

40	2800	331	6.5	329	6.6			0	.91	.10	1	1.47	.005	.995	239	.867	.10	.07
						338	6.6											
												1.23						
39	1100	338	6.6	338	6.6			0	.93	.10	0	1.49	.001	1.000	95	1.007	.00	.00
						342	6.6											
												1.89						
+ 37	800	40	6.1	40	6.1			0	1.49	.10	0	1.46	.015	1.000	111	1.007	.00	.00
						56	6.0											
												4.43						
+ 36	1600	367	6.6	367	6.6			0	.94	.10	0	1.16	.008	1.000	172	1.007	.00	.00
						371	6.6											
												2.77						
+ 33	450	167	6.1	167	6.1			0	1.19	.10	0	1.33	.005	1.000	45	1.007	.00	.00
+						186	6.1											
												1.56						
+ 32	2300	40	6.5	39	6.7			0	1.25	.10	1	1.52	.006	.994	319	.727	.20	.09
						57	6.2											
												1.47						
+ 30	1500	419	6.6	419	6.6			0	.96	.10	0	1.45	.002	1.000	123	1.007	.00	.00
						424	6.6											
												.092						
+ 28	4000	424	6.6	387	6.8			0	.94	.10	1	1.69	.022	.912	819	.36	.10	.23
+						396	6.8											
												.092						
. 28	1500	396	6.8	393	7.0			0	.92	.10	1	1.69	.004	.992	316	.737	.20	.09
+						---	---											

TR20 XER 9/22/89 15:54
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BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 2 - SELECTED MODIFIED ATT-KIN REACH ROUTINGS IN ORDER OF STANDARD EXECUTIVE CONTROL INSTRUCTIONS
(A STAR(*) AFTER VOLUME ABOVE BASE(IN) INDICATES A HYDROGRAPH TRUNCATED AT A VALUE EXCEEDING BASE + 10% OF PEAK
A QUESTION MARK(?) AFTER COEFF.(C) INDICATES PARAMETERS OUTSIDE ACCEPTABLE LIMITS, SEE PREVIOUS WARNINGS)

HYDROGRAPH INFORMATION										ROUTING PARAMETERS						PEAK			
-----										-----						-----			
		OUTFLOW*								VOLUME	MAIN	ITER-	Q AND A		PEAK	S/Q	ATT-	TRAVEL TIME	
+	SEC REACH	INFLOW		OUTFLOW		INTERV.AREA		BASE-	ABOVE	TIME	ATTION	EQUATION	LENGTH	RATIO	QPEAK	KIN	STOR-	KINE-	
ID	LENGTH	PEAK	TIME	PEAK	TIME	PEAK	TIME	FLOW	BASE	INCR	#	COEFF	POWER	FACTOR	O/I	(K)	COEFF	AGE	MATIC
	(FT)	(CFS)	(HR)	(CFS)	(HR)	(CFS)	(HR)	(CFS)	(IN)	(HR)		(X)	(N)	(K*)	(Q*)	(SEC)	(C)	(HR)	(HR)
ALTERNATE		1	STORM	2															

+ 25	2000	8	6.9	7	7.3			0	.79	.10	1	1.17	1.38	.011	.985	748	.39	.40	.21
						14	6.1												
+ 20	1500	24	6.2	21	6.3			0	.48	.10	1	1.26	1.42	.044	.908	349	.687	.10	.10
						71	6.1												
+ 17	1100	125	6.1	118	6.2			0	.86	.10	1	2.28	1.12	.065	.945	282	.787	.10	.08

+						---	---					2.28							
+ 17	900	39	6.1	38	6.2			0	1.49	.10	1	1.12	.078	.989	262	.822	.10	.07	
+						156	6.2												
+ 14	320	130	6.4	130	6.4			0	.92	.10	0	2.25	1.42	.001	1.000	30	1.002	.00	.00
+						134	6.4												
+ 12	3000	100	6.7	100	6.8			0	.93	.10	1	2.34	1.55	.008	.997	220	.902	.10	.06
+						107	6.8												
+ 11	300	18	6.1	18	6.1			0	1.01	.10	0	3.14	1.32	.006	1.000	47	1.002	.00	.00
+						---	---												
+ 22	950	12	8.2	12	8.3			0	.65	.10	1	.911	1.35	.003	.999	392	.63	.10	.11
+						---	---												
+ 8	1200	12	8.4	12	8.5			0	.65	.10	1	1.70	1.43	.001	1.000	272	.802	.10	.08
+						---	---												
+ 8	1475	60	6.1	59	6.2			0	1.02	.10	1	1.70	1.43	.035	.986	207	.932	.10	.06
+						112	6.0												
+ 7	950	112	6.0	112	6.0			0	.86	.10	0	1.71	1.43	.004	1.000	111	1.002	.00	.00
+						161	6.0												
+ 6	750	139	6.1	139	6.1			0	.88	.10	0	1.85	1.41	.003	1.000	83	1.002	.00	.00
+						165	6.1												
+ 4	1750	144	6.3	144	6.3			0	.90	.10	0	2.71	1.55	.002	1.000	101	1.002	.00	.00
+						168	6.2												
+ 3	1200	493	6.9	490	7.1			0	.91	.10	1	.097	1.63	.004	.994	285	.772	.20	.08
+						---	---												
+ 2	2550	524	7.0	514	7.2			0	.90	.10	1	.097	1.63	.011	.980	591	.47	.20	.16
+						516	7.2												
1																			

TR20 XED 9/22/89 15:54
REV PC/09/83

BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 STRUCTURE 73	.73		
+			
ALTERNATE 1		145.65	85.24
0 STRUCTURE 52	.30		
+			
ALTERNATE 1		41.54	12.22

STRUCTURE 47	.26		

ALTERNATE 1		268.12	123.93
0 STRUCTURE 44	.16		

ALTERNATE 1		117.85	32.57
0 STRUCTURE 33	.20		

ALTERNATE 1		75.03	39.68
0 STRUCTURE 28	.11		

ALTERNATE 1		120.43	42.01
0 STRUCTURE 27	.24		

+			
ALTERNATE 1		268.95	80.72
0 STRUCTURE 26	.07		

+			
ALTERNATE 1		130.12	18.75
STRUCTURE 25	.09		

+			
ALTERNATE 1		133.45	48.44
STRUCTURE 23	.04		

+			
ALTERNATE 1		104.93	55.86
STRUCTURE 22	.05		

ALTERNATE 1		151.30	85.05
STRUCTURE 20	1.19		

ALTERNATE 1		866.89	372.63
0 STRUCTURE 19	1.19		

ALTERNATE 1		870.39	436.34
0 STRUCTURE 18	.06		

ALTERNATE 1		120.73	54.32

1

TR20 XEQ 9/22/89 15:54
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BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
STRUCTURE 17	1.58		

ALTERNATE 1		1321.30	223.42
STRUCTURE 16	.08		

ALTERNATE 1		130.25	49.60
STRUCTURE 14	.01		

ALTERNATE 1		22.08	9.81

STRUCTURE 13	.23		
ALTERNATE 1		177.64	52.30
STRUCTURE 12	2.02		
ALTERNATE 1		1761.58	334.30
STRUCTURE 10	.05		
ALTERNATE 1		42.12	20.21
STRUCTURE 9	2.15		
ALTERNATE 1		1800.21	350.07
STRUCTURE 8	.11		
ALTERNATE 1		24.96	7.51
STRUCTURE 7	.07		
ALTERNATE 1		89.66	23.74
STRUCTURE 6	.30		
ALTERNATE 1		41.49	12.20
STRUCTURE 5	.03		
ALTERNATE 1		10.33	3.80
STRUCTURE 4	.32		
ALTERNATE 1		272.85	125.94
STRUCTURE 3	.36		
ALTERNATE 1		230.60	100.47
STRUCTURE 2	.49		
ALTERNATE 1		294.35	141.99

TR20 XEB 9/22/89 15:54
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BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
STRUCTURE 1	.52		
ALTERNATE 1		268.25	145.30
XSECTION 2	3.88		
ALTERNATE 1		2367.26	516.55
XSECTION 3	3.20		
ALTERNATE 1		2138.19	490.61
XSECTION 4	.61		
ALTERNATE 1		342.72	169.63

XSECTION	6	.52		

ALTERNATE	1		351.32	167.96
XSECTION	7	.49		

ALTERNATE	1		385.94	166.04
XSECTION	8	.42		

ALTERNATE	1		267.68	113.67
XSECTION	10	.08		

ALTERNATE	1		137.41	60.35
XSECTION	11	.02		

ALTERNATE	1		40.44	17.94
XSECTION	12	3.20		

ALTERNATE	1		2138.19	493.92
XSECTION	14	.36		

ALTERNATE	1		290.25	133.78
XSECTION	16	.03		

ALTERNATE	1		40.84	16.75
XSECTION	17	.32		

ALTERNATE	1		298.79	136.82
XSECTION	18	.23		

ALTERNATE	1		295.22	125.17

TR20 XEQ 9/22/89 15:54
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BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
XSECTION 19	.03		

ALTERNATE 1		77.27	40.39
XSECTION 20	.17		

ALTERNATE 1		194.65	71.86
XSECTION 22	.30		

ALTERNATE 1		41.50	12.21
XSECTION 24	.09		

ALTERNATE 1		83.57	23.81
XSECTION 25	.16		

ALTERNATE 1		49.82	14.65

0 XSECTION 26	.11		
+-----			
ALTERNATE 1		146.96	56.63
0 XSECTION 28	2.72		
+-----			
ALTERNATE 1		1900.93	392.86
0 XSECTION 30	2.57		
+-----			
ALTERNATE 1		2062.96	424.81
0 XSECTION 32	.25		
+-----			
ALTERNATE 1		128.61	56.78
0 XSECTION 33	.20		
+-----			
ALTERNATE 1		392.19	186.18
0 XSECTION 34	.19		
+-----			
ALTERNATE 1		359.58	167.40
0 XSECTION 36	2.25		
+-----			
ALTERNATE 1		1882.85	371.51
0 XSECTION 37	.05		
+-----			
ALTERNATE 1		113.91	57.85
0 XSECTION 38	.03		
+-----			
ALTERNATE 1		78.95	41.31

TR20 XEQ 9/22/89 15:54
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BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 XSECTION 39	2.15		
+-----			
ALTERNATE 1		1903.99	346.36
0 XSECTION 40	2.08		
+-----			
ALTERNATE 1		1847.73	339.89
0 XSECTION 42	.41		
+-----			
ALTERNATE 1		517.81	159.39
0 XSECTION 44	.23		
+-----			
ALTERNATE 1		187.00	66.95
0 XSECTION 46	.01		
+-----			
ALTERNATE 1		22.17	9.86
0 XSECTION 47	.16		
+-----			
ALTERNATE 1		212.77	78.35

