI    145.    540.    881.    545.    389.    252.    177.    109.     76.     48.
 256          UI     33.     18.     18.     18.      0.      0.      0.      0.      0.      0.
 257          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 258          KK    SK10
 259          KM   SUB-BASIN K10
 260          BA    1.04
 261          LG     .15     .30    3.92     .24    3.70
 262          UI    106.    405.    689.    863.    520.    402.    291.    212.    154.    107.
 263          UI     80.     58.     44.     28.     17.     17.     17.     17.      0.      0.
 264          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 265          KK    CK12
 266          KM       COMBINE HYDROGRAPHS FROM SK5 & SK10
 267          HC       2
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 268          KK   RK14
 269          KM       ROUTE COMBINED HYDROGRRAPHS SK5 & SK10 (CK12) THROUGH SK15
 270          RS      1   FLOW     -1
 271          RC  0.040  0.025  0.040 13992.0  0.0243
 272          RX      0      8    108    109    149    150    250    258
 273          RY      6      4      3      0      0      3      4      6

 274          KK   SK15
 275          KM  SUB-BASIN K15
 276          BA   1.09
 277          LG    .15    .30   3.51    .26   9.70
 278          UI   117.   445.   757.   897.   542.   417.   295.   219.   151.   111.
 279          UI    78.    55.    47.    22.    18.    18.    18.     0.     0.     0.
 280          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 281          KK   CK17
 282          KM       COMBINE HYDROGRAPHS FROM SK15 & RK14
 283          HC      2

 284          KK     SL
 285          KM  SUB-BASIN L
 286          BA    .79
 287          LG    .15    .32   3.69    .29   7.05
 288          UI   126.   478.   809.   519.   372.   247.   174.   109.    76.    50.
 289          UI    38.    16.    16.    16.     0.     0.     0.     0.     0.     0.
 290          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 291          KK  NUL
 292          KM  COMBINING WASHES I, J, K, & L TO REDUCE THE NO. OF FREE HYDROGRAPHS
 293          HC  5.

 294          KK     SO
 295          KM  SUB-BASIN O
 296          BA   2.90
 297          LG    .15    .30   3.55    .26   5.90
 298          UI   166.   393.   856.  1190.  1626.  1500.  1008.   850.   715.   580.
 299          UI   443.   382.   309.   231.   193.   161.   127.    99.    81.    81.
 300          UI    40.    32.    32.    32.    32.    32.    32.     0.     0.     0.
 301          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 302          KK     SP
 303          KM  SUB-BASIN P
 304          BA    .87
 305          LG    .15    .32   3.76    .30   8.70
 306          UI   148.   554.   909.   566.   405.   262.   185.   114.    80.    51.
 307          UI    36.    18.    18.    18.     0.     0.     0.     0.     0.     0.
 308          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 309          KK  NUL
 310          KM  COMBINING WASHES O & P TO REDUCE THE NO. OF FREE HYDROGRAPHS
 311          HC  3.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 312          KK     ST2
 313          KM   SUB-BASIN ST2
 314          BA    4.50
 315          LG     .15     .32    3.82     .31     .50
 316          UI    928.   3373.   4908.   2863.   1947.   1247.    779.    507.    323.    224.
 317          UI    102.    102.    102.      0.      0.      0.      0.      0.      0.      0.
 318          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 319          KK     RT4
 320          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST6
 321          RS       1    FLOW      -1
 322          RC    .045     .03    .045    9200   .0337
 323          RX     442     446     476     480     520     524     554     558
 324          RY      16      12      12      10      10      12      12      16

 325          KK     ST6
 326          KM   SUB-BASIN ST6
 327          BA    3.93
 328          LG     .15     .34    4.12     .37    3.30
 329          UI    920.   3322.   4323.   2465.   1578.   1017.    605.    392.    240.    125.
 330          UI     94.     94.      0.      0.      0.      0.      0.      0.      0.      0.
 331          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 332          KK     CT8
 333          HC       2

 334          KK     RT9
 335          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST10
 336          RS       1    FLOW      -1
 337          RC    .045     .03    .045   17800   .0264
 338          RX     442     446     476     480     520     524     554     558
 339          RY      16      12      12      10      10      12      12      16

 340          KK    ST10
 341          KM   SUB-BASIN ST10
 342          BA    2.70
 343          LG     .15     .32    3.86     .32    9.80
 344          UI    385.   1460.   2579.   1857.   1301.    912.    631.    421.    299.    202.
 345          UI    132.     93.     52.     52.     52.      0.      0.      0.      0.      0.
 346          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 347          KK    ST12
 348          KM   SUB-BASIN ST12
 349          BA    3.50
 350          LG     .15     .33    4.00     .35    7.30
 351          UI    352.   1348.   2294.   2906.   1751.   1355.    986.    715.    528.    361.
 352          UI    272.    198.    146.     99.     57.     57.     57.     57.      0.      0.
 353          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

354           KK   CT11
355           HC     3

356           KK   RT13
357           KM       SAN DOMINGO WASH WITHIN SUB BASIN ST16
358           RS     1    FLOW     -1
359           RC  .045     .03    .045    4000   .0175
360           RX   436     446     476     480     520     524     554     564
361           RY    22      12      12      10      10      12      12      22

362           KK   ST14
363           KM  SUB-BASIN ST14
364           BA   2.76
365           LG   .15     .30    3.61     .28   10.60
366           UI  460.   1730.   2865.   1802.   1290.    841.    591.    368.    257.    165.
367           UI  120.     57.     57.     57.      0.      0.      0.      0.      0.      0.
368           UI    0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

369           KK   CT14
370           HC     2

371           KK   RT15
372           KM       SAN DOMINGO WASH WITHIN SUB BASIN ST16
373           RS     1    FLOW     -1
374           RC  .045     .03    .045   10200   .0206
375           RX   444     454     474     480     520     526     546     556
376           RY    23      13      13      10      10      13      13      23

377           KK   ST16
378           KM  SUB-BASIN ST16
379           BA   1.35
380           LG   .15     .29    3.78     .32   15.40
381           UI  250.    920.   1443.    868.    613.    391.    262.    172.    110.     74.
382           UI   41.     29.     29.      0.      0.      0.      0.      0.      0.      0.
383           UI    0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

384           KK   CT17
385           HC     2

386           KK   RT18
387           KM       SAN DOMINGO WITHIN WASH WITHIN SUB BASIN ST20
388           RS     1    FLOW     -1
389           RC  .045     .03    .045    4600   .0174
390           RX   434     444     474     480     520     526     556     566
391           RY    23      13      13      10      10      13      13      23

392           KK   ST20
393           KM  SUB-BASIN ST20
394           BA    .28
395           LG   .15     .34    3.68     .69    3.70
396           UI  287.    484.    191.     75.     29.     13.      0.      0.      0.      0.
397           UI    0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 398          KK   ST22
 399          KM   SUB-BASIN ST22
 400          BA    .72
 401          LG    .15     .29    3.82     .33   21.80
 402          UI   216.    774.    753.    431.    253.    149.     90.     53.     27.     19.
 403          UI    19.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 404          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 405          KK   CT24
 406          HC      3

