Appendix 7-9

Small Area Exemption Calculations

I hereby certify that the design contained herein was prepared by myself and is true and correct to the best of my knowledge.

Richard B. White, P.E.

SMALL AREA EXEMPTION
SEDIMENT-YIELD CALCULATIONS

SAE-1

Design storm → 10-yr, 24-hr = 2.50 in

No. of junctions = 1
No. of branches = 1

Specific gravity of eroded sediment = 2.50 (default value)
Coef. for distributing sed. load = 1.5 (default value)
Submerged bulk sp. gravity = 1.25 (fine to medium)

Particle size distribution → see sed. pond calcs.

No. of structures = 1
Between structures routing parameters = All Ø

No. of subwatersheds = 1
Type of structure → grass filter

Watershed data:
Area = 0.02 ac
CN = 75
T_c → use upland method for 10 ft @ 66.7% slope
(use short grass pasture curve on page 2 of this calc.)

$$T_c = \frac{10 \text{ ft}}{5.6 \text{ ft/s}} = 1.8 \text{ s} = 0.001 \text{ hr}$$

Unit hydrograph and surf. condition = agricultural (reclaimed)

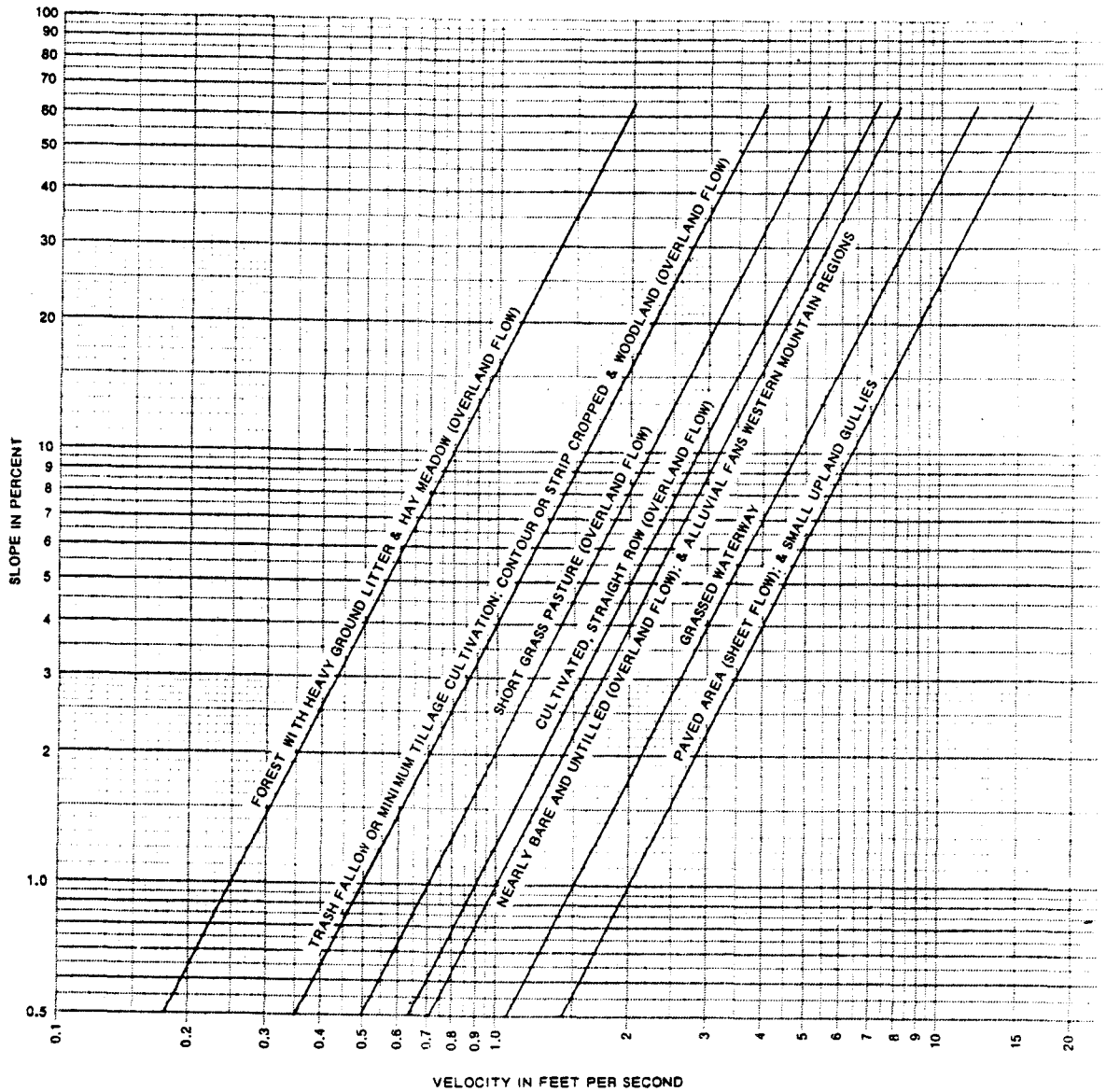
Sediment-yield calcs. → MUSLE
K = 0.15 (see sed. pond calcs. - reclaimed area)
l = 5 ft (site map)
S = 66.7% (1.5 h : 1 v)
CP = 0.01 (see sed. pond calcs. - reclaimed area)

Assume lower 5 ft of strip behaves as grass filter.

SEDIMOT II results → peak effluent conc. = 12 mg/l. See attached printout.

EARTHFAX ENGINEERING, INC.
ENGINEERS / SCIENTISTS

PROJECT C-27 PAGE 2 OF
COMPUTED TRW DATE 6 Jun 1986
CHECKED DATE



SAE-2

Design storm → 2.50 in (24-hr)

No. of junctions → 1
No. of branches → 1

No. of subwatersheds = 2 (1 undisturbed, 1 reclaimed)
Type of structure = pond (sed. trap – see pg. 4 of this calc.)

Watershed data (subwatershed 1 – undisturbed)
Area = 0.90 ac
CN = 69

$T_c = 1.67L$

$$L = \frac{l^{0.8}(s+1)^{0.7}}{1900\, Y^{0.5}}$$

$l = 300$ ft

$S = \frac{1000}{69} - 10 = 4.49$

$Y = \left(\frac{(940\text{ ft})(40\text{ ft})}{(0.90\text{ ac})(43{,}560\text{ ft}^2/\text{ac})}\right)(100) = 95.9\%$

$T_c = 0.038$ hr

Sed. yield calcs. → MUSLE
K = 0.15
L = 50 ft (site map, field obs.)
S = 95.9%
CP = 0.005 (Barfield et al., 1981 – woodland)

Data for subwatershed 2 (reclaimed)
Area = 0.34 ac
CN = 75
T_c → use upland method
110 ft @ 20% (eastern slope) → $\frac{110\text{ ft}}{3.1\text{ ft/s}} = 35.5$ s

170 ft @ 2% (pad) → $\frac{170\text{ ft}}{1.0\text{ ft/s}} = 170$ s

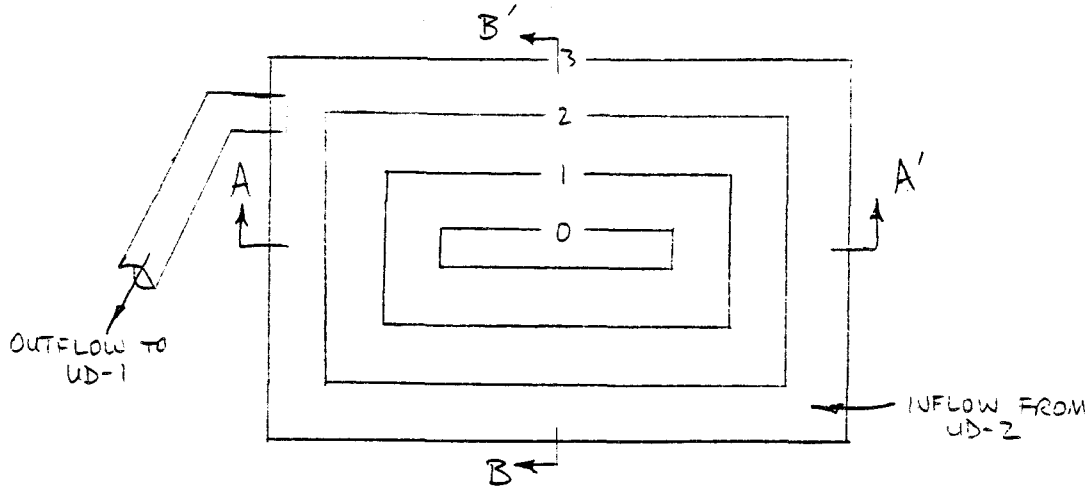
150 ft @ 25% (access road) → $\frac{150\text{ ft}}{3.5\text{ ft/s}} = 42.9$ s

$$T_c = \frac{35.5\text{ s} + 170\text{ s} + 42.9\text{ s}}{3600\text{ s/hr}} = 0.069$$