XSECTION	48	.14		

ALTERNATE	1		155.71	52.16
XSECTION	50	.08		

ALTERNATE	1		125.81	53.35
XSECTION	52	2.02		

ALTERNATE	1		1771.60	341.56
XSECTION	54	1.58		

ALTERNATE	1		1656.79	791.49
XSECTION	56	1.52		

ALTERNATE	1		1540.64	739.92
XSECTION	58	1.45		

ALTERNATE	1		1409.83	684.45
XSECTION	59	.06		

ALTERNATE	1		120.53	54.10
XSECTION	60	.06		

ALTERNATE	1		123.99	56.83

TR20 REQ 9/22/89 15:54 BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
REV PC/09/83 TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
XSECTION 62	1.19		

ALTERNATE 1		877.02	383.80
XSECTION 64	.07		

ALTERNATE 1		115.84	46.39
XSECTION 66	.17		

ALTERNATE 1		268.27	109.75
XSECTION 68	.14		

ALTERNATE 1		228.40	94.27
XSECTION 70	.77		

ALTERNATE 1		173.00	89.10
XSECTION 72	.73		

ALTERNATE 1		817.16	278.04
XSECTION 73	.04		

ALTERNATE 1		78.94	32.35

SECTION 74 .05

ALTERNATE 1 155.85 88.17

SECTION 76 .10

ALTERNATE 1 267.55 145.74

SECTION 78 .04

ALTERNATE 1 105.29 55.11

SECTION 80 .57

ALTERNATE 1 587.97 151.88

SECTION 82 .09

ALTERNATE 1 131.54 49.91

SECTION 84 .07

ALTERNATE 1 94.88 33.43

SECTION 86 .35

ALTERNATE 1 388.76 116.30

TR20 XEQ 9/22/89 15:54
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BLACK FOREST TR20 RUN 24 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/ TYPE II STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2

SECTION 88 .11

ALTERNATE 1 125.90 40.82

SECTION 90 .14

ALTERNATE 1 161.54 53.01

SECTION 180 .57

ALTERNATE 1 587.97 151.88

END OF 1 JOBS IN THIS RUN

3m37mC:\HAR >

SECTION 4

*****80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****

JOB TR-20 SUMMARY NO PLOTS
 TITLE 001 BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
 TITLE TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM
 5 RAINFL B 0.0833
 8 0.0000 0.0087 0.0346 0.0744 0.1436
 8 0.2647 0.4810 0.6021 0.6713 0.7249
 8 0.7682 0.8078 0.8374 0.8720 0.8893
 8 0.9066 0.9170 0.9273 0.9377 0.9481
 8 0.9585 0.9689 0.9792 0.9896 1.0000
 9 ENDTBL

6 RUNOFF 1 090 5 0.138 82.0 0.275 1
 6 REACH 3 086 5 7 2400.0
 6 RUNOFF 1 086 6 0.100 82.1 0.288 1
 6 ADDHYD 4 086 7 6 5
 6 RESVOR 2 27 5 4 7148.70
 6 RUNOFF 1 088 7 0.114 82.2 0.323 1
 6 RESVOR 2 28 7 5 7275.20
 6 ADDHYD 4 086 4 5 6
 6 RUNOFF 1 084 7 0.074 82.4 0.228 1
 6 RESVOR 2 26 7 4 7143.60
 6 ADDHYD 4 080 6 4 5
 6 REACH 3 080 5 6 1850.0
 6 RUNOFF 1 080 7 0.055 87.3 0.255 1
 6 ADDHYD 4 080 6 7 5
 6 RUNOFF 1 082 7 0.092 84.0 0.228 1
 6 RESVOR 2 25 7 4 7119.00
 6 ADDHYD 4 080 5 4 6
 6 REACH 3 180 6 5 700.0
 6 SAVMOV 5 180 5 1
 6 RUNOFF 1 078 7 0.042 92.9 0.258 1
 6 RESVOR 2 23 7 4 7010.40 1 1 1
 6 REACH 3 076 4 5 1325.0
 6 RUNOFF 1 076 7 0.006 87.6 0.208 1
 6 ADDHYD 4 076 5 7 6 1

*****80-80 LIST OF INPUT DATA (CONTINUED)*****

6 RUNOFF 1 074 7 0.054 95.6 0.254 1
 6 RESVOR 2 22 7 5 6956.00
 6 ADDHYD 4 076 6 5 7
 6 RUNOFF 1 073 6 0.044 86.0 0.171 1
 6 REACH 3 072 6 5 3000.0
 6 RUNOFF 1 072 6 0.111 90.2 0.212 1
 6 ADDHYD 4 072 5 6 4 1

6	SAVMOV	5	072	1	5				
6	ADDHYD	4	072	5	4	6		1	1
6	RESVOR	2		73	6	5	7057.0	1	1
6	REACH	3	070	5	4		1450.0		
6	RUNOFF	1	070		6		0.039	93.1	0.268
6	ADDHYD	4	070	4	6	5			1
6	RUNOFF	1	068		6		0.138	86.5	0.252
6	ADDHYD	4	062	5	6	4			1
6	RUNOFF	1	066		5		0.170	85.9	0.241
6	ADDHYD	4	062	4	5	6			1
6	REACH	3	062	6	5		1000.0		
6	RUNOFF	1	064		4		0.074	85.8	0.264
6	ADDHYD	4	062	5	4	6			1
6	RUNOFF	1	062		5		0.040	92.2	0.280
6	ADDHYD	4	062	6	5	4			1
6	RESVOR	2		20	4	5	6964.00		1
6	RESVOR	2		19	5	4	6955.40		1
6	ADDHYD	4	058	4	7	6			1
6	REACH	3	058	6	7		1200.0		
6	RUNOFF	1	060		4		0.064	88.0	0.240
6	RESVOR	2		18	4	6	7003.40		1
6	REACH	3	059	6	5		2300.0		
6	ADDHYD	4	058	7	5	4			1
6	RUNOFF	1	058		6		0.091	88.4	0.279
6	ADDHYD	4	058	4	6	7			1
6	REACH	3	056	7	6		540.0		
6	RUNOFF	1	056		7		0.074	87.5	0.245
6	ADDHYD	4	056	7	6	5			1
6	REACH	3	054	5	6		1580.0		
6	RUNOFF	1	054		7		0.062	88.7	0.283
6	ADDHYD	4	054	6	7	5			1
6	RESVOR	2		17	5	6	6834.2		1
6	REACH	3	052	6	7		800.0		
6	RUNOFF	1	052		6		0.023	89.5	0.249
6	ADDHYD	4	052	6	7	4			1
6	RUNOFF	1	046		7		0.013	89.5	0.385
6	RESVOR	2		14	7	5	6868.70		1
6	RUNOFF	1	050		7		0.078	88.0	0.360
6	RESVOR	2		16	7	6	6870.80		1

*****80-80 LIST OF INPUT DATA (CONTINUED)*****

6	ADDHYD	4	042	5	6	7			1
6	RUNOFF	1	048		6		0.135	82.5	0.327
6	REACH	3	047	6	5		1200.0		
6	RUNOFF	1	047		6		0.029	82.0	0.250
6	ADDHYD	4	047	5	6	3			1
6	RESVOR	2		44	3	6	6912.0		1
6	REACH	3	044	6	5		1300.0		
6	RUNOFF	1	044		6		0.066	85.7	0.323
6	ADDHYD	4	044	5	6	3			1
6	RESVOR	2		13	3	6	6869.15		1
6	ADDHYD	4	042	7	6	5			1
6	REACH	3	042	5	7		2100.0		
6	RUNOFF	1	042		6		0.072	91.4	0.293
6	ADDHYD	4	042	7	6	5			1
6	ADDHYD	4	052	5	4	7			1

6	RESVOR	2	12	7	4	6798.0				1
6	REACH	3	040		4	2800.0				
6	RUNOFF	1	040		5	0.065	92.0	0.278		1
6	ADDDHD	4	040		6	5				1
6	REACH	3	039		7	4	1100.0			
6	RUNOFF	1	039		5	0.033	85.8	0.242		1
6	ADDDHD	4	039		4	5	6			1
6	ADDDHD	4	039		6	5	7			1
6	RESVOR	2	09	7	6	6718.50				1
6	RUNOFF	1	038		5	0.033	92.8	0.272		1
6	REACH	3	037		5	4	800.0			
6	RUNOFF	1	037		5	0.015	90.6	0.225		1
6	ADDDHD	4	037		4	5	7			1
6	RESVOR	2	10	7	4	6735.00				1
6	ADDDHD	4	036		4	6	5			1
6	REACH	3	036		5	7	1600.0			
6	RUNOFF	1	036		6	0.052	81.0	0.383		1
6	ADDDHD	4	036		7	6	5			1
6	RUNOFF	1	034		7	0.189	89.8	0.351		1
6	REACH	3	033		7	6	450.0			
6	RUNOFF	1	033		4	0.012	97.0	0.202		1
6	ADDDHD	4	033		6	4	7			1
6	RESVOR	2	33	7	6	6738.00				1
6	REACH	3	032		6	4	2300.0			
6	RUNOFF	1	032		7	0.050	89.0	0.373		1
6	ADDDHD	4	032		4	7	6			1
6	ADDDHD	4	030		5	6	7			1
6	REACH	3	030		7	6	1500.0			
6	RUNOFF	1	030		5	0.073	81.0	0.347		1
6	ADDDHD	4	030		5	6	7			1
6	REACH	3	028		7	6	4000.0			

*****80-80 LIST OF INPUT DATA (CONTINUED)*****

6	RUNOFF	1	028		5	0.143	81.0	0.445		1
6	ADDDHD	4	028		5	6	7			1
6	REACH	3	028		7	6	1500.0			
6	SAVMIV	5	028		6	1				
6	RUNOFF	1	026		5	0.110	85.3	0.391		1
6	RESVOR	2	08	5	4	6910.00				1
6	REACH	3	025		4	5	2000.0			
6	RUNOFF	1	025		6	0.046	80.5	0.308		1
6	ADDDHD	4	025		5	6	2			1
6	RUNOFF	1	024		7	0.095	80.5	0.395		1
6	RESVOR	2	07	7	6	6798.50				1
6	REACH	3	020		6	7	1500.0			
6	RUNOFF	1	020		5	0.079	89.0	0.326		1
6	ADDDHD	4	020		5	7	6			1
6	RUNOFF	1	018		5	0.054	91.6	0.282		1
6	ADDDHD	4	018		6	5	7			1
6	REACH	3	017		7	4	1100.0			
6	RUNOFF	1	019		7	0.032	93.4	0.265		1
6	REACH	3	017		7	5	900.0			
6	ADDDHD	4	017		4	5	7			1
6	RESVOR	2	47	7	5	6750.0				1
6	RUNOFF	1	017		6	0.060	87.4	0.264		1
6	ADDDHD	4	017		5	6	4			1