 407          KK   RT25
 408          KM       SAN DOMINGO WASH WITHIN SUB BASIN ST26
 409          RS      1    FLOW      -1
 410          RC   .045     .03    .045    5000    .010
 411          RX    404     414     464     470     530     536     586     596
 412          RY     23      13      13      10      10      13      13      23

 413          KK   ST26
 414          KM   SUB-BASIN ST26
 415          BA    .59
 416          LG    .15     .33    4.10     .50    6.20
 417          UI   376.    953.    497.    241.    115.     58.     22.     22.      0.      0.
 418          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 419          KK   CT30
 420          HC      2
 421          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
NO.       (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

20          SB5
              V
              V
28         RB7
              .
              .
34            .        SB10
              .          .
              .          .
41         CB12............
              .
              .
44            .        SC5
              .          V
              .          V
53            .        RC7
              .          .
              .          .
59            .          .        SC10
              .          .          .
              .          .          .
67            .        CC12............
              .          V
              .          V
70            .        RC14
              .          .
              .          .
76            .          .        SC15
              .          .          .
              .          .          .
84            .        CC17............
              .          V
              .          V
87            .        RC19
              .          .
              .          .
93            .          .        SC20
              .          .          .
              .          .          .
99            .        CC22............
              .          .
              .          .
102           .          .        SD5
              .          .          .
              .          .          .
112           .          .          .        SD10
              .          .          .          .
              .          .          .          .
121           .          .        CD12............
              .          .          V
              .          .          V
124           .          .        RD14
              .          .          .
```

```
130                 SD15
                      .
                      .
                CD17............
                      .
                      .
140                 SD20
                      V
                      V
147                 RD22
                      .
                      .
153             CD24............
                      .
                      .
156                  E5
                      .
                      .
163                                   E10
                      .                 .
                      .                 .
171                 CE12............
                      V
                      V
174                 RE14
                      .
                      .
180                                   E15
                      .                 V
                      .                 V
188                                   RE17
                      .                 .
                      .                 .
194                 CE19............
                      .
                      .
197                                   SE20
                      .                 .
                      .                 .
205                 CE22............
                      .
                      .
208  NUL ...............................
                      .
                      .
211          SI5
                      .
                      .
218                      SI10
                      .
                      .
226          CI12............
                      V
                      V
229          RI14
                      .
                      .
235                      SI15
                      .
```

```
241          CI17............
4                      SJ
251                          SK5
258                                      SK10
265                          CK12............
                             V
                             V
268                          RK14
274                                      SK15
281                          CK17............
284                                          SL
291     NUL ..............................................
294          SO
302                      SP
309     NUL ........................
312          ST2
                V
                V
319          RT4
325                      ST6
332          CT8............
                V
                V
334          RT9
340                      ST10
347                          ST12
```

```
          .        .        .        .
354       .      CT11.......................
          .        V
          .        V
356       .      RT13
          .        .
          .        .
362       .        .      ST14
          .        .        .
          .        .        .
369       .      CT14............
          .        V
          .        V
371       .      RT15
          .        .
          .        .
377       .        .      ST16
          .        .        .
          .        .        .
384       .      CT17............
          .        V
          .        V
386       .      RT18
          .        .
          .        .
392       .        .      ST20
          .        .        .
          .        .        .
398       .        .        .      ST22
          .        .        .        .
          .        .        .        .
405       .      CT24.......................
          .        V
          .        V
407       .      RT25
          .        .
          .        .
413       .        .      ST26
          .        .        .
          .        .        .
419       .      CT30............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*          FEBRUARY 1981               *
*        REVISED 02 AUG 88             *
*                                      *
* RUN DATE  12/02/1991  TIME  15:22:43 *
*                                      *
****************************************
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****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
* THE HYDROLOGIC ENGINEERING CENTER    *
*         609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 551-1748              *
*                                      *
****************************************
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```
                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
                    WASHES K, L, O, P, & T(SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 10 min
                    E2-50 ; 50-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                 NMIN         10  MINUTES IN COMPUTATION INTERVAL
                 IDATE     1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE     3   0  ENDING DATE
                NDTIME       0150  ENDING TIME
                 ICENT         19  CENTURY MARK

             COMPUTATION INTERVAL     .17 HOURS
                  TOTAL TIME BASE   49.83 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                 STRM        3.84  PRECIPITATION DEPTH
                 TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .01      .01      .01      .01      .01      .01
                 .01      .01      .01      .01      .01      .01      .02      .02      .02      .13
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

