

OLD COARSE REFUSE ROAD POND

10 YEAR, 24 HOUR STORM

PHASE ONE

July 11, 1994



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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 5-25-83

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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WATERSHED IDENTIFICATION CODE

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OLD COARSE REFUSE ROAD POND 10 YEAR, 24 HOUR STORM, PHASE 1

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===== STORM INPUT =====

QUESTION  
NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	1.84 INCHES
3. STORM DURATION -	24.00 HOURS
4. TIME INCREMENT -	.10 HOURS

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===== WATERSHED DATA =====

QUESTION  
NO.

1. NUMBER OF JUNCTIONS - 2  
2. JUNCTION NUMBER OF BRANCHES

1  
2

2  
1

3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.		
1.	SPECIFIC GRAVITY -	2.75
2.	COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3.	SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4.	NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5.	NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE NO.	SIZE, MM
1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

===== PERCENT FINER DISTRIBUTIONS =====

VALUE NO.	PARTICLE SIZE #
	1
1	94.30
2	83.70
3	78.00
4	73.30
5	66.30
6	45.00
7	34.00
8	26.30

9	20.30
10	15.00
11	13.80
12	12.30
13	11.00
14	10.00
15	.00

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===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	2
2	1

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===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
1	PRIOR J OR S TO STRUCTURE 2	.08	.08	.35
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00

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===== STRUCTURE INPUT FOR JUNCTION #2 =====

BRANCH	NUMBER OF STRUCTURES
1	2

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===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.03	.03	.35
1	PRIOR J OR S TO STRUCTURE 2	.01	.01	.35

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===== STRUCTURE DATA FOR JUNCTION #1 =====

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QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS -

1

2. TYPE OF SEDIMENT CONTROL STRUCTURE -

NULL STRUC.

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 JUNCTION 1, BRANCH 1, STRUCTURE 1  
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\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	8.60	84.00	.150	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	400.0	1.00	.850	1.0	1.0
	2	.20	400.0	1.00	.850	1.0	1.0

\*\*\* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \*\*\*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	5.26	.63	3.33	.088	1.000	1.000

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

STORM DURATION	=	24.00	HOURS
PRECIPITATION DEPTH	=	1.84	INCHES
RUNOFF VOLUME	=	.4535	ACRE-FT
PEAK DISCHARGE	=	5.2634	CFS
AREA	=	8.6000	ACRES
TIME OF PEAK DISCHARGE	=	12.10	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	18.15	EI UNIT
PEAK CONCENTRATION	=	10342.83	MG/L
PEAK SETTLEABLE CONCENTRATION	=	4.9437	ML/L
PEAK SETTLEABLE CONCENTRATION	=	8651.42	MG/L
TOTAL SEDIMENT YIELD	=	3.3296	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	12.10	HRS

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PERIOD OF SIGNIFICANT CONCENTRATION= 13.60 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 2.52 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 2.52 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 1.17 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = .66 ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

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 JUNCTION 1, BRANCH 1, STRUCTURE 2  
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\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING K-HRS	COEFFICIENTS X,	UNIT HYDRO
1	3.60	84.00	.100	.010	.010	.35	.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	200.0	20.00	.850	1.0	1.0
	2	.20	400.0	4.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	2.50	.63	117.21	.088	1.000	1.000

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

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STORM DURATION	=	24.00	HOURS
PRECIPITATION DEPTH	=	1.84	INCHES
RUNOFF VOLUME	=	.1899	ACRE-FT
PEAK DISCHARGE	=	2.4978	CFS
AREA	=	3.6000	ACRES
TIME OF PEAK DISCHARGE	=	12.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	18.15	EI UNIT
PEAK CONCENTRATION	=	681343.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	325.6669	ML/L
PEAK SETTLEABLE CONCENTRATION	=	569917.10	MG/L
TOTAL SEDIMENT YIELD	=	117.2055	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0882	MM
TIME OF PEAK CONCENTRATION	=	12.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	13.00	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	177.99	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	177.99	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	87.66	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	47.48	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

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PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0800	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	4.80	CFS
TIME OF ROUTED PEAK DISCHARGE	=	12.10	HRS
TOTAL DRAINAGE AREA	=	12.20	ACRES
TOTAL RUNOFF VOLUME	=	.6434	AC-FT
PEAK RUNOFF DISCHARGE	=	6.44	CFS
TIME TO PEAK DISCHARGE	=	12.00	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0800	HRS
TOTAL SEDIMENT YIELD	=	120.5343	TONS
PEAK SEDIMENT CONCENTRATION	=	417876.70	MG/L
PEAK SETTLEABLE CONCENTRATION	=	199.7354	ML/L
PEAK SETTLEABLE CONCENTRATION	=	349536.90	MG/L
TIME TO PEAK CONCENTRATION	=	11.70	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	13.60	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	58.90	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR	=		

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PERIOD = 58.90 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 28.38 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 16.08 ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.  
 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

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\* \* \* \* \*  
 JUNCTION 1, BRANCH 2, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	6.70	84.00	.250	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	150.0	30.00	.850	1.0	1.0
	2	.20	1500.0	4.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	3.68	.63	310.12	.088	1.000	1.000

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

STORM DURATION = 24.00 HOURS  
 PRECIPITATION DEPTH = 1.84 INCHES  
 RUNOFF VOLUME = .3533 ACRE-FT  
 PEAK DISCHARGE = 3.6774 CFS  
 AREA = 6.7000 ACRES

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TIME OF PEAK DISCHARGE = 12.10 HRS  
 LOAD RATE EXPONENT FACTOR = 1.50  
 BETA = 1.0000  
 SUBMERGE BULK SPECIFIC GRAVITY = 1.75  
 RAINFALL EROSITIVITY FACTOR = 18.15 EI UNIT  
 PEAK CONCENTRATION = 845050.10 MG/L  
 PEAK SETTLEABLE CONCENTRATION = 403.9171 ML/L  
 PEAK SETTLEABLE CONCENTRATION = 706854.90 MG/L  
 TOTAL SEDIMENT YIELD = 310.1209 TONS  
 REPRESENTATIVE PARTICLE SIZE = .0883 MM  
 TIME OF PEAK CONCENTRATION = 12.10 HRS

PERIOD OF SIGNIFICANT CONCENTRATION= 13.70 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 234.39 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 234.39 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 125.63 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 71.72 ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

STATION  
NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

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\* \* \* \* \*  
 JUNCTION 2, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	1.60	78.00	.040	.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	.20	200.0	30.00	.800	1.0	1.0

9

2 .20 400.0 2.00 .800 1.0 1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.71	.40	27.50	.044	.639	1.000

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

STORM DURATION	=	24.00	HOURS
PRECIPITATION DEPTH	=	1.84	INCHES
RUNOFF VOLUME	=	.0530	ACRE-FT
PEAK DISCHARGE	=	.7086	CFS
AREA	=	1.6000	ACRES
TIME OF PEAK DISCHARGE	=	12.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	18.15	EI UNIT
PEAK CONCENTRATION	=	643733.20	MG/L
PEAK SETTLEABLE CONCENTRATION	=	275.8126	ML/L
PEAK SETTLEABLE CONCENTRATION	=	482672.10	MG/L
TOTAL SEDIMENT YIELD	=	27.4996	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0437	MM
TIME OF PEAK CONCENTRATION	=	12.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	12.30	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	138.05	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	138.05	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	78.17	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	40.06	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0300	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	9.55	CFS
TIME OF ROUTED PEAK DISCHARGE	=	12.00	HRS
TOTAL DRAINAGE AREA	=	20.50	ACRES
TOTAL RUNOFF VOLUME	=	1.0497	AC-FT
PEAK RUNOFF DISCHARGE	=	10.26	CFS
TIME TO PEAK DISCHARGE	=	12.00	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	

PREVIOUS STRUCTURE TRAVEL TIME = .0300 HRS  
 TOTAL SEDIMENT YIELD = 458.1165 TONS  
 PEAK SEDIMENT CONCENTRATION = 507446.00 MG/L  
 PEAK SETTLEABLE CONCENTRATION = 240.9774 ML/L  
 PEAK SETTLEABLE CONCENTRATION = 421710.50 MG/L  
 TIME TO PEAK CONCENTRATION = 12.00 HRS

PERIOD OF SIGNIFICANT CONCENTRATION = 13.80 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 130.60 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 130.60 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 66.42 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 38.19 ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - POND

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 JUNCTION 2, BRANCH 1, STRUCTURE 2  
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\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING K-HRS	COEFFICIENTS X,	UNIT HYDRO
1	.30	84.00	.030	.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	.20	150.0	1.00	.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
			11			

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 1                    .21                    .63                    .10                    .088                    1.000                    1.000  
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\*\*\*\*\* SUMMARY TABLE FOR TOTAL WATERSHED \*\*\*\*\*  
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STORM DURATION	=	24.00	HOURS
PRECIPITATION DEPTH	=	1.84	INCHES
RUNOFF VOLUME	=	.0158	ACRE-FT
PEAK DISCHARGE	=	.2082	CFS
AREA	=	.3000	ACRES
TIME OF PEAK DISCHARGE	=	12.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	18.15	EI UNIT
PEAK CONCENTRATION	=	9583.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	4.5809	ML/L
PEAK SETTLEABLE CONCENTRATION	=	8016.60	MG/L
TOTAL SEDIMENT YIELD	=	.0956	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	12.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		4.50	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE			
CONCENTRATION DURING PERIOD OF			
SIGNIFICANT CONCENTRATION	=	2.80	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE			
CONCENTRATION DURING PEAK 24 HOUR			
PERIOD	=	2.80	ML/L
ARITHMETIC AVERAGE SETTLEABLE			
CONCENTRATION DURING PERIOD OF			
SIGNIFICANT CONCENTRATION	=	1.57	ML/L
ARITHMETIC AVERAGE SETTLEABLE			
CONCENTRATION DURING PEAK 24 HOUR			
PERIOD	=	.29	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*  
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PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0100	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	10.26	CFS
TIME OF ROUTED PEAK DISCHARGE	=	12.00	HRS
TOTAL DRAINAGE AREA	=	20.80	ACRES
TOTAL RUNOFF VOLUME	=	1.0656	AC-FT
PEAK RUNOFF DISCHARGE	=	10.47	CFS
TIME TO PEAK DISCHARGE	=	12.00	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0100	HRS
TOTAL SEDIMENT YIELD	=	458.1988	TONS
PEAK SEDIMENT CONCENTRATION	=	499306.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	237.1113	ML/L
PEAK SETTLEABLE CONCENTRATION	=	414944.80	MG/L
TIME TO PEAK CONCENTRATION	=	12.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	13.80	HRS

VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 129.43 ML/L

VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 129.43 ML/L

ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 65.92 ML/L

ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 37.91 ML/L

===== POND INPUT =====

QUESTION

- NO.
1. TIME INCREMENT OF THE ROUTED HYDROGRAPH - .20 HOURS
  2. NON-IDEAL SETTLING CORRECTION FACTOR - 1.00
  3. PERCENT OF PERMANENT POOL THAT IS DEAD SPACE - 20.00
  4. OUTFLOW WITHDRAWAL OPTION - SURFACE
  5. INFLOW VERTICAL CONCENTRATION - COMP. MIXED
  6. NUMBER OF STAGE POINTS - 10
  7. NUMBER OF ROUTED HYDROGRAPH POINTS - 500
  8. STAGE-DISCHARGE OPTION - INPUT
  9. OUTPUT OPTION - GRAPHS
  10. NUMBER OF CONTINUOUS STIRRED REACTORS 2

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POND RESULTS

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\*\*\*\*\* BASIN GEOMETRY \*\*\*\*\*

STAGE (FT)	AREA (ACRES)	AVERAGE DEPTH (FT)	DISCHARGE (CFS)	CAPACITY (ACRES-FT)
.00	.050	.00	.00	.00
2.00	.120	1.59	.00	.17
2.40	.160	1.89	.00	.23
5.00	.210	3.92	.00	.71
5.40	.218	4.25	.00	.79
5.50	.220	4.33	.57	.81
5.60	.222	4.41	1.41	.84
5.70	.224	4.50	2.50	.86
5.80	.226	4.58	3.80	.88
6.00	.230	4.75	6.70	.93

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

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TURBULENCE FACTOR	=	1.00	
PERMANENT POOL CAPACITY	=	.226	ACRE-FT
DEAD STORAGE	=	20.00	PERCENT
TIME INCREMENT OUTFLOW	=	.20	HRS
VISCOSITY	=	.009	CM**2/SEC
INFLOW RUNOFF VOLUME	=	1.066	ACRE-FT
OUTFLOW ROUTED VOLUME	=	.506	ACRE-FT
STORM VOLUME DISCHARGED	=	.506	ACRE-FT
POND VOLUME AT PEAK STAGE	=	.831	ACRE-FT
PEAK STAGE	=	5.573	FT
PEAK INFLOW RATE	=	10.471	CFS
PEAK DISCHARGE RATE	=	1.184	CFS
PEAK INFLOW SEDIMENT CONCENTRATION	=	499306.90	MG/L
PEAK EFFLUENT SEDIMENT CONCENTRATION	=	73456.01	MG/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.0001	ML/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.11	MG/L
STORM AVERAGE EFFLUENT CONCENTRATION	=	39290.49	MG/L
AVERAGE EFFLUENT SEDIMENT CONCENTRATION	=	39290.49	MG/L
BASIN TRAP EFFICIENCY	=	94.07	PERCENT
DETENTION TIME OF FLOW WITH SEDIMENT	=	3.17	HRS
DETENTION TIME FROM HYDROGRAPH CENTERS	=	3.17	HRS
DETENTION TIME INCLUDING STORED FLOW	=	3.17	HRS
SEDIMENT LOAD DISCHARGED	=	27.18	TONS
PERIOD OF SIGNIFICANT CONCENTRATION	=	39.00	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

\*\*\* PARTICLE SIZE DISTRIBUTION OF SEDIMENT \*\*\*

SIZE,MM	13.0000	2.0000	.4250	.2500	.1500	.0750
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0500	.0300	.0200	.0100	.0080	.0060
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0040	.0020	.0001			
PERCENT FINER	100.0000	100.0000	.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	*	.20	.000	.000

.40	.000	.000	*	.60	.000	.000
.80	.000	.000	*	1.00	.000	.000
1.20	.000	.000	*	1.40	.000	.000
1.60	.000	.000	*	1.80	.000	.000
2.00	.000	.000	*	2.20	.000	.000
2.40	.000	.000	*	2.60	.000	.000
2.80	.000	.000	*	3.00	.000	.000
3.20	.000	.000	*	3.40	.000	.000
3.60	.000	.000	*	3.80	.000	.000
4.00	.000	.000	*	4.20	.000	.000
4.40	.000	.000	*	4.60	.000	.000
4.80	.000	.000	*	5.00	.000	.000
5.20	.000	.000	*	5.40	.000	.000
5.60	.000	.000	*	5.80	.000	.000
6.00	.000	.000	*	6.20	.000	.000
6.40	.000	.000	*	6.60	.000	.000
6.80	.000	.000	*	7.00	.000	.000
7.20	.000	.000	*	7.40	.000	.000
7.60	.000	.000	*	7.80	.000	.000
8.00	.000	.000	*	8.20	.000	.000
8.40	.000	.000	*	8.60	.000	.000
8.80	.000	.000	*	9.00	.000	.000
9.20	.000	.000	*	9.40	.000	.000
9.60	.000	.000	*	9.80	.000	.000
10.00	.000	.000	*	10.20	.000	.000
10.40	.000	.000	*	10.60	.000	.000
10.80	.000	.000	*	11.00	.000	.085
11.20	.000	2.364	*	11.40	.000	17.838
11.60	.000	476.461	*	11.80	.000	12331.410
12.00	.000	54380.010	*	12.20	.001	73456.010
12.40	.001	67330.370	*	12.60	.001	60655.680
12.80	.001	56097.340	*	13.00	.198	52934.400
13.20	.777	50824.270	*	13.40	1.090	49252.320
13.60	1.177	48024.480	*	13.80	1.171	46947.110
14.00	1.111	46002.930	*	14.20	1.042	45131.520
14.40	.949	44310.400	*	14.60	.850	43591.800
14.80	.784	42948.850	*	15.00	.747	42353.000
15.20	.729	41793.200	*	15.40	.721	41264.500
15.60	.718	40759.990	*	15.80	.718	40272.410
16.00	.720	39796.960	*	16.20	.711	39278.890
16.40	.652	38766.630	*	16.60	.568	38331.770
16.80	.523	37953.560	*	17.00	.492	37604.090
17.20	.472	37269.820	*	17.40	.459	36945.760
17.60	.451	36629.950	*	17.80	.447	36321.440
18.00	.444	36019.280	*	18.20	.443	35722.360
18.40	.442	35429.780	*	18.60	.442	35141.040
18.80	.442	34856.140	*	19.00	.443	34576.140
19.20	.444	34302.670	*	19.40	.444	34035.640
19.60	.445	33773.160	*	19.80	.446	33513.770
20.00	.447	33256.940	*	20.20	.444	32983.170
20.40	.423	32711.620	*	20.60	.388	32474.480
20.80	.359	32260.990	*	21.00	.339	32059.080
21.20	.326	31863.330	*	21.40	.318	31671.910
21.60	.313	31484.470	*	21.80	.310	31300.920
22.00	.308	31121.250	*	22.20	.306	30945.470
22.40	.306	30772.880	*	22.60	.306	30602.520
22.80	.306	30433.900	*	23.00	.306	30266.770
23.20	.306	30100.980	*	23.40	.306	29936.390
23.60	.307	29772.890	*	23.80	.307	29610.390
24.00	.300	29424.500	*	24.20	.277	29260.070

15

24.40	.239	29075.910	*	24.60	.170	28938.350
24.80	.112	28837.260	*	25.00	.073	28750.230
25.20	.047	28671.000	*	25.40	.031	28597.230
25.60	.020	28527.680	*	25.80	.013	28461.640
26.00	.008	28398.640	*	26.20	.006	28338.250
26.40	.004	28280.150	*	26.60	.002	28224.100
26.80	.002	28169.920	*	27.00	.001	28117.460
27.20	.001	28066.590	*	27.40	.001	28017.210
27.60	.001	27969.310	*	27.80	.001	27923.120
28.00	.001	27878.630	*	28.20	.001	27835.570
28.40	.001	27793.680	*	28.60	.001	27752.820
28.80	.001	27712.870	*	29.00	.001	27673.510
29.20	.001	27634.200	*	29.40	.001	27594.660
29.60	.001	27555.220	*	29.80	.001	27516.200
30.00	.001	27477.710	*	30.20	.001	27439.820
30.40	.001	27402.580	*	30.60	.001	27366.140
30.80	.001	27330.610	*	31.00	.001	27295.880
31.20	.001	27261.790	*	31.40	.001	27228.260
31.60	.001	27195.250	*	31.80	.001	27162.740
32.00	.001	27130.690	*	32.20	.001	27099.090
32.40	.001	27067.910	*	32.60	.001	27037.150
32.80	.001	27006.790	*	33.00	.001	26976.820
33.20	.001	26947.270	*	33.40	.001	26918.220
33.60	.001	26889.820	*	33.80	.001	26862.020
34.00	.001	26834.700	*	34.20	.001	26807.750
34.40	.001	26781.160	*	34.60	.001	26754.880
34.80	.001	26728.910	*	35.00	.001	26703.230
35.20	.001	26677.840	*	35.40	.001	26652.720
35.60	.001	26627.870	*	35.80	.001	26603.280
36.00	.001	26578.950	*	36.20	.001	26554.860
36.40	.001	26531.010	*	36.60	.001	26507.390
36.80	.001	26484.000	*	37.00	.001	26460.840
37.20	.001	26437.890	*	37.40	.001	26415.160
37.60	.001	26392.630	*	37.80	.001	26370.300
38.00	.001	26348.170	*	38.20	.001	26326.230
38.40	.001	26304.490	*	38.60	.001	26282.940
38.80	.001	26261.570	*	39.00	.001	26240.380
39.20	.001	26219.370	*	39.40	.001	26198.530
39.60	.001	26177.860	*	39.80	.001	26157.350
40.00	.001	26137.010	*	40.20	.001	26116.800
40.40	.001	26096.610	*	40.60	.001	26076.150
40.80	.001	26055.250	*	41.00	.001	26034.060
41.20	.001	26012.810	*	41.40	.001	25991.610
41.60	.001	25970.490	*	41.80	.001	25949.490
42.00	.001	25928.600	*	42.20	.001	25907.830
42.40	.001	25887.190	*	42.60	.001	25866.660
42.80	.001	25846.250	*	43.00	.001	25825.970
43.20	.001	25805.820	*	43.40	.001	25785.780
43.60	.001	25765.870	*	43.80	.001	25746.070
44.00	.001	25726.380	*	44.20	.001	25706.820
44.40	.001	25687.360	*	44.60	.001	25668.020
44.80	.001	25648.780	*	45.00	.001	25629.660
45.20	.001	25610.650	*	45.40	.001	25591.750
45.60	.001	25572.970	*	45.80	.001	25554.290
46.00	.001	25535.720	*	46.20	.001	25517.260
46.40	.001	25498.900	*	46.60	.001	25480.640
46.80	.001	25462.480	*	47.00	.001	25444.420
47.20	.001	25426.450	*	47.40	.001	25408.580
47.60	.001	25390.810	*	47.80	.001	25373.130
48.00	.001	25355.540	*	48.20	.001	25338.040

48.40	.001	25320.630	*	48.60	.001	25303.300
48.80	.001	25286.070	*	49.00	.001	25268.930
49.20	.001	25251.870	*	49.40	.001	25234.890
.60	.001	25218.020	*	49.80	.001	25201.230

\*\*\* RUN COMPLETED \*\*\*\*

OLD COARSE REFUSE ROAD POND

25 YEAR, 6 HOUR STORM

PHASE ONE

July 11, 1994

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*****
*          (program name)          * SEDIMOT S/N   : 1353220014      *
*          (program description)   * HMVersion    : 3.20              *
*                                   * Date         : 5/25/94        *
*                                   * Time        : 9:31:57       *
*                                   * Input file   : ocr256.in     *
*                                   * Output file  : ocr256.out    *
*                                   *                  *
*****

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XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  XXXXXXXX
X      X  X      X      X      X      XX     XX     X      X      X
X      X  X      X      X      X      X  X  X  X  X      X      X
XXXXXX  XXXXXX  X      X      X      X      X      X      X      X      X
      X  X      X      X      X      X      X      X      X      X
X      X  X      X      X      X      X      X      X      X      X
XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  X

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:::
:::   Full Microcomputer Implementation   :::
:::                                     by   :::
:::   Haestad Methods, Inc.             :::
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37 Brookside Road \* Waterbury, Connecticut 06708 \* (203) 755-1666

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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 5-25-83

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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WATERSHED IDENTIFICATION CODE

-----  
OLD COARSE REFUSE ROAD POND 25 YEAR, 6 HOUR STORM, PHASE 1 R

\*\*\*\*\*

===== STORM INPUT =====

QUESTION  
NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	1.62 INCHES
3. STORM DURATION -	6.00 HOURS
4. TIME INCREMENT -	.10 HOURS

=====

===== WATERSHED DATA =====

QUESTION  
NO.