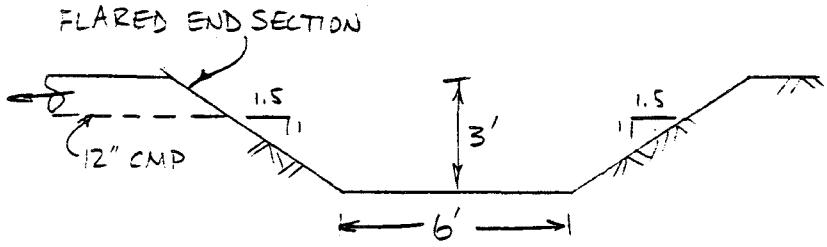
Sed. yield calcs. → K = 0.15
L = 100 ft

$$S = \frac{(110)(20) + (170)(2) + (150)(25)}{110 + 170 + 150} = 14.6\%$$

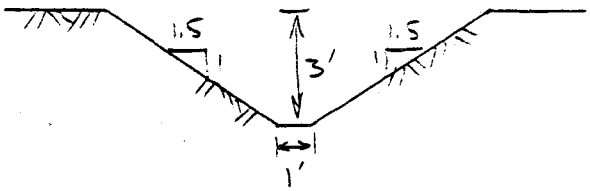
CP = 0.01 (see sed. pond calcs.)



SAE-2 SEDIMENT TRAP
PLAN VIEW
SCALE: 1" = 5'



SECTION A-A'
ELEV. VIEW
SCALE: 1" = 5'



SECTION B-B'
ELEV. VIEW
SCALE: 1" = 5'

Stage-area-capacity data for SAE-2 sed. trap:

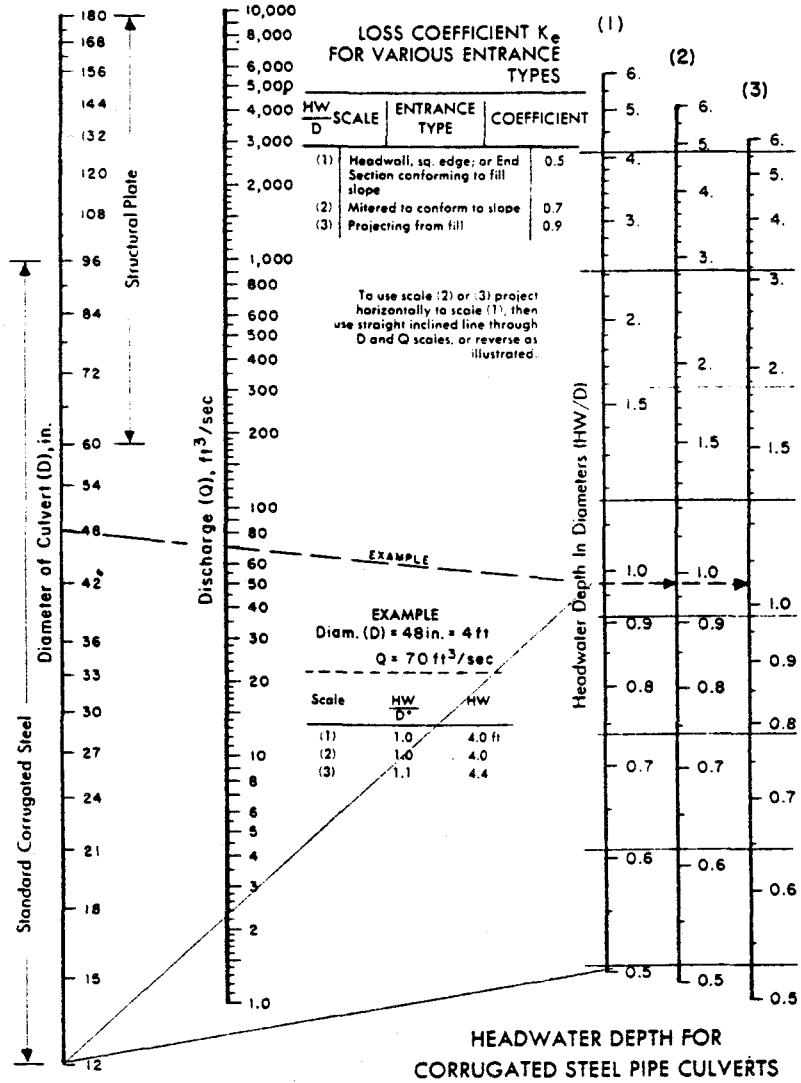
Relative Elev. (ft)	Area (ac)	Volume (AF)
0.0	0.0001	
		0.0005
1.0	0.0008	
		0.0014
2.0	0.0019	
		0.0023
2.5	0.0026	
		0.0030
3.0	0.0034	

Stage-discharge data (from pg. 6 of this calc.):

Relative Elev. (ft)	Discharge (cfs)	
0.0	0.0	
1.0	0.0	
2.0	0.0	— culvert invert
2.5	0.7	
3.0	2.4	

All other input parameters — see SAE-1 data

SEDIMOT II output (attached):
Peak effluent sed. concentration = 2898 mg/l
Peak influent sed. conc. from undisturbed WS = 17,320 mg/l
Peak influent sed. conc. from reclaimed WS = 1652 mg/l



HEADWATER DEPTH FOR CORRUGATED STEEL PIPE CULVERTS WITH INLET CONTROL

FHWA HEC 5

SAE-3

Design storm = 2.50 in (24 hr)

No. of junctions = 1
No. of branches = 1

Watershed data → reclaimed portion (no appreciable sed. yield from rock-covered slope).

Area = 0.20 ac
CN = 75
T_c → use upland method for 30 ft @ 1% slope

$$T_c = \frac{30 \text{ ft}}{0.7 \text{ ft/s}} = 42.9 \text{ s} = 0.012 \text{ hr}$$

Sediment-yield calcs. — MUSLE

K = 0.15
l = 25 ft
S = 1.0%
CP = 0.01

Assume lower 5 ft behaves as grass filter.

Remainder of inputs as for SAE-1.

SEDIMOT II results → peak effluent conc. = 2 mg/l

```
*****************************************************************
                        -- SEDPC --
              SEDIMOT II MODEL FOR THE IBM PC/XT
              CONVERTED BY TECH ENGINEERING INC.
                 VERSION 1.10 NOVEMBER 17.1983
*****************************************************************

*****************************************************************
*****************************************************************
       UNIVERSITY OF KENTUCKY COMPUTER MODEL
       OF SURFACE MINE HYDROLOGY AND SEDIMENTOLOGY
       FOR MORE INFORMATION CONTACT THE AGRICULTURAL
       ENGINEERING DEPARTMENT
       THE UK MODEL IS A DESIGN MODEL DEVELOPED TO PREDICT
       THE HYDRAULIC AND SEDIMENT RESPONSE FROM SURFACE
       MINED LANDS FOR A SPECIFIED RAINFALL EVENT (SINGLE STORM)
       VERSION DATE 9-23-83
       DISCLAIMER: NEITHER THE UNIVERSITY NOR ANY OF ITS EMPLOYEES
       ACCEPT ANY RESPONSIBILITY OR LEGAL LIABILITY FOR THE
       CONCLUSIONS DRAWN FROM THE RESULTS OF THIS MODEL
*****************************************************************
*****************************************************************
*****************************************************************
*                                                               *
*     THE FOLLOWING VALUES ARE NOW PREDICTED BY SEDIMOT II.     *
*     THEY CAN BE FOUND IN SUMMARY TABLES.                      *
*      1. PERIOD OF SIGNIFICANT CONCENTRATION                   *
*      2. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION      *
*         DURING PERIOD OF SIGNIFICANT CONCENTRATION            *
*      3. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION      *
*         DURING PEAK 24 HOUR PERIOD                            *
*      4. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION           *
*         DURING PERIOD OF SIGNIFICANT CONCENTRATION            *
*      5. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION           *
*         DURING PEAK 24 HOUR PERIOD                            *
*                                                               *
*     ALL CONCENTRATIONS ARE IN ML/L.                           *
*                                                               *
*****************************************************************
            *******************************************
                 WATERSHED IDENTIFICATION CODE
                 -----------------------------
 SMALL AREA EXEMPTIONS  -  SAE-1
            *******************************************
```