17 JD INDEX STORM NO. 2

STRM 3.76 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

18 JD INDEX STORM NO. 3

STRM 3.69 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

19 JD INDEX STORM NO. 4

STRM 3.53 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | HYDROGRAPH AT | SB5 | 2062. | 12.33 | 368. | 97. | 47. | 3.17 | | |
| + | ROUTED TO | RB7 | 1926. | 12.50 | 367. | 97. | 47. | 3.17 | | |
| + | | | | | | | | | 2.99 | 12.50 |
| + | HYDROGRAPH AT | SB10 | 1058. | 12.17 | 154. | 42. | 20. | 1.11 | | |
| + | 2 COMBINED AT | CB12 | 2713. | 12.33 | 516. | 137. | 66. | 4.28 | | |
| + | HYDROGRAPH AT | SC5 | 2358. | 12.67 | 583. | 155. | 75. | 4.43 | | |
| + | ROUTED TO | RC7 | 2208. | 12.83 | 580. | 155. | 75. | 4.43 | | |
| + | | | | | | | | | 3.34 | 12.83 |
| | HYDROGRAPH AT | SC10 | 2071. | 12.50 | 439. | 120. | 58. | 3.66 | | |
| + | 2 COMBINED AT | CC12 | 3654. | 12.67 | 998. | 270. | 130. | 8.09 | | |
| + | ROUTED TO | RC14 | 3059. | 13.33 | 996. | 270. | 130. | 8.09 | | |
| + | | | | | | | | | 3.91 | 13.33 |
| + | HYDROGRAPH AT | SC15 | 1357. | 12.33 | 273. | 72. | 35. | 2.31 | | |
| + | 2 COMBINED AT | CC17 | 3488. | 13.17 | 1248. | 338. | 163. | 10.40 | | |
| + | ROUTED TO | RC19 | 3448. | 13.33 | 1248. | 337. | 163. | 10.40 | | |
| + | | | | | | | | | 3.82 | 13.33 |
| + | HYDROGRAPH AT | SC20 | 481. | 12.00 | 51. | 14. | 7. | .43 | | |
| + | 2 COMBINED AT | CC22 | 3448. | 13.33 | 1293. | 350. | 169. | 10.83 | | |
| + | HYDROGRAPH AT | SD5 | 2073. | 13.00 | 645. | 176. | 85. | 5.42 | | |
| + | HYDROGRAPH AT | SD10 | 1652. | 12.83 | 476. | 129. | 62. | 3.80 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 COMBINED AT | | | | | | | | |
| + | | CD12 | 3656. | 12.83 | 1104. | 301. | 145. | 9.22 | |
| | ROUTED TO | | | | | | | | |
| + | | RD14 | 3164. | 13.17 | 1102. | 301. | 145. | 9.22 | |
| + | | | | | | | | | 4.06 13.17 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD15 | 713. | 12.17 | 97. | 25. | 12. | .93 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD17 | 3231. | 13.17 | 1190. | 323. | 156. | 10.15 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD20 | 480. | 12.17 | 67. | 18. | 8. | .58 | |
| | ROUTED TO | | | | | | | | |
| + | | RD22 | 469. | 12.17 | 67. | 18. | 8. | .58 | |
| + | | | | | | | | | 1.03 12.17 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD24 | 3280. | 13.17 | 1247. | 338. | 163. | 10.73 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E5 | 372. | 12.17 | 53. | 15. | 7. | .37 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E10 | 617. | 12.33 | 126. | 34. | 17. | .94 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE12 | 917. | 12.33 | 179. | 49. | 24. | 1.31 | |
| | ROUTED TO | | | | | | | | |
| + | | RE14 | 915. | 12.33 | 179. | 49. | 24. | 1.31 | |
| + | | | | | | | | | 1.65 12.33 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E15 | 2182. | 12.50 | 511. | 138. | 67. | 4.41 | |
| | ROUTED TO | | | | | | | | |
| + | | RE17 | 1931. | 12.83 | 510. | 138. | 67. | 4.41 | |
| + | | | | | | | | | 3.19 12.83 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE19 | 2496. | 12.67 | 680. | 186. | 90. | 5.72 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SE20 | 697. | 12.33 | 128. | 34. | 17. | 1.11 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE22 | 3001. | 12.50 | 802. | 219. | 106. | 6.83 | |
| | 4 COMBINED AT | | | | | | | | |
| | | NUL | 9865. | 12.67 | 3417. | 929. | 449. | 32.67 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SI5 | 378. | 12.17 | 57. | 15. | 7. | .41 | |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | SI10 | 1107. | 12.33 | 202. | 52. | 25. | 1.61 | |
| | 2 COMBINED AT | | | | | | | | |
| | | CI12 | 1458. | 12.33 | 258. | 67. | 32. | 2.02 | |
| | ROUTED TO | | | | | | | | |
| + | | RI14 | 1443. | 12.33 | 258. | 67. | 32. | 2.02 | |
| + | | | | | | | | | 2.53 12.33 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SI15 | 297. | 12.00 | 30. | 8. | 4. | .25 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CI17 | 1556. | 12.33 | 287. | 74. | 36. | 2.27 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SJ | 424. | 12.17 | 55. | 14. | 7. | .42 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK5 | 735. | 12.17 | 101. | 25. | 12. | .84 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK10 | 832. | 12.33 | 143. | 37. | 18. | 1.04 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CK12 | 1509. | 12.17 | 243. | 62. | 30. | 1.88 | |
| | ROUTED TO | | | | | | | | |
| + | | RK14 | 1314. | 12.50 | 242. | 62. | 30. | 1.88 | |
| | | | | | | | | | 2.06 12.50 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK15 | 896. | 12.33 | 158. | 43. | 21. | 1.09 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CK17 | 2153. | 12.33 | 398. | 104. | 50. | 2.97 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SL | 699. | 12.17 | 105. | 28. | 13. | .79 | |
| | 5 COMBINED AT | | | | | | | | |
| + | | NUL | 13167. | 12.50 | 4067. | 1099. | 531. | 39.12 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SO | 1735. | 12.50 | 400. | 105. | 51. | 2.90 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SP | 781. | 12.17 | 117. | 31. | 15. | .87 | |
| | 3 COMBINED AT | | | | | | | | |
| + | | NUL | 14936. | 12.50 | 4458. | 1203. | 581. | 42.89 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | ST2 | 4052. | 12.17 | 530. | 133. | 64. | 4.50 | |
| | ROUTED TO | | | | | | | | |
| + | | RT4 | 3671. | 12.33 | 529. | 133. | 64. | 4.50 | |
| + | | | | | | | | | 13.25 12.33 |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | ST6 | 3453. | 12.17 | 446. | 115. | 56. | 3.93 | | |
| | 2 COMBINED AT | | | | | | | | | |
| | | CT8 | 6489. | 12.17 | 960. | 244. | 118. | 8.43 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT9 | 5238. | 12.50 | 957. | 244. | 118. | 8.43 | | |
| + | | | | | | | | | 14.08 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST10 | 2225. | 12.17 | 359. | 98. | 47. | 2.70 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST12 | 2509. | 12.33 | 435. | 116. | 56. | 3.50 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT11 | 8978. | 12.33 | 1664. | 436. | 210. | 14.63 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT13 | 8803. | 12.50 | 1664. | 436. | 210. | 14.63 | | |
| + | | | | | | | | | 15.99 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST14 | 2533. | 12.17 | 391. | 106. | 51. | 2.76 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT14 | 10646. | 12.33 | 1995. | 527. | 254. | 17.39 | | |
| | ROUTED TO | | | | | | | | | |
| | | RT15 | 10258. | 12.50 | 1994. | 527. | 254. | 17.39 | | |
| | | | | | | | | | 16.87 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST16 | 1267. | 12.17 | 195. | 55. | 26. | 1.35 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT17 | 10878. | 12.50 | 2158. | 574. | 277. | 18.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT18 | 10795. | 12.50 | 2157. | 574. | 277. | 18.74 | | |
| + | | | | | | | | | 17.06 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST20 | 252. | 12.00 | 25. | 6. | 3. | .28 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST22 | 780. | 12.17 | 112. | 33. | 16. | .72 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT24 | 11093. | 12.50 | 2268. | 606. | 293. | 19.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT25 | 10750. | 12.67 | 2268. | 606. | 293. | 19.74 | | |
| + | | | | | | | | | 16.67 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST26 | 569. | 12.00 | 64. | 17. | 8. | .59 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT30 | 10780. | 12.67 | 2317. | 620. | 299. | 20.33 | | |