6	RESVOR	2	04	4	5	6722.10				1
6	RUNOFF	1	016		7	0.025	85.0	0.223		1
6	RESVOR	7	05	7	6	6724.00				1
6	ADDDHYD	4	014	6	5	4				1
6	REACH	3	014	4	7	320.0				
6	RUNOFF	1	014		6	0.014	91.0	0.355		1
6	ADDDHYD	4	014	6	7	5				1
6	RESVOR	2	03	5	4	6710.00				1
6	REACH	3	012	4	6	3000.0				
6	RUNOFF	1	012		7	0.120	81.4	0.417		1
6	ADDDHYD	4	012	6	7	5				1
6	SAVMOV	5	012	1	4					
6	ADDDHYD	4	012	4	5	6				1
6	SAVMOV	5	012	6	1					
6	RUNOFF	1	011		6	0.022	88.3	0.280		1
6	REACH	3	011	6	7	300.0				
6	RUNOFF	1	022		5	0.120	76.5	0.637		1
6	ADDDHYD	4	022	7	5	3				1
6	ADDDHYD	4	027	2	3	6				1
6	RESVOR	2	52	6	7	6818.0				1 1 1
6	REACH	3	022	7	5	950.0				
6	RESVOR	7	06	5	6	6789.20				1
6	REACH	3	008	6	2	1200.0				

1

*****80-80 LIST OF INPUT DATA (CONTINUED)*****

6	RUNOFF	1	010		7	0.078	88.3	0.320		1
6	REACH	3	008	7	6	1475.0				
6	RUNOFF	1	008		5	0.046	96.	0.167		1
6	ADDDHYD	4	008	5	6	7				1
6	ADDDHYD	4	008	2	7	5				1
6	REACH	3	007	5	6	950.				
6	RUNOFF	1	007		5	0.064	89.0	0.250		1
6	ADDDHYD	4	007	6	5	7				1
6	RESVOR	2	02	7	5	6723.00				1
6	REACH	3	006	5	6	750.0				
6	RUNOFF	1	006		7	0.034	91.0	0.450		1
6	ADDDHYD	4	006	7	6	5				1
6	RESVOR	2	01	5	4	6712.00				1
6	REACH	3	004	4	6	1750.0				
6	RUNOFF	1	004		7	0.093	81.4	0.343		1
6	ADDDHYD	4	004	6	7	5				1
6	SAVMOV	5	004	1	4					
6	REACH	3	003	4	7	1200.0				
6	ADDDHYD	4	002	7	5	6				1
6	REACH	3	002	6	4	2550.0				
6	RUNOFF	1	002		7	0.072	81.3	0.303		1
6	ADDDHYD	4	002	4	7	6				1 1 1
ENDATA										
7	INCREM	6				0.05				
7	COMPUT	7	090	002		0.0	3.28	2.0	8 2 01 01	
ENDCMP 1										
7	INCREM	6				0.05				
7	COMPUT	7	090	002		0.0	2.28	2.0	8 2 01 02	
ENDCMP 1										
ENDJOB 2										

*****END OF 80-80 LIST*****

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
 (A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
 A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC HOIST COND	RAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE				
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)	
ALTERNATE 1 STORM 1														
XSECTION 90	RUNOFF	.14	8	2	.05	.0	3.28	2.00	1.39	---	1.18	137.37	995.4	
XSECTION 86	REACH	.14	8	2	.05	.0	3.28	2.00	1.39	7150.36	1.26	134.78	976.7	
XSECTION 86	RUNOFF	.10	8	2	.05	.0	3.28	2.00	1.40	---	1.19	98.88	988.8	
XSECTION 86	ADDDHYD	.24	8	2	.05	.0	3.28	2.00	1.40	7150.76	1.23	230.75	969.5	
STRUCTURE 27	RESVOR	.24	8	2	.05	.0	3.28	2.00	1.40	7153.70	1.24	230.72	969.4	
XSECTION 88	RUNOFF	.11	8	2	.05	.0	3.28	2.00	1.42	---	1.22	109.86	963.7	
STRUCTURE 28	RESVOR	.11	8	2	.05	.0	3.28	2.00	1.42	7278.29	1.23	109.74	962.7	
XSECTION 86	ADDDHYD	.35	8	2	.05	.0	3.28	2.00	1.40	7151.01	1.24	340.31	966.8	
XSECTION 84	RUNOFF	.07	8	2	.05	.0	3.28	2.00	1.39	---	1.12	80.04	1081.6	
STRUCTURE 26	RESVOR	.07	8	2	.05	.0	3.28	2.00	1.40	7150.12	1.20	80.49	1087.6	
XSECTION 80	ADDDHYD	.43	8	2	.05	.0	3.28	2.00	1.40	7079.44	1.21	418.39	982.1	
XSECTION 80	REACH	.43	8	2	.05	.0	3.28	2.00	1.40	7079.00	1.36	378.39	888.2	
XSECTION 80	RUNOFF	.05	8	2	.05	.0	3.28	2.00	1.75	---	1.13	75.16	1366.5	
XSECTION 80	ADDDHYD	.48	8	2	.05	.0	3.28	2.00	1.44	7079.59	1.34	431.81	897.7	
XSECTION 82	RUNOFF	.09	8	2	.05	.0	3.28	2.00	1.50	---	1.12	109.28	1187.8	
STRUCTURE 25	RESVOR	.09	8	2	.05	.0	3.28	2.00	1.51	7122.10	1.13	108.43	1178.6	
XSECTION 80	ADDDHYD	.57	8	2	.05	.0	3.28	2.00	1.45	7080.49	1.31	514.20	897.4	
XSECTION 180	REACH	.57	8	2	.05	.0	3.28	2.00	1.45	7065.33	1.31	514.20	897.4	
XSECTION 78	RUNOFF	.04	8	2	.05	.0	3.28	2.00	2.24	---	1.11	76.11	1812.1	
STRUCTURE 23	RESVOR	.04	8	2	.05	.0	3.28	2.00	2.25	7014.43	1.14	74.75	1779.7	
XSECTION 76	REACH	.04	8	2	.05	.0	3.28	2.00	2.25	6951.42	1.14	74.75	1779.7	
XSECTION 76	RUNOFF	.01	8	2	.05	.0	3.28	2.00	1.75	---	1.09	8.88	1480.8	
XSECTION 76	ADDDHYD	.05	8	2	.05	.0	3.28	2.00	2.19	6951.51	1.14	83.22	1733.8	
XSECTION 74	RUNOFF	.05	8	2	.05	.0	3.28	2.00	2.50	---	1.10	109.13	2021.0	
STRUCTURE 22	RESVOR	.05	8	2	.05	.0	3.28	2.00	2.51	6960.72	1.16	103.96	1925.2	
XSECTION 76	ADDDHYD	.10	8	2	.05	.0	3.28	2.00	2.36	6952.00	1.15	186.98	1832.2	
XSECTION 73	RUNOFF	.04	8	2	.05	.0	3.28	2.00	1.61	---	1.06	63.76	1449.1	
XSECTION 72	REACH	.04	8	2	.05	.0	3.28	2.00	1.62	7061.70	1.15	60.13	1366.5	
XSECTION 72	RUNOFF	.11	8	2	.05	.0	3.28	2.00	1.98	---	1.09	186.44	1679.7	
XSECTION 72	ADDDHYD	.16	8	2	.05	.0	3.28	2.00	1.88	7062.64	1.10	243.98	1574.1	
XSECTION 72	ADDDHYD	.73	8	2	.05	.0	3.28	2.00	1.54	7064.34	1.26	697.46	958.0	
STRUCTURE 73	RESVOR	.73	8	2	.05	.0	3.28	2.00	1.54	7071.21	2.57	164.04	225.3	

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED

(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH)

A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE			
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE	I	STORM	I										
XSECTION 70	REACH	.73	8	2	.05	.0	3.28	2.00	1.54	6996.25	2.67	163.94	225.2
XSECTION 70	RUNOFF	.04	8	2	.05	.0	3.28	2.00	2.26	---	1.12	70.25	1801.4
XSECTION 70	ADDHYD	.77	8	2	.05	.0	3.28	2.00	1.58	6996.26	2.24	175.39	228.7
XSECTION 68	RUNOFF	.14	8	2	.05	.0	3.28	2.00	1.69	---	1.13	181.52	1315.4
XSECTION 62	ADDHYD	.91	8	2	.05	.0	3.28	2.00	1.60	6957.65	1.18	311.94	344.7
XSECTION 66	RUNOFF	.17	8	2	.05	.0	3.28	2.00	1.65	---	1.12	220.89	1799.3
XSECTION 62	ADDHYD	1.08	8	2	.05	.0	3.28	2.00	1.61	6958.19	1.15	528.63	491.7
XSECTION 62	REACH	1.08	8	2	.05	.0	3.28	2.00	1.61	6958.19	1.15	528.63	491.7
XSECTION 64	RUNOFF	.07	8	2	.05	.0	3.28	2.00	1.65	---	1.15	92.44	1249.2
XSECTION 62	ADDHYD	1.15	8	2	.05	.0	3.28	2.00	1.61	6958.30	1.15	621.07	540.5
XSECTION 62	RUNOFF	.04	8	2	.05	.0	3.28	2.00	2.19	---	1.13	67.77	1694.3
XSECTION 62	ADDHYD	1.19	8	2	.05	.0	3.28	2.00	1.63	6958.38	1.15	688.62	579.2
STRUCTURE 20	RESVOR	1.19	8	2	.05	.0	3.28	2.00	1.63	6970.51	1.17	687.92	578.6
STRUCTURE 19	RESVOR	1.19	8	2	.05	.0	3.28	2.00	1.63	6962.81	1.18	686.97	577.8
XSECTION 58	ADDHYD	1.29	8	2	.05	.0	3.28	2.00	1.69	6894.56	1.17	870.96	674.6
XSECTION 58	REACH	1.29	8	2	.05	.0	3.28	2.00	1.69	6894.56	1.17	870.96	674.6
XSECTION 60	RUNOFF	.06	8	2	.05	.0	3.28	2.00	1.80	---	1.12	92.96	1452.9
STRUCTURE 18	RESVOR	.06	8	2	.05	.0	3.28	2.00	1.81	7009.03	1.17	89.55	1399.2
XSECTION 59	REACH	.06	8	2	.05	.0	3.28	2.00	1.81	6893.49	1.26	86.74	1355.3
XSECTION 58	ADDHYD	1.36	8	2	.05	.0	3.28	2.00	1.69	6894.66	1.18	951.10	701.9
XSECTION 58	RUNOFF	.09	8	2	.05	.0	3.28	2.00	1.86	---	1.15	128.58	1412.9
XSECTION 58	ADDHYD	1.45	8	2	.05	.0	3.28	2.00	1.70	6894.82	1.18	1077.69	745.3
XSECTION 56	REACH	1.45	8	2	.05	.0	3.28	2.00	1.70	6875.48	1.18	1077.69	745.3
XSECTION 56	RUNOFF	.07	8	2	.05	.0	3.28	2.00	1.77	---	1.12	103.98	1405.1
XSECTION 56	ADDHYD	1.52	8	2	.05	.0	3.28	2.00	1.71	6875.65	1.17	1177.43	774.6
XSECTION 54	REACH	1.52	8	2	.05	.0	3.28	2.00	1.71	6836.34	1.17	1177.43	774.6
XSECTION 54	RUNOFF	.06	8	2	.05	.0	3.28	2.00	1.88	---	1.15	88.38	1425.5
XSECTION 54	ADDHYD	1.58	8	2	.05	.0	3.28	2.00	1.71	6836.37	1.17	1265.38	799.9
STRUCTURE 17	RESVOR	1.58	8	2	.05	.0	3.28	2.00	1.71	6846.26	1.41	926.92	585.9
XSECTION 52	REACH	1.58	8	2	.05	.0	3.28	2.00	1.71	6801.66	1.41	926.92	585.9
XSECTION 52	RUNOFF	.02	8	2	.05	.0	3.28	2.00	1.93	---	1.12	35.78	1555.8
XSECTION 52	ADDHYD	1.61	8	2	.05	.0	3.28	2.00	1.72	6801.68	1.41	947.47	590.3
XSECTION 46	RUNOFF	.01	8	2	.05	.0	3.28	2.00	2.00	---	1.23	17.32	1332.3
STRUCTURE 14	RESVOR	.01	8	2	.05	.0	3.28	2.00	2.00	6869.97	1.24	17.32	1332.0
XSECTION 50	RUNOFF	.08	8	2	.05	.0	3.28	2.00	1.86	---	1.21	99.39	1274.3
STRUCTURE 16	RESVOR	.08	8	2	.05	.0	3.28	2.00	1.86	6875.02	1.28	96.67	1239.4

