0066

FILE: ACT/015/032 #3 (over letter) + calcs.

GENWAL COAL COMPANY

P.O. Box 1201 • Huntington, Utah 84528
Telephone (801) 687-9813

November 20, 1985

RECEIVED

NOV 21 1985

DIVISION OF OIL
GAS & MINING

Mr. Lowell Braxton
Department of Natural Resources
Division of Oil, Gas and Mining
355 W. North Temple
3 Triad Center
Suite 350
Salt Lake City, Utah 84180-1203

Re: Temporary Winterization of Crandall Canyon Mine

Dear Lowell,

As a result of our recent meetings I would like to propose to you the following steps be taken in order to bring the Crandall Canyon Mine into temporary compliance, until plans can be finalized and implemented during the 1986 Construction season.

1. The sediment pond will be excavated and modified as detailed in the attached drawings. This design meets your sizing criteria for the area that is presently disturbed and the undisturbed runoff passing through the pond.

2. The clay liner in the pond will be replaced as required in the original submittal.

3. The decant hole in the riser will be plugged.

4. The material to be excavated will be placed on the western edge of the disturbed area and in the parking area. There is to much fill material to be used in the parking area alone.

5. The upper ditch will be extended and cleaned out in order to cut off undisturbed drainage from entering the disturbed area.

6. The piezometer will be installed in the embankment at the location shown on the accompanying drawing. The piezometer will be drilled to bedrock. A 1" PVC pipe will be placed in the hole, a gravel pack will then be placed around the pipe. The water level will be monitored weekly, however after determining the fluctuations, the monitoring plan

may be changed to a more suitable schedule as needed.

7. The water level in the pond will be lowered by using the existing shear gate. Prior to discharge into the creek, by use of the shear gate, the water will be sampled and analyzed in accordance with the NPDES permit and meet the effluent limitations. In the event the pond embankment becomes saturated and is determined to be unstable, the water in the pond will be pumped in to the mine sump and discharged there from in accordance with the NPDES permit. A copy of the NPDES permit will be forwarded to your office as soon as possible.

I will submit to your office an as built drawing and calculations when this information becomes available.

If I can be of any further assistance please feel free to contact me at your earliest convenience. Thank you for your continued support.

Sincerely yours,

Andrew C. King

enc.

To: White
19 Nov 1985

C-27-02 Y

WINTERIZATION OF SEDIMENTATION POND CRANDALL CANYON MINE

Design Volume

10-yr, 24-hr storm = 2.50 in (Miller et al., 1973)

Drainage area to pond → Undisturbed = 5.20 ac
Disturbed = 3.49 ac

Curve numbers → Undisturbed = 69, Disturbed = 90 } See 9 Oct 1985 calcs.

Required runoff storage volume:

Undisturbed area → Q = 0.42 in (CN = 69)
= 0.18 AF (A = 5.20 ac)

Disturbed area → Q = 1.53 in (CN = 90)
= 0.45 AF (A = 3.49 ac)

Total = 0.18 + 0.45 = 0.63 AF

Required sediment storage → 0.1 AF/ac of disturbed area

Storage volume = (0.1 AF/ac)(3.49 ac)
= 0.35 AF

Total required storage volume = 0.63 AF + 0.35 AF
= 0.98 AF

Stage-Capacity-Area data for existing pond:

			Cumm. Vol.
Elev. 7772 →	A = 0.0092 ac		
		V = 0.0319 AF	0.0319 AF
Elev. 7774 →	A = 0.0227 ac		
		V = 0.0610 AF	0.0929 AF
Elev. 7776 →	A = 0.0383 ac		
		V = 0.0977 AF	0.1906 AF
Elev. 7778 →	A = 0.0594 ac		
		V = 0.1404 AF	0.3310 AF
Elev. 7780 →	A = 0.0810 ac		
		V = 0.1892 AF	0.5202 AF
Elev. 7782 →	A = 0.1082 ac		
		V = 0.2522 AF	0.7724 AF
Elev. 7784 →	A = 0.1440 ac		

Pond too small as is. Increase size.

New (expanded) pond stage-capacity-area data:

			Cumm. Vol. (AF)
Elev. 7772 → A = 0.0277 ac			
		V = 0.0743 AF	0.0743
Elev. 7774 → A = 0.0466 ac			
		V = 0.1111 AF	0.1854
Elev. 7776 → A = 0.0645 ac			
		V = 0.1534 AF	0.3388
Elev. 7778 → A = 0.0889 ac			
		V = 0.2029 AF	0.5417
Elev. 7780 → A = 0.1140 ac			
		V = 0.2580 AF	0.7997
Elev. 7782 → A = 0.1440 ac			
		V = 0.3220 AF	1.1217
Elev. 7784 → A = 0.1780 ac			

Pond size OK. Check spillway sizing using SEDIMOT II.

Design storm → 25-yr, 24-hr storm = 2.92 in (Miller et al., 1973)
Storm type → SCS Type II
Time increment for outflow hydrograph = 0.1 hr

No. of junctions = 1
No. of branches = 1
Computation mode = hydro. & sed. (although only inflow-outflow through pond is of interest).