*** NORMAL END OF HEC-1 ***

HEC-1 OUTPUT
EAST TRIBUTARIES AREA (NMIN = 10)
100-YEAR RETURN PERIOD

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            FEBRUARY 1981              *
*           REVISED 02 AUG 88           *
*                                       *
*  RUN DATE  12/02/1991  TIME  15:26:09 *
*                                       *
*****************************************
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```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER   *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 551-1748              *
*                                      *
****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       WICKENBURG ADMS - CONTRACT FCD 89-79
  2           ID       WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
  3           ID       WASHES K, L, O, P, & T(SAN DOMINGO)
  4           ID       SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
  5           ID       AERIAL REDUCTION FACTORS PER NWS HYDRO-40
  6           ID       NMIN = 10 min
  7           ID       E2-100 ; 100-YEAR EVENT
              *DIAGRAM
  8           IT     10                    300
  9           IO      5
 10           IN     30
 11           JD   4.25     .01
 12           PC   .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 13           PC   .068    .071    .080    .089    .098    .109    .120    .133    .147    .163
 14           PC   .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 15           PC   .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 16           PC   .952    .959    .965    .972    .978    .984    .989    .995   1.000
 17           JD   4.17     3.0
 18           JD   4.08     10.
 19           JD   3.91    20.0

 20           KK    SB5
 21           KM   SUB-BASIN B5
 22           BA   3.17
 23           LG    .15     .34    4.21     .38    5.20
 24           UI   264.   1041.   1798.   2591.   1626.   1266.    976.    690.    556.    375.
 25           UI   291.    212.    158.    123.     85.     48.     48.     48.     48.      0.
 26           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 27           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 28           KK   RB7
 29           KM       ROUTE SB5 THROUGH SB10
 30           RS      1    FLOW      -1
 31           RC  0.040   0.025   0.040 11985.6  0.0284
 32           RX      0       8     108     109     139     140     240     248
 33           RY      6       4       3       0       0       3       4       6

 34           KK   SB10
 35           KM   SUB-BASIN B10
 36           BA   1.11
 37           LG    .15     .30    3.74     .30   10.70
 38           UI   219.    800.   1202.    709.    491.    312.    202.    132.     84.     62.
 39           UI    25.     25.     25.      0.      0.      0.      0.      0.      0.      0.
 40           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 41           KK   CB12
 42           KM       COMBINE RB7 & SB10
 43           HC       2

 44           KK    SC5
 45           KM   SUB-BASIN C5
 46           BA   4.43
 47           LG    .15     .31    3.68     .29    7.00
 48           UI   231.    453.   1069.   1544.   1933.   2542.   1608.   1323.   1136.    964.
 49           UI   794.    617.    542.    452.    346.    285.    253.    187.    177.    117.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  50          UI    113.    113.     51.     44.     44.     44.     44.     44.     44.     0.
  51          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.
  52          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  53          KK     RC7
  54          KM        ROUTE HYDROGRAPH SC5 (RC7) THROUGH SC10
  55          RS       2    FLOW      -1
  56          RC   0.040   0.025   0.040 24024.0  0.0233
  57          RX       0       3       5       6      36      37      39      42
  58          RY      10       3       2       0       0       2       3      10

  59          KK    SC10
  60          KM   SUB-BASIN C10
  61          BA    3.66
  62          LG     .15     .34    4.28     .41    9.40
  63          UI    247.    780.   1540.   2120.   2422.   1504.   1233.    994.    745.    590.
  64          UI    470.    340.    278.    207.    170.    121.    121.     51.     47.     47.
  65          UI     47.     47.     47.      0.      0.      0.      0.      0.      0.      0.
  66          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

  67          KK    CC12
  68          KM        COMBINE HYDROGRAPHS RC7 & SC10
  69          HC       2

  70          KK    RC14
  71          KM        ROUTE HYDROGRAPH CC12 THROUGH SC15
  72          RS       3    FLOW      -1
  73          RC   0.040   0.025   0.040 22017.6   0.024
  74          RX       0       8     108     109     139     140     240     248
  75          RY       6       4       3       0       0       3       4       6

  76          KK    SC15
  77          KM   SUB-BASIN C15
  78          BA    2.31
  79          LG     .15     .34    4.19     .38    6.15
  80          UI    160.    524.   1022.   1425.   1486.    945.    770.    615.    451.    367.
  81          UI    285.    201.    170.    123.     94.     78.     61.     31.     31.     31.
  82          UI     31.     31.      0.      0.      0.      0.      0.      0.      0.     0.
  83          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.     0.

  84          KK    CC17
  85          KM        COMBINE HYDROGRAPHS SC15 & RC14
  86          HC       2

  87          KK    RC19
  88          KM        ROUTE HYDROGRAPH CC17 THROUGH SC20
  89          RS       1    FLOW      -1
  90          RC   0.033   0.025   0.033    5016  0.0199
  91          RX       0       8     108     109     149     150     250     258
  92          RY       6       4       3       0       0       3       4       6
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 93           KK   SC20
 94           KM   SUB-BASIN C20
 95           BA    .43
 96           LG    .15     .32    4.23     .44    9.10
 97           UI   374.    736.    319.    138.     59.     22.      0.      0.      0.      0.
 98           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 99           KK   CC22
100           KM       COMBINE HYDROGRAPHS RC19 & SC20
101           HC      2

102           KK    SD5
103           KM   SUB-BASIN D5
104           BA   5.42
105           LG    .15     .33    4.16     .38    8.10
106           UI   208.    208.    649.    996.   1330.   1568.   1912.   2406.   1549.   1282.
107           UI  1153.   1029.    911.    808.    681.    562.    502.    462.    396.    327.
108           UI   266.    243.    228.    175.    160.    151.    102.    102.    102.    100.
109           UI    40.     40.     40.     40.     40.     40.     40.     40.     40.     40.
110           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
111           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

112           KK   SD10
113           KM   SUB-BASIN D10
114           BA   3.80
115           LG    .15     .33    4.02     .35    8.60
116           UI   162.    216.    558.    889.   1123.   1341.   1833.   1325.   1009.    894.
117           UI   787.    688.    595.    484.    407.    372.    322.    259.    206.    186.
118           UI   176.    124.    124.     95.     79.     79.     79.     35.     31.     31.
119           UI    31.     31.     31.     31.     31.     31.      0.      0.      0.      0.
120           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

121           KK   CD12
122           KM       COMBINE HYDROGRAPHS SD5 & SD10
123           HC      2

124           KK   RD14
125           KM       ROUTE HYDROGRAPH CD12 THROGH SD15
126           RS      1   FLOW      -1
127           RC  0.040   0.025   0.040 11510.4  0.0209
128           RX      0       8     108     109     139     140     240     248
129           RY      6       4       3       0       0       3       4       6

130           KK   SD15
131           KM   SUB-BASIN D15
132           BA    .93
133           LG    .15     .34    4.24     .43    1.30
134           UI   172.    634.    994.    598.    422.    270.    181.    119.     76.     51.
135           UI    28.     20.     20.      0.      0.      0.      0.      0.      0.      0.
136           UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 137          KK    CD17
 138          KM        COMBINE HYDROGRAPHS SD15 & RD14
 139          HC       2