INPUT PARTICLE SIZE-PERCENT FINER DISTRIBUTIONS

SIZE.MM	.250	.100	.050	.010	.005	.001
	.000					
PCT FINER NO. 1	100.000	50.000	35.000	19.000	15.000	6.000
	.000					

**********INPUT VALUES**********

STORM DURATION	=	24.00	HOURS
PRECIPATION DEPTH	=	2.50	INCHES
SPECIFIC GRAVITY	=	2.50	
LOAD RATE EXPONENT FACTOR	=	1.50	
SUBMERGED BULK SPECIFIC GRAVITY	=	1.25	

```
* * * * * * * * * * * * * * * * * * * * * * * *
JUNCTION  1. BRANCH  1. STRUCTURE  1
* * * * * * * * * * * * * * * * * * * * * * * *
*** HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS ***
WATER    AREA    CURVE      TC      TT   ROUTING COEFFICIENTS   UNIT
SHED     ACRES   NUMBER     HR      HR       K-HRS       X      HYDRO
-----------------------------------------------------------------------
  1       .02    75.00    .001    .000      .000       .00       .0
*** SEDIMENT INPUT VALUES FOR SUBWATERSHEDS ***
WATER    SEG     SOIL      LENGTH     SLOPE     CP       PART     SURF
SHED     NUM      K         FEET       PCT     VALUE     OPT     COND
-----------------------------------------------------------------------
  1       1      .15         5.0      66.70     .010      1.0       .0
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
GRASS FILTER RESULTS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
!!!!!!!!!!!!!!!!!!!!!!!!!!!!  W A R N I N G  !!!!!!!!!!!!!!!!!!!!!!!!!!!!
GRASS FILTER SLOPE
IS NOT WITHIN THE EXPECTED LIMITS. THE
VALUE MUST BE NO SMALLER THAN   .0100 AND IF POSSIBLE SHOULD NOT EXCEED
   20.000. SEDIMOT WILL CONTINUE WITH THE VALUE ENTERED.   66.7000 ,BUT
IT MAY CAUSE INACCURACIES OR EVEN TERMINATION LATER IN THE PROGRAM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
***** GRASS FILTER PROPERTIES *****
-------------------------------------
SEGMENT NUMBER = 1
MANNING'S FRICTION FACTOR      =    .0130
CHANNEL SLOPE                  =  66.7000  PERCENT
GRASS SPACING                  =    .6000  INCH
GRASS HEIGHT                   =   6.0000  INCH
FILTER WIDTH                   = 130.0000  FEET
FILTER LENGTH                  =   5.0000  FEET
INFILTRATION RATE              =    .1000  IN/HR
STIFFNESS COEFFICIENT          =  20.0000  N-M SQ
***** SUMMARY TABLE *****
---------------------------
SPECIFIC GRAVITY OF SEDIMENT      =       2.50
BULK SPECIFIC GRAVITY             =       1.25
VISCOSITY                         =      .0090  CM**2/SEC
CRITICAL PRONE VELOCITY           =     1.0367  FT/S
PEAK FLOW DEPTH                   =        .00  INCH
FILTER TRAVEL TIME                =      .1000  HR
FILTER INFILTRATION RATE          =      .0015  CFS
TOTAL INFILTRATION VOLUME         =      .0000  ACRE-FT
WEDGE LOCATION                    =        .00  FEET
SEDIMENT DEPTH ZONE D             =      .0009  INCH
OUTFLOW RUNOFF VOLUME             =        .00  ACRE-FT
PEAK DISCHARGE RATE               =        .01  CFS
PEAK EFFLUENT CONCENTRATION       =      12.44  MG/L
PEAK SETTLEABLE CONCENTRATION     =      .0000  ML/L
PEAK SETTLEABLE CONCENTRATION     =        .00  MG/L
TOTAL MASS DISCHARGED             =        .00  TONS
TRAP EFFICIENCY                   =      99.85  PERCENT
PERIOD OF SIGNIFICANT CONCENTRATION   =        .10   HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE
  CONCENTRATION DURING PERIOD OF
  SIGNIFICANT CONCENTRATION       =        .00   ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE
  CONCENTRATION DURING PEAK 24 HOUR
  PERIOD                          =        .00   ML/L
ARITHMETIC AVERAGE SETTLEABLE
  CONCENTRATION DURING PERIOD OF
  SIGNIFICANT CONCENTRATION       =        .00   ML/L
```

CONCENTRATION DURING PEAK 24 HOUR
PERIOD = .00 ML/L

**** OVERALL TRAP EFFICIENCY OF ALL SEGMENTS= 99.85 **********

*** PARTICLE SIZE DISTRIBUTION OF SEDIMENT ***

SIZE.MM	.2500	.1000	.0500	.0100	.0050	.0010
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE.MM	.0001					
PERCENT FINER	.0000					

*** HYDROGRAPH AND SEDIMENT GRAPH ***
(TWO CONSECUTIVE VALUES PER LINE)

TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)	******* *	TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)
.00	.000	.000	*	.10	.000	.000
.20	.000	.000	*	.30	.000	.000
.40	.000	.000	*	.50	.000	.000
.60	.000	.000	*	.70	.000	.000
.80	.000	.000	*	.90	.000	.000
1.00	.000	.000	*	1.10	.000	.000
1.20	.000	.000	*	1.30	.000	.000
1.40	.000	.000	*	1.50	.000	.000
1.60	.000	.000	*	1.70	.000	.000
1.80	.000	.000	*	1.90	.000	.000
2.00	.000	.000	*	2.10	.000	.000
2.20	.000	.000	*	2.30	.000	.000
2.40	.000	.000	*	2.50	.000	.000
2.60	.000	.000	*	2.70	.000	.000
2.80	.000	.000	*	2.90	.000	.000
3.00	.000	.000	*	3.10	.000	.000
3.20	.000	.000	*	3.30	.000	.000
3.40	.000	.000	*	3.50	.000	.000
3.60	.000	.000	*	3.70	.000	.000
3.80	.000	.000	*	3.90	.000	.000
4.00	.000	.000	*	4.10	.000	.000
4.20	.000	.000	*	4.30	.000	.000
4.40	.000	.000	*	4.50	.000	.000
4.60	.000	.000	*	4.70	.000	.000
4.80	.000	.000	*	4.90	.000	.000
5.00	.000	.000	*	5.10	.000	.000
5.20	.000	.000	*	5.30	.000	.000
5.40	.000	.000	*	5.50	.000	.000
5.60	.000	.000	*	5.70	.000	.000
5.80	.000	.000	*	5.90	.000	.000
6.00	.000	.000	*	6.10	.000	.000
6.20	.000	.000	*	6.30	.000	.000
6.40	.000	.000	*	6.50	.000	.000
6.60	.000	.000	*	6.70	.000	.000
6.80	.000	.000	*	6.90	.000	.000
7.00	.000	.000	*	7.10	.000	.000
7.20	.000	.000	*	7.30	.000	.000
7.40	.000	.000	*	7.50	.000	.000
7.60	.000	.000	*	7.70	.000	.000
7.80	.000	.000	*	7.90	.000	.000
8.00	.000	.000	*	8.10	.000	.000
8.20	.000	.000	*	8.30	.000	.000
8.40	.000	.000	*	8.50	.000	.000
8.60	.000	.000	*	8.70	.000	.000
8.80	.000	.000	*	8.90	.000	.000
9.00	.000	.000	*	9.10	.000	.000
9.20	.000	.000	*	9.30	.000	.000
9.40	.000	.000	*	9.50	.000	.000
9.60	.000	.000	*	9.70	.000	.000
9.80	.000	.000	*	9.90	.000	.000
10.00	.000	.000	*	10.10	.000	.000
10.20	.000	.000	*	10.30	.000	.000