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

Particle size distribution (see 9 Oct 1985 calcs.):

Size (mm)	Percent Finer
0.25	100
0.10	50
0.05	35
0.01	19
0.005	15
0.001	6
0.0001	0

No. of structures = 1 (sed. pond)
Between structure routing parameters → All ϕ
No. of subwatersheds = 2 (1 undisturbed, 1 disturbed)

Data for subwatershed 1 (undisturbed):

$A = 5.20$ ac

$CN = 69$

$T_c = 1.67\,L$

$$L = \frac{l^{0.8}(s+1)^{0.7}}{1900\,Y^{0.5}} \Rightarrow \quad l = 850 \text{ ft}$$

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

$$Y = \left(\frac{160}{220}\right)(100) = 72.7\%$$

$$L = \frac{(850)^{0.8}(5.49)^{0.7}}{(1900)(72.7)^{0.5}} = 0.045 \text{ hr}$$

$$T_c = (1.67)(0.045) = 0.075 \text{ hr}$$

Sediment yield calcs. $\longrightarrow$ use MUSLE

$K = 0.30$
$L = 100$ ft
$S = 72.7\%$
$CP = 0.037$

See above and 9 Oct 1985 calcs.

Data for subwatershed 2 (disturbed):

$A = 3.49$ ac

$CN = 90$

$T_c \Rightarrow$ use upland method (see 9 Oct 1985 calcs.):

800 ft @ 5% slopes (portals to turn-around area) $\rightarrow V = 4.5$ ft/s

$$(T_c)_1 = \frac{800 \text{ ft}}{4.5 \text{ ft/s}} = 180 \text{ s}$$

800 ft @ 7% slopes (turn-around area to pond) $\rightarrow V = 5.4$ ft/s

$$(T_c)_2 = \frac{800 \text{ ft}}{5.4 \text{ ft/s}} = 150 \text{ s}$$

$$T_c = (180 \text{ s} + 150 \text{ s}) = 330 \text{ s}$$
$$= 0.092 \text{ hr}$$

Sediment yield calcs. → use MUSLE

K = 0.30

L = 70 ft

$$S = \left[\frac{(3830\ ft)(10\ ft)}{(3.49\ ac)(43{,}560\ ft^2/ac)}\right](100) = 25.2\%$$

CP = 0.85 (see 9 Oct 1985 calcs.)

Pond parameters

Dead space → Effective pond width $= \frac{7750\ ft^2}{100\ ft}$

$= 77.5\ ft$

$\frac{\text{Length}}{\text{Eff. Width}} = \frac{100\ ft}{77.5\ ft} = 1.3 \Rightarrow$ Assume dead space = 40% of pool

Outflow withdrawal → surface

Inflow → completely mixed

Stage-area and stage-capacity curves → see pages 5 & 6 of this calc.

Stage-area data (for pond full to top of sed. storage [dewatering] level):

Stage (ft)	Elev. (ft)	Area (ac)
0.0	7778.1	0.090
1.0	7779.1	0.103
2.0	7780.1	0.116
3.0	7781.1	0.130
4.0	7782.1	0.145
5.1	7783.2	0.164 ← Principal spillway crest
5.6	7783.7	0.173
6.1	7784.2	0.182
6.6	7784.7	0.192