 140          KK    SD20
 141          KM   SUB-BASIN D20
 142          BA     .58
 143          LG     .15     .33    4.16     .38    4.20
 144          UI    107.    394.    619.    373.    264.    168.    113.     74.     47.     32.
 145          UI     18.     12.     12.      0.      0.      0.      0.      0.      0.      0.
 146          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 147          KK    RD22
 148          KM        ROUTE HYDROGRAPH SD20 THROUGH SD15
 149          RS       1    FLOW     -1
 150          RC   0.040   0.025   0.040    2500  0.0283
 151          RX       0       8     108     109     149     150     250     258
 152          RY       6       4       3       0       0       3       4       6

 153          KK    CD24
 154          KM        COMBINE HYDROGRAPHS RD22 & CD17
 155          HC       2

 156          KK     E5
 157          KM   SUB-BASIN E5
 158          BA     .37
 159          LG     .15     .31    3.95     .35   16.70
 160          UI     94.    336.    405.    229.    142.     90.     54.     32.     22.      9.
 161          UI      9.      9.      0.      0.      0.      0.      0.      0.      0.      0.
 162          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 163          KK    E10
 164          KM   SUB-BASIN E10
 165          BA     .94
 166          LG     .15     .30    3.93     .34   10.50
 167          UI     66.    223.    431.    608.    588.    383.    312.    246.    179.    148.
 168          UI    108.     81.     65.     51.     34.     32.     20.     13.     13.     13.
 169          UI     13.     13.      0.      0.      0.      0.      0.      0.      0.      0.
 170          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 171          KK    CE12
 172          KM        COMBINE HYDROGRAPHS FROM E5 & E10
 173          HC       2

 174          KK    RE14
 175          KM        ROUTE HYDROGRAPH CE12 THROUGH E20
 176          RS       1    FLOW     -1
 177          RC   0.040   0.025   0.040    3000  0.0244
 178          RX       0       8     108     109     149     150     250     258
 179          RY       6       4       3       0       0       3       4       6
```

```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

180         KK    E15
181         KM   SUB-BASIN E15
182         BA   4.41
183         LG    .15     .33    4.24     .43    8.20
184         UI   251.    593.   1294.   1801.   2453.   2294.   1533.   1293.   1089.    886.
185         UI   677.    582.    473.    354.    295.    248.    193.    154.    123.    123.
186         UI    65.     48.     48.     48.     48.     48.     48.      0.      0.      0.
187         UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

188         KK   RE17
189         KM        ROUTE HYDROGRAPH FROM E15 THROUGH E20
190         RS      2    FLOW      -1
191         RC  0.040   0.025   0.040 19008.0  0.0244
192         RX      0       8     108     109     139     140     240     248
193         RY      6       4       3       0       0       3       4       6

194         KK   CE19
195         KM        COMBINE HYDROGRAPHS RE17 & RE14
196         HC      2

197         KK   SE20
198         KM   SUB-BASIN E20
199         BA   1.11
200         LG    .15     .32    4.24     .44    7.20
201         UI    88.    351.    612.    897.    574.    445.    347.    248.    196.    139.
202         UI   103.     78.     59.     42.     35.     17.     17.     17.     17.      0.
203         UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
204         UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

205         KK   CE22
206         KM        COMBINE HYDROGRAPHS E20 & CE19  (E)
207         HC      2

208         KK   NUL
209         KM   COMBINING WASHES B, C, D, & E TO REDUCE THE NO. OF FREE HYDROGRAPHS
210         HC   4.

211         KK    SI5
212         KM   SUB-BASIN I5
213         BA    .41
214         LG    .15     .31    3.58     .27    7.90
215         UI    68.    257.    425.    267.    191.    124.     87.     54.     38.     24.
216         UI    18.      8.      8.      8.      0.      0.      0.      0.      0.      0.
217         UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

218         KK   SI10
219         KM   SUB-BASIN I10
220         BA   1.61
221         LG    .15     .31    3.77     .30    3.20
222         UI   121.    456.    823.   1231.    875.    651.    518.    386.    292.    227.
223         UI   160.    128.     92.     68.     59.     36.     23.     23.     23.     23.
224         UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
225         UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 226          KK   CI12
 227          KM      COMBINE SI5 & SI10
 228          HC      2

 229          KK   RI14
 230          KM      ROUTE COMBINED HYDROGRAPHS FROM SI5 & SI10 (SI12) THROUGH SI15
 231          RS      1    FLOW     -1
 232          RC  0.040   0.025   0.040    5016  0.0279
 233          RX      0       8     108     109     139     140     240     248
 234          RY      6       4       3       0       0       3       4       6

 235          KK   SI15
 236          KM  SUB-BASIN I15
 237          BA    .25
 238          LG    .15     .34    3.91     .33    2.20
 239          UI   204.    424.    191.     85.     37.     15.     10.      0.      0.      0.
 240          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 241          KK   CI17
 242          KM      COMBINE RI14 & SI15
 243          HC      2

 244          KK     SJ
 245          KM  SUB-BASIN J
 246          BA    .42
 247          LG    .15     .32    3.74     .30    6.30
 248          UI   109.    389.    458.    259.    160.    100.     60.     36.     24.     11.
 249          UI    11.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 250          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 251          KK    SK5
 252          KM  SUB-BASIN K5
 253          BA    .84
 254          LG    .15     .31    3.78     .30     .00
 255          UI   145.    540.    881.    545.    389.    252.    177.    109.     76.     48.
 256          UI    33.     18.     18.     18.      0.      0.      0.      0.      0.      0.
 257          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 258          KK   SK10
 259          KM  SUB-BASIN K10
 260          BA   1.04
 261          LG    .15     .30    3.92     .24    3.70
 262          UI   106.    405.    689.    863.    520.    402.    291.    212.    154.    107.
 263          UI    80.     58.     44.     28.     17.     17.     17.     17.      0.      0.
 264          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 265          KK   CK12
 266          KM       COMBINE HYDROGRAPHS FROM SK5 & SK10
 267          HC      2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 268          KK   RK14
 269          KM       ROUTE COMBINED HYDROGRRAPHS SK5 & SK10 (CK12) THROUGH SK15
 270          RS      1   FLOW     -1
 271          RC  0.040  0.025  0.040 13992.0  0.0243
 272          RX      0      8    108    109    149    150    250    258
 273          RY      6      4      3      0      0      3      4      6

 274          KK   SK15
 275          KM  SUB-BASIN K15
 276          BA   1.09
 277          LG    .15    .30   3.51    .26   9.70
 278          UI   117.   445.   757.   897.   542.   417.   295.   219.   151.   111.
 279          UI    78.    55.    47.    22.    18.    18.    18.     0.     0.     0.
 280          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 281          KK   CK17
 282          KM       COMBINE HYDROGRAPHS FROM SK15 & RK14
 283          HC      2

 284          KK     SL
 285          KM  SUB-BASIN L
 286          BA    .79
 287          LG    .15    .32   3.69    .29   7.05
 288          UI   126.   478.   809.   519.   372.   247.   174.   109.    76.    50.
 289          UI    38.    16.    16.    16.     0.     0.     0.     0.     0.     0.
 290          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 291          KK  NUL
 292          KM  COMBINING WASHES I, J, K, & L TO REDUCE THE NO. OF FREE HYDROGRAPHS
 293          HC  5.