1. NUMBER OF JUNCTIONS -	2
2. JUNCTION	NUMBER OF BRANCHES

1  
2

2  
1

3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

=====

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.

1. SPECIFIC GRAVITY -	2.75
2. COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3. SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4. NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5. NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

=====

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE NO.	SIZE, MM
1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

=====

===== PERCENT FINER DISTRIBUTIONS =====

VALUE NO.	PARTICLE SIZE #
	1
1	94.30
2	83.70
3	78.00
	73.30
	66.30
6	45.00
7	34.00
8	26.30

3

9	20.30
10	15.00
11	13.80
12	12.30
13	11.00
14	10.00
15	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	2
2	1

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
1	PRIOR J OR S TO STRUCTURE 2	.08	.08	.35
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #2 =====

BRANCH	NUMBER OF STRUCTURES
1	2

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.03	.03	.35
1	PRIOR J OR S TO STRUCTURE 2	.01	.01	.35

=====

===== STRUCTURE DATA FOR JUNCTION #1 =====

u

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

\*\*\*\*\*  
 JUNCTION 1, BRANCH 1, STRUCTURE 1  
 \*\*\*\*\*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	8.60	84.00	.150	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	400.0	1.00	.850	1.0	1.0
	2	.20	400.0	1.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	6.04	.49	3.92	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.62	INCHES
RUNOFF VOLUME	=	.3500	ACRE-FT
PEAK DISCHARGE	=	6.0351	CFS
AREA	=	8.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.10	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	24.10	EI UNIT
PEAK CONCENTRATION	=	13035.81	MG/L
PEAK SETTLEABLE CONCENTRATION	=	6.2309	ML/L
PEAK SETTLEABLE CONCENTRATION	=	10904.00	MG/L
TOTAL SEDIMENT YIELD	=	3.9219	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.10	HRS

PERIOD OF SIGNIFICANT CONCENTRATION= 3.80 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 3.84 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 3.84 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 2.39 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = .38 ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 1, STRUCTURE 2  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	3.60	84.00	.100	.010	.010	.35	.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	200.0	20.00	.850	1.0	1.0
	2	.20	400.0	4.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	3.01	.49	100.68	.088	1.000	.993

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

-----

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.62	INCHES
RUNOFF VOLUME	=	.1465	ACRE-FT
PEAK DISCHARGE	=	3.0069	CFS
AREA	=	3.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	2.3729	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	24.10	EI UNIT
PEAK CONCENTRATION	=	641808.50	MG/L
PEAK SETTLEABLE CONCENTRATION	=	306.3564	ML/L
PEAK SETTLEABLE CONCENTRATION	=	536123.80	MG/L
TOTAL SEDIMENT YIELD	=	99.9761	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0872	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.30	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	199.71	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	199.71	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	130.51	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	17.95	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

-----

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0800	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	5.31	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.20	HRS
TOTAL DRAINAGE AREA	=	12.20	ACRES
TOTAL RUNOFF VOLUME	=	.4965	AC-FT
PEAK RUNOFF DISCHARGE	=	6.72	CFS
TIME TO PEAK DISCHARGE	=	3.00	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	.95	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0800	HRS
TOTAL SEDIMENT YIELD	=	103.6830	TONS
PEAK SEDIMENT CONCENTRATION	=	414904.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	197.9788	ML/L
PEAK SETTLEABLE CONCENTRATION	=	346462.90	MG/L
TIME TO PEAK CONCENTRATION	=	2.80	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	65.40	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR			

PERIOD = 65.40 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 42.85 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 6.96 ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.  
 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 2, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	6.70	84.00	.250	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	150.0	30.00	.850	1.0	1.0
	2	.20	1500.0	4.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	4.06	.49	253.73	.086	.982	1.000

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

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 STORM DURATION = 6.00 HOURS  
 PRECIPITATION DEPTH = 1.62 INCHES  
 RUNOFF VOLUME = .2727 ACRE-FT  
 PEAK DISCHARGE = 4.0555 CFS  
 AREA = 6.7000 ACRES

TIME OF PEAK DISCHARGE = 3.10 HRS  
 LOAD RATE EXPONENT FACTOR = 1.50  
 BETA = 1.0000  
 SUBMERGE BULK SPECIFIC GRAVITY = 1.75  
 RAINFALL EROSIVITY FACTOR = 24.10 EI UNIT  
 PEAK CONCENTRATION = 764669.00 MG/L  
 PEAK SETTLEABLE CONCENTRATION = 364.2332 ML/L  
 PEAK SETTLEABLE CONCENTRATION = 637408.20 MG/L  
 TOTAL SEDIMENT YIELD = 253.7265 TONS  
 REPRESENTATIVE PARTICLE SIZE = .0857 MM  
 TIME OF PEAK CONCENTRATION = 3.10 HRS  
  
 PERIOD OF SIGNIFICANT CONCENTRATION = 4.10 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 251.68 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 251.68 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 164.78 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 28.15 ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION  
NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

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\* \* \* \* \*  
 JUNCTION 2, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	1.60	78.00	.040	.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	.20	200.0	30.00	.800	1.0	1.0
	2	.20	400.0	2.00	.800	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.83	.29	22.07	.042	.630	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.62	INCHES
RUNOFF VOLUME	=	.0383	ACRE-FT
PEAK DISCHARGE	=	.8306	CFS
AREA	=	1.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	24.10	EI UNIT
PEAK CONCENTRATION	=	594788.50	MG/L
PEAK SETTLEABLE CONCENTRATION	=	253.6337	ML/L
PEAK SETTLEABLE CONCENTRATION	=	443859.00	MG/L
TOTAL SEDIMENT YIELD	=	22.0684	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0423	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.20	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	155.29	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	155.29	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	108.41	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	14.46	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0300	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	10.37	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.00	HRS
TOTAL DRAINAGE AREA	=	20.50	ACRES
TOTAL RUNOFF VOLUME	=	.8075	AC-FT
PEAK RUNOFF DISCHARGE	=	11.20	CFS
TIME TO PEAK DISCHARGE	=	3.00	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0300	HRS
TOTAL SEDIMENT YIELD	=	379.4464	TONS

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PEAK SEDIMENT CONCENTRATION      = 499992.30  MG/L
PEAK SETTLEABLE CONCENTRATION    = 236.7641  ML/L
PEAK SETTLEABLE CONCENTRATION    = 414337.10  MG/L
TIME TO PEAK CONCENTRATION       = 3.00     HRS

PERIOD OF SIGNIFICANT CONCENTRATION = 4.10     HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE
  CONCENTRATION DURING PERIOD OF
  SIGNIFICANT CONCENTRATION       = 141.09   ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE
  CONCENTRATION DURING PEAK 24 HOUR
  PERIOD                          = 141.09   ML/L
ARITHMETIC AVERAGE SETTLEABLE
  CONCENTRATION DURING PERIOD OF
  SIGNIFICANT CONCENTRATION       = 91.40    ML/L
ARITHMETIC AVERAGE SETTLEABLE
  CONCENTRATION DURING PEAK 24 HOUR
  PERIOD                          = 15.61    ML/L

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===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

- 1. NUMBER OF SUBWATERSHEDS - 1
- 2. TYPE OF SEDIMENT CONTROL STRUCTURE - POND

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 JUNCTION 2, BRANCH 1, STRUCTURE 2  
 \*\*\*\*\*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	.30	84.00	.030	.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	.20	150.0	1.00	.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						

1 .25 .49 .09 .088 1.000 1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.62	INCHES
RUNOFF VOLUME	=	.0122	ACRE-FT
PEAK DISCHARGE	=	.2506	CFS
AREA	=	.3000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	24.10	EI UNIT
PEAK CONCENTRATION	=	9187.52	MG/L
PEAK SETTLEABLE CONCENTRATION	=	4.3914	ML/L
PEAK SETTLEABLE CONCENTRATION	=	7685.04	MG/L
TOTAL SEDIMENT YIELD	=	.0917	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.30	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	2.68	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	2.68	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	1.64	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	.22	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0100	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	11.20	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.00	HRS
TOTAL DRAINAGE AREA	=	20.80	ACRES
TOTAL RUNOFF VOLUME	=	.8197	AC-FT
PEAK RUNOFF DISCHARGE	=	11.45	CFS
TIME TO PEAK DISCHARGE	=	3.00	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0100	HRS
TOTAL SEDIMENT YIELD	=	379.5273	TONS
PEAK SEDIMENT CONCENTRATION	=	491128.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	232.5661	ML/L
PEAK SETTLEABLE CONCENTRATION	=	406990.80	MG/L
TIME TO PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	4.10	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE			

CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 139.39 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 139.39 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 90.04 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 15.38 ML/L

===== POND INPUT =====

QUESTION

- NO.
1. TIME INCREMENT OF THE ROUTED HYDROGRAPH - .20 HOURS
  2. NON-IDEAL SETTLING CORRECTION FACTOR - 1.00
  3. PERCENT OF PERMANENT POOL THAT IS DEAD SPACE - 20.00
  4. OUTFLOW WITHDRAWAL OPTION - SURFACE
  5. INFLOW VERTICAL CONCENTRATION - COMP. MIXED
  6. NUMBER OF STAGE POINTS - 10
  7. NUMBER OF ROUTED HYDROGRAPH POINTS - 500
  8. STAGE-DISCHARGE OPTION - INPUT
  9. OUTPUT OPTION - GRAPHS
  10. NUMBER OF CONTINUOUS STIRRED REACTORS 2

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\* \* \* \* \*

POND RESULTS

\* \* \* \* \*

\*\*\*\*\* BASIN GEOMETRY \*\*\*\*\*

STAGE (FT)	AREA (ACRES)	AVERAGE DEPTH (FT)	DISCHARGE (CFS)	CAPACITY (ACRES-FT)
.00	.050	.00	.00	.00
2.00	.120	1.59	.00	.17
2.40	.160	1.89	.00	.23
5.00	.210	3.92	.00	.71
5.40	.218	4.25	.00	.79
5.50	.220	4.33	.57	.81
5.60	.222	4.41	1.41	.84
5.70	.224	4.50	2.50	.86
5.80	.226	4.58	3.80	.88
6.00	.230	4.75	6.70	.93

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

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TURBULENCE FACTOR	=	1.00	
PERMANENT POOL CAPACITY	=	.226	ACRE-FT
DEAD STORAGE	=	20.00	PERCENT
TIME INCREMENT OUTFLOW	=	.20	HRS
VISCOSITY	=	.009	CM**2/SEC
INFLOW RUNOFF VOLUME	=	.820	ACRE-FT
OUTFLOW ROUTED VOLUME	=	.261	ACRE-FT
STORM VOLUME DISCHARGED	=	.261	ACRE-FT
POND VOLUME AT PEAK STAGE	=	.840	ACRE-FT
PEAK STAGE	=	5.613	FT
PEAK INFLOW RATE	=	11.448	CFS
PEAK DISCHARGE RATE	=	1.552	CFS
PEAK INFLOW SEDIMENT CONCENTRATION	=	491128.90	MG/L
PEAK EFFLUENT SEDIMENT CONCENTRATION	=	79209.05	MG/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.0001	ML/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.12	MG/L
STORM AVERAGE EFFLUENT CONCENTRATION	=	44280.00	MG/L
AVERAGE EFFLUENT SEDIMENT CONCENTRATION	=	44280.00	MG/L
BASIN TRAP EFFICIENCY	=	95.84	PERCENT
DETENTION TIME OF FLOW WITH SEDIMENT	=	1.90	HRS
DETENTION TIME FROM HYDROGRAPH CENTERS	=	1.90	HRS
DETENTION TIME INCLUDING STORED FLOW	=	1.90	HRS
SEDIMENT LOAD DISCHARGED	=	15.78	TONS
PERIOD OF SIGNIFICANT CONCENTRATION	=	47.20	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

\*\*\* PARTICLE SIZE DISTRIBUTION OF SEDIMENT \*\*\*

SIZE,MM	13.0000	2.0000	.4250	.2500	.1500	.0750
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0500	.0300	.0200	.0100	.0080	.0060
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0040	.0020	.0001			
PERCENT FINER	100.0000	100.0000	.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	*	.20	.000	.000
.40	.000	.000	*	.60	.000	.000
.80	.000	.000	*	1.00	.000	.000
1.20	.000	.000	*	1.40	.000	.000
1.60	.000	.000	*	1.80	.000	.000
2.00	.000	.000	*	2.20	.000	.000
2.40	.000	.000	*	2.60	.000	.000
2.80	.000	4919.031	*	3.00	.000	53401.510
3.20	.001	79209.050	*	3.40	.001	70315.380
3.60	.001	62294.760	*	3.80	.001	56696.710
4.00	.446	52988.500	*	4.20	1.185	50418.760
4.40	1.484	48428.890	*	4.60	1.552	46825.890
4.80	1.502	45390.500	*	5.00	1.399	44142.580
5.20	1.315	42981.680	*	5.40	1.194	41928.800
5.60	1.074	41027.810	*	5.80	.994	40223.930
6.00	.921	39371.490	*	6.20	.803	38607.590
6.40	.631	37813.450	*	6.60	.435	37211.040
6.80	.286	36750.380	*	7.00	.186	36349.540
7.20	.121	35985.660	*	7.40	.078	35649.750
7.60	.051	35337.580	*	7.80	.033	35048.770
8.00	.021	34784.670	*	8.20	.014	34542.630
8.40	.009	34317.370	*	8.60	.006	34105.310
8.80	.004	33904.290	*	9.00	.002	33712.950
9.20	.002	33530.390	*	9.40	.001	33356.170
9.60	.001	33189.690	*	9.80	.001	33030.020
10.00	.001	32876.340	*	10.20	.001	32728.050
10.40	.001	32584.710	*	10.60	.001	32446.320
10.80	.001	32314.120	*	11.00	.001	32189.890
11.20	.001	32073.120	*	11.40	.001	31961.690
11.60	.001	31854.340	*	11.80	.001	31750.430
12.00	.001	31649.730	*	12.20	.001	31552.550
12.40	.001	31459.020	*	12.60	.001	31368.640
12.80	.001	31280.900	*	13.00	.001	31195.510
13.20	.001	31112.280	*	13.40	.001	31031.170
13.60	.001	30952.480	*	13.80	.001	30876.480
14.00	.001	30803.140	*	14.20	.001	30733.200
14.40	.001	30666.700	*	14.60	.001	30602.540
14.80	.001	30540.190	*	15.00	.001	30479.360
15.20	.001	30419.900	*	15.40	.001	30361.700
15.60	.001	30304.690	*	15.80	.001	30248.790
16.00	.001	30193.940	*	16.20	.001	30140.100
16.40	.001	30087.230	*	16.60	.001	30035.270
16.80	.001	29984.180	*	17.00	.001	29933.970
17.20	.001	29884.910	*	17.40	.001	29837.900
17.60	.001	29793.000	*	17.80	.001	29749.410
18.00	.001	29706.800	*	18.20	.001	29665.000
18.40	.001	29623.920	*	18.60	.001	29583.530
18.80	.001	29543.780	*	19.00	.001	29504.650
19.20	.001	29466.110	*	19.40	.001	29428.130
19.60	.001	29390.690	*	19.80	.001	29353.770
20.00	.001	29317.360	*	20.20	.001	29281.480
20.40	.001	29246.340	*	20.60	.001	29212.410
20.80	.001	29179.650	*	21.00	.001	29147.630
21.20	.001	29116.190	*	21.40	.001	29085.230
21.60	.001	29054.700	*	21.80	.001	29024.500
22.00	.001	28994.240	*	22.20	.001	28963.250
22.40	.001	28931.570	*	22.60	.001	28899.750

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22.80	.001	28868.000	*	23.00	.001	28836.430
23.20	.001	28805.080	*	23.40	.001	28774.000
23.60	.001	28743.340	*	23.80	.001	28713.290
24.00	.001	28683.830	*	24.20	.001	28654.770
24.40	.001	28626.040	*	24.60	.001	28597.590
24.80	.001	28569.410	*	25.00	.001	28541.490
25.20	.001	28513.820	*	25.40	.001	28486.430
25.60	.001	28459.300	*	25.80	.001	28432.440
26.00	.001	28405.830	*	26.20	.001	28379.470
26.40	.001	28353.370	*	26.60	.001	28327.540
26.80	.001	28302.120	*	27.00	.001	28277.250
27.20	.001	28252.880	*	27.40	.001	28228.840
27.60	.001	28205.080	*	27.80	.001	28181.570
28.00	.001	28158.290	*	28.20	.001	28135.230
28.40	.001	28112.380	*	28.60	.001	28089.740
28.80	.001	28067.300	*	29.00	.001	28045.050
29.20	.001	28022.990	*	29.40	.001	28001.120
29.60	.001	27979.420	*	29.80	.001	27957.900
30.00	.001	27936.550	*	30.20	.001	27915.370
30.40	.001	27894.340	*	30.60	.001	27873.470
30.80	.001	27852.750	*	31.00	.001	27832.190
31.20	.001	27811.770	*	31.40	.001	27791.510
31.60	.001	27771.380	*	31.80	.001	27751.400
32.00	.001	27731.560	*	32.20	.001	27711.850
32.40	.001	27692.280	*	32.60	.001	27672.850
32.80	.001	27653.550	*	33.00	.001	27634.380
33.20	.001	27615.350	*	33.40	.001	27596.440
33.60	.001	27577.650	*	33.80	.001	27558.990
34.00	.001	27540.460	*	34.20	.001	27522.040
34.40	.001	27503.730	*	34.60	.001	27485.420
34.80	.001	27466.740	*	35.00	.001	27447.480
35.20	.001	27427.890	*	35.40	.001	27408.210
35.60	.001	27388.510	*	35.80	.001	27368.840
36.00	.001	27349.230	*	36.20	.001	27329.670
36.40	.001	27310.190	*	36.60	.001	27290.780
36.80	.001	27271.450	*	37.00	.001	27252.190
37.20	.001	27233.020	*	37.40	.001	27213.940
37.60	.001	27194.940	*	37.80	.001	27176.030
38.00	.001	27157.220	*	38.20	.001	27138.510
38.40	.001	27119.910	*	38.60	.001	27101.410
38.80	.001	27083.020	*	39.00	.001	27064.730
39.20	.001	27046.540	*	39.40	.001	27028.460
39.60	.001	27010.470	*	39.80	.001	26992.580
40.00	.001	26974.790	*	40.20	.001	26957.100
40.40	.001	26939.500	*	40.60	.001	26922.000
40.80	.001	26904.600	*	41.00	.001	26887.280
41.20	.001	26870.060	*	41.40	.001	26852.930
41.60	.001	26835.890	*	41.80	.001	26818.940
42.00	.001	26802.080	*	42.20	.001	26785.300
42.40	.001	26768.610	*	42.60	.001	26752.000
42.80	.001	26735.480	*	43.00	.001	26719.050
43.20	.001	26702.700	*	43.40	.001	26686.420
43.60	.001	26670.240	*	43.80	.001	26654.130
44.00	.001	26638.100	*	44.20	.001	26622.140
44.40	.001	26606.270	*	44.60	.001	26590.470
44.80	.001	26574.750	*	45.00	.001	26559.100
45.20	.001	26543.540	*	45.40	.001	26528.050
45.60	.001	26512.630	*	45.80	.001	26497.270
46.00	.001	26482.000	*	46.20	.001	26466.800
46.40	.001	26451.660	*	46.60	.001	26436.600

46.80	.001	26421.600	*	47.00	.001	26406.680
47.20	.001	26391.790	*	47.40	.001	26376.790
47.60	.001	26361.390	*	47.80	.001	26345.610
48.00	.001	26329.690	*	48.20	.001	26313.710
48.40	.001	26297.720	*	48.60	.001	26281.750
48.80	.001	26265.800	*	49.00	.001	26249.890
49.20	.001	26234.010	*	49.40	.001	26218.170
49.60	.001	26202.380	*	49.80	.001	26186.620

\*\*\* RUN COMPLETED \*\*\*\*

OLD COARSE REFUSE ROAD POND

10 YEAR, 6 HOUR STORM

PHASE TWO

July 11, 1994



\*\*\*\*\*  
\*\*\*\*\*

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VERSION DATE 5-25-83

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WATERSHED IDENTIFICATION CODE

-----  
OLD COARSE REFUSE ROAD POND 10 YEAR, 6 HOUR STORM, PHASE 2

\*\*\*\*\*

===== STORM INPUT =====

QUESTION  
NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	1.31 INCHES
3. STORM DURATION -	6.00 HOURS
4. TIME INCREMENT -	.10 HOURS

=====

===== WATERSHED DATA =====

QUESTION  
NO.