Stage-discharge data → computed by SEDIMOT II

Barrel diameter = 18 in

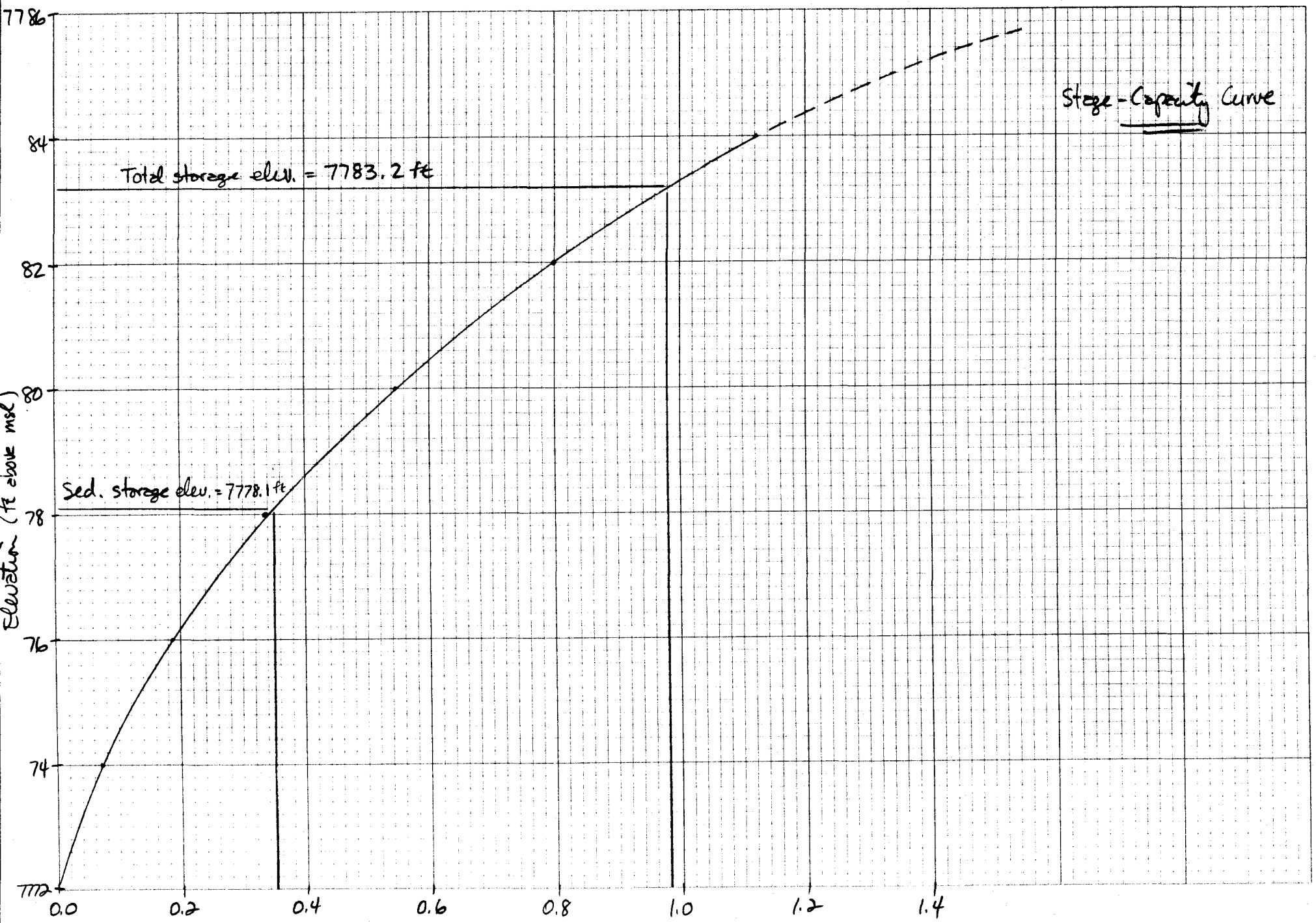
Riser diameter = 24 in

Barrel length = 85 ft

Barrel head drop = 20 ft

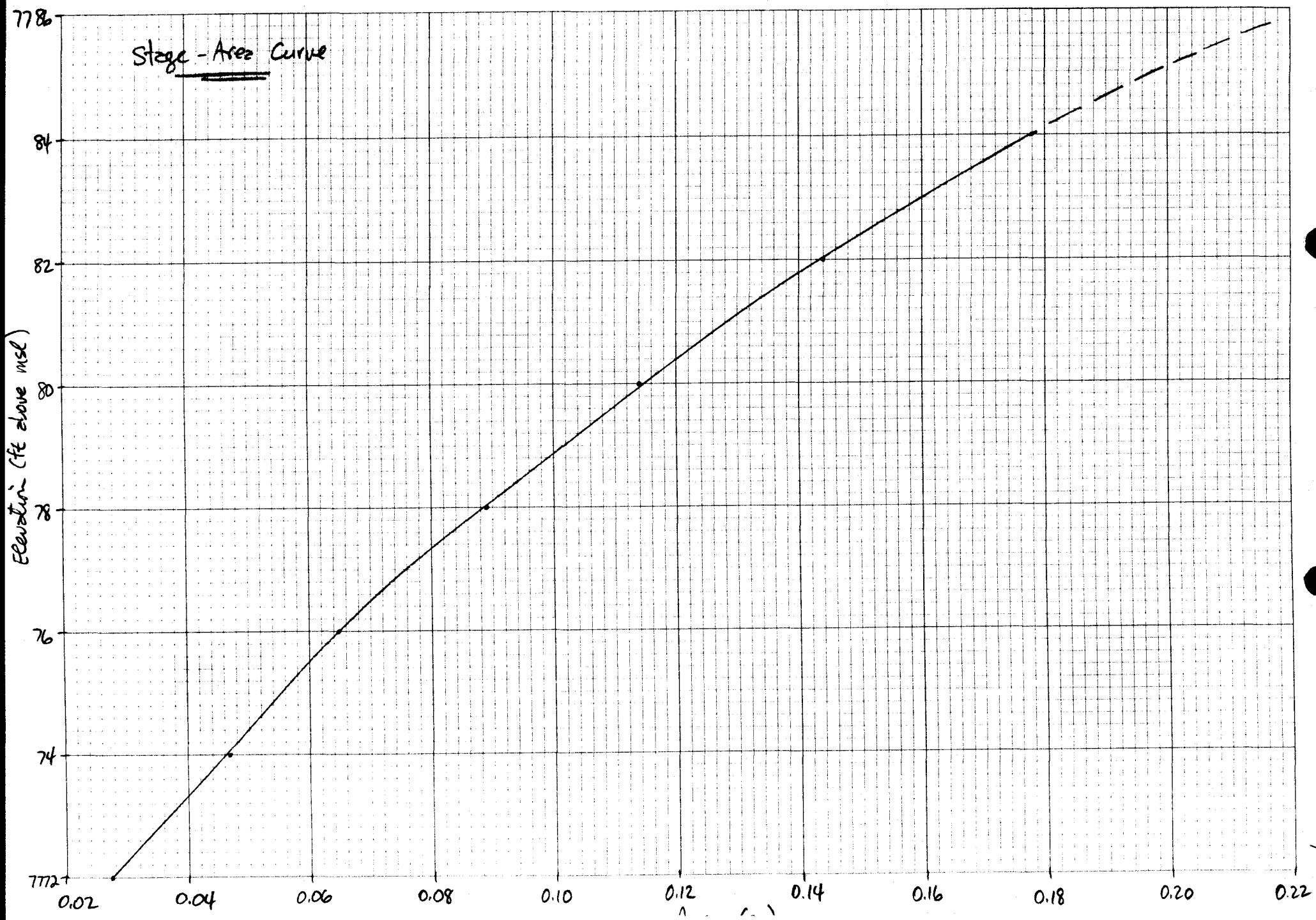
K+E 10 X 10 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

46 0700



K+E 10 X 10 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

46 0700



Entrance loss coef. = 1.0
Bend loss coef. = 0.5
Wier flow coef. = 3.1
Orifice flow coef. = 0.6
Manning's n of pipe = 0.024

} see 9 Oct 1985 calcs.