IR20 YEQ 9/23/89 15:28
REV FC/09/83

BLACK FOREST IR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

JOB 1 SUMMARY
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE				
						REGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)	
ALTERNATE 1 STORM 1														
+														
XSECTION	42	ADDDHYD	.09	8	2	.05	.0	3.28	2.00	1.88	6799.22	1.27	114.04	1253.2
XSECTION	48	RUNOFF	.14	8	2	.05	.0	3.28	2.00	1.44	---	1.22	131.37	973.1
XSECTION	47	REACH	.14	8	2	.05	.0	3.28	2.00	1.44	6913.86	1.27	131.23	972.1
XSECTION	47	RUNOFF	.03	8	2	.05	.0	3.28	2.00	1.37	---	1.15	29.68	1023.3
XSECTION	47	ADDDHYD	.16	8	2	.05	.0	3.28	2.00	1.43	6913.99	1.26	158.16	964.4
STRUCTURE	44	RESVOR	.16	8	2	.05	.0	3.28	2.00	1.43	6919.40	1.38	141.46	862.6
XSECTION	44	REACH	.16	8	2	.05	.0	3.28	2.00	1.44	6871.06	1.44	141.09	860.3
XSECTION	44	RUNOFF	.07	8	2	.05	.0	3.28	2.00	1.67	---	1.20	77.17	1169.2
XSECTION	44	ADDDHYD	.23	8	2	.05	.0	3.28	2.00	1.51	6871.34	1.41	198.75	864.1
STRUCTURE	13	RESVOR	.23	8	2	.05	.0	3.28	2.00	1.50	6874.12	1.43	197.61	859.2
XSECTION	42	ADDDHYD	.32	8	2	.05	.0	3.28	2.00	1.61	6800.25	1.41	297.90	928.1
XSECTION	42	REACH	.32	8	2	.05	.0	3.28	2.00	1.61	6800.24	1.47	294.00	915.9
XSECTION	42	RUNOFF	.09	8	2	.05	.0	3.28	2.00	2.12	---	1.15	147.97	1608.4
XSECTION	42	ADDDHYD	.41	8	2	.05	.0	3.28	2.00	1.73	6800.43	1.44	378.83	917.3
XSECTION	52	ADDDHYD	2.02	8	2	.05	.0	3.28	2.00	1.72	6802.06	1.41	1323.67	655.9
STRUCTURE	12	RESVOR	2.02	8	2	.05	.0	3.28	2.00	1.72	6800.62	1.42	1326.81	657.5
XSECTION	40	REACH	2.02	8	2	.05	.0	3.28	2.00	1.72	6748.18	1.49	1301.42	644.9
XSECTION	40	RUNOFF	.06	8	2	.05	.0	3.28	2.00	2.17	---	1.13	109.64	1686.8
XSECTION	40	ADDDHYD	2.08	8	2	.05	.0	3.28	2.00	1.73	6748.19	1.49	1356.62	651.3
XSECTION	39	REACH	2.08	8	2	.05	.0	3.28	2.00	1.73	6720.70	1.49	1356.62	651.3
XSECTION	39	RUNOFF	.03	8	2	.05	.0	3.28	2.00	1.64	---	1.12	42.68	1293.4
XSECTION	39	ADDDHYD	2.12	8	2	.05	.0	3.28	2.00	1.73	6720.71	1.49	1378.82	651.6
XSECTION	39	ADDDHYD	2.15	8	2	.05	.0	3.28	2.00	1.73	6720.71	1.49	1401.09	652.0
STRUCTURE	9	RESVOR	2.15	8	2	.05	.0	3.28	2.00	1.73	6726.64	1.52	1387.74	645.8
XSECTION	38	RUNOFF	.03	8	2	.05	.0	3.28	2.00	2.24	---	1.12	58.23	1764.7
XSECTION	37	REACH	.03	8	2	.05	.0	3.28	2.00	2.25	6735.67	1.17	58.12	1761.1
XSECTION	37	RUNOFF	.01	8	2	.05	.0	3.28	2.00	2.01	---	1.09	25.25	1683.6
XSECTION	37	ADDDHYD	.05	8	2	.05	.0	3.28	2.00	2.18	6735.86	1.16	81.63	1700.7
STRUCTURE	10	RESVOR	.05	8	2	.05	.0	3.28	2.00	2.18	6737.31	1.61	34.64	721.6
XSECTION	36	ADDDHYD	2.20	8	2	.05	.0	3.28	2.00	1.74	6687.28	1.52	1422.12	647.3
XSECTION	36	REACH	2.20	8	2	.05	.0	3.28	2.00	1.74	6687.24	1.60	1405.29	639.6
XSECTION	36	RUNOFF	.05	8	2	.05	.0	3.28	2.00	1.36	---	1.27	43.91	844.5
XSECTION	36	ADDDHYD	2.25	8	2	.05	.0	3.28	2.00	1.73	6687.30	1.60	1435.29	638.2
XSECTION	34	RUNOFF	.19	8	2	.05	.0	3.28	2.00	2.01	---	1.20	264.79	1401.0

XSECTION 33	REACH	.19	8	2	.05	.0	3.28	2.00	2.01	6739.61	1.20	264.79	1401.0
XSECTION 33	RUNOFF	.01	8	2	.05	.0	3.28	2.00	2.62	---	1.06	27.41	2284.3

TR20 XEQ 9/23/89 15:28	BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS	JOB 1	SUMMARY
REV PC/09/83	TOTAL BASIN FUTURE CONDITIONS W/DEI. & TYPE III STORM		PAGE 57

SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
 (A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
 A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE			
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 1													
XSECTION 33	ADDHYD	.20	8	2	.05	.0	3.28	2.00	2.05	6739.66	1.19	265.71	1421.5
STRUCTURE 33	RESVOR	.20	8	2	.05	.0	3.28	2.00	2.05	6743.43	2.29	74.59	371.1
XSECTION 32	REACH	.20	8	2	.05	.0	3.28	2.00	2.05	6682.95	2.38	74.53	370.8
XSECTION 32	RUNOFF	.05	8	2	.05	.0	3.28	2.00	1.95	---	1.22	65.99	1319.8
XSECTION 32	ADDHYD	.25	8	2	.05	.0	3.28	2.00	2.03	6683.23	1.42	106.28	423.4
XSECTION 30	ADDHYD	2.50	8	2	.05	.0	3.28	2.00	1.76	6642.95	1.59	1538.13	615.3
XSECTION 30	REACH	2.50	8	2	.05	.0	3.28	2.00	1.76	6642.95	1.59	1538.13	615.3
XSECTION 30	RUNOFF	.07	8	2	.05	.0	3.28	2.00	1.35	---	1.24	64.16	878.9
XSECTION 30	ADDHYD	2.57	8	2	.05	.0	3.28	2.00	1.75	6642.98	1.59	1578.93	613.7
XSECTION 28	REACH	2.57	8	2	.05	.0	3.28	2.00	1.75	6613.21	1.75	1456.77	566.2
XSECTION 28	RUNOFF	.14	8	2	.05	.0	3.28	2.00	1.39	---	1.33	113.93	796.7
XSECTION 28	ADDHYD	2.72	8	2	.05	.0	3.28	2.00	1.73	6613.24	1.74	1529.52	563.2
XSECTION 28	REACH	2.72	8	2	.05	.0	3.28	2.00	1.73	6613.23	1.82	1517.70	558.8
XSECTION 26	RUNOFF	.11	8	2	.05	.0	3.28	2.00	1.67	---	1.25	117.95	1072.2
STRUCTURE 8	RESVOR	.11	8	2	.05	.0	3.28	2.00	1.66	6912.48	2.32	37.37	339.7
XSECTION 25	REACH	.11	8	2	.05	.0	3.28	2.00	1.66	6819.33	2.46	36.88	335.3
XSECTION 25	RUNOFF	.05	8	2	.05	.0	3.28	2.00	1.30	---	1.21	40.59	882.4
XSECTION 25	ADDHYD	.16	8	2	.05	.0	3.28	2.00	1.55	6819.47	2.24	49.98	320.4
XSECTION 24	RUNOFF	.09	8	2	.05	.0	3.28	2.00	1.34	---	1.28	76.90	809.4
STRUCTURE 7	RESVOR	.09	8	2	.05	.0	3.28	2.00	1.33	6803.79	1.30	79.46	836.4
XSECTION 20	REACH	.09	8	2	.05	.0	3.28	2.00	1.34	6750.99	1.37	74.88	788.2
XSECTION 20	RUNOFF	.08	8	2	.05	.0	3.28	2.00	1.93	---	1.18	109.05	1380.4
XSECTION 20	ADDHYD	.17	8	2	.05	.0	3.28	2.00	1.61	6751.13	1.27	168.93	970.8
XSECTION 18	RUNOFF	.05	8	2	.05	.0	3.28	2.00	2.13	---	1.14	88.74	1643.3
XSECTION 18	ADDHYD	.23	8	2	.05	.0	3.28	2.00	1.73	6751.74	1.24	247.34	1064.8
XSECTION 17	REACH	.23	8	2	.05	.0	3.28	2.00	1.73	6724.87	1.32	241.42	1058.9
XSECTION 19	RUNOFF	.03	8	2	.05	.0	3.28	2.00	2.29	---	1.11	58.56	1830.0
XSECTION 17	REACH	.03	8	2	.05	.0	3.28	2.00	2.30	6723.30	1.21	55.26	1726.9
XSECTION 17	ADDHYD	.26	8	2	.05	.0	3.28	2.00	1.80	6724.90	1.30	292.40	1124.6
STRUCTURE 47	RESVOR	.26	8	2	.05	.0	3.28	2.00	1.80	6755.95	2.05	113.92	438.1