1. NUMBER OF JUNCTIONS -	1
2. JUNCTION	NUMBER OF BRANCHES



10 15.00  
 11 13.80  
 12 12.30  
 13 11.00  
 14 10.00  
 15 .00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	2

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
		TIME	MUSK. K	MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.03	.03	.35
1	PRIOR J OR S TO STRUCTURE 2	.01	.01	.35

=====

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION NO.  
 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	6.70	69.00	.250	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	150.0	30.00	.250	1.0	1.0
	2	.20	1500.0	4.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.12	.03	6.63	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.0193	ACRE-FT
PEAK DISCHARGE	=	.1152	CFS
AREA	=	6.7000	ACRES
TIME OF PEAK DISCHARGE	=	3.60	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	276989.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	132.3956	ML/L
PEAK SETTLEABLE CONCENTRATION	=	231692.40	MG/L
TOTAL SEDIMENT YIELD	=	6.6277	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.60	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	109.38	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	109.38	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	98.10	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	14.72	ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

- NO.
- 1. NUMBER OF SUBWATERSHEDS - 1
  - 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 1, STRUCTURE 2  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	1.60	69.00	.040	.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	.20	200.0	30.00	.250	1.0	1.0
	2	.20	400.0	2.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.03	.03	1.31	.078	.927	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.0046	ACRE-FT
PEAK DISCHARGE	=	.0333	CFS
AREA	=	1.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.50	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	263851.40	MG/L
PEAK SETTLEABLE CONCENTRATION	=	124.2376	ML/L
PEAK SETTLEABLE CONCENTRATION	=	217415.90	MG/L
TOTAL SEDIMENT YIELD	=	1.3130	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0784	MM
TIME OF PEAK CONCENTRATION	=	3.50	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	2.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	96.24	ML/L

VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	96.24	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	93.40	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	11.29	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

---

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0100	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	.12	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.60	HRS
TOTAL DRAINAGE AREA	=	8.30	ACRES
TOTAL RUNOFF VOLUME	=	.0239	AC-FT
PEAK RUNOFF DISCHARGE	=	.14	CFS
TIME TO PEAK DISCHARGE	=	3.50	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0100	HRS
TOTAL SEDIMENT YIELD	=	7.9405	TONS
PEAK SEDIMENT CONCENTRATION	=	266884.20	MG/L
PEAK SETTLEABLE CONCENTRATION	=	127.2485	ML/L
PEAK SETTLEABLE CONCENTRATION	=	222684.90	MG/L
TIME TO PEAK CONCENTRATION	=	3.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.70	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	107.01	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	107.01	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	95.89	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	14.78	ML/L

\*\*\* RUN COMPLETED \*\*\*\*

OLD COARSE REFUSE ROAD POND

100 YEAR, 6 HOUR STORM

PHASE TWO

July 11, 1994

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*****
*          (program name)          * SEDIMOT S/N   : 1353220014      *
*          (program description)   * HMVersion    : 3.20              *
*                                   * Date         : 5/25/94         *
*                                   * Time        : 9:32:13        *
*                                   * Input file   : ocurr1006.in   *
*                                   * Output file  : ocurr1006.out  *
*                                   *                    *
*                                   *                    *
*****

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XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  XXXXXXXX
X      X  X      X      X      X      XX     XX     X      X      X
X      X      X      X      X      X  X  X  X  X      X      X
XXXXXX  XXXXXX  X      X      X      X  X  X  X  X      X      X
      X  X      X      X      X      X      X  X  X      X      X
X      X  X      X      X      X      X      X  X  X      X      X
XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  X

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:::
::: Full Microcomputer Implementation :::
::: by :::
::: Haestad Methods, Inc. :::
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37 Brookside Road \* Waterbury, Connecticut 06708 \* (203) 755-1666

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WATERSHED IDENTIFICATION CODE

-----  
OLD COARSE REFUSE ROAD POND 100 YEAR, 6 HOUR STORM, PHASE 2

\*\*\*\*\*

===== STORM INPUT =====

QUESTION  
NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	2.05 INCHES
3. STORM DURATION -	6.00 HOURS
4. TIME INCREMENT -	.10 HOURS

=====

===== WATERSHED DATA =====

QUESTION  
NO.

1. NUMBER OF JUNCTIONS -	1
2. JUNCTION	NUMBER OF BRANCHES

1 1  
3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.		
1.	SPECIFIC GRAVITY -	2.75
2.	COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3.	SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4.	NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5.	NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE NO.	SIZE, MM
1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

===== PERCENT FINER DISTRIBUTIONS =====

VALUE NO.	PARTICLE SIZE #
1	1
1	94.30
2	83.70
3	78.00
4	73.30
5	66.30
6	45.00
7	34.00
8	26.30
9	20.30

10 15.00  
 11 13.80  
 12 12.30  
 13 11.00  
 14 10.00  
 15 .00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	2

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
		TIME	MUSK. K	MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.03	.03	.35
1	PRIOR J OR S TO STRUCTURE 2	.01	.01	.35

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

QUESTION NO.		
1.	NUMBER OF SUBWATERSHEDS -	1
2.	TYPE OF SEDIMENT CONTROL STRUCTURE -	NULL STRUC.

\* \* \* \* \*

JUNCTION 1, BRANCH 1, STRUCTURE 1

\* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	6.70	69.00	.250	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	150.0	30.00	.250	1.0	1.0
	2	.20	1500.0	4.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	1.63	.23	37.62	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	2.05	INCHES
RUNOFF VOLUME	=	.1312	ACRE-FT
PEAK DISCHARGE	=	1.6319	CFS
AREA	=	6.7000	ACRES
TIME OF PEAK DISCHARGE	=	3.10	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	40.00	EI UNIT
PEAK CONCENTRATION	=	295122.10	MG/L
PEAK SETTLEABLE CONCENTRATION	=	141.0625	ML/L
PEAK SETTLEABLE CONCENTRATION	=	246859.30	MG/L
TOTAL SEDIMENT YIELD	=	37.6222	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.10	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	91.89	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	91.89	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	67.84	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	11.02	ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.

- |   |             |
|---|-------------|
| 1. NUMBER OF SUBWATERSHEDS -            | 1           |
| 2. TYPE OF SEDIMENT CONTROL STRUCTURE - | NULL STRUC. |

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 1, STRUCTURE 2  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	1.60	69.00	.040	.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	.20	200.0	30.00	.250	1.0	1.0
	2	.20	400.0	2.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.67	.23	7.54	.059	.769	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	2.05	INCHES
RUNOFF VOLUME	=	.0313	ACRE-FT
PEAK DISCHARGE	=	.6734	CFS
AREA	=	1.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	29.2452	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	40.00	EI UNIT
PEAK CONCENTRATION	=	297440.20	MG/L
PEAK SETTLEABLE CONCENTRATION	=	134.2145	ML/L
PEAK SETTLEABLE CONCENTRATION	=	234875.50	MG/L
TOTAL SEDIMENT YIELD	=	7.5358	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0589	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.10	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	76.00	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR			

PERIOD	=	76.00	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	55.85	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	7.21	ML/L

\*\*\* PARTICLE SIZE DISTRIBUTION OF SEDIMENT \*\*\*

SIZE,MM	13.0000	2.0000	.4250	.2500	.1500	.0750
PERCENT FINER	100.0000	100.0000	100.0000	95.3673	86.2599	58.5475
SIZE,MM	.0500	.0300	.0200	.0100	.0080	.0060
PERCENT FINER	44.2359	34.2177	26.4114	19.5158	17.9546	16.0030
SIZE,MM	.0040	.0020	.0001			
PERCENT FINER	14.3116	13.0105	.0000			

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

-----

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0100	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	1.63	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.10	HRS
TOTAL DRAINAGE AREA	=	8.30	ACRES
TOTAL RUNOFF VOLUME	=	.1625	AC-FT
PEAK RUNOFF DISCHARGE	=	1.79	CFS
TIME TO PEAK DISCHARGE	=	3.10	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	.92	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0100	HRS
TOTAL SEDIMENT YIELD	=	42.0274	TONS
PEAK SEDIMENT CONCENTRATION	=	262876.30	MG/L
PEAK SETTLEABLE CONCENTRATION	=	122.6018	ML/L
PEAK SETTLEABLE CONCENTRATION	=	214553.10	MG/L
TIME TO PEAK CONCENTRATION	=	3.10	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	82.21	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	82.21	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	61.60	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	10.01	ML/L

**BORROW AREA POND**  
**10 YEAR, 6 HOUR STORM**  
**PHASE ONE**

July 11, 1994



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WATERSHED IDENTIFICATION CODE

-----  
Borrow Area Pond 10 year 6 Hour Storm Phase 1 Reclamation

\*\*\*\*\*

===== STORM INPUT =====

QUESTION

NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	1.31 INCHES
3. STORM DURATION -	6.00 HOURS
4. TIME INCREMENT -	.10 HOURS

=====

===== WATERSHED DATA =====

QUESTION

NO.

1. NUMBER OF JUNCTIONS -	2
2. JUNCTION	NUMBER OF BRANCHES

1  
2

2  
1

3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.		
1.	SPECIFIC GRAVITY -	2.75
2.	COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3.	SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4.	NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5.	NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE NO.	SIZE, MM
1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

===== PERCENT FINER DISTRIBUTIONS =====

VALUE NO.	PARTICLE SIZE #
	1
1	94.30
2	83.70
3	78.00
	73.30
5	66.30
6	45.00
7	34.00
8	26.30

9	20.30
10	15.00
11	13.80
12	12.30
13	11.00
14	10.00
15	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	1
2	1

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #2 =====

BRANCH	NUMBER OF STRUCTURES
1	2

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.20	.20	.35
1	PRIOR J OR S TO STRUCTURE 2	.02	.02	.30

=====

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

u

NO.

1. NUMBER OF SUBWATERSHEDS -

1

2. TYPE OF SEDIMENT CONTROL STRUCTURE -

NULL STRUC.

JUNCTION 1, BRANCH 1, STRUCTURE 1

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

Table with 8 columns: WATER SHED, AREA ACRES, CURVE NUMBER, TC HR, TT HR, ROUTING COEFFICIENTS K-HRS, X, UNIT HYDRO. Row 1: 1, 180.00, 65.00, .600, .000, .100, .35, 3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

Table with 8 columns: WATER SHED, SEG NUM, SOIL K, LENGTH FEET, SLOPE PCT, CP VALUE, PART OPT, SURF COND. Rows 1-3 for watershed 1.

\*\*\* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \*\*\*

Table with 7 columns: WATERSHED, PEAK FLOW (CFS), RUNOFF (INCHES), SEDIMENT TONS, DIAM (MM), DELIVERY RATIO 1, DELIVERY RATIO 2. Row 1: 1, .54, .01, 252.21, .055, .735, 1.000

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

Summary table with 2 columns: Parameter, Value. Includes STORM DURATION (6.00 HOURS), PRECIPITATION DEPTH (1.31 INCHES), RUNOFF VOLUME (.1451 ACRE-FT), PEAK DISCHARGE (.5420 CFS), AREA (180.0000 ACRES), TIME OF PEAK DISCHARGE (6.20 HRS), LOAD RATE EXPONENT FACTOR (1.50), BETA (1.0000), SUBMERGE BULK SPECIFIC GRAVITY (1.75), RAINFALL EROSITIVITY FACTOR (15.26 EI UNIT), PEAK CONCENTRATION (1036686.00 MG/L), PEAK SETTLEABLE CONCENTRATION (462.3540 ML/L), PEAK SETTLEABLE CONCENTRATION (809119.40 MG/L), TOTAL SEDIMENT YIELD (252.2147 TONS), REPRESENTATIVE PARTICLE SIZE (.0553 MM), TIME OF PEAK CONCENTRATION (6.20 HRS)

5

PERIOD OF SIGNIFICANT CONCENTRATION= 9.20 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 382.12 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 382.12 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 277.73 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 106.46 ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.  
 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

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\* \* \* \* \*  
 JUNCTION 1, BRANCH 2, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	12.30	65.00	.200	.200	.200	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	600.0	10.00	.400	1.0	3.0
	2	.20	1000.0	2.50	.750	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.05	.01	5.49	.067	.839	.988

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

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STORM DURATION = 6.00 HOURS
PRECIPITATION DEPTH = 1.31 INCHES
RUNOFF VOLUME = .0099 ACRE-FT
PEAK DISCHARGE = .0507 CFS
AREA = 12.3000 ACRES
TIME OF PEAK DISCHARGE = 6.10 HRS
LOAD RATE EXPONENT FACTOR = 1.50
BETA = .2258
SUBMERGE BULK SPECIFIC GRAVITY = 1.75
RAINFALL EROSITIVITY FACTOR = 15.26 EI UNIT
PEAK CONCENTRATION = 409541.60 MG/L
PEAK SETTLEABLE CONCENTRATION = 188.2190 ML/L
PEAK SETTLEABLE CONCENTRATION = 329383.30 MG/L
TOTAL SEDIMENT YIELD = 5.4307 TONS
REPRESENTATIVE PARTICLE SIZE = .0658 MM
TIME OF PEAK CONCENTRATION = 6.10 HRS

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PERIOD OF SIGNIFICANT CONCENTRATION= 4.60 HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE
CONCENTRATION DURING PERIOD OF
SIGNIFICANT CONCENTRATION = 161.62 ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE
CONCENTRATION DURING PEAK 24 HOUR
PERIOD = 161.62 ML/L
ARITHMETIC AVERAGE SETTLEABLE
CONCENTRATION DURING PERIOD OF
SIGNIFICANT CONCENTRATION = 128.06 ML/L
ARITHMETIC AVERAGE SETTLEABLE
CONCENTRATION DURING PEAK 24 HOUR
PERIOD = 24.54 ML/L

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===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1
2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

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* * * * *
JUNCTION 2, BRANCH 1, STRUCTURE 1
* * * * *

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\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	33.10	84.00	.200	.200	.200	.35	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

2

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	10.00	.850	1.0	1.0
	2	.20	1000.0	4.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	13.35	.30	190.59	.088	1.000	.959

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.8401	ACRE-FT
PEAK DISCHARGE	=	11.7618	CFS
AREA	=	33.1000	ACRES
TIME OF PEAK DISCHARGE	=	3.30	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.7072	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	229653.60	MG/L
PEAK SETTLEABLE CONCENTRATION	=	108.8716	ML/L
PEAK SETTLEABLE CONCENTRATION	=	190525.30	MG/L
TOTAL SEDIMENT YIELD	=	182.7452	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0825	MM
TIME OF PEAK CONCENTRATION	=	3.30	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	70.92	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	70.92	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	47.57	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	7.73	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.2000	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	.59	CFS
TIME OF ROUTED PEAK DISCHARGE	=	6.30	HRS

TOTAL DRAINAGE AREA	=	225.40	ACRES
TOTAL RUNOFF VOLUME	=	.9951	AC-FT
PEAK RUNOFF DISCHARGE	=	11.76	CFS
TIME TO PEAK DISCHARGE	=	3.30	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	.97	
PREVIOUS STRUCTURE TRAVEL TIME	=	.2000	HRS
TOTAL SEDIMENT YIELD	=	431.9473	TONS
PEAK SEDIMENT CONCENTRATION	=	980625.70	MG/L
PEAK SETTLEABLE CONCENTRATION	=	446.8203	ML/L
PEAK SETTLEABLE CONCENTRATION	=	781935.60	MG/L
TIME TO PEAK CONCENTRATION	=	6.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	10.20	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	123.91	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	123.91	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	202.41	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	86.02	ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION NO.

- |   |      |
|---|------|
| 1. NUMBER OF SUBWATERSHEDS -            | 1    |
| 2. TYPE OF SEDIMENT CONTROL STRUCTURE - | POND |

=====

\* \* \* \* \*  
 JUNCTION 2, BRANCH 1, STRUCTURE 2  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	1.30	80.00	.040	.000	.000	.35	.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	200.0	6.00	.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	.47	.20	1.16	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.0215	ACRE-FT
PEAK DISCHARGE	=	.4671	CFS
AREA	=	1.3000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	70965.73	MG/L
PEAK SETTLEABLE CONCENTRATION	=	33.9202	ML/L
PEAK SETTLEABLE CONCENTRATION	=	59360.35	MG/L
TOTAL SEDIMENT YIELD	=	1.1636	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.10	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	19.22	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	19.22	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	13.20	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	1.71	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.30	
PREVIOUS MUSKINGUM ROUTING K	=	.0200	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	11.76	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.30	HRS
TOTAL DRAINAGE AREA	=	226.70	ACRES
TOTAL RUNOFF VOLUME	=	1.0166	AC-FT
PEAK RUNOFF DISCHARGE	=	11.87	CFS
TIME TO PEAK DISCHARGE	=	3.30	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0200	HRS
TOTAL SEDIMENT YIELD	=	430.9600	TONS
PEAK SEDIMENT CONCENTRATION	=	980617.50	MG/L

PEAK SETTLEABLE CONCENTRATION = 446.3339 ML/L  
 PEAK SETTLEABLE CONCENTRATION = 781084.30 MG/L  
 TIME TO PEAK CONCENTRATION = 6.60 HRS  
 PERIOD OF SIGNIFICANT CONCENTRATION = 10.20 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 121.34 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 121.34 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 201.65 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 85.70 ML/L

===== POND INPUT =====  
 QUESTION

- NO.
1. TIME INCREMENT OF THE ROUTED HYDROGRAPH - .20 HOURS
  2. NON-IDEAL SETTLING CORRECTION FACTOR - 1.00
  3. PERCENT OF PERMANENT POOL THAT IS DEAD SPACE - 15.00
  4. OUTFLOW WITHDRAWAL OPTION - SURFACE
  5. INFLOW VERTICAL CONCENTRATION - COMP. MIXED
  6. NUMBER OF STAGE POINTS - 11
  7. NUMBER OF ROUTED HYDROGRAPH POINTS - 500
  8. STAGE-DISCHARGE OPTION - INPUT
  9. OUTPUT OPTION - GRAPHS
  10. NUMBER OF CONTINUOUS STIRRED REACTORS 2

\*\*\*\*\*

POND RESULTS

\*\*\*\*\*

\*\*\*\*\* BASIN GEOMETRY \*\*\*\*\*

STAGE (FT)	AREA (ACRES)	AVERAGE DEPTH (FT)	DISCHARGE (CFS)	CAPACITY (ACRES-FT)
.00	.180	.00	.00	.00
2.00	.630	1.44	.00	.81
4.00	.850	3.12	.00	2.29
6.00	1.020	4.78	.00	4.16
7.00	1.090	5.61	.00	5.21
7.03	1.100	5.63	.00	5.25
7.10	1.110	5.69	.34	5.33
7.30	1.140	5.85	3.40	5.55
8.00	1.210	6.40	25.00	6.37

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9.00	1.310	7.18	30.00	7.63
9.50	1.350	7.56	30.00	8.30

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

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TURBULENCE FACTOR = 1.00
PERMANENT POOL CAPACITY = 2.290 ACRE-FT
DEAD STORAGE = 15.00 PERCENT
TIME INCREMENT OUTFLOW = .20 HRS
VISCOSITY = .009 CM**2/SEC
INFLOW RUNOFF VOLUME = 1.017 ACRE-FT
OUTFLOW ROUTED VOLUME = .002 ACRE-FT
STORM VOLUME DISCHARGED = .002 ACRE-FT
POND VOLUME AT PEAK STAGE = 3.307 ACRE-FT
PEAK STAGE = 5.088 FT
PEAK INFLOW RATE = 11.874 CFS
PEAK DISCHARGE RATE = .001 CFS
PEAK INFLOW SEDIMENT CONCENTRATION = 980617.50 MG/L
PEAK EFFLUENT SEDIMENT CONCENTRATION = 2802.16 MG/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION = .0000 ML/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION = .00 MG/L
STORM AVERAGE EFFLUENT CONCENTRATION = 1920.15 MG/L
AVERAGE EFFLUENT SEDIMENT CONCENTRATION = 1920.15 MG/L
BASIN TRAP EFFICIENCY = 100.00 PERCENT
DETENTION TIME OF FLOW WITH SEDIMENT = 20.53 HRS
DETENTION TIME FROM HYDROGRAPH CENTERS = 20.53 HRS
DETENTION TIME INCLUDING STORED FLOW = 20.53 HRS
SEDIMENT LOAD DISCHARGED = .00 TONS
PERIOD OF SIGNIFICANT CONCENTRATION = 42.80 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

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\*\*\* PARTICLE SIZE DISTRIBUTION OF SEDIMENT \*\*\*