SEDIMOT II results → Peak inflow = 10.1 cfs
Peak outflow = 8.6 cfs
Trap efficiency = 84.7 %
Peak stage = 5.70 ft (0.60 ft above riser).

Elev. of peak stage = 7783.2 + 0.60 = 7783.8 ft
Current elev. of top of embankment = 7784 ft

DESIGN NOTES

1. Add 1.0 ft to top of embankment to raise to 7785.0 ft
2. Req. top width of embankment = $\frac{(7785 - 7772) + 35}{5}$ = 9.6 ft
3. Raise 24-in riser spillway to elev. 7783.2 ft (currently at 7779.4 ft)
4. Re-line pond w/ clay after cleanout and expansion (12" thickness).
5. Raise decant valve to elev. 7778.1 ft (top of sed. storage)

42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE
NATIONAL

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*****************************************************************
                    -- 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
                 -----------------------------
 GENWAL SED. POND - EXISTING PAD - 25-YR, 24-HR STORM
            ***********************************************
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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	=	2.92	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
9.60	.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	.253	73224.300	*	11.70	1.236	156180.000
11.80	2.143	201682.000	*	11.90	2.937	232881.000
12.00	3.634	256367.000	*	12.10	.761	124194.000
12.20	.782	125859.000	*	12.30	.803	127463.000
12.40	.824	129009.000	*	12.50	.844	130492.000
12.60	.442	95763.800	*	12.70	.447	96301.400
12.80	.452	96829.200	*	12.90	.457	97347.300
13.00	.462	97854.200	*	13.10	.340	84449.400
13.20	.343	84761.900	*	13.30	.345	85070.300
13.40	.348	85375.300	*	13.50	.350	85674.000
13.60	.274	76102.300	*	13.70	.276	76305.600
13.80	.277	76509.100	*	13.90	.279	76708.200
14.00	.280	76904.100	*	14.10	.201	65453.800
14.20	.202	65574.000	*	14.30	.203	65691.200
14.40	.203	65809.200	*	14.50	.204	65926.700
14.60	.205	66042.300	*	14.70	.206	66157.400
14.80	.206	66272.600	*	14.90	.207	66386.300
15.00	.208	66500.700	*	15.10	.209	66611.600
15.20	.209	66725.200	*	15.30	.210	66834.900
15.40	.211	66947.100	*	15.50	.211	67056.400
15.60	.212	67165.300	*	15.70	.213	67274.800
15.80	.214	67381.800	*	15.90	.214	67489.500
16.00	.215	67590.400	*	16.10	.129	52746.800
16.20	.130	52797.900	*	16.30	.130	52846.200
16.40	.130	52896.600	*	16.50	.130	52944.200
16.60	.131	52993.900	*	16.70	.131	53043.200
16.80	.131	53091.300	*	16.90	.131	53140.800
17.00	.132	53187.300	*	17.10	.132	53236.400
17.20	.132	53283.700	*	17.30	.132	53331.800
17.40	.132	53379.600	*	17.50	.133	53426.400
17.60	.133	53474.700	*	17.70	.133	53522.300
17.80	.133	53569.900	*	17.90	.134	53615.300
18.00	.134	53661.600	*	18.10	.134	53710.600
18.20	.134	53754.600	*	18.30	.135	53799.900
18.40	.135	53849.300	*	18.50	.135	53892.000
18.60	.135	53939.600	*	18.70	.136	53983.500
18.80	.136	54030.300	*	18.90	.136	54075.900
19.00	.136	54119.700	*	19.10	.137	54165.800
19.20	.137	54209.400	*	19.30	.137	54255.500
19.40	.137	54298.500	*	19.50	.137	54343.800
19.60	.138	54388.500	*	19.70	.138	54430.200
19.80	.138	54476.000	*	19.90	.138	54519.400
20.00	.139	54564.600	*	20.10	.093	44760.800
20.20	.093	44781.600	*	20.30	.093	44807.600
20.40	.093	44832.000	*	20.50	.093	44855.000
20.60	.093	44878.000	*	20.70	.093	44902.400
20.80	.093	44924.600	*	20.90	.093	44949.700
21.00	.093	44970.400	*	21.10	.093	44995.600
21.20	.094	45018.400	*	21.30	.094	45040.600
21.40	.094	45066.400	*	21.50	.094	45088.500
21.60	.094	45109.900	*	21.70	.094	45134.900
21.80	.094	45158.500	*	21.90	.094	45179.800
22.00	.094	45202.600	*	22.10	.094	45225.400
22.20	.095	45248.800	*	22.30	.095	45271.600
22.40	.095	45293.600	*	22.50	.095	45317.100
22.60	.095	45340.500	*	22.70	.095	45361.000
22.80	.095	45383.300	*	22.90	.095	45405.700

23.00	.095	45432.000	*	23.10	.095	45450.300
23.20	.096	[illegible]75.100	*	23.30	.096	45494.800
23.40	.096	45518.900	*	23.50	.096	45540.800
23.60	.096	45561.900	*	23.70	.096	45584.500