 294          KK     SO
 295          KM  SUB-BASIN O
 296          BA   2.90
 297          LG    .15    .30   3.55    .26   5.90
 298          UI   166.   393.   856.  1190.  1626.  1500.  1008.   850.   715.   580.
 299          UI   443.   382.   309.   231.   193.   161.   127.    99.    81.    81.
 300          UI    40.    32.    32.    32.    32.    32.    32.     0.     0.     0.
 301          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 302          KK     SP
 303          KM  SUB-BASIN P
 304          BA    .87
 305          LG    .15    .32   3.76    .30   8.70
 306          UI   148.   554.   909.   566.   405.   262.   185.   114.    80.    51.
 307          UI    36.    18.    18.    18.     0.     0.     0.     0.     0.     0.
 308          UI     0.     0.     0.     0.     0.     0.     0.     0.     0.     0.

 309          KK  NUL
 310          KM  COMBINING WASHES O & P TO REDUCE THE NO. OF FREE HYDROGRAPHS
 311          HC  3.
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 312          KK    ST2
 313          KM   SUB-BASIN ST2
 314          BA   4.50
 315          LG    .15     .32    3.82     .31     .50
 316          UI   928.   3373.   4908.   2863.   1947.   1247.    779.    507.    323.    224.
 317          UI   102.    102.    102.      0.      0.      0.      0.      0.      0.      0.
 318          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 319          KK    RT4
 320          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST6
 321          RS      1    FLOW     -1
 322          RC   .045     .03    .045    9200   .0337
 323          RX    442     446     476     480     520     524     554     558
 324          RY     16      12      12      10      10      12      12      16

 325          KK    ST6
 326          KM   SUB-BASIN ST6
 327          BA   3.93
 328          LG    .15     .34    4.12     .37    3.30
 329          UI   920.   3322.   4323.   2465.   1578.   1017.    605.    392.    240.    125.
 330          UI    94.     94.      0.      0.      0.      0.      0.      0.      0.      0.
 331          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 332          KK    CT8
 333          HC      2

 334          KK    RT9
 335          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST10
 336          RS      1    FLOW     -1
 337          RC   .045     .03    .045   17800   .0264
 338          RX    442     446     476     480     520     524     554     558
 339          RY     16      12      12      10      10      12      12      16

 340          KK   ST10
 341          KM   SUB-BASIN ST10
 342          BA   2.70
 343          LG    .15     .32    3.86     .32    9.80
 344          UI   385.   1460.   2579.   1857.   1301.    912.    631.    421.    299.    202.
 345          UI   132.     93.     52.     52.     52.      0.      0.      0.      0.      0.
 346          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 347          KK   ST12
 348          KM   SUB-BASIN ST12
 349          BA   3.50
 350          LG    .15     .33    4.00     .35    7.30
 351          UI   352.   1348.   2294.   2906.   1751.   1355.    986.    715.    528.    361.
 352          UI   272.    198.    146.     99.     57.     57.     57.     57.      0.      0.
 353          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 354          KK    CT11
 355          HC       3

 356          KK    RT13
 357          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST16
 358          RS       1    FLOW      -1
 359          RC    .045     .03    .045    4000   .0175
 360          RX     436     446     476     480     520     524     554     564
 361          RY      22      12      12      10      10      12      12      22

 362          KK    ST14
 363          KM   SUB-BASIN ST14
 364          BA    2.76
 365          LG     .15     .30    3.61     .28   10.60
 366          UI    460.   1730.   2865.   1802.   1290.    841.    591.    368.    257.    165.
 367          UI    120.     57.     57.     57.      0.      0.      0.      0.      0.      0.
 368          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 369          KK    CT14
 370          HC       2

 371          KK    RT15
 372          KM        SAN DOMINGO WASH WITHIN SUB BASIN ST16
 373          RS       1    FLOW      -1
 374          RC    .045     .03    .045   10200   .0206
 375          RX     444     454     474     480     520     526     546     556
 376          RY      23      13      13      10      10      13      13      23

 377          KK    ST16
 378          KM   SUB-BASIN ST16
 379          BA    1.35
 380          LG     .15     .29    3.78     .32   15.40
 381          UI    250.    920.   1443.    868.    613.    391.    262.    172.    110.     74.
 382          UI     41.     29.     29.      0.      0.      0.      0.      0.      0.      0.
 383          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 384          KK    CT17
 385          HC       2

 386          KK    RT18
 387          KM        SAN DOMINGO WITHIN WASH WITHIN SUB BASIN ST20
 388          RS       1    FLOW      -1
 389          RC    .045     .03    .045    4600   .0174
 390          RX     434     444     474     480     520     526     556     566
 391          RY      23      13      13      10      10      13      13      23

 392          KK    ST20
 393          KM   SUB-BASIN ST20
 394          BA     .28
 395          LG     .15     .34    3.68     .69    3.70
 396          UI    287.    484.    191.     75.     29.     13.      0.      0.      0.      0.
 397          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 398          KK   ST22
 399          KM   SUB-BASIN ST22
 400          BA    .72
 401          LG    .15     .29    3.82     .33   21.80
 402          UI   216.    774.    753.    431.    253.    149.     90.     53.     27.     19.
 403          UI    19.      0.      0.      0.      0.      0.      0.      0.      0.      0.
 404          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 405          KK   CT24
 406          HC      3

 407          KK   RT25
 408          KM       SAN DOMINGO WASH WITHIN SUB BASIN ST26
 409          RS      1    FLOW      -1
 410          RC   .045     .03    .045    5000    .010
 411          RX    404     414     464     470     530     536     586     596
 412          RY     23      13      13      10      10      13      13      23

 413          KK   ST26
 414          KM   SUB-BASIN ST26
 415          BA    .59
 416          LG    .15     .33    4.10     .50    6.20
 417          UI   376.    953.    497.    241.    115.     58.     22.     22.      0.      0.
 418          UI     0.      0.      0.      0.      0.      0.      0.      0.      0.      0.