10.80	.000	.000	*	10.90	.000	.000
11.00	.000	.000	*	11.10	.000	.000
11.20	.000	.000	*	11.30	.000	.000
11.40	.000	.000	*	11.50	.000	.000
11.60	.000	.000	*	11.70	.000	.000
11.80	.000	.000	*	11.90	.000	.000
12.00	.011	8.471	*	12.10	.013	12.445
12.20	.000	.000	*	12.30	.000	.000
12.40	.000	.000	*	12.50	.000	.000
12.60	.000	.000	*	12.70	.000	.000
12.80	.000	.000	*	12.90	.000	.000
13.00	.000	.000	*	13.10	.000	.000
13.20	.000	.000	*	13.30	.000	.000
13.40	.000	.000	*	13.50	.000	.000
13.60	.000	.000	*	13.70	.000	.000
13.80	.000	.000	*	13.90	.000	.000
14.00	.000	.000	*	14.10	.000	.000
14.20	.000	.000	*	14.30	.000	.000
14.40	.000	.000	*	14.50	.000	.000
14.60	.000	.000	*	14.70	.000	.000
14.80	.000	.000	*	14.90	.000	.000
15.00	.000	.000	*	15.10	.000	.000
15.20	.000	.000	*	15.30	.000	.000
15.40	.000	.000	*	15.50	.000	.000
15.60	.000	.000	*	15.70	.000	.000
15.80	.000	.000	*	15.90	.000	.000
16.00	.000	.000	*	16.10	.000	.000
16.20	.000	.000	*	16.30	.000	.000
16.40	.000	.000	*	16.50	.000	.000
16.60	.000	.000	*	16.70	.000	.000
16.80	.000	.000	*	16.90	.000	.000
17.00	.000	.000	*	17.10	.000	.000
17.20	.000	.000	*	17.30	.000	.000
17.40	.000	.000	*	17.50	.000	.000
17.60	.000	.000	*	17.70	.000	.000
17.80	.000	.000	*	17.90	.000	.000
18.00	.000	.000	*	18.10	.000	.000
18.20	.000	.000	*	18.30	.000	.000
18.40	.000	.000	*	18.50	.000	.000
18.60	.000	.000	*	18.70	.000	.000
18.80	.000	.000	*	18.90	.000	.000
19.00	.000	.000	*	19.10	.000	.000
19.20	.000	.000	*	19.30	.000	.000
19.40	.000	.000	*	19.50	.000	.000
19.60	.000	.000	*	19.70	.000	.000
19.80	.000	.000	*	19.90	.000	.000
20.00	.000	.000	*	20.10	.000	.000
20.20	.000	.000	*	20.30	.000	.000
20.40	.000	.000	*	20.50	.000	.000
20.60	.000	.000	*	20.70	.000	.000
20.80	.000	.000	*	20.90	.000	.000
21.00	.000	.000	*	21.10	.000	.000
21.20	.000	.000	*	21.30	.000	.000
21.40	.000	.000	*	21.50	.000	.000
21.60	.000	.000	*	21.70	.000	.000
21.80	.000	.000	*	21.90	.000	.000
22.00	.000	.000	*	22.10	.000	.000
22.20	.000	.000	*	22.30	.000	.000
22.40	.000	.000	*	22.50	.000	.000
22.60	.000	.000	*	22.70	.000	.000
22.80	.000	.000	*	22.90	.000	.000
23.00	.000	.000	*	23.10	.000	.000
23.20	.000	.000	*	23.30	.000	.000
23.40	.000	.000	*	23.50	.000	.000

23.80 .000 .000 * 23.90 .000 .000

*** RUN COMPLETED ****

```
*****************************************************************
                        -- SEDPC --
              SEDIMOT II MODEL FOR THE IBM PC/XT
              CONVERTED BY TECH ENGINEERING INC.
                 VERSION 1.10 NOVEMBER 17.1983
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       UNIVERSITY OF KENTUCKY COMPUTER MODEL
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       FOR MORE INFORMATION CONTACT THE AGRICULTURAL
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       THE UK MODEL IS A DESIGN MODEL DEVELOPED TO PREDICT
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       MINED LANDS FOR A SPECIFIED RAINFALL EVENT (SINGLE STORM)
       VERSION DATE 9-23-83
       DISCLAIMER: NEITHER THE UNIVERSITY NOR ANY OF ITS EMPLOYEES
       ACCEPT ANY RESPONSIBILITY OR LEGAL LIABILITY FOR THE
       CONCLUSIONS DRAWN FROM THE RESULTS OF THIS MODEL
*****************************************************************
*****************************************************************
*****************************************************************
*                                                               *
*     THE FOLLOWING VALUES ARE NOW PREDICTED BY SEDIMOT II.     *
*     THEY CAN BE FOUND IN SUMMARY TABLES.                      *
*      1. PERIOD OF SIGNIFICANT CONCENTRATION                   *
*      2. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION      *
*         DURING PERIOD OF SIGNIFICANT CONCENTRATION            *
*      3. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION      *
*         DURING PEAK 24 HOUR PERIOD                            *
*      4. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION           *
*         DURING PERIOD OF SIGNIFICANT CONCENTRATION            *
*      5. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION           *
*         DURING PEAK 24 HOUR PERIOD                            *
*                                                               *
*     ALL CONCENTRATIONS ARE IN ML/L.                           *
*                                                               *
*****************************************************************
            ********************************************
                 WATERSHED IDENTIFICATION CODE
                 -----------------------------
 SMALL AREA EXEMPTIONS  -  SAE-2
            ********************************************
```

INPUT PARTICLE SIZE-PERCENT FINER DISTRIBUTIONS

SIZE.MM	.250	.100	.050	.010	.005	.001
	.000					
PCT FINER NO. 1	100.000	50.000	35.000	19.000	15.000	6.000
	.000					

**********INPUT VALUES**********

STORM DURATION	=	24.00	HOURS
PRECIPATION DEPTH	=	2.50	INCHES
SPECIFIC GRAVITY	=	2.50	
LOAD RATE EXPONENT FACTOR	=	1.50	
SUBMERGED BULK SPECIFIC GRAVITY	=	1.25	

* *

JUNCTION 1. BRANCH 1. STRUCTURE 1

* *

***** RESULTS FROM SUBWATERSHED 1 *****

*** PARTICLE SIZE DISTRIBUTION OF SEDIMENT ***

SIZE.MM	.2500	.1000	.0500	.0100	.0050	.0010
PERCENT FINER	100.0000	50.0000	35.0000	19.0000	15.0000	6.0000
SIZE.MM	.0001					
PERCENT FINER	.0000					

*** HYDROGRAPH AND SEDIMENT GRAPH ***

(TWO CONSECUTIVE VALUES PER LINE)

TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)	******** *	TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)
.00	.000	.000	*	.10	.000	.000
.20	.000	.000	*	.30	.000	.000
.40	.000	.000	*	.50	.000	.000
.60	.000	.000	*	.70	.000	.000
.80	.000	.000	*	.90	.000	.000
1.00	.000	.000	*	1.10	.000	.000
1.20	.000	.000	*	1.30	.000	.000
1.40	.000	.000	*	1.50	.000	.000
1.60	.000	.000	*	1.70	.000	.000
1.80	.000	.000	*	1.90	.000	.000
2.00	.000	.000	*	2.10	.000	.000
2.20	.000	.000	*	2.30	.000	.000
2.40	.000	.000	*	2.50	.000	.000
2.60	.000	.000	*	2.70	.000	.000
2.80	.000	.000	*	2.90	.000	.000
3.00	.000	.000	*	3.10	.000	.000
3.20	.000	.000	*	3.30	.000	.000
3.40	.000	.000	*	3.50	.000	.000
3.60	.000	.000	*	3.70	.000	.000
3.80	.000	.000	*	3.90	.000	.000
4.00	.000	.000	*	4.10	.000	.000
4.20	.000	.000	*	4.30	.000	.000
4.40	.000	.000	*	4.50	.000	.000
4.60	.000	.000	*	4.70	.000	.000
4.80	.000	.000	*	4.90	.000	.000
5.00	.000	.000	*	5.10	.000	.000
5.20	.000	.000	*	5.30	.000	.000
5.40	.000	.000	*	5.50	.000	.000
5.60	.000	.000	*	5.70	.000	.000
5.80	.000	.000	*	5.90	.000	.000
6.00	.000	.000	*	6.10	.000	.000
6.20	.000	.000	*	6.30	.000	.000
6.40	.000	.000	*	6.50	.000	.000
6.60	.000	.000	*	6.70	.000	.000
6.80	.000	.000	*	6.90	.000	.000
7.00	.000	.000	*	7.10	.000	.000
7.20	.000	.000	*	7.30	.000	.000
7.40	.000	.000	*	7.50	.000	.000
7.60	.000	.000	*	7.70	.000	.000
7.80	.000	.000	*	7.90	.000	.000
8.00	.000	.000	*	8.10	.000	.000
8.20	.000	.000	*	8.30	.000	.000
8.40	.000	.000	*	8.50	.000	.000
8.60	.000	.000	*	8.70	.000	.000
8.80	.000	.000	*	8.90	.000	.000
9.00	.000	.000	*	9.10	.000	.000
9.20	.000	.000	*	9.30	.000	.000
9.40	.000	.000	*	9.50	.000	.000