***** 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	.011	25809.900	*	6.50	.013	27948.200
6.60	.015	29900.500	*	6.70	.017	31701.900
6.80	.019	33378.200	*	6.90	.021	34947.800
7.00	.023	36425.500	*	7.10	.024	37822.500
7.20	.026	39148.000	*	7.30	.028	40409.600
7.40	.030	41613.900	*	7.50	.031	42765.700
7.60	.033	43870.100	*	7.70	.035	44930.500
7.80	.036	45950.700	*	7.90	.038	46933.500
8.00	.040	47882.200	*	8.10	.054	55637.600
8.20	.056	56929.700	*	8.30	.059	58168.700
8.40	.061	59358.500	*	8.50	.064	60503.200
8.60	.071	63913.500	*	8.70	.074	65095.200
8.80	.077	66232.100	*	8.90	.079	67328.000
9.00	.082	68385.600	*	9.10	.097	74130.900
9.20	.100	75325.300	*	9.30	.103	76475.000
9.40	.106	77582.700	*	9.50	.109	78652.300
9.60	.127	84419.700	*	9.70	.130	85599.200
9.80	.134	86735.200	*	9.90	.137	87829.700
10.00	.141	[illegible]	*	10.10	.165	101308.000

10.20	.190	103703.000	*	10.30	.196	104040.000
10.40	.201	10[illegible]21.000	*	10.50	.206	106556.000
10.60	.285	124441.000	*	10.70	.293	126171.000
10.80	.301	127815.000	*	10.90	.309	129378.000
11.00	.316	130875.000	*	11.10	.504	162962.000
11.20	.521	165443.000	*	11.30	.536	167758.000
11.40	.551	169922.000	*	11.50	.567	172093.000
11.60	4.908	446679.000	*	11.70	5.505	468102.000
11.80	5.934	482565.000	*	11.90	6.254	492865.000
12.00	6.497	500447.000	*	12.10	1.254	247697.000
12.20	1.261	248276.000	*	12.30	1.267	248828.000
12.40	1.273	249357.000	*	12.50	1.278	249846.000
12.60	.659	184615.000	*	12.70	.661	184800.000
12.80	.662	184979.000	*	12.90	.663	185155.000
13.00	.665	185321.000	*	13.10	.486	160174.000
13.20	.487	160279.000	*	13.30	.487	160383.000
13.40	.488	160485.000	*	13.50	.489	160581.000
13.60	.380	142786.000	*	13.70	.381	142853.000
13.80	.381	142923.000	*	13.90	.382	142988.000
14.00	.382	143049.000	*	14.10	.273	122032.000
14.20	.273	122074.000	*	14.30	.273	122111.000
14.40	.274	122151.000	*	14.50	.274	122191.000
14.60	.274	122228.000	*	14.70	.274	122266.000
14.80	.274	122304.000	*	14.90	.275	122342.000
15.00	.275	122379.000	*	15.10	.275	122414.000
15.20	.275	122454.000	*	15.30	.275	122487.000
15.40	.275	122525.000	*	15.50	.276	122560.000
15.60	.276	122597.000	*	15.70	.276	122630.000
15.80	.276	122666.000	*	15.90	.276	122699.000
16.00	.276	122724.000	*	16.10	.166	96157.400
16.20	.166	96170.300	*	16.30	.166	96186.600
16.40	.166	96205.300	*	16.50	.166	96218.200
16.60	.166	96235.700	*	16.70	.166	96249.700
16.80	.166	96267.200	*	16.90	.166	96282.400
17.00	.166	96295.200	*	17.10	.166	96313.900
17.20	.167	96325.600	*	17.30	.167	96344.200
17.40	.167	96358.200	*	17.50	.167	96372.200
17.60	.167	96388.500	*	17.70	.167	96404.900
17.80	.167	96418.800	*	17.90	.167	96432.800
18.00	.167	96449.200	*	18.10	.167	96465.400
18.20	.167	96477.100	*	18.30	.167	96491.100
18.40	.167	96508.500	*	18.50	.167	96519.000
18.60	.167	96537.600	*	18.70	.167	96549.300
18.80	.167	96563.200	*	18.90	.167	96579.500
19.00	.167	96592.300	*	19.10	.168	96607.400
19.20	.168	96621.400	*	19.30	.168	96634.100
19.40	.168	96648.100	*	19.50	.168	96663.200
19.60	.168	96676.000	*	19.70	.168	96687.600
19.80	.168	96703.900	*	19.90	.168	96717.800
20.00	.168	96732.900	*	20.10	.112	79553.600
20.20	.112	79560.800	*	20.30	.112	79570.900
20.40	.112	79578.100	*	20.50	.112	79583.900
20.60	.112	79589.600	*	20.70	.112	79601.200
20.80	.112	79608.400	*	20.90	.112	79614.100
21.00	.112	79617.000	*	21.10	.112	79630.000
21.20	.112	79632.900	*	21.30	.112	79641.600
21.40	.112	79648.700	*	21.50	.112	79657.400
21.60	.112	79661.700	*	21.70	.112	79671.800
21.80	.112	79677.500	*	21.90	.112	79687.600
22.00	.112	79690.500	*	22.10	.112	79696.300
22.20	.112	79706.400	*	22.30	.112	79714.900
22.40	.112	79717.800	*	22.50	.113	79727.900
22.60	.113	79732.200	*	22.70	.113	79739.400
22.80	.113	79749.500	*	22.90	.113	79752.400
23.00	.113	79763.900	*	23.10	.113	79765.300
23.20	.113	79776.800	*	23.30	.113	79778.300

23.40	.113	79789.800	*	23.50	.113	79795.500
23.60	.113	79802.700	*	23.70	.113	79804.200

*** HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS ***

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X	UNIT HYDRO
1	5.20	69.00	.075	.000	.000	.00	.0
2	3.49	90.00	.092	.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	.30	100.0	72.70	.037	1.0	.0
2	1	.30	70.0	25.20	.850	1.0	.0

* * * COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS * * *

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	3.63	.63	47.89	.100	1.000	1.000
2	6.50	1.91	259.62	.100	1.000	1.000

NOTE: SEDIMENT DOES NOT INCLUDE POSSIBLE DEPOSITION BY DELIVERY RATIO 2

***** SUMMARY TABLE FOR TOTAL WATERSHED *****

RUNOFF VOLUME	=	.8275	ACRE-FT
PEAK DISCHARGE	=	10.1313	CFS
AREA	=	8.6900	ACRES
TIME OF PEAK DISCHARGE	=	12.00	HRS
BETA	=	1.0000	
RAINFALL EROSITIVITY FACTOR	=	49.63	EI UNIT
PEAK CONCENTRATION	=	431051.00	MG/L
PEAK SETTLEABLE CONCENTRATION	=	273.67	ML/L
PEAK SETTLEABLE CONCENTRATION	=	342081.00	MG/L
TOTAL SEDIMENT YIELD	=	307.5030	TONS
REPRESENTATIVE PARTICLE SIZE	=	.1000	MM
TIME OF PEAK CONCENTRATION	=	11.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	17.40	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	150.39	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	150.39	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	60.89	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	44.14	ML/L

***** GENERATED DATA FOR INPUT INTO STRUCTURE 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

1.40	.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	.011	25809.900	*	6.50	.013	27948.200
6.60	.015	29900.500	*	6.70	.017	31701.900
6.80	.019	33378.200	*	6.90	.021	34947.800
7.00	.023	36425.500	*	7.10	.024	37822.500
7.20	.026	39148.000	*	7.30	.028	40409.600
7.40	.030	41613.900	*	7.50	.031	42765.700
7.60	.033	43870.100	*	7.70	.035	44930.500
7.80	.036	45950.700	*	7.90	.038	46933.500
8.00	.040	47882.200	*	8.10	.054	55637.600
8.20	.056	56929.700	*	8.30	.059	58168.700
8.40	.061	59358.500	*	8.50	.064	60503.200
8.60	.071	63913.500	*	8.70	.074	65095.200
8.80	.077	66232.100	*	8.90	.079	67328.000
9.00	.082	68385.600	*	9.10	.097	74130.900
9.20	.100	75325.300	*	9.30	.103	76475.000
9.40	.106	77582.700	*	9.50	.109	78652.300
9.60	.127	84419.700	*	9.70	.130	85599.200
9.80	.134	86735.200	*	9.90	.137	87829.700
10.00	.141	88888.200	*	10.10	.185	101308.000
10.20	.190	102703.000	*	10.30	.196	104040.000
10.40	.201	105321.000	*	10.50	.206	106556.000
10.60	.285	124441.000	*	10.70	.293	126171.000
10.80	.301	127815.000	*	10.90	.309	129378.000
11.00	.316	130875.000	*	11.10	.504	162962.000
11.20	.521	165443.000	*	11.30	.536	167758.000
11.40	.551	169922.000	*	11.50	.567	172093.000
11.60	5.161	431051.000	*	11.70	6.740	417287.000
11.80	8.078	414955.000	*	11.90	9.191	416520.000
12.00	10.131	419251.000	*	12.10	2.015	202613.000
12.20	2.043	202926.000	*	12.30	2.070	203238.000
12.40	2.097	203551.000	*	12.50	2.123	203850.000
12.60	1.101	149774.000	*	12.70	1.107	149894.000
12.80	1.114	150012.000	*	12.90	1.120	150130.000
13.00	1.127	150243.000	*	13.10	.826	129573.000
13.20	.829	129647.000	*	13.30	.833	129721.000
13.40	.836	129795.000	*	13.50	.839	129864.000
13.60	.655	115298.000	*	13.70	.657	115348.000
13.80	.659	115401.000	*	13.90	.660	115449.000
14.00	.662	115495.000	*	14.10	.474	98355.200
14.20	.475	98387.600	*	14.30	.476	98416.500