 419          KK   CT30
 420          HC      2
 421          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
NO.       (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

20          SB5
             V
             V
28         RB7
             .
             .
34           .        SB10
             .          .
             .          .
41         CB12............
             .
             .
44           .         SC5
             .          V
             .          V
53           .         RC7
             .          .
             .          .
59           .          .        SC10
             .          .          .
             .          .          .
67           .        CC12............
             .          V
             .          V
70           .        RC14
             .          .
             .          .
76           .          .        SC15
             .          .          .
             .          .          .
84           .        CC17............
             .          V
             .          V
87           .        RC19
             .          .
             .          .
93           .          .        SC20
             .          .          .
             .          .          .
99           .        CC22............
             .          .
             .          .
102          .          .         SD5
             .          .          .
             .          .          .
112          .          .          .        SD10
             .          .          .          .
             .          .          .          .
121          .          .        CD12............
             .          .          V
             .          .          V
124          .          .        RD14
             .          .          .
```

```
130                 SD15
                      .
                      .
147            CD17.........
                      .
                      .
140                 SD20
                      V
                      V
147                 RD22
                      .
                      .
153            CD24.........
                      .
                      .
156                  E5
                      .
                      .
163                                 E10
                      .              .
                      .              .
171                 CE12.........
                      V
                      V
174                 RE14
                      .
                      .
180                                 E15
                      .              V
                      .              V
188                                RE17
                      .              .
                      .              .
194                 CE19.........
                      .
                      .
197                                 SE20
                      .              .
                      .              .
205                 CE22.........
                      .
                      .
208   NUL ..............................
                      .
                      .
211            SI5
                      .
                      .
218                      SI10
                      .
                      .
226            CI12.........
                      V
                      V
229            RI14
                      .
                      .
235                      SI15
                      .
```

Mockingbird

```
241          CI17............
                 .
                 .
                 .          SJ
                 .           .
                 .           .
251              .           .        SK5
                 .           .         .
                 .           .         .
258              .           .         .        SK10
                 .           .         .          .
                 .           .         .          .
265              .           .       CK12............
                 .           .         V
                 .           .         V
268              .           .       RK14
                 .           .         .
                 .           .         .
274              .           .         .        SK15
                 .           .         .          .
                 .           .         .          .
281              .           .       CK17............
                 .           .         .
                 .           .         .
284              .           .         .          SL
                 .           .         .          .
                 .           .         .          .
291      NUL ..............................................
                 .
                 .
294              .         SO
                 .          .
                 .          .
302              .          .          SP
                 .          .           .
                 .          .           .
309      NUL ........................
                 .
                 .
312              .        ST2
                 .         V
                 .         V
319              .        RT4
                 .          .
                 .          .
325              .          .         ST6
                 .          .           .
                 .          .           .
332              .        CT8............
                 .         V
                 .         V
334              .        RT9
                 .          .
                 .          .
340              .          .        ST10
                 .          .           .
                 .          .           .
347              .          .           .       ST12
                 .          .           .         .
```

```
354        CT11.......................
             V
             V
           RT13
             .
             .
362          .        ST14
             .          .
             .          .
369        CT14............
             V
             V
371        RT15
             .
             .
377          .        ST16
             .          .
             .          .
384        CT17............
             V
             V
386        RT18
             .
             .
392          .        ST20
             .          .
             .          .
398          .          .        ST22
             .          .          .
             .          .          .
405        CT24.......................
             V
             V
407        RT25
             .
             .
413          .        ST26
             .          .
             .          .
419        CT30............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            FEBRUARY 1981              *
*          REVISED 02 AUG 88            *
*                                       *
*  RUN DATE  12/02/1991  TIME  15:26:09 *
*                                       *
*****************************************
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*****************************************
*                                       *
*     U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748              *
*                                       *
*****************************************
```

```
                    WICKENBURG ADMS - CONTRACT FCD 89-79
                    WASHES B(CALAMITY), C, D(MONARCH), E, I, J,
                    WASHES K, L, O, P, & T(SAN DOMINGO)
                    SCS TYPE II STORM :100YR - 24 HR: PHOENIX MOUNTAIN S-GRAPH
                    AERIAL REDUCTION FACTORS PER NWS HYDRO-40
                    NMIN = 10 min
                    E2-100 ; 100-YEAR EVENT

 9 IO        OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                   NMIN         10  MINUTES IN COMPUTATION INTERVAL
                  IDATE      1    0  STARTING DATE
                  ITIME       0000  STARTING TIME
                     NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE      3    0  ENDING DATE
                 NDTIME       0150  ENDING TIME
                  ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .17 HOURS
                 TOTAL TIME BASE   49.83 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