SIZE,MM	13.0000	2.0000	.4250	.2500	.1500	.0750
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0500	.0300	.0200	.0100	.0080	.0060
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0040	.0020	.0001			
PERCENT FINER	100.0000	100.0000	.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	*	.20	.000	.000
.40	.000	.000	*	.60	.000	.000
.80	.000	.000	*	1.00	.000	.000
1.20	.000	.000	*	1.40	.000	.000
1.60	.000	.000	*	1.80	.000	.000
2.00	.000	.000	*	2.20	.000	.000
2.40	.000	.000	*	2.60	.000	.000
2.80	.000	.006	*	3.00	.000	7.023
3.20	.000	282.347	*	3.40	.000	1301.714
3.60	.000	1907.848	*	3.80	.000	2168.005
4.00	.000	2280.171	*	4.20	.000	2342.417
4.40	.000	2407.522	*	4.60	.000	2460.800
4.80	.000	2514.820	*	5.00	.000	2559.545
5.20	.000	2597.375	*	5.40	.000	2632.251
5.60	.000	2654.428	*	5.80	.000	2680.810
6.00	.000	2717.614	*	6.20	.000	2769.436
6.40	.000	2802.161	*	6.60	.001	2753.246
6.80	.001	2670.144	*	7.00	.001	2595.790
7.20	.001	2531.952	*	7.40	.001	2477.856
7.60	.001	2432.115	*	7.80	.001	2393.736
8.00	.001	2361.949	*	8.20	.001	2335.228
8.40	.001	2311.943	*	8.60	.001	2291.146
8.80	.001	2272.292	*	9.00	.001	2255.043
9.20	.001	2239.162	*	9.40	.001	2224.418
9.60	.001	2210.622	*	9.80	.001	2197.618
10.00	.001	2185.282	*	10.20	.001	2173.495
10.40	.001	2162.143	*	10.60	.001	2151.141
10.80	.001	2140.451	*	11.00	.001	2130.062
11.20	.001	2119.935	*	11.40	.001	2110.009
11.60	.001	2100.240	*	11.80	.001	2090.610
12.00	.001	2081.120	*	12.20	.001	2071.795
12.40	.001	2062.653	*	12.60	.001	2053.706
12.80	.001	2044.968	*	13.00	.001	2036.345
13.20	.001	2028.110	*	13.40	.001	2020.283
13.60	.001	2012.835	*	13.80	.001	2005.739
14.00	.001	1998.986	*	14.20	.001	1992.561
14.40	.001	1986.421	*	14.60	.001	1980.527
14.80	.001	1974.851	*	15.00	.001	1969.371
15.20	.001	1964.075	*	15.40	.001	1958.952
15.60	.001	1953.992	*	15.80	.001	1949.188
16.00	.001	1944.531	*	16.20	.001	1940.015
16.40	.001	1935.634	*	16.60	.001	1931.380
16.80	.001	1927.251	*	17.00	.001	1923.257
17.20	.001	1919.402	*	17.40	.001	1915.674
17.60	.001	1912.052	*	17.80	.001	1908.523
18.00	.001	1905.077	*	18.20	.001	1901.707
18.40	.001	1898.410	*	18.60	.001	1895.184
18.80	.001	1892.026	*	19.00	.001	1888.935
19.20	.001	1885.910	*	19.40	.001	1882.950
19.60	.001	1880.052	*	19.80	.001	1877.215
20.00	.001	1874.449	*	20.20	.001	1871.761
20.40	.001	1869.151	*	20.60	.001	1866.604
20.80	.001	1864.111	*	21.00	.001	1861.665
21.20	.001	1859.263	*	21.40	.001	1856.900
21.60	.001	1854.557	*	21.80	.001	1852.220

22.00	.001	1849.899	*	22.20	.001	1847.605
22.40	.001	1845.345	*	22.60	.001	1843.119
22.80	.001	1840.928	*	23.00	.001	1838.774
23.20	.001	1836.661	*	23.40	.001	1834.590
23.60	.001	1832.552	*	23.80	.001	1830.538
24.00	.001	1828.544	*	24.20	.001	1826.566
24.40	.001	1824.603	*	24.60	.001	1822.652
24.80	.001	1820.713	*	25.00	.001	1818.788
25.20	.001	1816.878	*	25.40	.001	1814.985
25.60	.001	1813.112	*	25.80	.001	1811.260
26.00	.001	1809.432	*	26.20	.001	1807.632
26.40	.001	1805.865	*	26.60	.001	1804.127
26.80	.001	1802.412	*	27.00	.001	1800.718
27.20	.001	1799.043	*	27.40	.001	1797.386
27.60	.001	1795.748	*	27.80	.001	1794.126
28.00	.001	1792.523	*	28.20	.001	1790.938
28.40	.001	1789.371	*	28.60	.001	1787.822
28.80	.001	1786.292	*	29.00	.001	1784.780
29.20	.001	1783.285	*	29.40	.001	1781.809
29.60	.001	1780.350	*	29.80	.001	1778.908
30.00	.001	1777.480	*	30.20	.001	1776.068
30.40	.001	1774.669	*	30.60	.001	1773.284
30.80	.001	1771.911	*	31.00	.001	1770.551
31.20	.001	1769.202	*	31.40	.001	1767.866
31.60	.001	1766.541	*	31.80	.001	1765.227
32.00	.001	1763.925	*	32.20	.001	1762.633
32.40	.001	1761.351	*	32.60	.001	1760.081
32.80	.001	1758.820	*	33.00	.001	1757.570
33.20	.001	1756.329	*	33.40	.001	1755.097
33.60	.001	1753.874	*	33.80	.001	1752.650
34.00	.001	1751.416	*	34.20	.001	1750.177
34.40	.001	1748.940	*	34.60	.001	1747.708
34.80	.001	1746.481	*	35.00	.001	1745.260
35.20	.001	1744.044	*	35.40	.001	1742.834
35.60	.001	1741.627	*	35.80	.001	1740.422
36.00	.001	1739.220	*	36.20	.001	1738.018
36.40	.001	1736.817	*	36.60	.001	1735.616
36.80	.001	1734.416	*	37.00	.001	1733.215
37.20	.001	1732.014	*	37.40	.001	1730.814
37.60	.001	1729.617	*	37.80	.001	1728.424
38.00	.001	1727.235	*	38.20	.001	1726.052
38.40	.001	1724.874	*	38.60	.001	1723.702
38.80	.001	1722.536	*	39.00	.001	1721.375
39.20	.001	1720.221	*	39.40	.001	1719.072
39.60	.001	1717.930	*	39.80	.001	1716.793
40.00	.001	1715.662	*	40.20	.001	1714.537
40.40	.001	1713.419	*	40.60	.001	1712.306
40.80	.001	1711.200	*	41.00	.001	1710.100
41.20	.001	1709.005	*	41.40	.001	1707.917
41.60	.001	1706.835	*	41.80	.001	1705.759
42.00	.001	1704.689	*	42.20	.001	1703.625
42.40	.001	1702.567	*	42.60	.001	1701.515
42.80	.001	1700.468	*	43.00	.001	1699.428
43.20	.001	1698.393	*	43.40	.001	1697.365
43.60	.001	1696.342	*	43.80	.001	1695.324
44.00	.001	1694.312	*	44.20	.001	1693.306
44.40	.001	1692.305	*			

44.60	.001	1691.309				
44.80	.001	1690.319	*	45.00	.001	1689.334
45.20	.001	1688.354	*	45.40	.001	1687.380

\*\*\* RUN COMPLETED \*\*\*\*

**BORROW AREA POND**  
**10 YEAR, 24 HOUR STORM**  
**PHASE ONE**

July 11, 1994

```

*****
*          (program name)          * SEDIMOT S/N   : 1353220014      *
*                                     * HMVersion    :   3.20          *
* (program description)            * Date       : 5/25/94      *
*                                     * Time      : 16:31:43     *
*                                     * Input file : bor1024.in   *
*                                     * Output file: bor1024.out  *
*                                     *                                     *
*                                     *                                     *
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      XXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  XXXXXXXX
X      X  X      X      X      X      XX     XX     X      X      X
X      X      X      X      X      X  X  X  X  X      X      X
      XXXXX  XXXXXX  X      X      X      X  X  X  X      X      X
           X  X      X      X      X      X      X  X      X      X
X      X  X      X      X      X      X      X  X      X      X
      XXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  X

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:::
::: Full Microcomputer Implementation :::
::: by :::
::: Haestad Methods, Inc. :::
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37 Brookside Road \* Waterbury, Connecticut 06708 \* (203) 755-1666

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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 5-25-83

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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\*\*\*\*\*

WATERSHED IDENTIFICATION CODE

-----

Borrow Area Pond 10 year 24 Hour Storm Phase 1 Reclamation

\*\*\*\*\*

===== STORM INPUT =====

QUESTION

NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	1.84 INCHES
3. STORM DURATION -	24.00 HOURS
4. TIME INCREMENT -	.10 HOURS

=====

===== WATERSHED DATA =====

QUESTION

NO.

1. NUMBER OF JUNCTIONS -	2
2. JUNCTION	NUMBER OF BRANCHES

2

1  
2

2  
1

3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

=====

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.		
1.	SPECIFIC GRAVITY -	2.75
2.	COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3.	SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4.	NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5.	NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

=====

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE NO.	SIZE, MM
1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

=====

===== PERCENT FINER DISTRIBUTIONS =====

VALUE NO.	PARTICLE SIZE #
1	94.30
2	83.70
3	78.00
4	73.30
5	66.30
6	45.00
7	34.00
8	26.30

9	20.30
10	15.00
11	13.80
12	12.30
13	11.00
14	10.00
15	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	1
2	1

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
1	PRIOR J OR S TO STRUCTURE 1	TIME	MUSK. K	MUSK. X,
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00

===== STRUCTURE INPUT FOR JUNCTION #2 =====

BRANCH	NUMBER OF STRUCTURES
1	2

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
1	PRIOR J OR S TO STRUCTURE 1	TIME	MUSK. K	MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.20	.20	.35
1	PRIOR J OR S TO STRUCTURE 2	.02	.02	.30

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

u

NO.

1. NUMBER OF SUBWATERSHEDS -

1

2. TYPE OF SEDIMENT CONTROL STRUCTURE -

NULL STRUC.

JUNCTION 1, BRANCH 1, STRUCTURE 1

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

Table with 8 columns: WATER SHED, AREA ACRES, CURVE NUMBER, TC HR, TT HR, ROUTING COEFFICIENTS K-HRS, X, UNIT HYDRO. Row 1: 1, 180.00, 65.00, .600, .000, .100, .35, 3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

Table with 8 columns: WATER SHED, SEG NUM, SOIL K, LENGTH FEET, SLOPE PCT, CP VALUE, PART OPT, SURF COND. Rows 1-3: 1, 1, .20, 500.0, 65.00, .400, 1.0, 3.0; 2, .20, 3000.0, 25.00, .400, 1.0, 3.0; 3, .20, 2000.0, 10.00, .800, 1.0, 3.0

\*\*\* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \*\*\*

Table with 7 columns: WATERSHED, PEAK FLOW (CFS), RUNOFF (INCHES), SEDIMENT TONS, DIAM (MM), DELIVERY RATIO 1, DELIVERY RATIO 2. Row 1: 1, 1.82, .09, 755.94, .061, .790, 1.000

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

STORM DURATION = 24.00 HOURS
PRECIPITATION DEPTH = 1.84 INCHES
RUNOFF VOLUME = 1.4207 ACRE-FT
PEAK DISCHARGE = 1.8192 CFS
AREA = 180.0000 ACRES
TIME OF PEAK DISCHARGE = 13.40 HRS
LOAD RATE EXPONENT FACTOR = 1.50
BETA = 1.0000
SUBMERGE BULK SPECIFIC GRAVITY = 1.75
RAINFALL EROSITIVITY FACTOR = 18.15 EI UNIT
PEAK CONCENTRATION = 401655.90 MG/L
PEAK SETTLEABLE CONCENTRATION = 182.4698 ML/L
PEAK SETTLEABLE CONCENTRATION = 319322.20 MG/L
TOTAL SEDIMENT YIELD = 755.9374 TONS
REPRESENTATIVE PARTICLE SIZE = .0612 MM
TIME OF PEAK CONCENTRATION = 13.40 HRS

5

PERIOD OF SIGNIFICANT CONCENTRATION= 18.90 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 155.05 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 155.05 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 121.10 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 95.37 ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.  
 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 2, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	12.30	65.00	.200	.200	.200	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	600.0	10.00	.400	1.0	3.0
	2	.20	1000.0	2.50	.750	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.17	.09	10.83	.088	1.000	.991

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

```

-----
STORM DURATION = 24.00 HOURS
PRECIPITATION DEPTH = 1.84 INCHES
RUNOFF VOLUME = .0971 ACRE-FT
PEAK DISCHARGE = .1699 CFS
AREA = 12.3000 ACRES
TIME OF PEAK DISCHARGE = 12.80 HRS
LOAD RATE EXPONENT FACTOR = 1.50
BETA = .1591
SUBMERGE BULK SPECIFIC GRAVITY = 1.75
RAINFALL EROSIVITY FACTOR = 18.15 EI UNIT
PEAK CONCENTRATION = 101854.10 MG/L
PEAK SETTLEABLE CONCENTRATION = 48.5958 ML/L
PEAK SETTLEABLE CONCENTRATION = 85042.64 MG/L
TOTAL SEDIMENT YIELD = 10.7249 TONS
REPRESENTATIVE PARTICLE SIZE = .0869 MM
TIME OF PEAK CONCENTRATION = 12.80 HRS