9.80	.000	.000	*	9.90	.000	.000
10.00	.000	.000	*	10.10	.000	.000
10.20	.000	.000	*	10.30	.000	.000
10.40	.000	.000	*	10.50	.000	.000
10.60	.000	.000	*	10.70	.000	.000
10.80	.000	.000	*	10.90	.000	.000
11.00	.000	.000	*	11.10	.000	.000
11.20	.000	.000	*	11.30	.000	.000
11.40	.000	.000	*	11.50	.000	.000
11.60	.000	.000	*	11.70	.069	7105.250
11.80	.198	12001.600	*	11.90	.313	15055.800
12.00	.415	17321.600	*	12.10	.089	8062.930
12.20	.092	8206.290	*	12.30	.096	8344.310
12.40	.099	8477.390	*	12.50	.102	8605.210
12.60	.053	6242.910	*	12.70	.054	6287.930
12.80	.055	6332.150	*	12.90	.056	6375.570
13.00	.056	6418.080	*	13.10	.042	5515.960
13.20	.042	5541.890	*	13.30	.042	5567.440
13.40	.043	5592.790	*	13.50	.043	5617.530
13.60	.034	4975.130	*	13.70	.034	4991.870
13.80	.034	5008.530	*	13.90	.035	5025.010
14.00	.035	5041.160	*	14.10	.025	4273.900
14.20	.025	4283.560	*	14.30	.025	4293.290
14.40	.025	4302.850	*	14.50	.025	4312.430
14.60	.026	4321.880	*	14.70	.026	4331.330
14.80	.026	4340.750	*	14.90	.026	4350.010
15.00	.026	4359.320	*	15.10	.026	4368.480
15.20	.026	4377.660	*	15.30	.026	4386.730
15.40	.026	4395.830	*	15.50	.027	4404.770
15.60	.027	4413.670	*	15.70	.027	4422.630
15.80	.027	4431.520	*	15.90	.027	4440.170
16.00	.027	4448.550	*	16.10	.016	3452.850
16.20	.016	3456.880	*	16.30	.016	3460.880
16.40	.016	3464.960	*	16.50	.016	3468.890
16.60	.016	3472.790	*	16.70	.017	3476.820
16.80	.017	3480.680	*	16.90	.017	3484.650
17.00	.017	3488.530	*	17.10	.017	3492.460
17.20	.017	3496.310	*	17.30	.017	3500.110
17.40	.017	3504.150	*	17.50	.017	3507.920
17.60	.017	3511.610	*	17.70	.017	3515.650
17.80	.017	3519.360	*	17.90	.017	3523.150
18.00	.017	3526.930	*	18.10	.017	3530.710
18.20	.017	3534.540	*	18.30	.017	3538.190
18.40	.017	3541.930	*	18.50	.017	3545.640
18.60	.017	3549.340	*	18.70	.017	3553.060
18.80	.017	3556.700	*	18.90	.017	3560.420
19.00	.017	3564.000	*	19.10	.017	3567.710
19.20	.017	3571.410	*	19.30	.017	3574.840
19.40	.018	3578.650	*	19.50	.018	3582.120
19.60	.018	3585.730	*	19.70	.018	3589.250
19.80	.018	3592.910	*	19.90	.018	3596.400
20.00	.018	3600.020	*	20.10	.012	2942.570
20.20	.012	2944.380	*	20.30	.012	2946.390
20.40	.012	2948.300	*	20.50	.012	2950.180
20.60	.012	2952.090	*	20.70	.012	2953.990
20.80	.012	2955.800	*	20.90	.012	2957.740
21.00	.012	2959.710	*	21.10	.012	2961.410
21.20	.012	2963.380	*	21.30	.012	2965.210
21.40	.012	2967.110	*	21.50	.012	2969.010
21.60	.012	2970.810	*	21.70	.012	2972.830
21.80	.012	2974.500	*	21.90	.012	2976.390
22.00	.012	2978.280	*	22.10	.012	2980.000
22.20	.012	2981.990	*	22.30	.012	2983.820
22.40	.012	2985.440	*	22.50	.012	2987.490
22.60	.012	2989.240	*	22.70	.012	2990.940

23.00	.012	2996.540	*	23.10	.012	2998.280
23.20	.012	3000.130	*	23.30	.012	3001.810
23.40	.012	3003.650	*	23.50	.012	3005.460
23.60	.012	3007.300	*	23.70	.012	3008.910

***** RESULTS FROM SUBWATERSHED 2 *****

*** PARTICLE SIZE DISTRIBUTION OF SEDIMENT ***

SIZE.MM	.2500	.1000	.0500	.0100	.0050	.0010
PERCENT FINER	100.0000	50.0000	35.0000	19.0000	15.0000	6.0000
SIZE.MM	.0001					
PERCENT FINER	.0000					

*** HYDROGRAPH AND SEDIMENT GRAPH ***

(TWO CONSECUTIVE VALUES PER LINE)

TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)	******* *	TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)
.00	.000	.000	*	.10	.000	.000
.20	.000	.000	*	.30	.000	.000
.40	.000	.000	*	.50	.000	.000
.60	.000	.000	*	.70	.000	.000
.80	.000	.000	*	.90	.000	.000
1.00	.000	.000	*	1.10	.000	.000
1.20	.000	.000	*	1.30	.000	.000
1.40	.000	.000	*	1.50	.000	.000
1.60	.000	.000	*	1.70	.000	.000
1.80	.000	.000	*	1.90	.000	.000
2.00	.000	.000	*	2.10	.000	.000
2.20	.000	.000	*	2.30	.000	.000
2.40	.000	.000	*	2.50	.000	.000
2.60	.000	.000	*	2.70	.000	.000
2.80	.000	.000	*	2.90	.000	.000
3.00	.000	.000	*	3.10	.000	.000
3.20	.000	.000	*	3.30	.000	.000
3.40	.000	.000	*	3.50	.000	.000
3.60	.000	.000	*	3.70	.000	.000
3.80	.000	.000	*	3.90	.000	.000
4.00	.000	.000	*	4.10	.000	.000
4.20	.000	.000	*	4.30	.000	.000
4.40	.000	.000	*	4.50	.000	.000
4.60	.000	.000	*	4.70	.000	.000
4.80	.000	.000	*	4.90	.000	.000
5.00	.000	.000	*	5.10	.000	.000
5.20	.000	.000	*	5.30	.000	.000
5.40	.000	.000	*	5.50	.000	.000
5.60	.000	.000	*	5.70	.000	.000
5.80	.000	.000	*	5.90	.000	.000
6.00	.000	.000	*	6.10	.000	.000
6.20	.000	.000	*	6.30	.000	.000
6.40	.000	.000	*	6.50	.000	.000
6.60	.000	.000	*	6.70	.000	.000
6.80	.000	.000	*	6.90	.000	.000
7.00	.000	.000	*	7.10	.000	.000
7.20	.000	.000	*	7.30	.000	.000
7.40	.000	.000	*	7.50	.000	.000
7.60	.000	.000	*	7.70	.000	.000
7.80	.000	.000	*	7.90	.000	.000
8.00	.000	.000	*	8.10	.000	.000
8.20	.000	.000	*	8.30	.000	.000
8.40	.000	.000	*	8.50	.000	.000
8.60	.000	.000	*	8.70	.000	.000
8.80	.000	.000	*	8.90	.000	.000
9.00	.000	.000	*	9.10	.000	.000
9.20	.000	.000	*	9.30	.000	.000
9.40	.000	.000	*	9.50	.000	.000
9.60	.000	.000	*	9.70	.000	.000
9.80	.000	.000	*	9.90	.000	.000