11 JD        INDEX STORM NO. 1
                  STRM        4.25  PRECIPITATION DEPTH
                  TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI          PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                 .00      .00      .00      .00      .01      .01      .01      .01      .01      .01
                 .01      .01      .01      .01      .01      .01      .02      .02      .02      .13
```

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

17 JD INDEX STORM NO. 2

STRM 4.17 PRECIPITATION DEPTH

TRDA 3.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

18 JD INDEX STORM NO. 3

STRM 4.08 PRECIPITATION DEPTH

TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

19 JD INDEX STORM NO. 4

STRM 3.91 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .01 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .02 | .02 | .02 | .13 |
| .13 | .13 | .02 | .02 | .02 | .01 | .01 | .01 | .01 | .01 |
| .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| .00 | .00 | .00 | .00 | | | | | | |

RUNOFF SUMMARY
*FLOW IN CUBIC FEET PER SECOND*
TIME IN HOURS, AREA IN SQUARE MILES

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | HYDROGRAPH AT | SB5 | 2415. | 12.33 | 430. | 113. | 54. | 3.17 | | |
| + | ROUTED TO | RB7 | 2171. | 12.50 | 429. | 113. | 54. | 3.17 | | |
| + | | | | | | | | | 3.23 | 12.50 |
| + | HYDROGRAPH AT | SB10 | 1214. | 12.17 | 179. | 49. | 23. | 1.11 | | |
| + | 2 COMBINED AT | CB12 | 3098. | 12.33 | 602. | 160. | 77. | 4.28 | | |
| + | HYDROGRAPH AT | SC5 | 2732. | 12.67 | 682. | 181. | 87. | 4.43 | | |
| + | ROUTED TO | RC7 | 2583. | 12.83 | 678. | 180. | 87. | 4.43 | | |
| + | | | | | | | | | 3.66 | 12.83 |
| | HYDROGRAPH AT | SC10 | 2427. | 12.50 | 512. | 139. | 67. | 3.66 | | |
| + | 2 COMBINED AT | CC12 | 4290. | 12.67 | 1164. | 314. | 152. | 8.09 | | |
| + | *ROUTED TO* | RC14 | 3597. | 13.33 | 1162. | 314. | 152. | 8.09 | | |
| + | | | | | | | | | 4.14 | 13.33 |
| + | HYDROGRAPH AT | SC15 | 1590. | 12.33 | 319. | 84. | 41. | 2.31 | | |
| + | 2 COMBINED AT | CC17 | 4140. | 13.17 | 1455. | 392. | 189. | 10.40 | | |
| + | ROUTED TO | RC19 | 4071. | 13.33 | 1455. | 392. | 189. | 10.40 | | |
| + | | | | | | | | | 4.05 | 13.33 |
| + | HYDROGRAPH AT | SC20 | 564. | 12.00 | 60. | 16. | 8. | .43 | | |
| + | 2 COMBINED AT | CC22 | 4071. | 13.33 | 1508. | 407. | 197. | 10.83 | | |
| + | HYDROGRAPH AT | SD5 | 2413. | 13.00 | 749. | 204. | 98. | 5.42 | | |
| + | HYDROGRAPH AT | SD10 | 1914. | 12.83 | 550. | 149. | 72. | 3.80 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 COMBINED AT | | | | | | | | |
| + | | CD12 | 4245. | 12.83 | 1278. | 347. | 167. | 9.22 | |
| | ROUTED TO | | | | | | | | |
| + | | RD14 | 3694. | 13.17 | 1275. | 347. | 167. | 9.22 | |
| + | | | | | | | | | 4.27 13.17 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD15 | 845. | 12.17 | 115. | 29. | 14. | .93 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD17 | 3774. | 13.17 | 1380. | 373. | 180. | 10.15 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SD20 | 561. | 12.17 | 79. | 20. | 10. | .58 | |
| | ROUTED TO | | | | | | | | |
| + | | RD22 | 552. | 12.17 | 79. | 20. | 10. | .58 | |
| + | | | | | | | | | 1.14 12.17 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CD24 | 3832. | 13.17 | 1448. | 391. | 189. | 10.73 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E5 | 427. | 12.17 | 61. | 17. | 8. | .37 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E10 | 711. | 12.33 | 145. | 39. | 19. | .94 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE12 | 1056. | 12.33 | 205. | 57. | 27. | 1.31 | |
| | ROUTED TO | | | | | | | | |
| + | | RE14 | 1052. | 12.33 | 205. | 57. | 27. | 1.31 | |
| + | | | | | | | | | 1.80 12.33 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | E15 | 2567. | 12.50 | 599. | 161. | 78. | 4.41 | |
| | ROUTED TO | | | | | | | | |
| + | | RE17 | 2167. | 13.00 | 597. | 161. | 78. | 4.41 | |
| + | | | | | | | | | 3.39 12.83 |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE19 | 2754. | 12.67 | 793. | 216. | 104. | 5.72 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SE20 | 820. | 12.33 | 150. | 40. | 19. | 1.11 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CE22 | 3459. | 12.50 | 935. | 254. | 122. | 6.83 | |
| | 4 COMBINED AT | | | | | | | | |
| | | NUL | 11259. | 12.67 | 4013. | 1086. | 525. | 32.67 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SI5 | 432. | 12.17 | 66. | 18. | 9. | .41 | |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | SI10 | 1279. | 12.33 | 237. | 61. | 29. | 1.61 | |
| | 2 COMBINED AT | | | | | | | | |
| | | CI12 | 1684. | 12.33 | 303. | 78. | 38. | 2.02 | |
| | ROUTED TO | | | | | | | | |
| + | | RI14 | 1663. | 12.33 | 303. | 78. | 38. | 2.02 | |
| + | | | | | | | | | 2.76 12.33 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SI15 | 344. | 12.00 | 35. | 9. | 4. | .25 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CI17 | 1795. | 12.33 | 337. | 87. | 42. | 2.27 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SJ | 488. | 12.17 | 64. | 17. | 8. | .42 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK5 | 848. | 12.17 | 120. | 30. | 14. | .84 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK10 | 955. | 12.33 | 166. | 43. | 21. | 1.04 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CK12 | 1739. | 12.33 | 284. | 72. | 35. | 1.88 | |
| | ROUTED TO | | | | | | | | |
| + | | RK14 | 1534. | 12.50 | 284. | 72. | 35. | 1.88 | |
| | | | | | | | | | 2.26 12.50 |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SK15 | 1025. | 12.33 | 183. | 49. | 24. | 1.09 | |
| | 2 COMBINED AT | | | | | | | | |
| + | | CK17 | 2508. | 12.33 | 464. | 121. | 58. | 2.97 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SL | 802. | 12.17 | 123. | 33. | 16. | .79 | |
| | 5 COMBINED AT | | | | | | | | |
| + | | NUL | 15177. | 12.50 | 4776. | 1285. | 621. | 39.12 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SO | 1995. | 12.50 | 466. | 122. | 59. | 2.90 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | SP | 898. | 12.17 | 136. | 37. | 18. | .87 | |
| | 3 COMBINED AT | | | | | | | | |
| + | | NUL | 17239. | 12.50 | 5238. | 1408. | 680. | 42.89 | |
| | HYDROGRAPH AT | | | | | | | | |
| + | | ST2 | 4682. | 12.17 | 619. | 155. | 75. | 4.50 | |
| | ROUTED TO | | | | | | | | |
| + | | RT4 | 4283. | 12.33 | 619. | 155. | 75. | 4.50 | |
| + | | | | | | | | | 13.50 12.33 |
| | HYDROGRAPH AT | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| + | | ST6 | 4037. | 12.17 | 521. | 135. | 65. | 3.93 | | |
| | 2 COMBINED AT | | | | | | | | | |
| | | CT8 | 7621. | 12.17 | 1118. | 284. | 137. | 8.43 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT9 | 6206. | 12.50 | 1115. | 284. | 137. | 8.43 | | |
| + | | | | | | | | | 14.45 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST10 | 2563. | 12.17 | 415. | 112. | 54. | 2.70 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST12 | 2910. | 12.33 | 504. | 134. | 65. | 3.50 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT11 | 10655. | 12.33 | 1932. | 505. | 244. | 14.63 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT13 | 10377. | 12.50 | 1932. | 505. | 244. | 14.63 | | |
| + | | | | | | | | | 16.53 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST14 | 2900. | 12.17 | 455. | 123. | 59. | 2.76 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT14 | 12612. | 12.33 | 2320. | 611. | 295. | 17.39 | | |
| | ROUTED TO | | | | | | | | | |
| | | RT15 | 12195. | 12.50 | 2318. | 611. | 295. | 17.39 | | |
| | | | | | | | | | 17.51 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST16 | 1452. | 12.17 | 225. | 63. | 30. | 1.35 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT17 | 12911. | 12.50 | 2506. | 665. | 321. | 18.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT18 | 12895. | 12.50 | 2506. | 665. | 321. | 18.74 | | |
| + | | | | | | | | | 17.72 | 12.50 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST20 | 310. | 12.00 | 30. | 8. | 4. | .28 | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST22 | 891. | 12.17 | 128. | 37. | 18. | .72 | | |
| | 3 COMBINED AT | | | | | | | | | |
| + | | CT24 | 13242. | 12.50 | 2635. | 702. | 339. | 19.74 | | |
| | ROUTED TO | | | | | | | | | |
| + | | RT25 | 12721. | 12.67 | 2634. | 702. | 339. | 19.74 | | |
| + | | | | | | | | | 17.24 | 12.67 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | ST26 | 678. | 12.00 | 76. | 20. | 10. | .59 | | |
| | 2 COMBINED AT | | | | | | | | | |
| + | | CT30 | 12760. | 12.67 | 2694. | 718. | 347. | 20.33 | | |

*** NORMAL END OF HEC-1 ***