14.60	.479	98507.800	*	14.70	.480	98538.100
14.80	.481	98567.800	*	14.90	.482	98598.500
15.00	.483	98628.500	*	15.10	.483	98656.600
15.20	.484	98689.200	*	15.30	.485	98716.100
15.40	.486	98747.500	*	15.50	.487	98776.900
15.60	.488	98807.100	*	15.70	.489	98835.400
15.80	.490	98865.100	*	15.90	.490	98893.700
16.00	.491	98915.000	*	16.10	.295	77335.300
16.20	.296	77346.500	*	16.30	.296	77360.400
16.40	.296	77376.300	*	16.50	.296	77387.600
16.60	.297	77402.600	*	16.70	.297	77414.900
16.80	.297	77429.900	*	16.90	.298	77443.200
17.00	.298	77454.600	*	17.10	.298	77470.700
17.20	.299	77481.300	*	17.30	.299	77497.400
17.40	.299	77509.900	*	17.50	.299	77522.400
17.60	.300	77536.800	*	17.70	.300	77551.300
17.80	.300	77563.900	*	17.90	.301	77576.500
18.00	.301	77591.000	*	18.10	.301	77605.600
18.20	.301	77616.400	*	18.30	.302	77629.100
18.40	.302	77644.800	*	18.50	.302	77654.700
18.60	.303	77671.300	*	18.70	.303	77682.200
18.80	.303	77695.200	*	18.90	.303	77709.900
19.00	.304	77721.900	*	19.10	.304	77735.800
19.20	.304	77748.700	*	19.30	.305	77760.900
19.40	.305	77773.800	*	19.50	.305	77787.800
19.60	.305	77800.100	*	19.70	.306	77811.200
19.80	.306	77826.200	*	19.90	.306	77839.400
20.00	.307	77853.500	*	20.10	.205	63939.200
20.20	.205	63946.000	*	20.30	.205	63955.200
20.40	.205	63962.200	*	20.50	.205	63967.900
20.60	.205	63973.700	*	20.70	.205	63984.100
20.80	.205	63990.900	*	20.90	.205	63996.800
21.00	.206	64000.300	*	21.10	.206	64011.800
21.20	.206	64015.400	*	21.30	.206	64023.500
21.40	.206	64030.600	*	21.50	.206	64038.700
21.60	.206	64043.300	*	21.70	.206	64052.700
21.80	.207	64058.600	*	21.90	.207	64067.700
22.00	.207	64071.400	*	22.10	.207	64077.300
22.20	.207	64086.700	*	22.30	.207	64094.800
22.40	.207	64098.500	*	22.50	.207	64107.800
22.60	.207	64112.700	*	22.70	.208	64119.600
22.80	.208	64129.000	*	22.90	.208	64132.700
23.00	.208	64143.400	*	23.10	.208	64145.700
23.20	.208	64156.300	*	23.30	.208	64158.900
23.40	.208	64169.400	*	23.50	.209	64175.400
23.60	.209	64182.500	*	23.70	.209	64185.200

* *

POND RESULTS

* *

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

FLOW	FRACTN	ISDO	NRHP	NSP	NCSTR
3	0	2	400	9	2

***** DROP SPILLWAY INPUTS *****

ENTRANCE LOSS COEFFICIENT	=	1.0000	
BEND LOSS COEFFICIENT	=	.5000	
WEIR COEFFICIENT	=	3.1000	
ORIFICE COEFFICIENT	=	.6000	
MANNING COEFFICIENT	=	.0240	
BARREL DIAMATER	=	18.00	INCHES
RISER DIAMETER	=	24.00	INCHES
LENGTH OF PIPE	=	85.00	FEET
VERTICAL HEAD DROP	=	20.00	FEET

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

STAGE AREA AVERAGE DEPTH DISCHARGE CAPACITY

(FT)	(ACRES)	(FT)	(CFS)	(ACRES-FT)
.00	.090	.00	.00	.00
1.00	.103	.97	.00	.10
2.00	.116	1.91	.00	.21
3.00	.130	2.81	.00	.33
4.00	.145	3.68	.00	.47
5.10	.164	4.59	.00	.64
5.60	.173	5.00	6.89	.72
6.10	.182	5.39	15.13	.81
6.60	.192	5.78	18.53	.90

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

TURBULENCE FACTOR	=	1.00	
PERMANENT POOL CAPACITY	=	.636	ACRE-FT
DEAD STORAGE	=	40.00	PERCENT
TIME INCREMENT OUTFLOW	=	.10	HRS
VISCOSITY	=	.009	CM**2/SEC
INFLOW RUNOFF VOLUME	=	.828	ACRE-FT
OUTFLOW ROUTED VOLUME	=	.828	ACRE-FT
STORM VOLUME DISCHARGED (PLUG FLOW)	=	.828	ACRE-FT
POND VOLUME AT PEAK STAGE	=	.739	ACRE-FT
PEAK STAGE	=	5.701	FT
PEAK INFLOW RATE	=	10.131	CFS
PEAK DISCHARGE RATE	=	8.553	CFS
PEAK INFLOW SEDIMENT CONCENTRATION	=	431051.00	MG/L
PEAK EFFLUENT SEDIMENT CONCENTRATION	=	62952.60	MG/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.0289	ML/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	36.07	MG/L
STORM AVERAGE EFFLUENT CONCENTRATION	=	42190.10	MG/L
AVERAGE EFFLUENT SEDIMENT CONCENTRATION	=	42190.10	MG/L
BASIN TRAP EFFICIENCY	=	84.67	PERCENT
DETENTION TIME OF FLOW WITH SEDIMENT	=	.15	HRS
DETENTION TIME FROM HYDROGRAPH CENTERS	=	.15	HRS
DETENTION TIME INCLUDING STORED FLOW	=	.15	HRS
SEDIMENT LOAD DISCHARGED	=	47.13	TONS
PERIOD OF SIGNIFICANT CONCENTRATION	=	18.20	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	.02	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	.02	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	.01	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	.01	ML/L