10.20	.000	.000	*	10.30	.000	.000
10.40	.000	.000	*	10.50	.000	.000
10.60	.000	.000	*	10.70	.000	.000
10.80	.000	.000	*	10.90	.000	.000
11.00	.000	.000	*	11.10	.000	.000
11.20	.000	.000	*	11.30	.000	.000
11.40	.000	.000	*	11.50	.000	.000
11.60	.050	741.015	*	11.70	.110	1106.090
11.80	.163	1341.680	*	11.90	.208	1515.640
12.00	.246	1651.650	*	12.10	.051	749.263
12.20	.052	758.014	*	12.30	.053	766.455
12.40	.054	774.601	*	12.50	.055	782.419
12.60	.029	565.121	*	12.70	.029	567.878
12.80	.029	570.587	*	12.90	.030	573.248
13.00	.030	575.848	*	13.10	.022	493.852
13.20	.022	495.442	*	13.30	.022	497.008
13.40	.022	498.559	*	13.50	.023	500.071
13.60	.018	442.234	*	13.70	.018	443.261
13.80	.018	444.279	*	13.90	.018	445.290
14.00	.018	446.270	*	14.10	.013	377.920
14.20	.013	378.507	*	14.30	.013	379.109
14.40	.013	379.688	*	14.50	.013	380.279
14.60	.013	380.853	*	14.70	.013	381.428
14.80	.013	382.012	*	14.90	.013	382.571
15.00	.013	383.142	*	15.10	.013	383.704
15.20	.013	384.260	*	15.30	.013	384.817
15.40	.013	385.374	*	15.50	.013	385.917
15.60	.013	386.463	*	15.70	.014	387.013
15.80	.014	387.552	*	15.90	.014	388.078
16.00	.014	388.586	*	16.10	.000	.000
16.20	.000	.000	*	16.30	.000	.000
16.40	.000	.000	*	16.50	.000	.000
16.60	.000	.000	*	16.70	.000	.000
16.80	.000	.000	*	16.90	.000	.000
17.00	.000	.000	*	17.10	.000	.000
17.20	.000	.000	*	17.30	.000	.000
17.40	.000	.000	*	17.50	.000	.000
17.60	.000	.000	*	17.70	.000	.000
17.80	.000	.000	*	17.90	.000	.000
18.00	.000	.000	*	18.10	.000	.000
18.20	.000	.000	*	18.30	.000	.000
18.40	.000	.000	*	18.50	.000	.000
18.60	.000	.000	*	18.70	.000	.000
18.80	.000	.000	*	18.90	.000	.000
19.00	.000	.000	*	19.10	.000	.000
19.20	.000	.000	*	19.30	.000	.000
19.40	.000	.000	*	19.50	.000	.000
19.60	.000	.000	*	19.70	.000	.000
19.80	.000	.000	*	19.90	.000	.000
20.00	.000	.000	*	20.10	.000	.000
20.20	.000	.000	*	20.30	.000	.000
20.40	.000	.000	*	20.50	.000	.000
20.60	.000	.000	*	20.70	.000	.000
20.80	.000	.000	*	20.90	.000	.000
21.00	.000	.000	*	21.10	.000	.000
21.20	.000	.000	*	21.30	.000	.000
21.40	.000	.000	*	21.50	.000	.000
21.60	.000	.000	*	21.70	.000	.000
21.80	.000	.000	*	21.90	.000	.000
22.00	.000	.000	*	22.10	.000	.000
22.20	.000	.000	*	22.30	.000	.000
22.40	.000	.000	*	22.50	.000	.000
22.60	.000	.000	*	22.70	.000	.000
22.80	.000	.000	*	22.90	.000	.000
23.00	.000	.000	*	23.10	.000	.000

23.40	.000	.000	*	23.50	.000	.000
23.60	.000	.000	*	23.70	.000	.000

*** HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS ***

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X	UNIT HYDRO
1	.90	69.00	.028	.000	.000	.00	.0
2	.34	75.00	.069	.000	.000	.00	.0

*** SEDIMENT INPUT VALUES FOR SUBWATERSHEDS ***

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.15	50.0	95.90	.005	1.0	.0
2	1	.15	100.0	14.60	.010	1.0	.0

* *

POND RESULTS

* *

***** CONTROL VARIABLES OPTIONS *****

FLOW	FRACTN	ISDO	NRHP	NSP	NCSTR
3	0	1	300	5	2

***** BASIN GEOMETRY *****

STAGE (FT)	AREA (ACRES)	AVERAGE DEPTH (FT)	DISCHARGE (CFS)	CAPACITY (ACRES-FT)
.00	.000	.00	.00	.00
1.00	.001	.50	.00	.00
2.00	.002	1.25	.00	.00
2.50	.003	1.56	.70	.00
3.00	.003	1.91	2.40	.00

***** STORM EVENT SUMMARY *****

TURBULENCE FACTOR	=	1.00	
PERMANENT POOL CAPACITY	=	.002	ACRE-FT
DEAD STORAGE	=	20.00	PERCENT
TIME INCREMENT OUTFLOW	=	.10	HRS
VISCOSITY	=	.009	CM**2/SEC
INFLOW RUNOFF VOLUME	=	.050	ACRE-FT
OUTFLOW ROUTED VOLUME	=	.050	ACRE-FT
STORM VOLUME DISCHARGED (PLUG FLOW)	=	.050	ACRE-FT
POND VOLUME AT PEAK STAGE	=	.003	ACRE-FT
PEAK STAGE	=	2.451	FT
PEAK INFLOW RATE	=	.661	CFS
PEAK DISCHARGE RATE	=	.631	CFS
PEAK INFLOW SEDIMENT CONCENTRATION	=	11505.00	MG/L
PEAK EFFLUENT SEDIMENT CONCENTRATION	=	2897.65	MG/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.4128	ML/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	515.96	MG/L
STORM AVERAGE EFFLUENT CONCENTRATION	=	1280.06	MG/L
AVERAGE EFFLUENT SEDIMENT CONCENTRATION	=	1280.06	MG/L
BASIN TRAP EFFICIENCY	=	77.04	PERCENT
DETENTION TIME OF FLOW WITH SEDIMENT	=	.02	HRS
DETENTION TIME FROM HYDROGRAPH CENTERS	=	.02	HRS
DETENTION TIME INCLUDING STORED FLOW	=	.02	HRS
SEDIMENT LOAD DISCHARGED	=	.08	TONS
PERIOD OF SIGNIFICANT CONCENTRATION	=	12.40	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	.18	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	.18	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	.09	ML/L

CONCENTRATION DURING PEAK 24 HOUR PERIOD = .05 ML/L

*** PARTICLE SIZE DISTRIBUTION OF SEDIMENT ***

SIZE.MM	.2500	.1000	.0500	.0100	.0050	.0010
PERCENT FINER	100.0000	100.0000	100.0000	82.7620	65.3384	26.1354
SIZE.MM	.0001					
PERCENT FINER	.0000					

*** HYDROGRAPH AND SEDIMENT GRAPH ***
(TWO CONSECUTIVE VALUES PER LINE)

TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)	******* *	TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)
.00	.000	.000	*	.10	.000	.000
.20	.000	.000	*	.30	.000	.000
.40	.000	.000	*	.50	.000	.000
.60	.000	.000	*	.70	.000	.000
.80	.000	.000	*	.90	.000	.000
1.00	.000	.000	*	1.10	.000	.000
1.20	.000	.000	*	1.30	.000	.000
1.40	.000	.000	*	1.50	.000	.000
1.60	.000	.000	*	1.70	.000	.000
1.80	.000	.000	*	1.90	.000	.000
2.00	.000	.000	*	2.10	.000	.000
2.20	.000	.000	*	2.30	.000	.000
2.40	.000	.000	*	2.50	.000	.000
2.60	.000	.000	*	2.70	.000	.000
2.80	.000	.000	*	2.90	.000	.000
3.00	.000	.000	*	3.10	.000	.000
3.20	.000	.000	*	3.30	.000	.000
3.40	.000	.000	*	3.50	.000	.000
3.60	.000	.000	*	3.70	.000	.000
3.80	.000	.000	*	3.90	.000	.000
4.00	.000	.000	*	4.10	.000	.000
4.20	.000	.000	*	4.30	.000	.000
4.40	.000	.000	*	4.50	.000	.000
4.60	.000	.000	*	4.70	.000	.000
4.80	.000	.000	*	4.90	.000	.000
5.00	.000	.000	*	5.10	.000	.000
5.20	.000	.000	*	5.30	.000	.000
5.40	.000	.000	*	5.50	.000	.000
5.60	.000	.000	*	5.70	.000	.000
5.80	.000	.000	*	5.90	.000	.000
6.00	.000	.000	*	6.10	.000	.000
6.20	.000	.000	*	6.30	.000	.000
6.40	.000	.000	*	6.50	.000	.000
6.60	.000	.000	*	6.70	.000	.000
6.80	.000	.000	*	6.90	.000	.000
7.00	.000	.000	*	7.10	.000	.000
7.20	.000	.000	*	7.30	.000	.000
7.40	.000	.000	*	7.50	.000	.000
7.60	.000	.000	*	7.70	.000	.000
7.80	.000	.000	*	7.90	.000	.000
8.00	.000	.000	*	8.10	.000	.000
8.20	.000	.000	*	8.30	.000	.000
8.40	.000	.000	*	8.50	.000	.000
8.60	.000	.000	*	8.70	.000	.000
8.80	.000	.000	*	8.90	.000	.000
9.00	.000	.000	*	9.10	.000	.000
9.20	.000	.000	*	9.30	.000	.000
9.40	.000	.000	*	9.50	.000	.000
9.60	.000	.000	*	9.70	.000	.000
9.80	.000	.000	*	9.90	.000	.000
10.00	.000	.000	*	10.10	.000	.000
10.20	.000	.000	*	10.30	.000	.000
10.40	.000	.000	*	10.50	.000	.000