PERIOD OF SIGNIFICANT CONCENTRATION= 14.40 HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE
CONCENTRATION DURING PERIOD OF
SIGNIFICANT CONCENTRATION = 37.56 ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE
CONCENTRATION DURING PEAK 24 HOUR
PERIOD = 37.56 ML/L
ARITHMETIC AVERAGE SETTLEABLE
CONCENTRATION DURING PERIOD OF
SIGNIFICANT CONCENTRATION = 32.42 ML/L
ARITHMETIC AVERAGE SETTLEABLE
CONCENTRATION DURING PEAK 24 HOUR
PERIOD = 19.45 ML/L

```

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO. 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 2, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	33.10	84.00	.200	.200	.200	.35	1.0

7

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	10.00	.850	1.0	1.0
	2	.20	1000.0	4.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	19.19	.63	408.46	.088	1.000	.999

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

STORM DURATION	=	24.00	HOURS
PRECIPITATION DEPTH	=	1.84	INCHES
RUNOFF VOLUME	=	1.7456	ACRE-FT
PEAK DISCHARGE	=	17.7866	CFS
AREA	=	33.1000	ACRES
TIME OF PEAK DISCHARGE	=	12.20	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	18.15	EI UNIT
PEAK CONCENTRATION	=	290287.30	MG/L
PEAK SETTLEABLE CONCENTRATION	=	138.7357	ML/L
PEAK SETTLEABLE CONCENTRATION	=	242787.50	MG/L
TOTAL SEDIMENT YIELD	=	408.2142	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0882	MM
TIME OF PEAK CONCENTRATION	=	12.20	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		13.80	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	75.26	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	75.26	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	36.84	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	21.19	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35
PREVIOUS MUSKINGUM ROUTING K	=	.2000 HRS

PREVIOUS ROUTED PEAK DISCHARGE	=	1.98	CFS
TIME OF ROUTED PEAK DISCHARGE	=	13.60	HRS
TOTAL DRAINAGE AREA	=	225.40	ACRES
TOTAL RUNOFF VOLUME	=	3.2635	AC-FT
PEAK RUNOFF DISCHARGE	=	17.81	

CFS

TIME TO PEAK DISCHARGE = 12.20 HRS  
 PREVIOUS STRUCTURE DELIVERY RATIO = 1.00  
 PREVIOUS STRUCTURE TRAVEL TIME = .2000 HRS  
 TOTAL SEDIMENT YIELD = 1174.4960 TONS  
 PEAK SEDIMENT CONCENTRATION = 290007.30 MG/L  
 PEAK SETTLEABLE CONCENTRATION = 134.1425 ML/L  
 PEAK SETTLEABLE CONCENTRATION = 234749.40 MG/L  
 TIME TO PEAK CONCENTRATION = 12.20 HRS  
  
 PERIOD OF SIGNIFICANT CONCENTRATION = 20.10 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 110.94 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 110.94 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 90.58 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 75.86 ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - POND

=====

\* \* \* \* \*  
 JUNCTION 2, BRANCH 1, STRUCTURE 2  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	1.30	80.00	.040	.000	.000	.35	.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	200.0	6.00	.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	.68	.47	2.32	.088	1.000	1.000

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

STORM DURATION	=	24.00	HOURS
PRECIPITATION DEPTH	=	1.84	INCHES
RUNOFF VOLUME	=	.0507	ACRE-FT
PEAK DISCHARGE	=	.6778	CFS
AREA	=	1.3000	ACRES
TIME OF PEAK DISCHARGE	=	12.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	18.15	EI UNIT
PEAK CONCENTRATION	=	69663.26	MG/L
PEAK SETTLEABLE CONCENTRATION	=	33.2976	ML/L
PEAK SETTLEABLE CONCENTRATION	=	58270.88	MG/L
TOTAL SEDIMENT YIELD	=	2.3178	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	12.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		12.30	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE			
CONCENTRATION DURING PERIOD OF			
SIGNIFICANT CONCENTRATION	=	15.90	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE			
CONCENTRATION DURING PEAK 24 HOUR			
PERIOD	=	15.90	ML/L
ARITHMETIC AVERAGE SETTLEABLE			
CONCENTRATION DURING PERIOD OF			
SIGNIFICANT CONCENTRATION	=	7.91	ML/L
ARITHMETIC AVERAGE SETTLEABLE			
CONCENTRATION DURING PEAK 24 HOUR			
PERIOD	=	4.06	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.30	
PREVIOUS MUSKINGUM ROUTING K	=	.0200	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	17.81	CFS
TIME OF ROUTED PEAK DISCHARGE	=	12.20	HRS
TOTAL DRAINAGE AREA	=	226.70	ACRES
TOTAL RUNOFF VOLUME	=	3.3141	AC-FT
PEAK RUNOFF DISCHARGE	=	17.95	CFS
TIME TO PEAK DISCHARGE	=	12.20	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	.99	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0200	HRS
TOTAL SEDIMENT YIELD	=	1170.6690	TONS
PEAK SEDIMENT CONCENTRATION	=	286799.60	MG/L
PEAK SETTLEABLE CONCENTRATION	=	132.5132	ML/L
PEAK SETTLEABLE CONCENTRATION	=	231898.10	MG/L

TIME TO PEAK CONCENTRATION	=	12.20	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	20.10	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	108.98	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	108.98	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	89.43	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	74.90	ML/L

===== POND INPUT =====

QUESTION

- |     |  |             |
|-----|--|-------------|
| NO. |  |             |
| 1.  | TIME INCREMENT OF THE ROUTED HYDROGRAPH -      | .20 HOURS   |
| 2.  | NON-IDEAL SETTLING CORRECTION FACTOR -         | 1.00        |
| 3.  | PERCENT OF PERMANENT POOL THAT IS DEAD SPACE - | 15.00       |
| 4.  | OUTFLOW WITHDRAWAL OPTION -                    | SURFACE     |
| 5.  | INFLOW VERTICAL CONCENTRATION -                | COMP. MIXED |
| 6.  | NUMBER OF STAGE POINTS -                       | 11          |
| 7.  | NUMBER OF ROUTED HYDROGRAPH POINTS -           | 500         |
| 8.  | STAGE-DISCHARGE OPTION -                       | INPUT       |
| 9.  | OUTPUT OPTION -                                | GRAPHS      |
| 10. | NUMBER OF CONTINUOUS STIRRED REACTORS          | 2           |

=====

\* \* \* \* \*

POND RESULTS

\* \* \* \* \*

\*\*\*\*\* BASIN GEOMETRY \*\*\*\*\*

STAGE (FT)	AREA (ACRES)	AVERAGE DEPTH (FT)	DISCHARGE (CFS)	CAPACITY (ACRES-FT)
.00	.180	.00	.00	.00
2.00	.630	1.44	.00	.81
4.00	.850	3.12	.00	2.29
6.00	1.020	4.78	.00	4.16
7.00	1.090	5.61	.00	5.21
7.03	1.100	5.63	.00	5.25
7.10	1.110	5.69	.34	5.33
7.30	1.140	5.85	3.40	5.55
8.00	1.210	6.40	25.00	6.37
9.00	1.310	7.18	30.00	7.63
9.50	1.350	7.56	30.00	8.30

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

TURBULENCE FACTOR	=	1.00	
PERMANENT POOL CAPACITY	=	2.290	ACRE-FT
DEAD STORAGE	=	15.00	PERCENT
TIME INCREMENT OUTFLOW	=	.20	HRS
VISCOSITY	=	.009	CM**2/SEC
INFLOW RUNOFF VOLUME	=	3.314	ACRE-FT
OUTFLOW ROUTED VOLUME	=	.369	ACRE-FT
STORM VOLUME DISCHARGED	=	.369	ACRE-FT
POND VOLUME AT PEAK STAGE	=	5.388	ACRE-FT
PEAK STAGE	=	7.156	FT
PEAK INFLOW RATE	=	17.954	CFS
PEAK DISCHARGE RATE	=	1.191	CFS
PEAK INFLOW SEDIMENT CONCENTRATION	=	286799.60	MG/L
PEAK EFFLUENT SEDIMENT CONCENTRATION	=	9789.29	MG/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.0000	ML/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.01	MG/L
STORM AVERAGE EFFLUENT CONCENTRATION	=	9573.99	MG/L
AVERAGE EFFLUENT SEDIMENT CONCENTRATION	=	9573.99	MG/L
BASIN TRAP EFFICIENCY	=	99.59	PERCENT
DETENTION TIME OF FLOW WITH SEDIMENT	=	10.03	HRS
DETENTION TIME FROM HYDROGRAPH CENTERS	=	10.03	HRS
DETENTION TIME INCLUDING STORED FLOW	=	10.03	HRS
SEDIMENT LOAD DISCHARGED	=	4.81	TONS
PERIOD OF SIGNIFICANT CONCENTRATION	=	38.80	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

\*\*\* PARTICLE SIZE DISTRIBUTION OF SEDIMENT \*\*\*

SIZE,MM	13.0000	2.0000	.4250	.2500	.1500	.0750
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0500	.0300	.0200	.0100	.0080	.0060
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0040	.0020	.0001			
PERCENT FINER	100.0000	100.0000	.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	*	.20	.000	.000
.40	.000	.000	*	.60	.000	.000
.80	.000	.000	*	1.00	.000	.000
1.20	.000	.000	*	1.40	.000	.000
1.60	.000	.000	*	1.80	.000	.000
2.00	.000	.000	*	2.20	.000	.000
2.40	.000	.000	*	2.60	.000	.000
2.80	.000	.000	*	3.00	.000	.000
3.20	.000	.000	*	3.40	.000	.000
3.60	.000	.000	*	3.80	.000	.000
4.00	.000	.000	*	4.20	.000	.000
4.40	.000	.000	*	4.60	.000	.000
4.80	.000	.000	*	5.00	.000	.000
5.20	.000	.000	*	5.40	.000	.000
5.60	.000	.000	*	5.80	.000	.000
6.00	.000	.000	*	6.20	.000	.000
6.40	.000	.000	*	6.60	.000	.000
6.80	.000	.000	*	7.00	.000	.000
7.20	.000	.000	*	7.40	.000	.000
7.60	.000	.000	*	7.80	.000	.000
8.00	.000	.000	*	8.20	.000	.000
8.40	.000	.000	*	8.60	.000	.000
8.80	.000	.000	*	9.00	.000	.000
9.20	.000	.000	*	9.40	.000	.000
9.60	.000	.000	*	9.80	.000	.000
10.00	.000	.000	*	10.20	.000	.000
10.40	.000	.000	*	10.60	.000	.000
10.80	.000	.000	*	11.00	.000	.000
11.20	.000	.007	*	11.40	.000	.082
11.60	.000	.591	*	11.80	.000	15.646
12.00	.000	456.035	*	12.20	.000	2703.377
12.40	.000	5271.516	*	12.60	.000	5959.063
12.80	.000	6236.972	*	13.00	.001	6381.657
13.20	.001	6524.238	*	13.40	.001	6666.069

14

13.60	.001	6785.020	*	13.80	.001	6895.789
14.00	.001	6980.214	*	14.20	.001	7056.517
14.40	.001	7118.606	*	14.60	.001	7162.510
14.80	.001	7207.703	*	15.00	.001	7259.776
15.20	.001	7319.612	*	15.40	.001	7386.179
15.60	.001	7458.953	*	15.80	.001	7537.053
16.00	.001	7619.656	*	16.20	.001	7703.042
16.40	.001	7767.359	*	16.60	.001	7803.989
16.80	.001	7831.861	*	17.00	.001	7858.279
17.20	.001	7886.671	*	17.40	.001	7917.693
17.60	.001	7951.515	*	17.80	.001	7988.331
18.00	.001	8028.255	*	18.20	.001	8070.571
18.40	.001	8114.184	*	18.60	.001	8158.358
18.80	.001	8202.722	*	19.00	.001	8247.046
19.20	.001	8291.215	*	19.40	.001	8335.330
19.60	.001	8379.559	*	19.80	.001	8423.943
20.00	.001	8468.461	*	20.20	.001	8511.632
20.40	.001	8544.678	*	20.60	.001	8563.631
20.80	.001	8576.885	*	21.00	.001	8588.257
21.20	.001	8599.942	*	21.40	.001	8612.729
21.60	.001	8627.027	*	21.80	.001	8643.029
22.00	.001	8660.629	*	22.20	.001	8679.357
22.40	.001	8698.765	*	22.60	.027	8719.272
22.80	.133	8747.250	*	23.00	.231	8785.249
23.20	.322	8832.257	*	23.40	.532	8892.633
23.60	.732	8972.626	*	23.80	.892	9068.216
24.00	1.018	9174.078	*	24.20	1.116	9287.129
24.40	1.183	9387.825	*	24.60	1.181	9463.194
24.80	1.127	9523.145	*	25.00	1.054	9573.418
25.20	.972	9615.958	*	25.40	.887	9652.096
25.60	.803	9682.676	*	25.80	.723	9708.500
26.00	.650	9730.284	*	26.20	.586	9748.220
26.40	.529	9762.396	*	26.60	.478	9773.121
26.80	.432	9780.756	*	27.00	.391	9785.678
27.20	.355	9788.208	*	27.40	.334	9788.938
27.60	.322	9789.271	*	27.80	.311	9789.295
28.00	.299	9788.911	*	28.20	.286	9788.047
28.40	.274	9786.642	*	28.60	.261	9784.656
28.80	.249	9782.061	*	29.00	.236	9778.848
29.20	.224	9775.048	*	29.40	.212	9770.679
29.60	.200	9765.723	*	29.80	.188	9760.167
30.00	.177	9754.028	*	30.20	.166	9747.337
30.40	.155	9740.127	*	30.60	.145	9732.442
30.80	.135	9724.340	*	31.00	.126	9715.786
31.20	.117	9707.018	*	31.40	.109	9698.046
31.60	.101	9688.885	*	31.80	.094	9679.556
32.00	.088	9670.077	*	32.20	.081	9660.470
32.40	.076	9650.752	*	32.60	.070	9640.950
32.80	.066	9631.097	*	33.00	.061	9621.250
33.20	.057	9611.438	*	33.40	.053	9601.650
33.60	.049	9591.876	*	33.80	.046	9582.119
34.00	.042	9572.388	*	34.20	.039	9562.682
34.40	.037	9553.009	*	34.60	.034	9543.357
34.80	.032	9533.691	*	35.00	.030	9523.971
35.20	.027	9514.216	*	35.40	.026	9504.471
35.60	.024	9494.758	*	35.80	.022	9485.082
36.00	.021	9475.444	*	36.20	.019	9465.850
36.40	.018	9456.304	*	36.60	.017	9446.820
36.80	.015	9437.438	*	37.00	.014	9428.161
37.20	.013	9418.973	*	37.40	.012	9409.863

37.60	.011	9400.828	*	37.80	.011	9391.865
38.00	.010	9382.975	*	38.20	.009	9374.154
38.40	.009	9365.402	*	38.60	.008	9356.715
38.80	.007	9348.092	*	39.00	.007	9339.532
39.20	.006	9331.036	*	39.40	.006	9322.601
39.60	.006	9314.231	*	39.80	.005	9305.926
40.00	.005	9297.685	*	40.20	.004	9289.512
40.40	.004	9281.414	*	40.60	.004	9273.413
40.80	.004	9265.505	*	41.00	.003	9257.678
41.20	.003	9249.926	*	41.40	.003	9242.245
41.60	.003	9234.634	*	41.80	.002	9227.094
42.00	.002	9219.616	*	42.20	.002	9212.206
42.40	.002	9204.856	*	42.60	.002	9197.566
42.80	.002	9190.337	*	43.00	.002	9183.164
43.20	.001	9176.049	*	43.40	.001	9168.992
43.60	.001	9161.993	*	43.80	.001	9155.051
44.00	.001	9148.164	*	44.20	.001	9141.334
44.40	.001	9134.562	*	44.60	.001	9127.852
44.80	.001	9121.202	*	45.00	.001	9114.611
45.20	.001	9108.078	*	45.40	.001	9101.602
45.60	.001	9095.179	*	45.80	.001	9088.807
46.00	.001	9082.486	*	46.20	.001	9076.214
46.40	.001	9069.988	*	46.60	.001	9063.809
46.80	.001	9057.674	*	47.00	.001	9051.581
47.20	.001	9045.534	*	47.40	.001	9039.530
47.60	.001	9033.570	*	47.80	.001	9027.654
48.00	.001	9021.785	*	48.20	.001	9015.959
48.40	.001	9010.177	*	48.60	.001	9004.440
48.80	.001	8998.747	*	49.00	.001	8993.097
49.20	.001	8987.489	*	49.40	.001	8981.923
49.60	.001	8976.394	*	49.80	.001	8970.885

\*\*\* RUN COMPLETED \*\*\*\*

**BORROW AREA POND**  
**25 YEAR, 6 HOUR STORM**  
**PHASE ONE**

July 11, 1994

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*****
*          (program name)          * SEDIMOT S/N : 1353220014          *
*          (program description)   * HMVersion  : 3.20              *
*                                   * Date       : 5/25/94           *
*                                   * Time      : 16:32:01          *
*                                   * Input file : bor256.in          *
*                                   * Output file: bor256.out         *
*                                   *                               *
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:::
::: Full Microcomputer Implementation :::
::: by :::
::: Haestad Methods, Inc. :::
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::::::::::::::::::::::::::::::::::::::::::::::::::

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37 Brookside Road \* Waterbury, Connecticut 06708 \* (203) 755-1666

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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 5-25-83

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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WATERSHED IDENTIFICATION CODE

-----  
Borrow Area Pond 25 year 6 Hour Storm Phase 1 Reclamation

\*\*\*\*\*

===== STORM INPUT =====

QUESTION  
NO.

- |                     |              |
|---------------------|--------------|
| 1. STORM TYPE -     | SCS'S TYPE 2 |
| 2. RAINFALL DEPTH - | 1.62 INCHES  |
| 3. STORM DURATION - | 6.00 HOURS   |
| 4. TIME INCREMENT - | .10 HOURS    |

===== WATERSHED DATA =====

QUESTION  
NO.

1. NUMBER OF JUNCTIONS - 2
2. JUNCTION NUMBER OF BRANCHES

1  
2

2  
1

3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.

1. SPECIFIC GRAVITY -	2.75
2. COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3. SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4. NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5. NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE

NO.

SIZE, MM

1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

===== PERCENT FINER DISTRIBUTIONS =====

VALUE

PARTICLE SIZE #

NO.

1

1	94.30
2	83.70
3	78.00
4	73.30
5	66.30
6	45.00
7	34.00
8	26.30

9	20.30
10	15.00
11	13.80
12	12.30
13	11.00
14	10.00
15	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	1
2	1

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #2 =====

BRANCH	NUMBER OF STRUCTURES
1	2

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.20	.20	.35
1	PRIOR J OR S TO STRUCTURE 2	.02	.02	.30

=====

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

u

NO.  
 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

\* \* \* \* \*  
 JUNCTION 1, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	180.00	65.00	.600	.000	.100	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	65.00	.400	1.0	3.0
	2	.20	3000.0	25.00	.400	1.0	3.0
	3	.20	2000.0	10.00	.800	1.0	3.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	2.20	.05	581.42	.053	.716	1.000

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

STORM DURATION = 6.00 HOURS  
 PRECIPITATION DEPTH = 1.62 INCHES  
 RUNOFF VOLUME = .7463 ACRE-FT  
 PEAK DISCHARGE = 2.1996 CFS  
 AREA = 180.0000 ACRES  
 TIME OF PEAK DISCHARGE = 4.60 HRS  
 LOAD RATE EXPONENT FACTOR = 1.50  
 BETA = 1.0000  
 SUBMERGE BULK SPECIFIC GRAVITY = 1.75  
 RAINFALL EROSITIVITY FACTOR = 24.10 EI UNIT  
 PEAK CONCENTRATION = 551672.40 MG/L  
 PEAK SETTLEABLE CONCENTRATION = 244.3337 ML/L  
 PEAK SETTLEABLE CONCENTRATION = 427584.00 MG/L  
 TOTAL SEDIMENT YIELD = 581.4205 TONS  
 REPRESENTATIVE PARTICLE SIZE = .0534 MM  
 TIME OF PEAK CONCENTRATION = 4.60 HRS

6

PERIOD OF SIGNIFICANT CONCENTRATION= 9.90 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 208.06 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 208.06 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 144.80 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 59.73 ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION  
 NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 2, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	12.30	65.00	.200	.200	.200	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	600.0	10.00	.400	1.0	3.0
	2	.20	1000.0	2.50	.750	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.20	.05	11.82	.088	1.000	.998

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

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-----
STORM DURATION = 6.00 HOURS
PRECIPITATION DEPTH = 1.62 INCHES
RUNOFF VOLUME = .0510 ACRE-FT
PEAK DISCHARGE = .2027 CFS
AREA = 12.3000 ACRES
TIME OF PEAK DISCHARGE = 4.80 HRS
LOAD RATE EXPONENT FACTOR = 1.50
BETA = .0372
SUBMERGE BULK SPECIFIC GRAVITY = 1.75
RAINFALL EROSITIVITY FACTOR = 24.10 EI UNIT
PEAK CONCENTRATION = 179090.90 MG/L
PEAK SETTLEABLE CONCENTRATION = 85.5656 ML/L
PEAK SETTLEABLE CONCENTRATION = 149739.80 MG/L
TOTAL SEDIMENT YIELD = 11.7954 TONS
REPRESENTATIVE PARTICLE SIZE = .0879 MM
TIME OF PEAK CONCENTRATION = 4.80 HRS

PERIOD OF SIGNIFICANT CONCENTRATION= 5.50 HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE
CONCENTRATION DURING PERIOD OF
SIGNIFICANT CONCENTRATION = 76.41 ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE
CONCENTRATION DURING PEAK 24 HOUR
PERIOD = 76.41 ML/L
ARITHMETIC AVERAGE SETTLEABLE
CONCENTRATION DURING PERIOD OF
SIGNIFICANT CONCENTRATION = 58.21 ML/L
ARITHMETIC AVERAGE SETTLEABLE
CONCENTRATION DURING PEAK 24 HOUR
PERIOD = 13.34 ML/L

```

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.  
1. NUMBER OF SUBWATERSHEDS - 1  
2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

\*\*\*\*\*  
JUNCTION 2, BRANCH 1, STRUCTURE 1  
\*\*\*\*\*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER ID	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	33.10	84.00	.200	.200	.200	.35	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	10.00	.850	1.0	1.0
	2	.20	1000.0	4.00	.850	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	21.69	.49	349.05	.088	1.000	.999

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.62	INCHES
RUNOFF VOLUME	=	1.3470	ACRE-FT
PEAK DISCHARGE	=	19.2958	CFS
AREA	=	33.1000	ACRES
TIME OF PEAK DISCHARGE	=	3.30	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	24.10	EI UNIT
PEAK CONCENTRATION	=	265788.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	127.0274	ML/L
PEAK SETTLEABLE CONCENTRATION	=	222297.90	MG/L
TOTAL SEDIMENT YIELD	=	348.8451	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0882	MM
TIME OF PEAK CONCENTRATION	=	3.30	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		3.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	84.07	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	84.07	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	54.90	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	8.92	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.2000	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	2.40	CFS

TIME OF ROUTED PEAK DISCHARGE	=	4.90	HRS
TOTAL DRAINAGE AREA	=	225.40	ACRES
TOTAL RUNOFF VOLUME	=	2.1443	AC-FT
PEAK RUNOFF DISCHARGE	=	19.35	CFS
TIME TO PEAK DISCHARGE	=	3.30	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.2000	HRS
TOTAL SEDIMENT YIELD	=	941.7858	TONS
PEAK SEDIMENT CONCENTRATION	=	495595.80	MG/L
PEAK SETTLEABLE CONCENTRATION	=	226.0693	ML/L
PEAK SETTLEABLE CONCENTRATION	=	395621.30	MG/L
TIME TO PEAK CONCENTRATION	=	6.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	10.20	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	130.50	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	130.50	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	121.79	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	51.76	ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

STATION  
NO.

1. NUMBER OF SUBWATERSHEDS - 1  
2. TYPE OF SEDIMENT CONTROL STRUCTURE - POND

=====

\* \* \* \* \*  
JUNCTION 2, BRANCH 1, STRUCTURE 2  
\* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	1.30	80.00	.040	.000	.000	.35	.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	200.0	6.00	.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	.80	.35	2.15	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.62	INCHES
RUNOFF VOLUME	=	.0375	ACRE-FT
PEAK DISCHARGE	=	.8029	CFS
AREA	=	1.3000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	24.10	EI UNIT
PEAK CONCENTRATION	=	71985.56	MG/L
PEAK SETTLEABLE CONCENTRATION	=	34.4077	ML/L
PEAK SETTLEABLE CONCENTRATION	=	60213.41	MG/L
TOTAL SEDIMENT YIELD	=	2.1548	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.20	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	20.21	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	20.21	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	13.13	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	1.75	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.30	
PREVIOUS MUSKINGUM ROUTING K	=	.0200	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	19.35	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.30	HRS
TOTAL DRAINAGE AREA	=	226.70	ACRES
TOTAL RUNOFF VOLUME	=	2.1819	AC-FT
PEAK RUNOFF DISCHARGE	=	19.54	CFS
TIME TO PEAK DISCHARGE	=	3.30	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0200	HRS
TOTAL SEDIMENT YIELD	=	939.2348	TONS

PEAK SEDIMENT CONCENTRATION	=	495596.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	225.8208	ML/L
PEAK SETTLEABLE CONCENTRATION	=	395186.40	MG/L
TIME TO PEAK CONCENTRATION	=	6.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	10.20	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	128.17	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	128.17	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	121.13	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	51.48	ML/L

===== POND INPUT =====

QUESTION

NO.		
1.	TIME INCREMENT OF THE ROUTED HYDROGRAPH -	.20 HOURS
2.	NON-IDEAL SETTLING CORRECTION FACTOR -	1.00
3.	PERCENT OF PERMANENT POOL THAT IS DEAD SPACE -	15.00
4.	OUTFLOW WITHDRAWAL OPTION -	SURFACE
5.	INFLOW VERTICAL CONCENTRATION -	COMP. MIXED
6.	NUMBER OF STAGE POINTS -	11
7.	NUMBER OF ROUTED HYDROGRAPH POINTS -	500
8.	STAGE-DISCHARGE OPTION -	INPUT
9.	OUTPUT OPTION -	GRAPHS
10.	NUMBER OF CONTINUOUS STIRRED REACTORS	2

=====

\* \* \* \* \*

POND RESULTS

\* \* \* \* \*

\*\*\*\*\* BASIN GEOMETRY \*\*\*\*\*

STAGE (FT)	AREA (ACRES)	AVERAGE DEPTH (FT)	DISCHARGE (CFS)	CAPACITY (ACRES-FT)
.00	.180	.00	.00	.00
2.00	.630	1.44	.00	.81
4.00	.850	3.12	.00	2.29
6.00	1.020	4.78	.00	4.16
7.00	1.090	5.61	.00	5.21

7.03	1.100	5.63	.00	5.25
7.10	1.110	5.69	.34	5.33
7.30	1.140	5.85	3.40	5.55
8.00	1.210	6.40	25.00	6.37
9.00	1.310	7.18	30.00	7.63
9.50	1.350	7.56	30.00	8.30

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

TURBULENCE FACTOR	=	1.00	
PERMANENT POOL CAPACITY	=	2.290	ACRE-FT
DEAD STORAGE	=	15.00	PERCENT
TIME INCREMENT OUTFLOW	=	.20	HRS
VISCOSITY	=	.009	CM**2/SEC
INFLOW RUNOFF VOLUME	=	2.182	ACRE-FT
OUTFLOW ROUTED VOLUME	=	.004	ACRE-FT
STORM VOLUME DISCHARGED	=	.004	ACRE-FT
POND VOLUME AT PEAK STAGE	=	4.472	ACRE-FT
PEAK STAGE	=	6.296	FT
PEAK INFLOW RATE	=	19.536	CFS
PEAK DISCHARGE RATE	=	.001	CFS
PEAK INFLOW SEDIMENT CONCENTRATION	=	495596.90	MG/L
PEAK EFFLUENT SEDIMENT CONCENTRATION	=	8874.76	MG/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.0000	ML/L
PEAK EFFLUENT SETTLEABLE CONCENTRATION	=	.01	MG/L
STORM AVERAGE EFFLUENT CONCENTRATION	=	6721.99	MG/L
AVERAGE EFFLUENT SEDIMENT CONCENTRATION	=	6721.99	MG/L
BASIN TRAP EFFICIENCY	=	100.00	PERCENT
DETENTION TIME OF FLOW WITH SEDIMENT	=	22.31	HRS
DETENTION TIME FROM HYDROGRAPH CENTERS	=	22.31	HRS
DETENTION TIME INCLUDING STORED FLOW	=	22.31	HRS
SEDIMENT LOAD DISCHARGED	=	.03	TONS
PERIOD OF SIGNIFICANT CONCENTRATION	=	47.20	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

\*\*\* PARTICLE SIZE DISTRIBUTION OF SEDIMENT \*\*\*

SIZE,MM	13.0000	2.0000	.4250	.2500	.1500	.0750
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0500	.0300	.0200	.0100	.0080	.0060
PERCENT FINER	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
SIZE,MM	.0040	.0020	.0001			

PERCENT FINER 100.0000 100.0000 .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	*	.20	.000	.000
.40	.000	.000	*	.60	.000	.000
.80	.000	.000	*	1.00	.000	.000
1.20	.000	.000	*	1.40	.000	.000
1.60	.000	.000	*	1.80	.000	.000
2.00	.000	.000	*	2.20	.000	.000
2.40	.000	.000	*	2.60	.000	.000
2.80	.000	.139	*	3.00	.000	63.352
3.20	.000	1300.398	*	3.40	.000	4368.645
3.60	.000	5703.352	*	3.80	.000	6228.467
4.00	.001	6524.366	*	4.20	.001	6764.445
4.40	.001	7024.032	*	4.60	.001	7259.585
4.80	.001	7500.578	*	5.00	.001	7719.778
5.20	.001	7923.951	*	5.40	.001	8118.535
5.60	.001	8277.699	*	5.80	.001	8432.479
6.00	.001	8590.107	*	6.20	.001	8758.684
6.40	.001	8874.760	*	6.60	.001	8838.314
6.80	.001	8736.113	*	7.00	.001	8632.326
7.20	.001	8532.942	*	7.40	.001	8441.712
7.60	.001	8359.919	*	7.80	.001	8288.490
8.00	.001	8227.652	*	8.20	.001	8174.833
8.40	.001	8126.959	*	8.60	.001	8082.357
8.80	.001	8040.144	*	9.00	.001	7999.991
9.20	.001	7961.692	*	9.40	.001	7924.705
9.60	.001	7888.447	*	9.80	.001	7852.508
10.00	.001	7816.574	*	10.20	.001	7780.418
10.40	.001	7744.032	*	10.60	.001	7707.608
10.80	.001	7671.355	*	11.00	.001	7635.414
11.20	.001	7599.788	*	11.40	.001	7564.514
11.60	.001	7529.607	*	11.80	.001	7495.102
12.00	.001	7461.070	*	12.20	.001	7427.574
12.40	.001	7394.770	*	12.60	.001	7362.845
12.80	.001	7331.893	*	13.00	.001	7301.574
13.20	.001	7272.535	*	13.40	.001	7244.694
13.60	.001	7217.936	*	13.80	.001	7192.180
14.00	.001	7167.392	*	14.20	.001	7143.567
14.40	.001	7120.656	*	14.60	.001	7098.565
14.80	.001	7077.224	*	15.00	.001	7056.585
15.20	.001	7036.611	*	15.40	.001	7017.270
15.60	.001	6998.540	*	15.80	.001	6980.423
16.00	.001	6962.906	*	16.20	.001	6945.938
16.40	.001	6929.528	*	16.60	.001	6913.681
16.80	.001	6898.335	*	17.00	.001	6883.430
17.20	.001	6868.938	*	17.40	.001	6854.839
17.60	.001	6841.121	*	17.80	.001	6827.764
18.00	.001	6814.752	*	18.20	.001	6802.068
18.40	.001	6789.694	*	18.60	.001	6777.616
18.80	.001	6765.820	*	19.00	.001	6754.294
19.20	.001	6743.023	*	19.40	.001	6731.997
19.60	.001	6721.201	*	19.80	.001	6710.622
20.00	.001	6700.260	*	20.20	.001	6690.143