*** PARTICLE SIZE DISTRIBUTION OF SEDIMENT ***

SIZE,MM	.2500	.1000	.0500	.0100	.0050	.0010
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	97.8645	39.1458
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	.003	.000	*	6.50	.008	.002
6.60	.011	.007	*	6.70	.014	.017
6.80	.016	.032	*	6.90	.018	.054
7.00	.020	.085	*	7.10	.022	.126
7.20	.024	.179	*	7.30	.025	.247
7.40	.027	.331	*	7.50	.029	.433
7.60	.031	.556	*	7.70	.032	.703
7.80	.034	.875	*	7.90	.036	1.075
8.00	.037	1.306	*	8.10	.042	1.615
8.20	.049	2.034	*	8.30	.053	2.549
8.40	.057	3.165	*	8.50	.060	3.886
8.60	.064	4.753	*	8.70	.068	5.794
8.80	.072	6.997	*	8.90	.075	8.372
9.00	.078	9.927	*	9.10	.084	11.803
9.20	.091	14.082	*	9.30	.096	16.699
9.40	.101	19.667	*	9.50	.104	22.991
9.60	.111	26.928	*	9.70	.120	31.610
9.80	.126	36.903	*	9.90	.131	42.821
10.00	.135	49.370	*	10.10	.149	57.635
10.20	.169	68.170	*	10.30	.181	80.340
10.40	.189	94.169	*	10.50	.196	109.611
10.60	.221	129.877	*	10.70	.255	156.717
10.80	.276	188.274	*	10.90	.291	224.536
11.00	.302	265.289	*	11.10	.356	324.201
11.20	.435	410.015	*	11.30	.482	515.415
11.40	.513	639.772	*	11.50	.536	781.792
11.60	1.711	2244.610	*	11.70	3.850	8975.850
11.80	5.646	21219.000	*	11.90	7.179	36513.000
12.00	8.553	52620.400	*	12.10	7.176	61152.700
12.20	4.551	62315.500	*	12.30	3.291	62930.000
12.40	2.681	62952.600	*	12.50	2.392	62639.900
12.60	1.998	61812.900	*	12.70	1.546	60723.800
12.80	1.326	59756.100	*	12.90	1.220	58824.600
13.00	1.171	57927.500	*	13.10	1.072	57007.800
13.20	.949	56098.900	*	13.30	.889	55256.400
13.40	.861	54449.000	*	13.50	.849	53671.100
13.60	.797	52899.600	*	13.70	.726	52158.200
13.80	.691	51467.800	*	13.90	.675	50801.800
14.00	.668	50155.500	*	14.10	.617	49514.000
14.20	.545	48900.300	*	14.30	.510	48333.200
14.40	[illegible]	[illegible]	*	14.50	[illegible]	47271.900

14.60	.482	46765.300	*	14.70	.480	46272.100
14.80	.480	45791.600	*	14.90	.481	45323.500
15.00	.481	44867.500	*	15.10	.482	44422.200
15.20	.483	43985.300	*	15.30	.484	43555.400
15.40	.485	43132.800	*	15.50	.485	42717.700
15.60	.486	42310.100	*	15.70	.487	41910.400
15.80	.488	41517.500	*	15.90	.489	41129.900
16.00	.490	40747.400	*	16.10	.441	40366.900
16.20	.367	40011.200	*	16.30	.331	39690.000
16.40	.313	39384.300	*	16.50	.305	39089.200
16.60	.300	38801.900	*	16.70	.299	38521.400
16.80	.298	38247.200	*	16.90	.298	37979.100
17.00	.298	37716.900	*	17.10	.298	37459.800
17.20	.298	37207.000	*	17.30	.298	36957.500
17.40	.299	36711.300	*	17.50	.299	36468.100
17.60	.299	36227.900	*	17.70	.299	35990.300
17.80	.300	35755.200	*	17.90	.300	35522.400
18.00	.300	35291.900	*	18.10	.301	35063.500
18.20	.301	34837.200	*	18.30	.301	34612.900
18.40	.301	34390.600	*	18.50	.302	34170.300
18.60	.302	33951.800	*	18.70	.302	33735.100
18.80	.303	33520.300	*	18.90	.303	33307.100
19.00	.303	33095.600	*	19.10	.303	32885.800
19.20	.304	32677.600	*	19.30	.304	32471.000
19.40	.304	32265.900	*	19.50	.305	32062.400
19.60	.305	31860.400	*	19.70	.305	31660.000
19.80	.305	31461.000	*	19.90	.306	31263.600
20.00	.306	31067.500	*	20.10	.280	30873.200
20.20	.242	30690.600	*	20.30	.223	30522.300
20.40	.214	30359.900	*	20.50	.209	30201.400
20.60	.207	30046.000	*	20.70	.206	29893.100
20.80	.206	29742.400	*	20.90	.205	29593.600
21.00	.205	29446.700	*	21.10	.206	29301.400
21.20	.206	29157.600	*	21.30	.206	29015.200
21.40	.206	28874.200	*	21.50	.206	28734.400
21.60	.206	28595.700	*	21.70	.206	28458.200
21.80	.206	28321.800	*	21.90	.206	28186.300
22.00	.207	28051.900	*	22.10	.207	27918.400
22.20	.207	27785.900	*	22.30	.207	27654.200
22.40	.207	27523.400	*	22.50	.207	27393.500
22.60	.207	27264.500	*	22.70	.207	27136.200
22.80	.207	27008.800	*	22.90	.208	26882.100
23.00	.208	26756.200	*	23.10	.208	26631.100
23.20	.208	26506.700	*	23.30	.208	26383.100
23.40	.208	26260.100	*	23.50	.208	26138.000
23.60	.208	26016.500	*	23.70	.208	25895.700
23.80	.209	25775.700	*	23.90	.156	25657.500
24.00	.077	25554.100	*	24.10	.038	25468.600
24.20	.019	25390.200	*	24.30	.009	25316.400
24.40	.005	25246.100	*	24.50	.002	25178.600
24.60	.001	25113.500	*	24.70	.001	25050.600

*** RUN COMPLETED ****