10.80	.000	.000	*	10.90	.000	.000
11.00	.000	.000	*	11.10	.000	.000
11.20	.000	.000	*	11.30	.000	.000
11.40	.000	.000	*	11.50	.000	.000
11.60	.035	4.783	*	11.70	.146	214.345
11.80	.319	1201.840	*	11.90	.488	2343.330
12.00	.631	2897.650	*	12.10	.309	2588.060
12.20	.076	1619.240	*	12.30	.174	1245.330
12.40	.141	1297.300	*	12.50	.160	1336.260
12.60	.103	1268.280	*	12.70	.075	1115.390
12.80	.087	1013.500	*	12.90	.084	971.315
13.00	.087	957.260	*	13.10	.070	928.777
13.20	.061	878.813	*	13.30	.066	841.359
13.40	.065	821.121	*	13.50	.066	811.678
13.60	.056	793.017	*	13.70	.050	761.909
13.80	.053	736.925	*	13.90	.052	720.868
14.00	.053	711.350	*	14.10	.042	692.223
14.20	.036	661.977	*	14.30	.039	636.293
14.40	.038	616.621	*	14.50	.039	602.008
14.60	.039	591.845	*	14.70	.039	584.981
14.80	.039	580.589	*	14.90	.039	577.946
15.00	.039	576.554	*	15.10	.039	576.046
15.20	.040	576.173	*	15.30	.040	576.756
15.40	.040	577.676	*	15.50	.040	578.841
15.60	.040	580.183	*	15.70	.040	581.655
15.80	.040	583.222	*	15.90	.041	584.852
16.00	.041	586.516	*	16.10	.024	572.803
16.20	.013	547.715	*	16.30	.018	532.609
16.40	.016	524.821	*	16.50	.017	520.483
16.60	.016	519.094	*	16.70	.017	519.514
16.80	.017	521.281	*	16.90	.017	523.898
17.00	.017	527.064	*	17.10	.017	530.526
17.20	.017	534.117	*	17.30	.017	537.709
17.40	.017	541.221	*	17.50	.017	544.602
17.60	.017	547.814	*	17.70	.017	550.844
17.80	.017	553.690	*	17.90	.017	556.348
18.00	.017	558.829	*	18.10	.017	561.142
18.20	.017	563.300	*	18.30	.017	565.313
18.40	.017	567.194	*	18.50	.017	568.958
18.60	.017	570.614	*	18.70	.017	572.175
18.80	.017	573.652	*	18.90	.017	575.052
19.00	.017	576.387	*	19.10	.017	577.661
19.20	.017	578.886	*	19.30	.017	580.064
19.40	.017	581.200	*	19.50	.018	582.301
19.60	.018	583.370	*	19.70	.018	584.411
19.80	.018	585.427	*	19.90	.018	586.422
20.00	.018	587.398	*	20.10	.014	582.004
20.20	.011	571.010	*	20.30	.012	561.583
20.40	.012	553.126	*	20.50	.012	545.029
20.60	.012	537.410	*	20.70	.012	530.229
20.80	.012	523.529	*	20.90	.012	517.305
21.00	.012	511.561	*	21.10	.012	506.278
21.20	.012	501.437	*	21.30	.012	497.016
21.40	.012	492.992	*	21.50	.012	489.340
21.60	.012	486.032	*	21.70	.012	483.048
21.80	.012	480.359	*	21.90	.012	477.944
22.00	.012	475.781	*	22.10	.012	473.847
22.20	.012	472.124	*	22.30	.012	470.594
22.40	.012	469.236	*	22.50	.012	468.036
22.60	.012	466.983	*	22.70	.012	466.058
22.80	.012	465.252	*	22.90	.012	464.555
23.00	.012	463.956	*	23.10	.012	463.445
23.20	.012	463.016	*	23.30	.012	462.659
23.40	.012	462.369	*	23.50	.012	462.140
23.60	.012	461.968	*	23.70	.012	461.844

*** RUN COMPLETED ****

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*****************************************************************
                        -- SEDPC --
              SEDIMOT II MODEL FOR THE IBM PC/XT
              CONVERTED BY TECH ENGINEERING INC.
                 VERSION 1.10 NOVEMBER 17.1983
*****************************************************************

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*****************************************************************
       UNIVERSITY OF KENTUCKY COMPUTER MODEL
       OF SURFACE MINE HYDROLOGY AND SEDIMENTOLOGY
       FOR MORE INFORMATION CONTACT THE AGRICULTURAL
       ENGINEERING DEPARTMENT
       THE UK MODEL IS A DESIGN MODEL DEVELOPED TO PREDICT
       THE HYDRAULIC AND SEDIMENT RESPONSE FROM SURFACE
       MINED LANDS FOR A SPECIFIED RAINFALL EVENT (SINGLE STORM)
       VERSION DATE 9-23-83
       DISCLAIMER: NEITHER THE UNIVERSITY NOR ANY OF ITS EMPLOYEES
       ACCEPT ANY RESPONSIBILITY OR LEGAL LIABILITY FOR THE
       CONCLUSIONS DRAWN FROM THE RESULTS OF THIS MODEL
*****************************************************************
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*****************************************************************
*                                                               *
*     THE FOLLOWING VALUES ARE NOW PREDICTED BY SEDIMOT II.     *
*     THEY CAN BE FOUND IN SUMMARY TABLES.                      *
*      1. PERIOD OF SIGNIFICANT CONCENTRATION                   *
*      2. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION      *
*         DURING PERIOD OF SIGNIFICANT CONCENTRATION            *
*      3. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION      *
*         DURING PEAK 24 HOUR PERIOD                            *
*      4. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION           *
*         DURING PERIOD OF SIGNIFICANT CONCENTRATION            *
*      5. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION           *
*         DURING PEAK 24 HOUR PERIOD                            *
*                                                               *
*     ALL CONCENTRATIONS ARE IN ML/L.                           *
*                                                               *
*****************************************************************
            ********************************************
                 WATERSHED IDENTIFICATION CODE
                 -----------------------------
 SMALL AREA EXEMPTIONS  -  SAE-3
            ********************************************
```

INPUT PARTICLE SIZE-PERCENT FINER DISTRIBUTIONS

SIZE.MM	.250	.100	.050	.010	.005	.001
	.000					
PCT FINER NO. 1	100.000	50.000	35.000	19.000	15.000	6.000
	.000					

**********INPUT VALUES**********

STORM DURATION	=	24.00	HOURS
PRECIPATION DEPTH	=	2.50	INCHES
SPECIFIC GRAVITY	=	2.50	
LOAD RATE EXPONENT FACTOR	=	1.50	
SUBMERGED BULK SPECIFIC GRAVITY	=	1.25	