20.40	.001	6680.279	*	20.60	.001	6670.626
20.80	.001	6661.156	*	21.00	.001	6651.859
21.20	.001	6642.730	*	21.40	.001	6633.764
21.60	.001	6624.958	*	21.80	.001	6616.308
22.00	.001	6607.808	*	22.20	.001	6599.453
22.40	.001	6591.238	*	22.60	.001	6583.157
22.80	.001	6575.205	*	23.00	.001	6567.380
23.20	.001	6559.675	*	23.40	.001	6552.087
23.60	.001	6544.614	*	23.80	.001	6537.269
24.00	.001	6530.074	*	24.20	.001	6523.029
24.40	.001	6516.107	*	24.60	.001	6509.292
24.80	.001	6502.580	*	25.00	.001	6495.968
25.20	.001	6489.455	*	25.40	.001	6483.042
25.60	.001	6476.713	*	25.80	.001	6470.420
26.00	.001	6464.133	*	26.20	.001	6457.880
26.40	.001	6451.680	*	26.60	.001	6445.538
26.80	.001	6439.448	*	27.00	.001	6433.406
27.20	.001	6427.408	*	27.40	.001	6421.455
27.60	.001	6415.558	*	27.80	.001	6409.734
28.00	.001	6403.975	*	28.20	.001	6398.266
28.40	.001	6392.601	*	28.60	.001	6386.977
28.80	.001	6381.395	*	29.00	.001	6375.854
29.20	.001	6370.360	*	29.40	.001	6364.912
29.60	.001	6359.515	*	29.80	.001	6354.169
30.00	.001	6348.877	*	30.20	.001	6343.639
30.40	.001	6338.452	*	30.60	.001	6333.317
30.80	.001	6328.234	*	31.00	.001	6323.202
31.20	.001	6318.220	*	31.40	.001	6313.298
31.60	.001	6308.443	*	31.80	.001	6303.649
32.00	.001	6298.903	*	32.20	.001	6294.205
32.40	.001	6289.553	*	32.60	.001	6284.946
32.80	.001	6280.386	*	33.00	.001	6275.872
33.20	.001	6271.403	*	33.40	.001	6266.979
33.60	.001	6262.598	*	33.80	.001	6258.260
34.00	.001	6253.964	*	34.20	.001	6249.708
34.40	.001	6245.492	*	34.60	.001	6241.315
34.80	.001	6237.175	*	35.00	.001	6233.071
35.20	.001	6229.001	*	35.40	.001	6224.963
35.60	.001	6220.957	*	35.80	.001	6216.981
36.00	.001	6213.034	*	36.20	.001	6209.116
36.40	.001	6205.226	*	36.60	.001	6201.362
36.80	.001	6197.525	*	37.00	.001	6193.715
37.20	.001	6189.930	*	37.40	.001	6186.170
37.60	.001	6182.437	*	37.80	.001	6178.727
38.00	.001	6175.041	*	38.20	.001	6171.379
38.40	.001	6167.739	*	38.60	.001	6164.122
38.80	.001	6160.529	*	39.00	.001	6156.958
39.20	.001	6153.408	*	39.40	.001	6149.880
39.60	.001	6146.373	*	39.80	.001	6142.887
40.00	.001	6139.421	*	40.20	.001	6135.977
40.40	.001	6132.552	*	40.60	.001	6129.140
40.80	.001	6125.714	*	41.00	.001	6122.257
41.20	.001	6118.786	*	41.40	.001	6115.314
41.60	.001	6111.845	*	41.80	.001	6108.378
42.00	.001	6104.909	*	42.20	.001	6101.440
42.40	.001	6097.969	*	42.60	.001	6094.496
42.80	.001	6091.022	*	43.00	.001	6087.547
43.20	.001	6084.071	*	43.40	.001	6080.596
43.60	.001	6077.121	*	43.80	.001	6073.648
44.00	.001	6070.176	*	44.20	.001	6066.708

44.40	.001	6063.245	*	44.60	.001	6059.789
44.80	.001	6056.343	*	45.00	.001	6052.908
45.20	.001	6049.486	*	45.40	.001	6046.075
45.60	.001	6042.679	*	45.80	.001	6039.295
46.00	.001	6035.924	*	46.20	.001	6032.568
46.40	.001	6029.226	*	46.60	.001	6025.897
46.80	.001	6022.583	*	47.00	.001	6019.283
47.20	.001	6015.998	*	47.40	.001	6012.727
47.60	.001	6009.470	*	47.80	.001	6006.229
48.00	.001	6003.002	*	48.20	.001	5999.790
48.40	.001	5996.593	*	48.60	.001	5993.410
48.80	.001	5990.243	*	49.00	.001	5987.090
49.20	.001	5983.951	*	49.40	.001	5980.827
49.60	.001	5977.717	*	49.80	.001	5974.622

\*\*\* RUN COMPLETED \*\*\*\*

**BORROW AREA POND**  
**10 YEAR, 6 HOUR STORM**  
**PHASE TWO**

July 11, 1994

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*****
*          (program name)          * SEDIMOT S/N   :          *
*          (program description)   * HMVersion    :   3.20    *
*                                   * Date         :   5/27/94  *
*                                   * Time        :  14:38:59  *
*                                   * Input file   : BOR1062.IN *
*                                   * Output file  : BOR1062.OUT *
*                                   *                *
*                                   *                *
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XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  XXXXXXXX
X      X  X      X      X      X      XX     XX     X      X      X
X      X  X      X      X      X      X  X  X  X  X      X      X
XXXXXX  XXXXXX  X      X      X      X      X  X  X  X      X      X
      X  X      X      X      X      X      X      X      X      X
X      X  X      X      X      X      X      X      X      X      X
XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  X

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:::
::: Full Microcomputer Implementation :::
::: by :::
::: Haestad Methods, Inc. :::
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37 Brookside Road \* Waterbury, Connecticut 06708 \* (203) 755-1666

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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 5-25-83

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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WATERSHED IDENTIFICATION CODE

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Borrow Area Pond 10 year 6 Hour Storm Phase 2 Reclamation

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===== STORM INPUT =====

QUESTION  
NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	1.31 INCHES
3. STORM DURATION -	6.00 HOURS
4. TIME INCREMENT -	.10 HOURS

=====

===== WATERSHED DATA =====

QUESTION  
NO.

1. NUMBER OF JUNCTIONS -	3
2. JUNCTION	NUMBER OF BRANCHES

1 2  
2 2  
3 1

3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.

1. SPECIFIC GRAVITY -	2.75
2. COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3. SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4. NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5. NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE

NO.

SIZE, MM

1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

===== PERCENT FINER DISTRIBUTIONS =====

VALUE

PARTICLE SIZE #

NO.

1

1	94.30
2	83.70
3	78.00
4	73.30
5	66.30
6	45.00
7	34.00

8	26.30
9	20.30
10	15.00
11	13.80
12	12.30
13	11.00
14	10.00
15	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	1
2	1

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00

===== STRUCTURE INPUT FOR JUNCTION #2 =====

BRANCH	NUMBER OF STRUCTURES
1	1
2	2

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1 TIME	2 MUSK. K	3 MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.20	.20	.35
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
2	PRIOR J OR S TO STRUCTURE 2	.00	.00	.00

===== STRUCTURE INPUT FOR JUNCTION #3 =====

BRANCH                      NUMBER OF STRUCTURES

1                                      1

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
1	PRIOR J OR S TO STRUCTURE 1	TIME .05	MUSK. K .05	MUSK. X, .35

=====

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.		
1.	NUMBER OF SUBWATERSHEDS -	1
2.	TYPE OF SEDIMENT CONTROL STRUCTURE -	NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	180.00	65.00	.600	.000	.100	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	65.00	.250	1.0	3.0
	2	.20	3000.0	25.00	.250	1.0	3.0
	3	.20	2000.0	10.00	.250	1.0	3.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW	RUNOFF	SEDIMENT	DIAM	DELIVERY	DELIVERY
-----------	-----------	--------	----------	------	----------	----------

	(CFS)	(INCHES)	TONS	(MM)	RATIO 1	RATIO 2
1	.54	.01	139.46	.057	.751	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.1451	ACRE-FT
PEAK DISCHARGE	=	.5420	CFS
AREA	=	180.0000	ACRES
TIME OF PEAK DISCHARGE	=	6.20	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	689507.90	MG/L
PEAK SETTLEABLE CONCENTRATION	=	309.2884	ML/L
PEAK SETTLEABLE CONCENTRATION	=	541254.80	MG/L
TOTAL SEDIMENT YIELD	=	139.4551	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0570	MM
TIME OF PEAK CONCENTRATION	=	6.20	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		9.20	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	248.95	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	248.95	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	176.18	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	67.53	ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.

- |   |             |
|---|-------------|
| 1. NUMBER OF SUBWATERSHEDS -            | 1           |
| 2. TYPE OF SEDIMENT CONTROL STRUCTURE - | NULL STRUC. |

=====

\* \* \* \* \*  
 JUNCTION 1, BRANCH 2, 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	12.30	65.00	.200	.200	.200	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	600.0	10.00	.250	1.0	3.0
	2	.20	1000.0	2.50	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.05	.01	3.95	.083	.965	.988

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.0099	ACRE-FT
PEAK DISCHARGE	=	.0507	CFS
AREA	=	12.3000	ACRES
TIME OF PEAK DISCHARGE	=	6.10	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.2004	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	307445.40	MG/L
PEAK SETTLEABLE CONCENTRATION	=	145.6079	ML/L
PEAK SETTLEABLE CONCENTRATION	=	254813.90	MG/L
TOTAL SEDIMENT YIELD	=	3.9063	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0819	MM
TIME OF PEAK CONCENTRATION	=	6.10	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	4.60	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	124.44	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	124.44	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	98.17	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	18.82	ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS -

1

2. TYPE OF SEDIMENT CONTROL STRUCTURE -

NULL STRUC.

\*\*\*\*\*  
 JUNCTION 2, BRANCH 1, STRUCTURE 1  
 \*\*\*\*\*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	34.40	69.00	.200	.200	.200	.35	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	10.00	.250	1.0	1.0
	2	.20	1200.0	4.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.61	.03	11.66	.088	1.000	.909

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.0990	ACRE-FT
PEAK DISCHARGE	=	.5793	CFS
AREA	=	34.4000	ACRES
TIME OF PEAK DISCHARGE	=	3.80	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.6013	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	92895.16	MG/L
PEAK SETTLEABLE CONCENTRATION	=	43.5622	ML/L
PEAK SETTLEABLE CONCENTRATION	=	76233.88	MG/L
TOTAL SEDIMENT YIELD	=	10.6007	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0761	MM
TIME OF PEAK CONCENTRATION	=	3.80	HRS

PERIOD OF SIGNIFICANT CONCENTRATION=	3.50	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION =	35.88	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD =	35.88	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION =	32.56	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD =	4.75	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.2000	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	.59	CFS
TIME OF ROUTED PEAK DISCHARGE	=	6.30	HRS
TOTAL DRAINAGE AREA	=	226.70	ACRES
TOTAL RUNOFF VOLUME	=	.2539	AC-FT
PEAK RUNOFF DISCHARGE	=	.88	CFS
TIME TO PEAK DISCHARGE	=	6.20	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	.93	
PREVIOUS STRUCTURE TRAVEL TIME	=	.2000	HRS
TOTAL SEDIMENT YIELD	=	143.3682	TONS
PEAK SEDIMENT CONCENTRATION	=	648063.30	MG/L
PEAK SETTLEABLE CONCENTRATION	=	286.5404	ML/L
PEAK SETTLEABLE CONCENTRATION	=	501445.70	MG/L
TIME TO PEAK CONCENTRATION.	=	6.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	9.80	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION =	158.95	ML/L	
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD =	158.95	ML/L	
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION =	138.29	ML/L	
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD =	56.47	ML/L	

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

- |   |             |
|---|-------------|
| 1. NUMBER OF SUBWATERSHEDS -            | 1           |
| 2. TYPE OF SEDIMENT CONTROL STRUCTURE - | NULL STRUC. |

\* \* \* \* \*  
 JUNCTION 2, BRANCH 2, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING K-HRS	COEFFICIENTS X,	UNIT HYDRO
1	8.60	69.00	.150	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	400.0	1.00	.250	1.0	1.0
	2	.20	400.0	1.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.16	.03	.59	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.0247	ACRE-FT
PEAK DISCHARGE	=	.1602	CFS
AREA	=	8.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.60	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	21587.37	MG/L
PEAK SETTLEABLE CONCENTRATION	=	10.3183	ML/L
PEAK SETTLEABLE CONCENTRATION	=	18057.08	MG/L
TOTAL SEDIMENT YIELD	=	.5910	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		3.40	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	8.17	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR			

PERIOD = 8.17 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 7.55 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 1.07 ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.  
 1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 2, BRANCH 2, STRUCTURE 2  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	3.60	69.00	.100	.010	.010	.35	.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	200.0	20.00	.250	1.0	1.0
	2	.20	400.0	4.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.08	.03	2.72	.088	1.000	1.000

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

-----  
 STORM DURATION = 6.00 HOURS  
 PRECIPITATION DEPTH = 1.31 INCHES  
 RUNOFF VOLUME = .0104 ACRE-FT  
 PEAK DISCHARGE = .0750 CFS

AREA	=	3.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.50	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	15.26	EI UNIT
PEAK CONCENTRATION	=	245003.00	MG/L
PEAK SETTLEABLE CONCENTRATION	=	117.1059	ML/L
PEAK SETTLEABLE CONCENTRATION	=	204935.30	MG/L
TOTAL SEDIMENT YIELD	=	2.7226	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0882	MM
TIME OF PEAK CONCENTRATION	=	3.50	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	2.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	90.57	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	90.57	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	87.88	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	10.62	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

---

PREVIOUS MUSKINGUM ROUTING X,	=	.00	
PREVIOUS MUSKINGUM ROUTING K	=	.0000	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	.16	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.60	HRS
TOTAL DRAINAGE AREA	=	12.20	ACRES
TOTAL RUNOFF VOLUME	=	.0351	AC-FT
PEAK RUNOFF DISCHARGE	=	.22	CFS
TIME TO PEAK DISCHARGE	=	3.50	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0000	HRS
TOTAL SEDIMENT YIELD	=	3.3136	TONS
PEAK SEDIMENT CONCENTRATION	=	164174.40	MG/L
PEAK SETTLEABLE CONCENTRATION	=	78.4717	ML/L
PEAK SETTLEABLE CONCENTRATION	=	137325.50	MG/L
TIME TO PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.50	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	32.29	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	32.29	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	29.74	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR			

PERIOD

= 4.34 ML/L

STRUCTURE DATA FOR JUNCTION #3

QUESTION NO.

- 1. NUMBER OF SUBWATERSHEDS -
- 2. TYPE OF SEDIMENT CONTROL STRUCTURE - 1 NULL STRUC.

\*\*\*\*\*  
 JUNCTION 3, BRANCH 1, STRUCTURE 1  
 \*\*\*\*\*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	4.00	65.00	.100	.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	.20	100.0	30.00	.250	1.0	3.0
	2	.20	900.0	4.00	.250	1.0	1.0

\*\*\* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \*\*\*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.02	.01	4.28	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	1.31	INCHES
RUNOFF VOLUME	=	.0032	ACRE-FT
PEAK DISCHARGE	=	.0194	CFS
AREA	=	4.0000	ACRES
TIME OF PEAK DISCHARGE	=	5.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.0100	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	15.26	EI UNIT

PEAK CONCENTRATION	=	847734.70	MG/L
PEAK SETTLEABLE CONCENTRATION	=	405.2003	ML/L
PEAK SETTLEABLE CONCENTRATION	=	709100.40	MG/L
TOTAL SEDIMENT YIELD	=	4.2752	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	5.00	HRS

PERIOD OF SIGNIFICANT CONCENTRATION	=	2.10	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	381.08	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	381.08	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	378.94	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	33.16	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

---

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0500	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	.95	CFS
TIME OF ROUTED PEAK DISCHARGE	=	5.30	HRS
TOTAL DRAINAGE AREA	=	242.90	ACRES
TOTAL RUNOFF VOLUME	=	.2922	AC-FT
PEAK RUNOFF DISCHARGE	=	.96	CFS
TIME TO PEAK DISCHARGE	=	5.30	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	1.00	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0500	HRS
TOTAL SEDIMENT YIELD	=	150.9400	TONS
PEAK SEDIMENT CONCENTRATION	=	648065.20	MG/L
PEAK SETTLEABLE CONCENTRATION	=	287.6798	ML/L
PEAK SETTLEABLE CONCENTRATION	=	503439.70	MG/L
TIME TO PEAK CONCENTRATION	=	6.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	9.90	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	147.34	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	147.34	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	137.45	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	56.70	ML/L

**BORROW AREA POND**  
**100 YEAR, 6 HOUR STORM**  
**PHASE TWO**

July 11, 1994

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*****
*          (program name)          * SEDIMOT S/N : 1353220014 *
*          (program description)  * HMVersion  : 3.20      *
*                                   * Date       : 5/25/94   *
*                                   * Time      : 9:33:51   *
*                                   * Input file : bor1006.in  *
*                                   * Output file: bor1006.out *
*                                   *                   *
*****

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XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  XXXXXXXX
X      X  X      X      X      X      XX    XX  X      X      X
X      X  X      X      X      X      X  X  X  X  X      X      X
XXXXXX  XXXXXX  X      X      X      X      X  X  X  X      X      X
      X  X      X      X      X      X      X      X  X      X      X
X      X  X      X      X      X      X      X  X  X      X      X
XXXXXX  XXXXXXXX  XXXXXXXX  XXXXXX  X      X      XXXXXX  X

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::: Full Microcomputer Implementation :::
::: by :::
::: Haestad Methods, Inc. :::
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37 Brookside Road \* Waterbury, Connecticut 06708 \* (203) 755-1666

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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 5-25-83

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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\*\*\*\*\*

WATERSHED IDENTIFICATION CODE

-----  
Borrow Area Pond 100 year 6 Hour Storm Phase 2 Reclamation

\*\*\*\*\*

===== STORM INPUT =====

QUESTION  
NO.

1. STORM TYPE -	SCS'S TYPE 2
2. RAINFALL DEPTH -	2.05 INCHES
3. STORM DURATION -	6.00 HOURS
4. TIME INCREMENT -	.10 HOURS

=====

===== WATERSHED DATA =====

QUESTION  
NO.

1. NUMBER OF JUNCTIONS -	3
2. JUNCTION	NUMBER OF BRANCHES

1 2  
2 2  
3 1

3. COMPUTATION - BOTH HYDROLOGY AND SEDIMENTOLOGY

=====

===== SEDIMENTOLOGY INPUTS =====

QUESTION

NO.

1. SPECIFIC GRAVITY -	2.75
2. COEFFICIENT FOR DISTRIBUTING SEDIMENT LOAD -	1.50
3. SUBMERGED BULK SPECIFIC GRAVITY -	1.75
4. NUMBER OF PARTICLE SIZE DISTRIBUTIONS -	1
5. NUMBER OF DATA VALUES PER PARTICLE SIZE DISTRIBUTION -	15

=====

===== INPUT PARTICLE SIZE DISTRIBUTIONS =====

VALUE NO.	SIZE, MM
1	13.0000
2	2.0000
3	.4250
4	.2500
5	.1500
6	.0750
7	.0500
8	.0300
9	.0200
10	.0100
11	.0080
12	.0060
13	.0040
14	.0020
15	.0001

=====

===== PERCENT FINER DISTRIBUTIONS =====

VALUE NO.	PARTICLE SIZE #
1	94.30
2	83.70
3	78.00
4	73.30
5	66.30
6	45.00
7	34.00

8	26.30
9	20.30
10	15.00
11	13.80
12	12.30
13	11.00
14	10.00
15	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #1 =====

BRANCH	NUMBER OF STRUCTURES
1	1
2	1

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
		TIME	MUSK. K	MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #2 =====

BRANCH	NUMBER OF STRUCTURES
1	1
2	2

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
		TIME	MUSK. K	MUSK. X,
1	PRIOR J OR S TO STRUCTURE 1	.20	.20	.35
2	PRIOR J OR S TO STRUCTURE 1	.00	.00	.00
2	PRIOR J OR S TO STRUCTURE 2	.00	.00	.00

=====

===== STRUCTURE INPUT FOR JUNCTION #3 =====

BRANCH	NUMBER OF STRUCTURES
1	1

=====

===== BETWEEN STRUCTURE ROUTING PARAMETERS =====

BRANCH NO.	BETWEEN	PARAMETERS		
		1	2	3
1	PRIOR J OR S TO STRUCTURE 1	TIME .05	MUSK. K .05	MUSK. X, .35

=====

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION

NO.		
1.	NUMBER OF SUBWATERSHEDS -	1
2.	TYPE OF SEDIMENT CONTROL STRUCTURE -	NULL STRUC.