XSECTION 17	RUNOFF	.06	8	2	.05	.0	3.28	2.00	1.77	---	1.14	81.59	1359.9
XSECTION 17	ADDHYD	.32	8	2	.05	.0	3.28	2.00	1.80	6724.81	1.76	138.51	432.8
STRUCTURE 4	RESVOR	.32	8	2	.05	.0	3.28	2.00	1.80	6725.55	2.00	137.26	428.9
XSECTION 16	RUNOFF	.03	8	2	.05	.0	3.28	2.00	1.57	---	1.11	31.67	1266.6
STRUCTURE 5	RESVOR	.03	8	2	.05	.0	3.28	2.00	1.57	6725.11	1.80	10.51	420.2
XSECTION 14	ADDHYD	.34	8	2	.05	.0	3.28	2.00	1.78	6710.91	1.96	147.63	427.9

TR20 YER 9/23/89 15:28 BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
REV PC/09/83 TOTAL BASIN FUTURE CONDITIONS W/DELT & TYPE III STORM

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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE			
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 1													
XSECTION 14	REACH	.34	8	2	.05	.0	3.28	2.00	1.78	6710.91	1.96	147.63	427.9
XSECTION 14	RUNOFF	.01	8	2	.05	.0	3.28	2.00	2.11	---	1.20	20.68	1477.3
XSECTION 14	ADDHYD	.36	8	2	.05	.0	3.28	2.00	1.79	6710.92	1.84	154.68	430.9
STRUCTURE 3	RESVOR	.36	8	2	.05	.0	3.28	2.00	1.79	6713.63	2.38	147.42	410.6
XSECTION 12	REACH	.36	8	2	.05	.0	3.28	2.00	1.79	6611.15	2.45	147.26	410.2
XSECTION 12	RUNOFF	.12	8	2	.05	.0	3.28	2.00	1.40	---	1.30	100.94	841.1
XSECTION 12	ADDHYD	.48	8	2	.05	.0	3.28	2.00	1.70	6611.28	2.25	184.74	385.7
XSECTION 12	ADDHYD	3.20	8	2	.05	.0	3.28	2.00	1.73	6614.93	1.82	1694.91	530.5
XSECTION 11	RUNOFF	.02	8	2	.05	.0	3.28	2.00	1.85	---	1.15	30.86	1402.6
XSECTION 11	REACH	.02	8	2	.05	.0	3.28	2.00	1.85	6641.02	1.15	30.86	1402.6
XSECTION 22	RUNOFF	.12	8	2	.05	.0	3.28	2.00	1.18	---	1.53	62.60	521.7
XSECTION 22	ADDHYD	.14	8	2	.05	.0	3.28	2.00	1.28	6790.24	1.47	79.30	558.4
XSECTION 22	ADDHYD	.30	8	2	.05	.0	3.28	2.00	1.42	6790.48	1.41	119.84	402.1
STRUCTURE 52	RESVOR	.30	8	2	.05	.0	3.28	2.00	1.39	6821.45	2.57	78.48	263.4
XSECTION 22	REACH	.30	8	2	.05	.0	3.28	2.00	1.39	6790.23	2.67	78.13	262.7
STRUCTURE 6	RESVOR	.30	8	2	.05	.0	3.28	2.00	1.39	6792.21	2.68	78.12	262.1
XSECTION 8	REACH	.30	8	2	.05	.0	3.28	2.00	1.39	6758.75	2.75	78.01	261.8
XSECTION 10	RUNOFF	.08	8	2	.05	.0	3.28	2.00	1.87	---	1.18	104.77	1343.2
XSECTION 8	REACH	.08	8	2	.05	.0	3.28	2.00	1.87	6758.91	1.26	102.82	1318.3
XSECTION 8	RUNOFF	.05	8	2	.05	.0	3.28	2.00	2.50	---	1.04	106.06	2305.7
XSECTION 8	ADDHYD	.12	8	2	.05	.0	3.28	2.00	2.11	6759.08	1.18	173.39	1398.3
XSECTION 8	ADDHYD	.42	8	2	.05	.0	3.28	2.00	1.60	6759.09	1.19	174.88	414.4
XSECTION 7	REACH	.42	8	2	.05	.0	3.28	2.00	1.60	6713.09	1.24	174.71	414.0
XSECTION 7	RUNOFF	.06	8	2	.05	.0	3.28	2.00	1.89	---	1.12	97.32	1520.6
XSECTION 7	ADDHYD	.49	8	2	.05	.0	3.28	2.00	1.64	6713.31	1.16	264.92	545.1
STRUCTURE 2	RESVOR	.49	8	2	.05	.0	3.28	2.00	1.64	6728.52	1.34	230.50	474.3
XSECTION 6	REACH	.49	8	2	.05	.0	3.28	2.00	1.64	6708.23	1.34	230.50	474.3

XSECTION	6	RUNOFF	.03	8	2	.05	.0	3.28	2.00	2.16	---	1.27	46.06	1354.6
XSECTION	6	ADDDHYD	.52	8	2	.05	.0	3.28	2.00	1.67	6708.34	1.32	275.68	530.2
STRUCTURE	1	RESVOR	.52	8	2	.05	.0	3.28	2.00	1.67	6718.41	1.54	235.44	452.8
XSECTION	4	REACH	.52	8	2	.05	.0	3.28	2.00	1.67	6601.31	1.54	235.44	452.8
XSECTION	4	RUNOFF	.09	8	2	.05	.0	3.28	2.00	1.37	---	1.24	83.49	897.7
XSECTION	4	ADDDHYD	.61	8	2	.05	.0	3.28	2.00	1.62	6601.49	1.45	296.57	483.6
XSECTION	3	REACH	3.20	8	2	.05	.0	3.28	2.00	1.73	6601.43	1.90	1684.56	527.2
XSECTION	2	ADDDHYD	3.81	8	2	.05	.0	3.28	2.00	1.71	6591.53	1.88	1915.03	502.9
XSECTION	2	REACH	3.81	8	2	.05	.0	3.28	2.00	1.71	6591.51	2.01	1870.01	491.1

TR20 XEQ 9/23/89 15:28
REV PC/09/83

BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE				
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)	
ALTERNATE 1 STORM 1														
XSECTION	2	RUNOFF	.07	8	2	.05	.0	3.28	2.00	1.35	---	1.21	67.01	930.7
XSECTION	2	ADDDHYD	3.88	8	2	.05	.0	3.28	2.00	1.70	6591.52	2.01	1894.55	488.3
ALTERNATE 1 STORM 2														
+														
XSECTION	90	RUNOFF	.14	8	2	.05	.0	2.28	2.00	.71	---	1.22	65.81	476.9
XSECTION	86	REACH	.14	8	2	.05	.0	2.28	2.00	.71	7149.90	1.31	63.65	461.2
XSECTION	86	RUNOFF	.10	8	2	.05	.0	2.28	2.00	.72	---	1.22	47.36	473.6
XSECTION	86	ADDDHYD	.24	8	2	.05	.0	2.28	2.00	.72	7150.16	1.28	109.13	458.5
STRUCTURE	27	RESVOR	.24	8	2	.05	.0	2.28	2.00	.71	7153.18	1.22	111.15	467.0
XSECTION	88	RUNOFF	.11	8	2	.05	.0	2.28	2.00	.73	---	1.25	52.96	464.6
STRUCTURE	28	RESVOR	.11	8	2	.05	.0	2.28	2.00	.73	7278.11	1.26	53.95	473.3
XSECTION	86	ADDDHYD	.35	8	2	.05	.0	2.28	2.00	.72	7150.46	1.29	162.10	460.5
XSECTION	84	RUNOFF	.07	8	2	.05	.0	2.28	2.00	.72	---	1.17	38.05	514.2
STRUCTURE	26	RESVOR	.07	8	2	.05	.0	2.28	2.00	.72	7148.29	1.37	29.31	396.1
XSECTION	80	ADDDHYD	.43	8	2	.05	.0	2.28	2.00	.72	7076.94	1.30	190.94	448.2
XSECTION	80	REACH	.43	8	2	.05	.0	2.28	2.00	.72	7076.78	1.43	175.75	412.6
XSECTION	80	RUNOFF	.05	8	2	.05	.0	2.28	2.00	.99	---	1.16	40.55	737.3
XSECTION	80	ADDDHYD	.48	8	2	.05	.0	2.28	2.00	.75	7077.07	1.41	202.83	421.7
XSECTION	82	RUNOFF	.09	8	2	.05	.0	2.28	2.00	.80	---	1.16	53.91	586.0
STRUCTURE	25	RESVOR	.09	8	2	.05	.0	2.28	2.00	.80	7121.71	1.19	53.31	579.4
XSECTION	80	ADDDHYD	.57	8	2	.05	.0	2.28	2.00	.76	7077.53	1.37	244.27	426.3
XSECTION	180	REACH	.57	8	2	.05	.0	2.28	2.00	.76	7064.08	1.37	244.27	426.3
XSECTION	78	RUNOFF	.04	8	2	.05	.0	2.28	2.00	1.38	---	1.12	46.34	1103.3
STRUCTURE	23	RESVOR	.04	8	2	.05	.0	2.28	2.00	1.39	7012.95	1.13	46.02	1095.8

XSECTION 76 REACH	.04	8	2	.05	.0	2.28	2.00	1.39	6951.10	1.13	46.02	1095.8
XSECTION 76 RUNOFF	.01	8	2	.05	.0	2.28	2.00	.99	---	1.11	4.81	801.1
XSECTION 76 ADDHYD	.05	8	2	.05	.0	2.28	2.00	1.34	6951.16	1.12	51.06	1063.7
XSECTION 74 RUNOFF	.05	8	2	.05	.0	2.28	2.00	1.61	---	1.11	70.53	1306.2
STRUCTURE 22 RESVOR	.05	8	2	.05	.0	2.28	2.00	1.62	6959.43	1.17	66.91	1239.1
XSECTION 76 ADDHYD	.10	8	2	.05	.0	2.28	2.00	1.49	6951.76	1.15	116.96	1146.6
XSECTION 73 RUNOFF	.04	8	2	.05	.0	2.28	2.00	.88	---	1.08	32.63	741.6
XSECTION 72 REACH	.04	8	2	.05	.0	2.28	2.00	.89	7061.40	1.18	30.38	690.3
XSECTION 72 RUNOFF	.11	8	2	.05	.0	2.28	2.00	1.17	---	1.10	107.13	965.2
XSECTION 72 ADDHYD	.16	8	2	.05	.0	2.28	2.00	1.09	7062.23	1.12	135.36	873.3
XSECTION 72 ADDHYD	.73	8	2	.05	.0	2.28	2.00	.83	7063.00	1.30	339.08	465.8
STRUCTURE 73 RESVOR	.73	8	2	.05	.0	2.28	2.00	.83	7065.42	2.46	119.20	163.7
XSECTION 70 REACH	.73	8	2	.05	.0	2.28	2.00	.83	6996.21	2.57	119.08	163.6