```
          * * * * * * * * * * * * * * * * * * * * * * *
              JUNCTION  1. BRANCH  1. STRUCTURE  1
          * * * * * * * * * * * * * * * * * * * * * * *
      *** HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS ***
WATER    AREA    CURVE      TC      TT   ROUTING COEFFICIENTS   UNIT
SHED     ACRES   NUMBER     HR      HR       K-HRS       X      HYDRO
-----------------------------------------------------------------------
  1       .20    75.00    .012    .000      .000       .00      .0
      *** SEDIMENT INPUT VALUES FOR SUBWATERSHEDS ***
WATER    SEG     SOIL       LENGTH     SLOPE     CP       PART     SURF
SHED     NUM      K          FEET       PCT     VALUE     OPT      COND
-----------------------------------------------------------------------
  1       1      .15        25.0        1.00     .010      1.0       .0
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
                    GRASS FILTER RESULTS
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
        ***** GRASS FILTER PROPERTIES *****
        ----------------------------------
                 SEGMENT NUMBER = 1
  MANNING'S FRICTION FACTOR      =    .0130
  CHANNEL SLOPE                  =   1.0000  PERCENT
  GRASS SPACING                  =    .6000  INCH
  GRASS HEIGHT                   =   6.0000  INCH
  FILTER WIDTH                   = 240.0000  FEET
  FILTER LENGTH                  =   5.0000  FEET
  INFILTRATION RATE              =    .1000  IN/HR
  STIFFNESS COEFFICIENT          =  20.0000  N-M SQ
                  ***** SUMMARY TABLE *****
                  ---------------------------
  SPECIFIC GRAVITY OF SEDIMENT      =       2.50
  BULK SPECIFIC GRAVITY             =       1.25
  VISCOSITY                         =      .0090  CM**2/SEC
  CRITICAL PRONE VELOCITY           =     1.0367  FT/S
  PEAK FLOW DEPTH                   =        .03  INCH
  FILTER TRAVEL TIME                =      .1000  HR
  FILTER INFILTRATION RATE          =      .0028  CFS
  TOTAL INFILTRATION VOLUME         =      .0006  ACRE-FT
  WEDGE LOCATION                    =        .02  FEET
  SEDIMENT DEPTH ZONE D             =      .0000  INCH
  OUTFLOW RUNOFF VOLUME             =        .01  ACRE-FT
  PEAK DISCHARGE RATE               =        .14  CFS
  PEAK EFFLUENT CONCENTRATION       =       1.69  MG/L
  PEAK SETTLEABLE CONCENTRATION     =      .0000  ML/L
  PEAK SETTLEABLE CONCENTRATION     =        .00  MG/L
  TOTAL MASS DISCHARGED             =        .00  TONS
  TRAP EFFICIENCY                   =      98.34  PERCENT
  PERIOD OF SIGNIFICANT CONCENTRATION   =       2.40   HRS
  VOLUME WEIGHTED AVERAGE SETTLEABLE
    CONCENTRATION DURING PERIOD OF
    SIGNIFICANT CONCENTRATION           =        .00   ML/L
  VOLUME WEIGHTED AVERAGE SETTLEABLE
    CONCENTRATION DURING PEAK 24 HOUR
    PERIOD                              =        .00   ML/L
  ARITHMETIC AVERAGE SETTLEABLE
    CONCENTRATION DURING PERIOD OF
    SIGNIFICANT CONCENTRATION           =        .00   ML/L
  ARITHMETIC AVERAGE SETTLEABLE
    CONCENTRATION DURING PEAK 24 HOUR
    PERIOD                              =        .00   ML/L
      **** OVERALL TRAP EFFICIENCY OF ALL SEGMENTS=   98.34   **********
          *** PARTICLE SIZE DISTRIBUTION OF SEDIMENT ***
SIZE.MM              .2500    .1000    .0500    .0100    .0050    .0010
PERCENT FINER      100.0000 100.0000 100.0000 100.0000 100.0000 100.0000
```

PERCENT FINER .0000

*** HYDROGRAPH AND SEDIMENT GRAPH ***
(TWO CONSECUTIVE VALUES PER LINE)

TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)	*	TIME (HR)	DISCHARGE (CFS)	SED DISC (MG/L)
.00	.000	.000	*	.10	.000	.000
.20	.000	.000	*	.30	.000	.000
.40	.000	.000	*	.50	.000	.000
.60	.000	.000	*	.70	.000	.000
.80	.000	.000	*	.90	.000	.000
1.00	.000	.000	*	1.10	.000	.000
1.20	.000	.000	*	1.30	.000	.000
1.40	.000	.000	*	1.50	.000	.000
1.60	.000	.000	*	1.70	.000	.000
1.80	.000	.000	*	1.90	.000	.000
2.00	.000	.000	*	2.10	.000	.000
2.20	.000	.000	*	2.30	.000	.000
2.40	.000	.000	*	2.50	.000	.000
2.60	.000	.000	*	2.70	.000	.000
2.80	.000	.000	*	2.90	.000	.000
3.00	.000	.000	*	3.10	.000	.000
3.20	.000	.000	*	3.30	.000	.000
3.40	.000	.000	*	3.50	.000	.000
3.60	.000	.000	*	3.70	.000	.000
3.80	.000	.000	*	3.90	.000	.000
4.00	.000	.000	*	4.10	.000	.000
4.20	.000	.000	*	4.30	.000	.000
4.40	.000	.000	*	4.50	.000	.000
4.60	.000	.000	*	4.70	.000	.000
4.80	.000	.000	*	4.90	.000	.000
5.00	.000	.000	*	5.10	.000	.000
5.20	.000	.000	*	5.30	.000	.000
5.40	.000	.000	*	5.50	.000	.000
5.60	.000	.000	*	5.70	.000	.000
5.80	.000	.000	*	5.90	.000	.000
6.00	.000	.000	*	6.10	.000	.000
6.20	.000	.000	*	6.30	.000	.000
6.40	.000	.000	*	6.50	.000	.000
6.60	.000	.000	*	6.70	.000	.000
6.80	.000	.000	*	6.90	.000	.000
7.00	.000	.000	*	7.10	.000	.000
7.20	.000	.000	*	7.30	.000	.000
7.40	.000	.000	*	7.50	.000	.000
7.60	.000	.000	*	7.70	.000	.000
7.80	.000	.000	*	7.90	.000	.000
8.00	.000	.000	*	8.10	.000	.000
8.20	.000	.000	*	8.30	.000	.000
8.40	.000	.000	*	8.50	.000	.000
8.60	.000	.000	*	8.70	.000	.000
8.80	.000	.000	*	8.90	.000	.000
9.00	.000	.000	*	9.10	.000	.000
9.20	.000	.000	*	9.30	.000	.000
9.40	.000	.000	*	9.50	.000	.000
9.60	.000	.000	*	9.70	.000	.000
9.80	.000	.000	*	9.90	.000	.000
10.00	.000	.000	*	10.10	.000	.000
10.20	.000	.000	*	10.30	.000	.000
10.40	.000	.000	*	10.50	.000	.000
10.60	.000	.000	*	10.70	.000	.000
10.80	.000	.000	*	10.90	.000	.000
11.00	.000	.000	*	11.10	.000	.000
11.20	.000	.000	*	11.30	.000	.000
11.40	.000	.000	*	11.50	.000	.000
11.60	.000	.000	*	11.70	.026	.055

12.00	.119	1.193	*	12.10	.142	1.694
12.20	.027	.057	*	12.30	.028	.059
12.40	.028	.061	*	12.50	.029	.066
12.60	.030	.068	*	12.70	.014	.017
12.80	.014	.017	*	12.90	.015	.017
13.00	.015	.017	*	13.10	.015	.018
13.20	.010	.009	*	13.30	.010	.009
13.40	.010	.009	*	13.50	.010	.009
13.60	.011	.009	*	13.70	.008	.005
13.80	.008	.005	*	13.90	.008	.005
14.00	.008	.005	*	14.10	.008	.005
14.20	.000	.000	*	14.30	.000	.000
14.40	.000	.000	*	14.50	.000	.000
14.60	.000	.000	*	14.70	.000	.000
14.80	.000	.000	*	14.90	.000	.000
15.00	.000	.000	*	15.10	.000	.000
15.20	.000	.000	*	15.30	.000	.000
15.40	.000	.000	*	15.50	.000	.000
15.60	.000	.000	*	15.70	.000	.000
15.80	.000	.000	*	15.90	.000	.000
16.00	.000	.000	*	16.10	.000	.000
16.20	.000	.000	*	16.30	.000	.000
16.40	.000	.000	*	16.50	.000	.000
16.60	.000	.000	*	16.70	.000	.000
16.80	.000	.000	*	16.90	.000	.000
17.00	.000	.000	*	17.10	.000	.000
17.20	.000	.000	*	17.30	.000	.000
17.40	.000	.000	*	17.50	.000	.000
17.60	.000	.000	*	17.70	.000	.000
17.80	.000	.000	*	17.90	.000	.000
18.00	.000	.000	*	18.10	.000	.000
18.20	.000	.000	*	18.30	.000	.000
18.40	.000	.000	*	18.50	.000	.000
18.60	.000	.000	*	18.70	.000	.000
18.80	.000	.000	*	18.90	.000	.000
19.00	.000	.000	*	19.10	.000	.000
19.20	.000	.000	*	19.30	.000	.000
19.40	.000	.000	*	19.50	.000	.000
19.60	.000	.000	*	19.70	.000	.000
19.80	.000	.000	*	19.90	.000	.000
20.00	.000	.000	*	20.10	.000	.000
20.20	.000	.000	*	20.30	.000	.000
20.40	.000	.000	*	20.50	.000	.000
20.60	.000	.000	*	20.70	.000	.000
20.80	.000	.000	*	20.90	.000	.000
21.00	.000	.000	*	21.10	.000	.000
21.20	.000	.000	*	21.30	.000	.000
21.40	.000	.000	*	21.50	.000	.000
21.60	.000	.000	*	21.70	.000	.000
21.80	.000	.000	*	21.90	.000	.000
22.00	.000	.000	*	22.10	.000	.000
22.20	.000	.000	*	22.30	.000	.000
22.40	.000	.000	*	22.50	.000	.000
22.60	.000	.000	*	22.70	.000	.000
22.80	.000	.000	*	22.90	.000	.000
23.00	.000	.000	*	23.10	.000	.000
23.20	.000	.000	*	23.30	.000	.000
23.40	.000	.000	*	23.50	.000	.000
23.60	.000	.000	*	23.70	.000	.000
23.80	.000	.000	*	23.90	.000	.000

*** RUN COMPLETED ****