=====

\* \* \* \* \*

JUNCTION 1, BRANCH 1, STRUCTURE 1

\* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	180.00	65.00	.600	.000	.100	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	65.00	.250	1.0	3.0
	2	.20	3000.0	25.00	.250	1.0	3.0
	3	.20	2000.0	10.00	.250	1.0	3.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	7.34	.15	988.83	.058	.757	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	2.05	INCHES
RUNOFF VOLUME	=	2.2340	ACRE-FT
PEAK DISCHARGE	=	7.3260	CFS
AREA	=	180.0000	ACRES
TIME OF PEAK DISCHARGE	=	4.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	40.00	EI UNIT
PEAK CONCENTRATION	=	356706.00	MG/L
PEAK SETTLEABLE CONCENTRATION	=	160.3189	ML/L
PEAK SETTLEABLE CONCENTRATION	=	280558.20	MG/L
TOTAL SEDIMENT YIELD	=	988.8289	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0576	MM
TIME OF PEAK CONCENTRATION	=	4.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	10.00	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	130.04	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	130.04	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	87.12	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	36.30	ML/L

===== STRUCTURE DATA FOR JUNCTION #1 =====

QUESTION  
NO.

1. NUMBER OF SUBWATERSHEDS - 1  
2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

\*\*\*\*\*  
JUNCTION 1, BRANCH 2, STRUCTURE 1  
\*\*\*\*\*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	12.30	65.00	.200	.200	.200	.35	3.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	600.0	10.00	.250	1.0	3.0
	2	.20	1000.0	2.50	.250	1.0	1.0

\*\*\* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \*\*\*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.74	.15	15.64	.088	1.000	.992

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	2.05	INCHES
RUNOFF VOLUME	=	.1527	ACRE-FT
PEAK DISCHARGE	=	.7334	CFS
AREA	=	12.3000	ACRES
TIME OF PEAK DISCHARGE	=	3.50	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	.1280	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	40.00	EI UNIT
PEAK CONCENTRATION	=	88059.70	MG/L
PEAK SETTLEABLE CONCENTRATION	=	42.0293	ML/L

PEAK SETTLEABLE CONCENTRATION = 73551.31 MG/L  
 TOTAL SEDIMENT YIELD = 15.5218 TONS  
 REPRESENTATIVE PARTICLE SIZE = .0872 MM  
 TIME OF PEAK CONCENTRATION = 3.50 HRS  
  
 PERIOD OF SIGNIFICANT CONCENTRATION= 5.60 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 34.72 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 34.72 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 25.32 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 5.91 ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 2, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING K-HRS	COEFFICIENTS X,	UNIT HYDRO
1	34.40	69.00	.200	.200	.200	.35	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	500.0	10.00	.250	1.0	1.0
	2	.20	1200.0	4.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
-----						

1            9.24            .23            56.85            .088            1.000            .865

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

-----

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	2.05	INCHES
RUNOFF VOLUME	=	.6734	ACRE-FT
PEAK DISCHARGE	=	7.8561	CFS
AREA	=	34.4000	ACRES
TIME OF PEAK DISCHARGE	=	3.30	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	2.4382	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	40.00	EI UNIT
PEAK CONCENTRATION	=	80747.33	MG/L
PEAK SETTLEABLE CONCENTRATION	=	37.4638	ML/L
PEAK SETTLEABLE CONCENTRATION	=	65561.72	MG/L
TOTAL SEDIMENT YIELD	=	49.1834	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0703	MM
TIME OF PEAK CONCENTRATION	=	3.30	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		3.70	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE			
CONCENTRATION DURING PERIOD OF			
SIGNIFICANT CONCENTRATION	=	24.36	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE			
CONCENTRATION DURING PEAK 24 HOUR			
PERIOD	=	24.36	ML/L
ARITHMETIC AVERAGE SETTLEABLE			
CONCENTRATION DURING PERIOD OF			
SIGNIFICANT CONCENTRATION	=	18.66	ML/L
ARITHMETIC AVERAGE SETTLEABLE			
CONCENTRATION DURING PEAK 24 HOUR			
PERIOD	=	2.88	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

-----

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.2000	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	7.95	CFS
TIME OF ROUTED PEAK DISCHARGE	=	4.20	HRS
TOTAL DRAINAGE AREA	=	226.70	ACRES
TOTAL RUNOFF VOLUME	=	3.0601	AC-FT
PEAK RUNOFF DISCHARGE	=	10.55	CFS
TIME TO PEAK DISCHARGE	=	3.80	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	.89	
PREVIOUS STRUCTURE TRAVEL TIME	=	.2000	HRS
TOTAL SEDIMENT YIELD	=	942.3395	TONS
PEAK SEDIMENT CONCENTRATION	=	281044.20	MG/L
PEAK SETTLEABLE CONCENTRATION	=	122.8387	ML/L
PEAK SETTLEABLE CONCENTRATION	=	214967.60	MG/L
TIME TO PEAK CONCENTRATION	=	6.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	10.00	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE			

CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 93.16 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 93.16 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 70.99 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 29.58 ML/L

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

\* \* \* \* \*  
 JUNCTION 2, BRANCH 2, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	8.60	69.00	.150	.000	.000	.00	1.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
1	1	.20	400.0	1.00	.250	1.0	1.0
	2	.20	400.0	1.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	2.50	.23	1.62	.088	1.000	1.000

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

STORM DURATION = 6.00 HOURS

V

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PRECIPITATION DEPTH           =          2.05  INCHES
RUNOFF VOLUME                 =          .1683  ACRE-FT
PEAK DISCHARGE                =          2.5027 CFS
AREA                          =          8.6000  ACRES
TIME OF PEAK DISCHARGE       =          3.10   HRS
LOAD RATE EXPONENT FACTOR    =          1.50
BETA                          =          1.0000
SUBMERGE BULK SPECIFIC GRAVITY =          1.75
RAINFALL EROSITIVITY FACTOR =          40.00  EI UNIT
PEAK CONCENTRATION           =        11545.04  MG/L
PEAK SETTLEABLE CONCENTRATION =          5.5183  ML/L
PEAK SETTLEABLE CONCENTRATION =          9657.02  MG/L
TOTAL SEDIMENT YIELD         =          1.6182  TONS
REPRESENTATIVE PARTICLE SIZE =          .0883  MM
TIME OF PEAK CONCENTRATION   =          3.10   HRS