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BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DEL. & TYPE (11) STORM

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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE				
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)	
ALTERNATE 1 STORM 2														
XSECTION 70	RUNOFF	.04	8	2	.05	.0	2.28	2.00	1.40	---	1.13	42.74	1096.0	
XSECTION 70	ADDHYD	.77	8	2	.05	.0	2.28	2.00	.86	6996.22	2.24	127.40	166.1	
XSECTION 68	RUNOFF	.14	8	2	.05	.0	2.28	2.00	.94	---	1.16	96.12	696.5	
XSECTION 62	ADDHYD	.91	8	2	.05	.0	2.28	2.00	.87	6956.90	1.22	178.84	197.6	
XSECTION 66	RUNOFF	.17	8	2	.05	.0	2.28	2.00	.90	---	1.15	114.26	672.1	
XSECTION 62	ADDHYD	1.08	8	2	.05	.0	2.28	2.00	.88	6957.54	1.18	290.78	270.5	
XSECTION 62	REACH	1.08	8	2	.05	.0	2.28	2.00	.88	6957.54	1.18	290.78	270.5	
XSECTION 64	RUNOFF	.07	8	2	.05	.0	2.28	2.00	.90	---	1.18	48.21	651.5	
XSECTION 62	ADDHYD	1.15	8	2	.05	.0	2.28	2.00	.88	6957.81	1.18	338.98	295.0	
XSECTION 62	RUNOFF	.04	8	2	.05	.0	2.28	2.00	1.33	---	1.15	40.70	1017.6	
XSECTION 62	ADDHYD	1.19	8	2	.05	.0	2.28	2.00	.89	6958.01	1.17	380.08	319.7	
STRUCTURE 20	RESVOR	1.19	8	2	.05	.0	2.28	2.00	.89	6969.57	1.22	376.44	316.6	
STRUCTURE 19	RESVOR	1.19	8	2	.05	.0	2.28	2.00	.89	6962.54	1.23	376.89	317.0	
XSECTION 58	ADDHYD	1.29	8	2	.05	.0	2.28	2.00	.94	6894.09	1.20	485.68	376.2	
XSECTION 58	REACH	1.29	8	2	.05	.0	2.28	2.00	.94	6894.09	1.20	485.68	376.2	
XSECTION 60	RUNOFF	.06	8	2	.05	.0	2.28	2.00	1.02	---	1.14	50.52	789.3	
STRUCTURE 18	RESVOR	.06	8	2	.05	.0	2.28	2.00	1.03	7008.30	1.23	47.21	737.6	
XSECTION 59	REACH	.06	8	2	.05	.0	2.28	2.00	1.03	6893.26	1.31	45.71	714.1	
XSECTION 58	ADDHYD	1.36	8	2	.05	.0	2.28	2.00	.94	6894.14	1.23	527.75	389.5	
XSECTION 58	RUNOFF	.09	8	2	.05	.0	2.28	2.00	1.06	---	1.17	71.12	781.6	

XSECTION 58	ADDDHYD	1.45	8	2	.05	.0	2.28	2.00	.95	6894.22	1.23	596.15	412.3
XSECTION 56	REACH	1.45	8	2	.05	.0	2.28	2.00	.95	6874.67	1.23	596.15	412.3
XSECTION 56	RUNOFF	.07	8	2	.05	.0	2.28	2.00	1.00	---	1.15	55.94	755.9
XSECTION 56	ADDDHYD	1.52	8	2	.05	.0	2.28	2.00	.95	6874.71	1.22	646.78	425.5
XSECTION 54	REACH	1.52	8	2	.05	.0	2.28	2.00	.96	6836.17	1.27	646.78	425.5
XSECTION 54	RUNOFF	.06	8	2	.05	.0	2.28	2.00	1.08	---	1.17	49.23	794.0
XSECTION 54	ADDDHYD	1.58	8	2	.05	.0	2.28	2.00	.96	6836.18	1.25	692.81	437.9
STRUCTURE 17	RESVOR	1.58	8	2	.05	.0	2.28	2.00	.96	6844.47	1.76	399.46	252.5
XSECTION 52	REACH	1.58	8	2	.05	.0	2.28	2.00	.96	6800.28	1.76	399.46	252.5
XSECTION 52	RUNOFF	.02	8	2	.05	.0	2.28	2.00	1.13	---	1.13	20.05	871.9
XSECTION 52	ADDDHYD	1.61	8	2	.05	.0	2.28	2.00	.96	6800.30	1.75	406.86	253.5
XSECTION 46	RUNOFF	.01	8	2	.05	.0	2.28	2.00	1.17	---	1.25	9.83	756.4
STRUCTURE 14	RESVOR	.01	8	2	.05	.0	2.28	2.00	1.17	6869.42	1.26	9.83	756.3
XSECTION 50	RUNOFF	.08	8	2	.05	.0	2.28	2.00	1.06	---	1.24	54.52	699.0
STRUCTURE 16	RESVOR	.08	8	2	.05	.0	2.28	2.00	1.06	6873.44	1.30	52.77	676.5
XSECTION 42	ADDDHYD	.09	8	2	.05	.0	2.28	2.00	1.08	6798.67	1.30	62.45	686.3

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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED
(A STAR(*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE				
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)	
ALTERNATE 1 STORM 2														
+														
XSECTION 48	RUNOFF	.14	8	2	.05	.0	2.28	2.00	.74	---	1.26	63.65	471.5	
XSECTION 47	REACH	.14	8	2	.05	.0	2.28	2.00	.75	6913.25	1.31	63.39	469.5	
XSECTION 47	RUNOFF	.03	8	2	.05	.0	2.28	2.00	.70	---	1.20	14.16	488.4	
XSECTION 47	ADDDHYD	.16	8	2	.05	.0	2.28	2.00	.74	6913.41	1.30	76.20	464.7	
STRUCTURE 44	RESVOR	.16	8	2	.05	.0	2.28	2.00	.74	6918.34	1.59	55.29	337.1	
XSECTION 44	REACH	.16	8	2	.05	.0	2.28	2.00	.75	6870.30	1.65	55.07	335.8	
XSECTION 44	RUNOFF	.07	8	2	.05	.0	2.28	2.00	.91	---	1.23	40.35	611.3	
XSECTION 44	ADDDHYD	.23	8	2	.05	.0	2.28	2.00	.80	6870.59	1.60	78.66	342.0	
STRUCTURE 13	RESVOR	.23	8	2	.05	.0	2.28	2.00	.80	6873.60	1.62	78.56	341.6	
XSECTION 42	ADDDHYD	.32	8	2	.05	.0	2.28	2.00	.88	6799.31	1.55	122.91	382.9	
XSECTION 42	REACH	.32	8	2	.05	.0	2.28	2.00	.88	6799.30	1.61	122.27	380.9	
XSECTION 42	RUNOFF	.09	8	2	.05	.0	2.28	2.00	1.28	---	1.16	87.35	949.5	
XSECTION 42	ADDDHYD	.41	8	2	.05	.0	2.28	2.00	.97	6799.85	1.35	173.49	420.1	
XSECTION 52	ADDDHYD	2.02	8	2	.05	.0	2.28	2.00	.96	6800.73	1.70	560.03	277.5	
STRUCTURE 12	RESVOR	2.02	8	2	.05	.0	2.28	2.00	.96	6799.48	1.71	561.28	278.1	
XSECTION 40	REACH	2.02	8	2	.05	.0	2.28	2.00	.96	6747.48	1.79	554.91	275.0	

XSECTION 40	RUNOFF	.06	8	2	.05	.0	2.28	2.00	1.32	---	1.14	65.55	1008.4
XSECTION 40	ADDHYD	2.08	8	2	.05	.0	2.28	2.00	.97	6747.54	1.78	577.42	277.2
XSECTION 39	REACH	2.08	8	2	.05	.0	2.28	2.00	.97	6720.09	1.78	577.42	277.2
XSECTION 39	RUNOFF	.03	8	2	.05	.0	2.28	2.00	.90	---	1.15	21.98	666.0
XSECTION 39	ADDHYD	2.12	8	2	.05	.0	2.28	2.00	.97	6720.12	1.78	586.32	277.1
XSECTION 39	ADDHYD	2.15	8	2	.05	.0	2.28	2.00	.97	6720.14	1.77	596.01	277.3
STRUCTURE 9	RESVOR	2.15	8	2	.05	.0	2.28	2.00	.97	6722.98	1.80	595.16	276.9
XSECTION 38	RUNOFF	.03	8	2	.05	.0	2.28	2.00	1.38	---	1.13	35.25	1068.0
XSECTION 37	REACH	.03	8	2	.05	.0	2.28	2.00	1.39	6735.49	1.19	35.07	1062.6
XSECTION 37	RUNOFF	.01	8	2	.05	.0	2.28	2.00	1.19	---	1.11	14.63	975.4
XSECTION 37	ADDHYD	.05	8	2	.05	.0	2.28	2.00	1.33	6735.60	1.17	48.82	1017.2
STRUCTURE 10	RESVOR	.05	8	2	.05	.0	2.28	2.00	1.33	6736.39	1.66	20.80	433.4
XSECTION 36	ADDHYD	2.20	8	2	.05	.0	2.28	2.00	.98	6685.23	1.80	615.63	280.2
XSECTION 36	REACH	2.20	8	2	.05	.0	2.28	2.00	.98	6685.22	1.87	613.16	279.1
XSECTION 36	RUNOFF	.05	8	2	.05	.0	2.28	2.00	.69	---	1.31	20.55	395.2
XSECTION 36	ADDHYD	2.25	8	2	.05	.0	2.28	2.00	.97	6685.26	1.87	624.99	277.9
XSECTION 34	RUNOFF	.19	8	2	.05	.0	2.28	2.00	1.18	---	1.22	151.30	800.5
XSECTION 33	REACH	.19	8	2	.05	.0	2.28	2.00	1.18	6739.33	1.22	151.30	800.5
XSECTION 33	RUNOFF	.01	8	2	.05	.0	2.28	2.00	1.73	---	1.06	18.27	1522.6
XSECTION 33	ADDHYD	.20	8	2	.05	.0	2.28	2.00	1.21	6739.36	1.21	164.82	820.0

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A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCRN (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE			
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 2													
STRUCTURE 33	RESVOR	.20	8	2	.05	.0	2.28	2.00	1.22	6741.36	2.28	49.46	246.1
XSECTION 32	REACH	.20	8	2	.05	.0	2.28	2.00	1.22	6682.69	2.42	49.39	245.7
XSECTION 32	RUNOFF	.05	8	2	.05	.0	2.28	2.00	1.13	---	1.24	36.99	739.9
XSECTION 32	ADDHYD	.25	8	2	.05	.0	2.28	2.00	1.20	6682.82	2.18	61.68	245.7
XSECTION 30	ADDHYD	2.50	8	2	.05	.0	2.28	2.00	1.00	6642.31	1.87	686.59	274.6
XSECTION 30	REACH	2.50	8	2	.05	.0	2.28	2.00	1.00	6642.31	1.92	686.17	274.5
XSECTION 30	RUNOFF	.07	8	2	.05	.0	2.28	2.00	.68	---	1.28	29.90	469.6
XSECTION 30	ADDHYD	2.57	8	2	.05	.0	2.28	2.00	.99	6642.33	1.92	701.49	272.6
XSECTION 28	REACH	2.57	8	2	.05	.0	2.28	2.00	.99	6612.72	2.16	658.37	255.9
XSECTION 28	RUNOFF	.14	8	2	.05	.0	2.28	2.00	.70	---	1.37	53.50	374.1
XSECTION 28	ADDHYD	2.72	8	2	.05	.0	2.28	2.00	.97	6612.74	2.15	686.64	252.8
XSECTION 28	REACH	2.72	8	2	.05	.0	2.28	2.00	.97	6612.74	2.26	682.73	251.4
XSECTION 26	RUNOFF	.11	8	2	.05	.0	2.28	2.00	.91	---	1.28	60.98	554.4

STRUCTURE 8	RESVOR	.11	8	2	.05	.0	2.28	2.00	.90	6911.54	2.63	13.88	126.1
XSECTION 25	REACH	.11	8	2	.05	.0	2.28	2.00	.90	6818.90	2.85	13.75	125.0
XSECTION 25	RUNOFF	.05	8	2	.05	.0	2.28	2.00	.65	---	1.26	18.69	406.3
XSECTION 25	ADDHYD	.16	8	2	.05	.0	2.28	2.00	.83	6819.08	2.23	20.51	131.5
XSECTION 24	RUNOFF	.09	8	2	.05	.0	2.28	2.00	.67	---	1.32	35.51	373.8
STRUCTURE 7	RESVOR	.09	8	2	.05	.0	2.28	2.00	.67	6802.23	1.34	35.25	371.1
XSECTION 20	REACH	.09	8	2	.05	.0	2.28	2.00	.67	6750.45	1.46	33.88	356.7
XSECTION 20	RUNOFF	.08	8	2	.05	.0	2.28	2.00	1.12	---	1.21	61.19	774.5
XSECTION 20	ADDHYD	.17	8	2	.05	.0	2.28	2.00	.88	6751.01	1.30	84.62	486.3
XSECTION 18	RUNOFF	.05	8	2	.05	.0	2.28	2.00	1.29	---	1.15	52.61	974.3
XSECTION 18	ADDHYD	.23	8	2	.05	.0	2.28	2.00	.97	6751.40	1.24	131.70	577.6
XSECTION 17	REACH	.23	8	2	.05	.0	2.28	2.00	.97	6724.75	1.35	126.68	555.6
XSECTION 19	RUNOFF	.03	8	2	.05	.0	2.28	2.00	1.42	---	1.12	36.05	1126.5
XSECTION 17	REACH	.03	8	2	.05	.0	2.28	2.00	1.43	6722.87	1.23	33.80	1056.3
XSECTION 17	ADDHYD	.26	8	2	.05	.0	2.28	2.00	1.03	6724.82	1.32	157.75	606.7
STRUCTURE 47	RESVOR	.26	8	2	.05	.0	2.28	2.00	1.03	6753.72	2.16	65.32	251.2
XSECTION 17	RUNOFF	.06	8	2	.05	.0	2.28	2.00	1.00	---	1.17	44.16	736.0
XSECTION 17	ADDHYD	.32	8	2	.05	.0	2.28	2.00	1.02	6723.79	2.13	79.64	248.9
STRUCTURE 4	RESVOR	.32	8	2	.05	.0	2.28	2.00	1.02	6724.51	2.22	79.18	247.4
XSECTION 16	RUNOFF	.03	8	2	.05	.0	2.28	2.00	.84	---	1.14	15.95	638.1
STRUCTURE 5	RESVOR	.03	8	2	.05	.0	2.28	2.00	.85	6724.59	1.90*	5.60*	223.9
XSECTION 14	ADDHYD	.34	8	2	.05	.0	2.28	2.00	1.01	6710.71	2.22	84.75	245.6
XSECTION 14	REACH	.34	8	2	.05	.0	2.28	2.00	1.01	6710.71	2.22	84.75	245.6

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BLACK FOREST TR20 RUN 2 HR, 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

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SECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RAIN TABLE #	ANTEC MOIST COND	MAIN TIME INCREM (HR)	PRECIPITATION			RUNOFF AMOUNT (IN)	PEAK DISCHARGE				
						BEGIN (HR)	AMOUNT (IN)	DURATION (HR)		ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)	
ALTERNATE 1 STORM 2														
XSECTION	14	RUNOFF	.01	8	2	.05	.0	2.28	2.00	1.27	---	1.21	12.11	865.0
XSECTION	14	ADDHYD	.36	8	2	.05	.0	2.28	2.00	1.02	6710.73	2.20	88.49	246.5
STRUCTURE	3	RESVOR	.36	8	2	.05	.0	2.28	2.00	1.02	6712.49	2.46	83.70	233.1
XSECTION	12	REACH	.36	8	2	.05	.0	2.28	2.00	1.02	6610.86	2.55	83.53	232.7
XSECTION	12	RUNOFF	.12	8	2	.05	.0	2.28	2.00	.71	---	1.34	47.64	397.0
XSECTION	12	ADDHYD	.48	8	2	.05	.0	2.28	2.00	.94	6611.01	2.31	102.92	214.9
XSECTION	12	ADDHYD	3.20	8	2	.05	.0	2.28	2.00	.97	6612.93	2.26	785.30	245.8
XSECTION	11	RUNOFF	.02	8	2	.05	.0	2.28	2.00	1.06	---	1.17	17.04	774.6
XSECTION	11	REACH	.02	8	2	.05	.0	2.28	2.00	1.06	6840.74	1.17	17.04	774.6
XSECTION	22	RUNOFF	.12	8	2	.05	.0	2.28	2.00	.55	---	1.62	26.64	222.0

(A STAR*) AFTER VOLUME ABOVE BASELINE INDICATES A HYDROGRAPH TRUNCATED AT A VALUE EXCEEDING BASE + 10% OF PEAK
A QUESTION MARK(?) AFTER COEFF.(C) INDICATES PARAMETERS OUTSIDE ACCEPTABLE LIMITS, SEE PREVIOUS WARNINGS)

HYDROGRAPH INFORMATION										ROUTING PARAMETERS							PEAK			
		OUTFLOW*				VOLUME		RAIN		ITER-		P AND A			PEAK	S/O	ATT-	TRAVEL TIME		
SEC	REACH	INFLOW		OUTFLOW		INTERV. AREA		BASE-	ABOVE	TIME	ATION	EQUATION	LENGTH	RATIO	#PEAK	KIN	AGE	KINE-		
ID	LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	FLOW (CFS)	BASE (IN)	INCR (HR)	#	COEFF (X)	POWER (M)	FACTOR (K*)	U/I (Q*)	(K) (SEC)	COEFF (C)	AGE (HR)	MAIIC (HR)	
ALTERNATE		1	STORM	1																
												2.79								
86	2400	137	1.2	135	1.3			0	1.39*	.05	1	1.45	.025	.984	177	.677	.05	.05		
						230	1.3													
												5.36								
80	1850	417	1.2	378	1.4			0	1.40	.05	1	1.00	.104	.907	345	.41	.15	.10		
						431	1.4													
												1.34								
180	700	514	1.3	514	1.3			0	1.45	.05	0	1.42	.005	1.000	63	1.007	.00	.00		
						---	---													
												9.61								
76	1325	75	1.1	75	1.1			0	2.25	.05	0	1.33	.009	1.000	62	1.007	.00	.00		
						83	1.1													
												5.26								
72	3000	63	1.1	60	1.1			0	1.61*	.05	1	1.44	.037	.949	184	.66	.10	.05		
						244	1.1													
												.320								
70	1450	164	2.5	164	2.7			0	1.54	.05	1	1.62	.003	.999	254	.52	.10	.07		
						175	2.3													
												2.63								
62	1000	529	1.1	529	1.1			0	1.61	.05	0	1.33	.003	1.000	75	1.007	.00	.00		
						621	1.1													
												1.74								
58	1200	868	1.1	868	1.1			0	1.69	.05	0	1.46	.003	1.000	67	1.007	.00	.00		
						---	---													
												12.5								
59	2300	89	1.1	87	1.3			0	1.81	.05	1	1.00	.061	.978	184	.66	.10	.05		
						---	---													
												4.73								
56	540	1073	1.2	1073	1.2			0	1.70	.05	0	1.33	.001	1.000	23	1.007	.00	.00		
						1172	1.1													
												3.58								
54	1580	1172	1.1	1172	1.1			0	1.71	.05	0	1.33	.005	1.000	78	1.007	.00	.00		
						1260	1.1													
												7.31								
52	800	925	1.4	925	1.4			0	1.71	.05	0	1.16	.004	1.000	48	1.007	.00	.00		
						946	1.4													
												3.63								
47	1200	131	1.2	131	1.3			0	1.44*	.05	1	1.34	.012	.998	98	.967	.05	.03		
						158	1.3													

											3.64								
44	1300	141	1.4	141	1.5			0	1.43	.05	1		1.34	.012	.999	104	.932	.05	.03
+						199	1.4												
												3.59							
42	2100	298	1.4	292	1.5			0	1.61	.05	1		1.31	.021	.982	158	.722	.05	.04
+						379	1.5												
												1.40							
40	2800	1319	1.4	1301	1.5			0	1.72	.05	1		1.47	.008	.986	154	.747	.10	.04
+						1355	1.5												
												1.23							
39	1100	1355	1.5	1355	1.5			0	1.73	.05	0		1.49	.002	1.000	60	1.002	.00	.00
+						1377	1.5												
												1.89							
37	800	58	1.1	58	1.1			0	2.24	.05	1		1.46	.012	.996	99	.952	.05	.03
+						82	1.1												
												5.53							
36	1600	1415	1.5	1405	1.6			0	1.74	.05	1		1.10	.020	.993	162	.712	.10	.05
+						1435	1.6												
												2.76							
33	450	265	1.2	265	1.2			0	2.01	.05	0		1.33	.004	1.000	40	1.002	.00	.00
+						286	1.2												
												1.56							
32	2300	75	2.3	75	2.4			0	2.05	.05	1		1.52	.005	.999	257	.52	.10	.02
+						106	1.4												
												1.47							
30	1500	1538	1.6	1538	1.6			0	1.76	.05	0		1.45	.003	1.000	82	1.002	.00	.00
+						1578	1.6												
												.098							
28	4000	1578	1.6	1457	1.8			0	1.75	.05	1		1.68	.030	.923	487	.31	.15	.14
+						1529	1.8												
												.098							
+ 28	1500	1529	1.8	1515	1.8			0	1.73	.05	1		1.68	.005	.991	185	.66	.05	.05
+						---	---												
												1.18							
+ 25	2000	37	2.3	37	2.5			0	1.66	.05	1		1.37	.021	.982	491	.31	.15	.14
+						50	2.3												
												1.26							
+ 20	1500	79	1.3	75	1.4			0	1.33	.05	1		1.42	.034	.938	243	.54	.05	.02
+						168	1.3												
												2.06							
+ 17	1100	247	1.3	241	1.3			0	1.73	.05	1		1.18	.041	.975	214	.59	.05	.06
+						---	---												
												2.28							
+ 17	900	58	1.1	55	1.2			0	2.29	.05	1		1.12	.023	.945	250	.53	.10	.02
+						292	1.3												
												2.27							
+ 14	320	148	2.0	148	2.0			0	1.78	.05	0		1.42	.000	1.000	29	1.002	.00	.00
+						155	1.9												
												2.40							
+ 12	3000	147	2.4	147	2.5			0	1.79	.05	1		1.53	.005	.999	198	.63	.05	.05
+						185	2.3												
												3.14							
+ 11	300	31	1.1	31	1.1			0	1.85	.05	0		1.32	.005	1.000	41	1.002	.00	.00
+						---	---												
												.911							
+ 22	950	78	2.5	78	2.7			0	1.39	.05	1		1.35	.007	.996	241	.54	.10	.02