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PERIOD OF SIGNIFICANT CONCENTRATION=          3.60  HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE
  CONCENTRATION DURING PERIOD OF
  SIGNIFICANT CONCENTRATION       =          3.30  ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE
  CONCENTRATION DURING PEAK 24 HOUR
  PERIOD                          =          3.30  ML/L
ARITHMETIC AVERAGE SETTLEABLE
  CONCENTRATION DURING PERIOD OF
  SIGNIFICANT CONCENTRATION       =          2.46  ML/L
ARITHMETIC AVERAGE SETTLEABLE
  CONCENTRATION DURING PEAK 24 HOUR
  PERIOD                          =          .37  ML/L

```

===== STRUCTURE DATA FOR JUNCTION #2 =====

QUESTION  
NO.

- 1. NUMBER OF SUBWATERSHEDS - 1
- 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

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* * * * *
  JUNCTION 2, BRANCH 2, STRUCTURE 2
* * * * *

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\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	3.60	69.00	.100	.010	.010	.35	.0

\*\*\* SEDIMENT INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	SEG NUM	SOIL K	LENGTH FEET	SLOPE PCT	CP VALUE	PART OPT	SURF COND
------------	---------	--------	-------------	-----------	----------	----------	-----------

1	1	.20	200.0	20.00	.250	1.0	1.0
	2	.20	400.0	4.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	1.52	.23	15.74	.088	1.000	.689

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	2.05	INCHES
RUNOFF VOLUME	=	.0705	ACRE-FT
PEAK DISCHARGE	=	1.5151	CFS
AREA	=	3.6000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	125.3188	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSIVITY FACTOR	=	40.00	EI UNIT
PEAK CONCENTRATION	=	197959.00	MG/L
PEAK SETTLEABLE CONCENTRATION	=	86.7373	ML/L
PEAK SETTLEABLE CONCENTRATION	=	151790.30	MG/L
TOTAL SEDIMENT YIELD	=	10.8444	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0509	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION=		3.10	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	48.48	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	48.48	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	35.34	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	4.56	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.00	
PREVIOUS MUSKINGUM ROUTING K	=	.0000	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	2.50	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.10	HRS
TOTAL DRAINAGE AREA	=	12.20	ACRES
TOTAL RUNOFF VOLUME	=	.2388	AC-FT
PEAK RUNOFF DISCHARGE	=	2.88	CFS

TIME TO PEAK DISCHARGE = 3.00 HRS  
 PREVIOUS STRUCTURE DELIVERY RATIO = 1.00  
 PREVIOUS STRUCTURE TRAVEL TIME = .0000 HRS  
 TOTAL SEDIMENT YIELD = 12.4626 TONS  
 PEAK SEDIMENT CONCENTRATION = 118821.50 MG/L  
 PEAK SETTLEABLE CONCENTRATION = 52.6659 ML/L  
 PEAK SETTLEABLE CONCENTRATION = 92165.30 MG/L  
 TIME TO PEAK CONCENTRATION = 2.90 HRS  
  
 PERIOD OF SIGNIFICANT CONCENTRATION = 3.70 HRS  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 16.50 ML/L  
 VOLUME WEIGHTED AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 16.50 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PERIOD OF  
 SIGNIFICANT CONCENTRATION = 11.78 ML/L  
 ARITHMETIC AVERAGE SETTLEABLE  
 CONCENTRATION DURING PEAK 24 HOUR  
 PERIOD = 1.82 ML/L

===== STRUCTURE DATA FOR JUNCTION #3 =====

QUESTION

NO.

1. NUMBER OF SUBWATERSHEDS - 1  
 2. TYPE OF SEDIMENT CONTROL STRUCTURE - NULL STRUC.

=====

\* \* \* \* \*  
 JUNCTION 3, BRANCH 1, STRUCTURE 1  
 \* \* \* \* \*

\*\*\* HYDRAULIC INPUT VALUES FOR SUBWATERSHEDS \*\*\*

WATER SHED	AREA ACRES	CURVE NUMBER	TC HR	TT HR	ROUTING COEFFICIENTS K-HRS	X,	UNIT HYDRO
1	4.00	65.00	.100	.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	.20	100.0	30.00	.250	1.0	3.0
	2	.20	900.0	4.00	.250	1.0	1.0

\* \* \* COMPUTED VALUES FOR INDIVIDUAL WATERSHEDS \* \* \*

WATERSHED	PEAK FLOW (CFS)	RUNOFF (INCHES)	SEDIMENT TONS	DIAM (MM)	DELIVERY RATIO 1	DELIVERY RATIO 2
1	.96	.15	18.94	.088	1.000	1.000

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

STORM DURATION	=	6.00	HOURS
PRECIPITATION DEPTH	=	2.05	INCHES
RUNOFF VOLUME	=	.0496	ACRE-FT
PEAK DISCHARGE	=	.9632	CFS
AREA	=	4.0000	ACRES
TIME OF PEAK DISCHARGE	=	3.00	HRS
LOAD RATE EXPONENT FACTOR	=	1.50	
BETA	=	1.0000	
SUBMERGE BULK SPECIFIC GRAVITY	=	1.75	
RAINFALL EROSITIVITY FACTOR	=	40.00	EI UNIT
PEAK CONCENTRATION	=	451619.00	MG/L
PEAK SETTLEABLE CONCENTRATION	=	215.8649	ML/L
PEAK SETTLEABLE CONCENTRATION	=	377763.50	MG/L
TOTAL SEDIMENT YIELD	=	18.9435	TONS
REPRESENTATIVE PARTICLE SIZE	=	.0883	MM
TIME OF PEAK CONCENTRATION	=	3.00	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	3.00	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	123.64	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	123.64	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	101.14	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	12.64	ML/L

\*SUMMARY TABLE OF COMBINED HYDROGRAPH AND SEDIGRAPH VALUES\*

PREVIOUS MUSKINGUM ROUTING X,	=	.35	
PREVIOUS MUSKINGUM ROUTING K	=	.0500	HRS
PREVIOUS ROUTED PEAK DISCHARGE	=	11.42	CFS
TIME OF ROUTED PEAK DISCHARGE	=	3.80	HRS
TOTAL DRAINAGE AREA	=	242.90	ACRES
TOTAL RUNOFF VOLUME	=	3.3485	AC-FT
PEAK RUNOFF DISCHARGE	=	11.61	CFS
TIME TO PEAK DISCHARGE	=	3.80	HRS
PREVIOUS STRUCTURE DELIVERY RATIO	=	.99	
PREVIOUS STRUCTURE TRAVEL TIME	=	.0500	HRS
TOTAL SEDIMENT YIELD	=	963.0940	TONS
PEAK SEDIMENT CONCENTRATION	=	281043.30	MG/L
PEAK SETTLEABLE CONCENTRATION	=	122.6892	ML/L
PEAK SETTLEABLE CONCENTRATION	=	214706.10	MG/L

TIME TO PEAK CONCENTRATION	=	6.60	HRS
PERIOD OF SIGNIFICANT CONCENTRATION	=	10.10	HRS
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	87.56	ML/L
VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	87.56	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PERIOD OF SIGNIFICANT CONCENTRATION	=	70.22	ML/L
ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION DURING PEAK 24 HOUR PERIOD	=	29.55	ML/L

\*\*\* RUN COMPLETED \*\*\*\*

APPENDIX 8-2  
BOND ESTIMATE VERIFICATION

INCORPORATED  
EFFECTIVE:  
NOV 20 1995  
UTAH DIVISION OF OIL, GAS AND MINING

**TABLE 8-1**

**PHASE I & PHASE II RECLAMATION COST & TIME SUMMARY**

<b>ITEM</b>	<b>TIME</b>	<b>COST</b>
Demolition of Crusher Facility	4 days	\$ 13,825
Culvert Removal	4 days	3,342
Pond Reclamation	9 days	10368
General Earthwork	130 days	942569
Revegetation	33 days	238,680
Maintenance and Monitoring (2%)		24,140
Mobilization		2,093
<b>PHASE I TOTAL</b>	<b>163 days</b>	<b>\$ 1,235,017</b>
Culvert Removal	4.0 days	\$ 3,216
Pond Reclamation	1.3 days	1,431
General Earthwork	7.4 days	27,739
Revegetation	15.0 days	32,634
Maintenance and Monitoring (2%)		1,300
Mobilization		1,272
<b>PHASE II TOTAL</b>	<b>28 days</b>	<b>\$ 67,592</b>

<b>TOTAL RECLAMATION COST</b>	<b>\$ 1,302,609</b>
-------------------------------	---------------------

<b>PHASE I &amp; PHASE II TOTAL BOND AMOUNT</b> With Escalation @ 2.01% for 4 years	<b>\$1,406,190</b>
--	--------------------

NOV 20 1995

Utah Division of Oil, Gas and Mining

TABLE 8-2

MOBILIZATION - PHASE I AND PHASE II

ITEM	UNIT COST 25 MILES	PHASE I # OF UNITS	PHASE II # OF UNITS	PHASE I COST	PHASE II COST
Dozer or Loader - 300 hp	\$283	2	1	\$ 566	\$ 283
Self-propelled Scraper - 24 c.y.	\$360	1	1	\$ 360	\$ 360
Backhoe - 1.5 c.y.	\$360	1	1	\$ 360	\$ 360
Front-end Loader - 2.25 c.y.	\$269	3	1	\$ 807	\$ 269
<b>TOTAL</b>				<b>2,093</b>	<b>\$1,272</b>

INCORPORATED  
EFFECTIVE:  
NOV 20 1995  
UTAH DIVISION OIL, GAS AND MINING



TABLE 8-4

PHASE I CULVERT\* REMOVAL COST & TIME ESTIMATE

ITEM	LENGTH	UNIT COST	COST	TIME <sup>1</sup>
CW-C1 (12" dia.)	60 ft.	\$4.89/ft.	293	0.3 days
CW-C4 (36" dia.)	60 ft.	\$9.47/ft.	568	0.7 days
CW-C5 (36" dia.)	60 ft.	\$9.47/ft.	568	0.7 days
CW-C6 (36" dia.)	60 ft.	\$9.47/ft.	568	0.7 days
CW-C7 (8" dia.)	200 ft.	\$4.89/ft.	978	1.1 days
PAST-C4 (12" dia.)	75 ft.	\$4.89/ft.	367	0.4 days
<b>TOTAL</b>			<b>\$3,342</b>	<b>4.0 days</b>

\* Phase I culverts identified on Plate 7-6.

<sup>1</sup> Culvert removal time is based on removal rates of 8" and 12" dia. @ 175 ft/day, and 36" dia. @ 90 ft/day

TABLE 8-5

PHASE I POND RECLAMATION COST & TIME ESTIMATE

ITEM	QUANTITY	UNIT COST	COST	TIME <sup>1</sup>
Slurry Pond 1	9,700 c.y.	\$0.54/c.y.	\$5,238	4.4 days
Slurry Pond 2	3,500 c.y.	\$0.54/c.y.	1,890	1.6 days
East Slurry Cell	2,000 c.y.	\$0.54/c.y.	1,080	1.0 days
West Slurry Cell	4,000 c.y.	\$0.54/c.y.	2,160	2.0 days
<b>TOTAL</b>			<b>\$ 10,368</b>	<b>9.0 days</b>

<sup>1</sup> Pond reclamation time based on one dozer working at the rate of 2,200 c.y. per day.

<sup>2</sup> See calculations attached for quantity verification

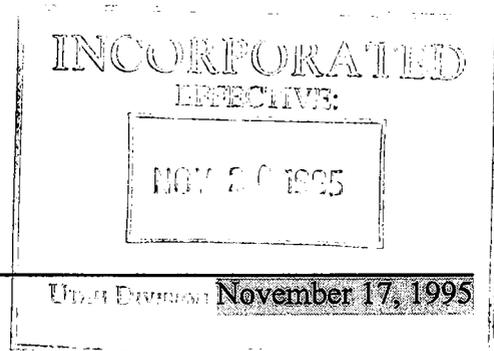


TABLE 8-6

PHASE I GENERAL EARTHWORK COST & TIME ESTIMATE

ITEM	QUANTITY	UNIT COST	COST	TIME
Disturbed Acres to be Covered				
73.2 acres of 4' cover	472,384 c.y.			
15.7 acres of 2' cover	50,658 c.y.			
45.4 acres of 1.5' cover	<u>109,868 c.y.</u>			
<b>Total Borrow Material</b>	<b>632,910 c.y.</b>			
Stockpiled Topsoil to be Distributed	4,123 c.y.			
Acres to be Scarified	51.5 ac.			
General Regrading to Remove Potential Highwalls	4,000 c.y.	\$0.54/c.y.	\$ 2,160	3 days
Borrow Material Distribution				
Excavate w/F.E. Loader	632,910 c.y.	\$0.55/c.y.	\$ 348,100	130 days <sup>1</sup>
Haul w/60 c.y. Trucks, 1/2 mile round trip	632,910 c.y.	\$0.90/c.y.	\$ 569,620	130 days
Topsoil Distribution				
Spread Material w/Dozer	4,123 c.y.	\$1.17/c.y.	\$ 4,824	6.9 days <sup>2</sup>
Soil Scarification				
180 H.P. Grader & Scarifier	45 ac.	\$397.00/a.c.	\$ 17,865	18 days <sup>3</sup>
<b>TOTAL ESTIMATED COST</b>			<b>\$942,569</b>	<b>130 days</b>

1 Excavation and hauling time estimates are based on three front end loaders and three 60 c.y. dump trucks working at the rate of 1,620 c.y. per day.

2 Topsoil distribution time is based on one dozer working at the rate of 600 c.y. per day.

3 Scarification time is based on one grader with scarifier working at the rate of 2.53 ac per day.

4 See Plate 8-4 to verify quantities.

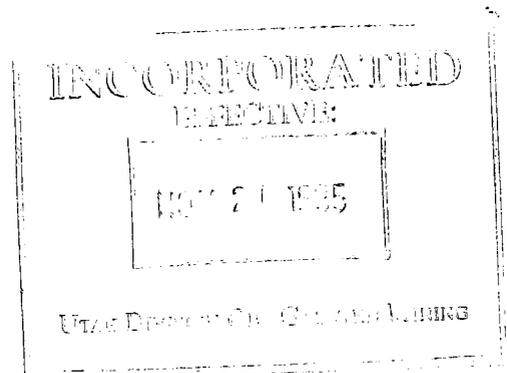


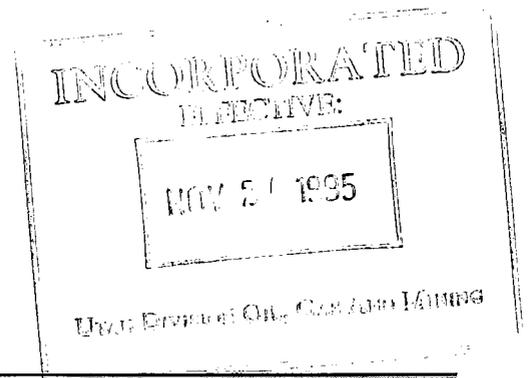
TABLE 8-7

PHASE I REVEGETATION COST & TIME ESTIMATE

ITEM	QUANTITY	UNIT COST	COST	TIME <sup>1</sup>
Revegetation Hydroseeding (mulch, fertilizer, seeds)	183.6 a.c	\$1300/a.c.	\$238,680	33 days
<b>TOTAL ESTIMATED COST</b>			<b>\$238,680</b>	<b>33 days</b>

1 Revegetation time based on one hydroseeding unit working at the rate of 1.84 ac per day.

2 See Plate 8-5 Seeding Plan



**TABLE 8-8**

**PHASE II CULVERT\* REMOVAL COST & TIME ESTIMATE**

<b>ITEM</b>	<b>LENGTH</b>	<b>UNIT COST</b>	<b>COST</b>	<b>TIME<sup>1</sup></b>
BOR-RC1 (24" dia.)	40 ft.	\$7.14/ft.	\$ 286	0.3 days
CW-RC8 (8" dia.)	190 ft.	\$4.89/ft.	929	1.1 days
OCRR-RC1 (24" dia.)	10 ft.	\$7.14/ft.	71	0.1 days
OCRR-RC1 (24" dia. above ground)	150 ft.	\$4.00/ft.	600	0.6 days
OCRR-RC2 (36" dia.)	50 ft.	\$9.47/ft.	474	0.6 days
PAST-RC3 (18" dia.)	85 ft.	\$6.34/ft.	539	0.6 days
PAST-RC5 (18" dia.)	50 ft.	\$6.34/ft.	317	0.3 days
<b>TOTAL ESTIMATED COST</b>			<b>\$3,216</b>	<b>4.0 days</b>

\* Culverts identified on Plate 8-3.

1 Culvert removal time is based on removal rates of 8" dia. @ 175 ft/day, 18" dia. @ 150 ft/day, 24" dia. @ 120 ft/day (above ground 250 ft/day) and 36" dia. @ 90 ft/day.

**TABLE 8-9**

**PHASE II POND RECLAMATION COST & TIME ESTIMATE**

<b>ITEM</b>	<b>QUANTITY</b>	<b>UNIT COST</b>	<b>COST</b>	<b>TIME<sup>1</sup></b>
Coarse Refuse Toe Sediment Pond	300 c.y.	\$0.54/c.y.	\$ 162	0.1 days
Railcut Sediment Pond	350 c.y.	\$0.54/c.y.	189	0.2 days
Pasture Sediment Pond	250 c.y.	\$0.54/c.y.	135	0.1 days
OCRR Sediment Pond	150 c.y.	\$0.54/c.y.	81	0.1 days
Borrow Area Sediment Pond	650 c.y.	\$0.54/c.y.	351	0.3 days
Clear Water Pond	900 c.y.	\$0.54/c.y.	486	0.4 days
Coal Pile Sediment Pond	50 c.y.	\$0.54/c.y.	27	0.1 days
<b>TOTAL</b>			<b>\$ 1,431</b>	<b>1.3 days</b>

1 Pond reclamation time based on one dozer working at the rate of 2,200 c.y. per day.

2 See calculations attached for quantity verification

TABLE 8-10

PHASE II GENERAL EARTHWORK COST & TIME ESTIMATE

ITEM	QUANTITY	UNIT COST	COST	TIME
Disturbed Area to be Covered 2.5 acres of 1.5' cover	6,050 c.y.			
<b>Total Borrow Material</b>	6,050 c.y.			
Stockpiled Topsoil to be Distributed	4420 c.y.			
Acres to be Scarified	22.1 a.c.			
Borrow Material Distribution				
Excavate w/F.E. Loader	6,050 c.y.	\$0.98/c.y.	\$ 5,929	3.8 days <sup>1</sup>
Haul w/60 c.y. Truck, 1/2 mile round trip	6,050 c.y.	\$1.30/c.y.	\$ 7,865	3.8 days
Topsoil Distribution				
Spread Material w/Dozer	4,420 c.y.	\$1.17/c.y.	\$ 5,171	7.4 days <sup>2</sup>
Soil Scarification				
180 H.P. Grader & Scarifier	22.1 ac.	\$397.00/a.c.	\$ 8,774	0.2 days <sup>3</sup>
<b>TOTAL</b>			<b>\$27,739</b>	<b>7.4 days</b>

1 Excavation and hauling time estimates are based on one front end loader and one 60 c.y. dump truck working at the rate of 1,620 c.y. per day.

2 Topsoil Distribution time is based on one dozer working at the rate of 600 c.y. per day.

3 Scarification time is based on one grader with scarifier working at the rate of 2.53 ac per day.

4 See Plate 8-4 to verify quantities.

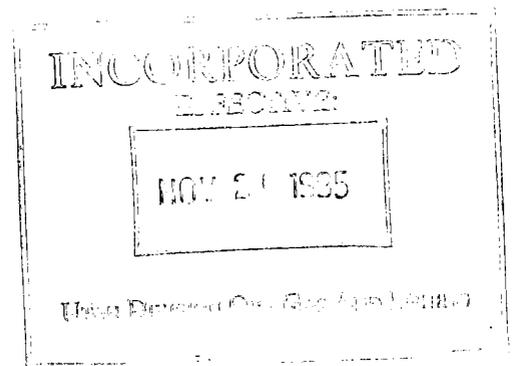


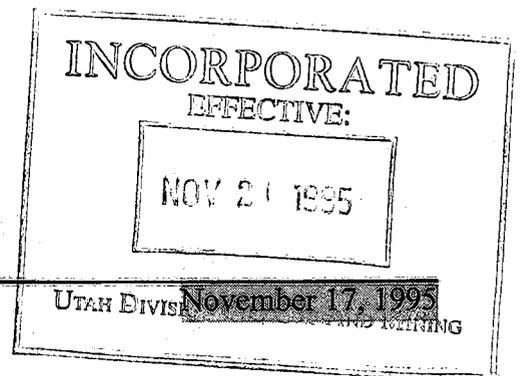
TABLE 8-11

PHASE II REVEGETATION COST & TIME ESTIMATE

ITEM	QUANTITY	UNIT COST	COST	TIME <sup>1</sup>
<b>Revegetation</b>				
Hydroseeding (mulch, fertilizer & seed)	24.6 a.c.	\$1,300	\$31,980	13.5 days
<b>Silt Fences</b>				
1. Coarse Refuse Toe	20 ft.	\$4.50/ft.	90	0.1 days
2. Railcut	30 ft.	\$4.50/ft.	135	0.2 days
3. Pasture	15 ft.	\$4.50/ft.	68	0.1 days
4. Old Coarse Refuse Road	15 ft.	\$4.50/ft.	68	0.1 days
5. Borrow Area	30 ft.	\$4.50/ft.	135	0.2 days
6. Clear Water	20 ft.	\$4.50/ft.	90	0.1 days
7. Coal Pile	15 ft.	\$4.50/ft.	68	0.1 days
<b>TOTAL ESTIMATED COST</b>			<b>\$32,634</b>	<b>15.0 days</b>

1 Revegetation time based on one hydroseeding unit working at the rate of 1.84 ac per day and silt fence installation at 150 ft per day.

2 See Plate 8-5 Seeding Plan and Plate 8-3 Drainage Areas and Diversions Plan.



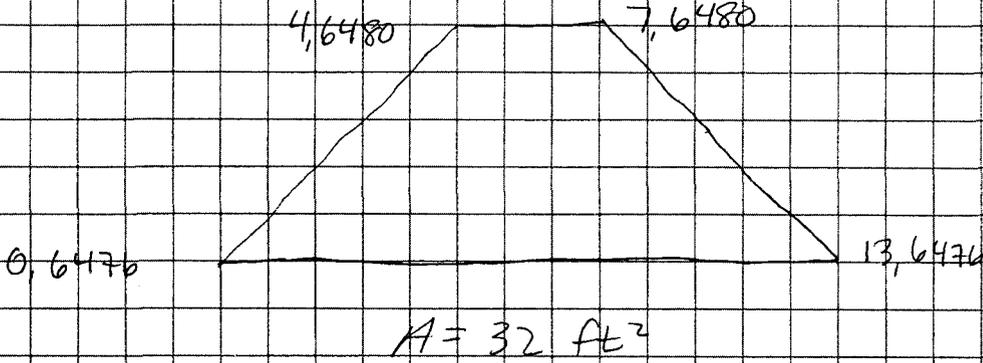
**ECKHOFF, WATSON  
& PREATOR ENGINEERING**  
1121 East 3900 South, C-100  
SALT LAKE CITY, UTAH 84124  
(801) 261-0090

JOB SCA BOND CALCULATIONS  
SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_  
CALCULATED BY \_\_\_\_\_ DATE 11 July 94  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE \_\_\_\_\_

## TOPSOIL DISTRIBUTION

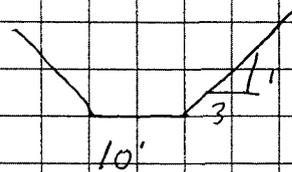
PLATE	PILE	PHASE I (YDS)	PHASE II (YDS)
5-5A	COARSE REFUSE TOE TOPSOIL PILE		149
5-5A	RAILCUT POND TOPSOIL PILE		378
5-5B	SLURRY POND TOPSOIL PILE	359	
5-5B	STORAGE AREA 1 TOPSOIL PILE	534	
5-5C	New (LOWER) HAUL ROAD TOPSOIL PILE	3230	
5-5C	ACCESS ROAD TOPSOIL PILE		210
5-5D	CLEARWATER POND TOPSOIL PILE		3210
5-5D	BORROW AREA POND TOPSOIL PILE		407
	TOTAL	4,123	4,420

Coal Pile Sediment Pond

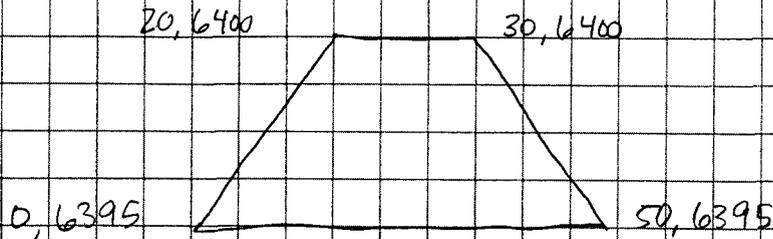


$$\text{Vol} = \frac{L}{27} \left[ 10' (32) + 2 \left( \frac{0+32}{2} \right) (1.2) \right]$$

$$\text{Vol} = 26 \text{ yd}^3$$

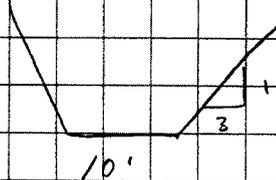


OLD COARSE REFUSE SEDIMENT POND



$A = 150 \text{ ft}^2$

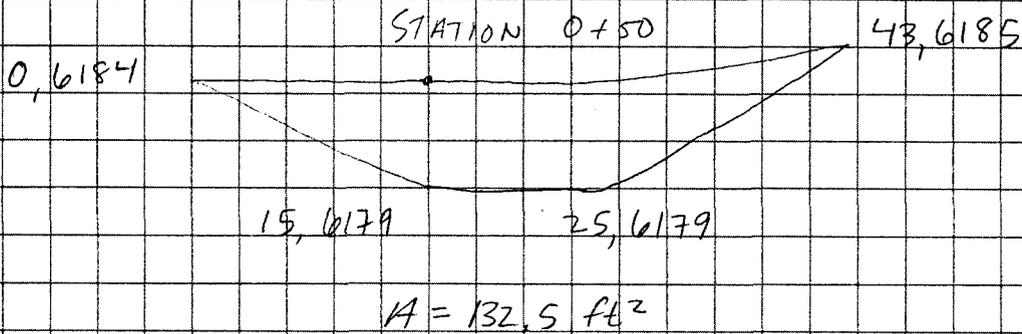
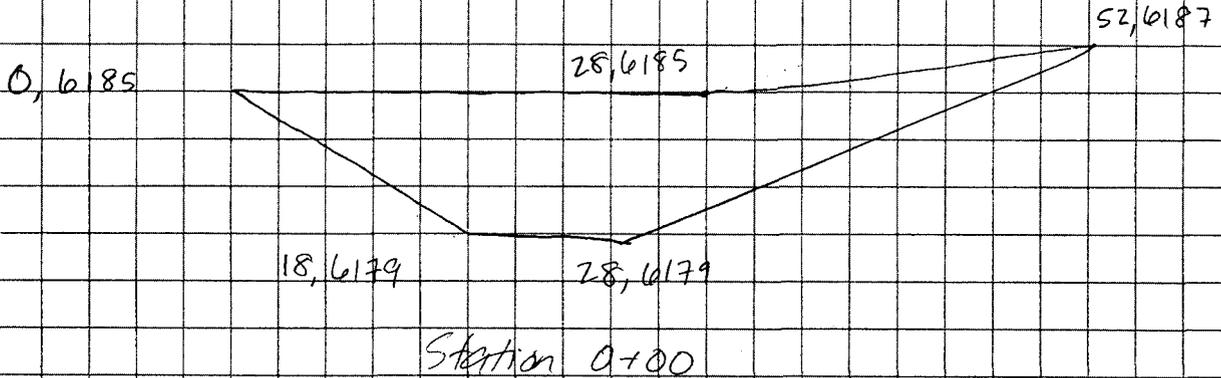
Channel Section



$$\text{Volume} = \frac{1}{27} \left[ 10' (150) + 2 (15) \left( \frac{0 + 150}{2} \right) \right]$$

$$\text{Vol} = 139 \text{ yd}^3$$

COARSE REFUSE TOE SEDIMENT POND



$$\text{Volume} = \frac{1}{27} \left( \frac{1}{2} \right) (186 \text{ ft}^2 + 132.5 \text{ ft}^2) (50') = 294 \text{ yd}^3$$

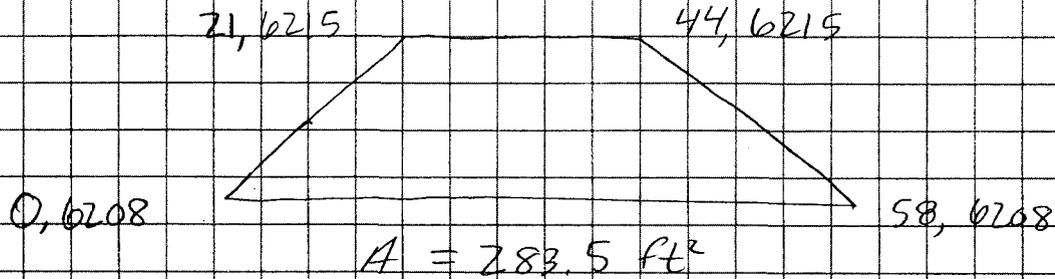
$$\text{Storage @ 6179} = 290 \text{ yd}^3$$

GRADING ON COARSE REFUSE TOE SEDIMENT POND

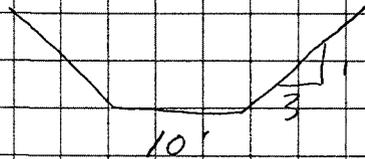
$$= \boxed{294 \text{ yd}^3}$$

RAIL CUT SEDIMENT POND

CROSS-SECTIONAL AREA OF CUT



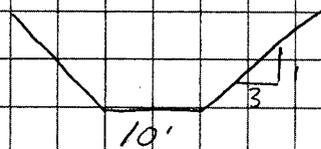
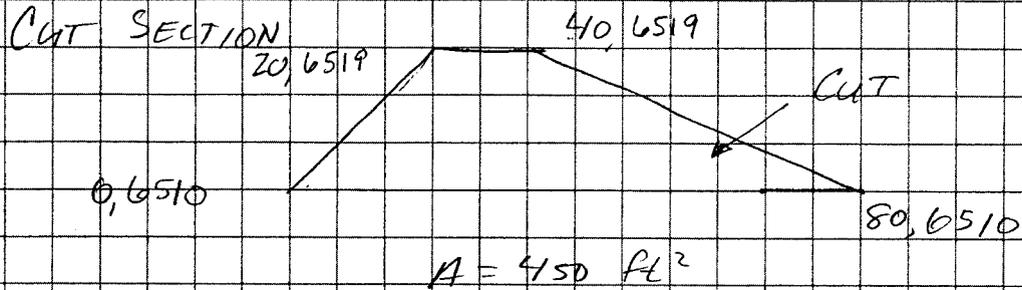
CHANNEL SECTION



$$\text{Volume} = \frac{1}{27} \left[ (10') (283.5 \text{ ft}^2) + 2 (21') \left( \frac{0.7283.5 \text{ ft}^2}{2} \right) \right]$$
$$= 325.5 \text{ yd}^3$$

GRADING = 325.5 yd<sup>3</sup>

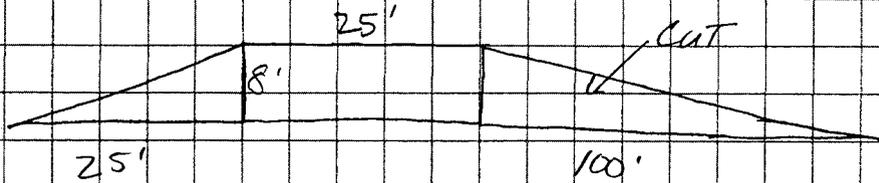
BORROW AREA SEDIMENT POND



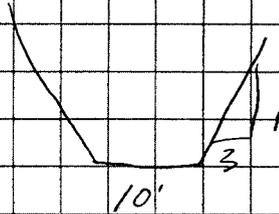
$$\text{Volume} = \frac{L}{27} \left[ (10)(450) + 2 \left( \frac{450+0}{2} \right) (27) \right]$$

$$\boxed{\text{Vol} = 617 \text{ yd}^3}$$

CLEARWATER POND



$$A = 700 \text{ ft}^2$$

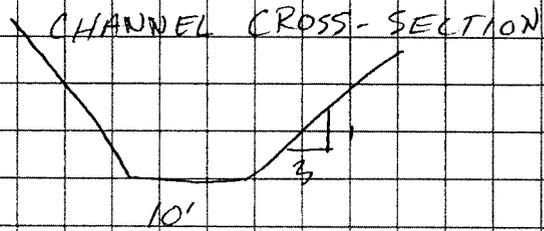
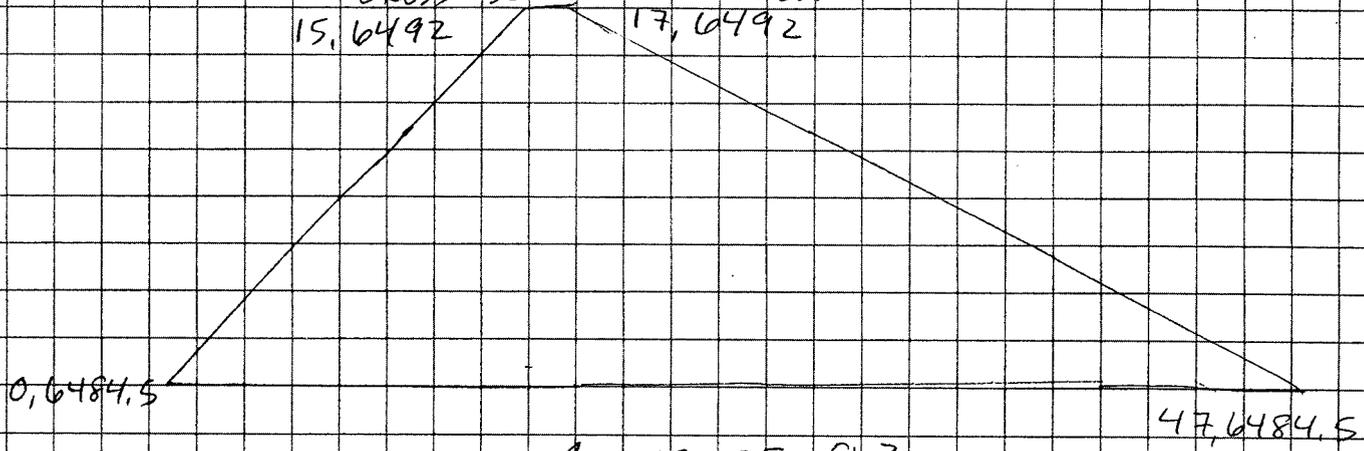


$$\text{Volume} = \frac{1}{27} \left[ (10)(700) + 2 \left( \frac{700+0}{2} \right) (24) \right]$$

$$\boxed{\text{Vol} = 881 \text{ yd}^3}$$

PASTURE SEDIMENT POND

CROSS SECTION OF CUT  
 15,6492      17,6492



$$Vol = \frac{L}{27} \left[ (10') (183.75 \text{ ft}^2) + 2(22.5') \left( \frac{0 + 183.75}{2} \right) \right]$$

Vol = 221 yd<sup>3</sup>

WEST SLURRY CELL

CROSS SECTION AREA

$$\Rightarrow 100 \text{ ft}^2$$

AVERAGE LENGTH

$$\Rightarrow 1000 \text{ ft}$$

$$\text{Vol} = \frac{(100 \text{ ft}^2)(1000 \text{ ft})}{27}$$

$$= 4000 \text{ yd}^3$$

Additional 4' depth of borrow material is  
accounted for in Earthwork Tables

EAST SLURRY CELL

CROSS SECTIONAL AREA

⇒ 100 ft<sup>2</sup>

AVERAGE LENGTH

⇒ 500 ft.

$$\text{Volume} = \frac{500' \times 100 \text{ ft}^2}{27 \text{ ft}^3/\text{yd}^3} = 2000 \text{ yd}^3$$

ADDITIONAL 4' DEPTH OF BARRON MATERIAL IS  
ACCOUNTED FOR ON EARTHWORK TABLES

**ECKHOFF, WATSON  
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1121 East 3900 South, C-100  
SALT LAKE CITY, UTAH 84124  
(801) 261-0090

JOB SCA BOND CALCULATIONS  
SHEET NO. 10 OF 11  
CALCULATED BY AA DATE 11 July 94  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE \_\_\_\_\_

SKURRY POND #1

FILL TO 6535' ELEVATION

Assume 6 acre-ft

Volume = 9700 yd<sup>3</sup>

ADDITIONAL 4' DEPTH OF BORROW MATERIAL IS  
ACCOUNTED FOR ON EARTHWORK TABLES

**ECKHOFF, WATSON  
& PREATOR ENGINEERING**  
1121 East 3900 South, C-100  
SALT LAKE CITY, UTAH 84124  
(801) 261-0090

JOB SCA BOND CALCULATIONS  
SHEET NO. 11 OF 11  
CALCULATED BY AA DATE 11 July 94  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE \_\_\_\_\_

SLURRY POND #2

FILL TO APPROXIMATELY 6531' ELEVATION

Assume 2 acre-ft

Volume = 3500 yd<sup>3</sup>

ADDITIONAL 4' DEPTH OF BORROW MATERIAL  
IS ACCOUNTED FOR ON EARTHWORK TABLES