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REV PC/09/83

BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

JOB 1 SUMMARY
PAGE 66

SUMMARY TABLE 2 - SELECTED MODIFIED ATT-KIN REACH ROUTINGS IN ORDER OF STANDARD EXECUTIVE CONTROL INSTRUCTIONS

(A STAR(*) AFTER VOLUME ABOVE BASE(IN) INDICATES A HYDROGRAPH TRUNCATED AT A VALUE EXCEEDING BASE (100 OF PEAK

A QUESTION MARK(?) AFTER COEFF.(C) INDICATES PARAMETERS OUTSIDE ACCEPTABLE LIMITS, SEE PREVIOUS WARNINGS)

HYDROGRAPH INFORMATION										ROUTING PARAMETERS						PEAK			
XSEC REACH		INFLOW		OUTFLOW		INTERV. AREA		BASE-	VOLUME	MAIN	ITER-	Q AND A		PEAK	S/Q	ATT-	TRAVEL TIME		
ID	LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	FLOW (CFS)	BASE (IN)	INCR (HR)	#	COEFF (X)	POWER (M)	FACTOR (K*)	Q/1 (Q*)	(K)	COEFF (C)	AGE (HR)	MA10C (HR)
ALTERNATE 1 STORM 1																			
8	1200	78	2.7	78	2.8			0	1.39	.05	1	1.70	1.43	.003	.999	156	.73?	.05	.04
8	1475	104	1.2	103	1.3	173	1.2	0	1.87	.05	1	1.70	1.43	.026	.984	176	.68?	.05	.05
7	950	175	1.2	175	1.3	265	1.1	0	1.60	.05	1	1.77	1.41	.003	.999	101	.94?	.05	.03
6	750	230	1.4	230	1.4	275	1.3	0	1.64	.05	0	1.89	1.40	.002	1.000	73	1.00?	.00	.00
4	1750	235	1.6	235	1.6	297	1.5	0	1.67	.05	0	2.84	1.52	.002	1.000	88	1.00?	.00	.00
3	1200	1692	1.8	1685	1.9			0	1.73	.05	1	.091	1.64	.005	.996	174	.68?	.10	.05
2	2550	1913	1.9	1870	2.0	1894	2.0	0	1.71	.05	1	.090	1.64	.014	.977	352	.41	.10	.10
ALTERNATE 1 STORM 2																			
86	2400	66	1.2	64	1.3	109	1.3	0	.71*	.05	1	2.79	1.45	.032	.970	223	.58	.10	.06
80	1850	191	1.3	175	1.5	203	1.4	0	.72	.05	1	5.36	1.00	.092	.919	345	.41	.15	.10
180	700	243	1.4	243	1.4			0	.76	.05	0	1.19	1.46	.005	1.000	76	1.00?	.00	.00

												9.61						
76	1325	46	1.1	46	1.1			0	1.39	.05	0	1.33	.010	1.000	70	1.007	.00	.00
+						50	1.1											
												5.26						
72	3000	32	1.1	30	1.2			0	.88*	.05	1	1.44	.045	.935	228	.57	.10	.08
+						135	1.1											
												.321						
70	1450	119	2.5	119	2.5			0	.83	.05	1	1.62	.005	.999	288	.48	.10	.08
+						127	2.3											
												2.47						
62	1000	290	1.2	290	1.2			0	.88	.05	0	1.36	.003	1.000	84	1.007	.00	.00
+						338	1.2											
												1.74						
58	1200	486	1.2	486	1.2			0	.94	.05	0	1.46	.003	1.000	80	1.007	.00	.00
						---	---											
												12.5						
59	2300	47	1.3	46	1.3			0	1.03	.05	1	1.00	.056	.973	184	.66	.05	.05
						---	---											
												4.73						
56	540	593	1.3	593	1.3			0	.95	.05	0	1.33	.001	1.000	26	1.007	.00	.00
						646	1.2											
												3.58						
54	1580	646	1.2	646	1.3			0	.95	.05	1	1.33	.007	1.000	90	1.007	.05	.03
						693	1.3											
												7.33						
52	800	399	1.8	399	1.8			0	.96	.05	0	1.16	.003	1.000	54	1.007	.00	.00
						407	1.8											
												3.61						
47	1200	64	1.3	63	1.3			0	.74*	.05	1	1.35	.015	.994	118	.817	.05	.03
						76	1.3											
												3.61						
44	1300	55	1.6	55	1.6			0	.74	.05	1	1.35	.011	.997	132	.817	.05	.04
						79	1.6											
												3.59						
42	2100	123	1.6	122	1.6			0	.88	.05	1	1.31	.019	.995	195	.63	.05	.05
						173	1.4											
												1.40						
40	2800	561	1.7	555	1.8			0	.96	.05	1	1.47	.008	.989	202	.62	.10	.06
						577	1.8											
												1.23						
39	1100	577	1.8	577	1.8			0	.97	.05	0	1.49	.002	1.000	79	1.007	.00	.00
						586	1.8											
												1.89						
37	800	35	1.1	35	1.2			0	1.38	.05	1	1.46	.015	.997	115	.887	.05	.03
						48	1.1											
												4.43						
36	1600	616	1.8	613	1.9			0	.98	.05	1	1.16	.013	.995	160	.727	.05	.04
+						625	1.9											
												2.77						
33	450	151	1.2	151	1.2			0	1.18*	.05	0	1.33	.005	1.000	46	1.007	.00	.00
+						165	1.2											
												1.56						
32	2300	49	2.3	49	2.4			0	1.22	.05	1	1.52	.007	.999	296	.47	.05	.08
+						62	2.2											
												1.47						
30	1500	686	1.9	685	1.9			0	1.00	.05	1	1.45	.003	.999	106	.927	.05	.03

.092

[illegible]

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PR20 XEQ  9/23/89   15:28      BLACK FOREST  PR20 RUN  2 HR. 100 YR. & 10 YR. STORMS
REV PC/09/83      TOTAL BASIN  FUTURE CONDITIONS W/DEL. & TYPE III STORM

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JOB 1 SUMMARY
PAGE 67

SUMMARY TABLE 2 - SELECTED MODIFIED ATT-KIN REACH ROUTINGS IN ORDER OF STANDARD EXECUTIVE CONTROL INSTRUCTIONS

(A STAR(*) AFTER VOLUME ABOVE BASE(IN) INDICATES A HYDROGRAPH TRUNCATED AT A VALUE EXCEEDING BASE + 10% OF PEAK

A QUESTION MARK (?) AFTER COEFF.(C) INDICATES PARAMETERS OUTSIDE ACCEPTABLE LIMITS, SEE PREVIOUS WARNINGS)

[illegible]

	8	1475	58	1.2	56	1.3		0	1.07*	.05	1	1.70	1.43	.032	.971	209	.60	.10	.06
+					101	1.2													
	+	7	950	101	1.2	101	1.3	0	.87	.05	1	1.70	1.43	.004	.998	114	.887	.05	.03
+					151	1.1													
	6	750	138	1.4	138	1.4		0	.90	.05	0	1.84	1.41	.003	1.000	83	1.007	.00	.00
+					165	1.3													
	4	1750	148	1.5	148	1.6		0	.93	.05	1	2.72	1.55	.002	1.000	101	.947	.05	.03
+					180	1.5													
	3	1200	785	2.3	782	2.4		0	.97	.05	1	.097	1.63	.006	.996	238	.55	.10	.07
+					---	---													
	2	2550	873	2.3	859	2.5		0	.96	.05	1	.097	1.63	.017	.983	486	.31	.20	.14
+					867	2.5													

TR20 XEQ 9/23/89 15:28
REV PC/09/83

BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DET.% TYPE III STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
STRUCTURE 73	.73		
ALTERNATE 1		164.04	119.20
STRUCTURE 52	.30		
ALTERNATE 1		78.48	22.50
STRUCTURE 47	.26		
ALTERNATE 1		113.92	65.32
STRUCTURE 44	.16		
ALTERNATE 1		141.46	55.29
STRUCTURE 33	.20		
ALTERNATE 1		74.59	49.46
STRUCTURE 28	.11		
ALTERNATE 1		109.74	53.95
STRUCTURE 27	.24		
ALTERNATE 1		230.72	111.15
STRUCTURE 26	.07		
ALTERNATE 1		80.49	29.31
STRUCTURE 25	.09		

ALTERNATE	1	108.43	53.31
STRUCTURE	23	.04	
+			
ALTERNATE	1	74.75	46.02
STRUCTURE	22	.05	
+			
ALTERNATE	1	103.96	66.91
STRUCTURE	20	1.19	

ALTERNATE	1	687.92	376.44
STRUCTURE	19	1.19	

ALTERNATE	1	686.97	376.89
STRUCTURE	18	.06	

ALTERNATE	1	89.55	47.21

TR20 XEQ 9/23/89 15:28
REV PC/09/83

BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
STRUCTURE 17	1.58		
+			
ALTERNATE 1		926.92	399.46
STRUCTURE 16	.08		

ALTERNATE 1		96.67	52.77
STRUCTURE 14	.01		

ALTERNATE 1		17.32	9.83
STRUCTURE 13	.23		

ALTERNATE 1		197.61	78.56
STRUCTURE 12	2.02		

ALTERNATE 1		1326.81	561.28
STRUCTURE 10	.05		

ALTERNATE 1		34.64	20.80
STRUCTURE 9	2.15		

ALTERNATE 1		1387.74	595.16
STRUCTURE 8	.11		
+			
ALTERNATE 1		37.37	13.88
STRUCTURE 7	.09		

ALTERNATE 1		79.46	35.25
STRUCTURE 6	.30		

+			

ALTERNATE	1		78.12	22.45
STRUCTURE	5	.03		
+-----				
ALTERNATE	1		10.51	5.60
STRUCTURE	4	.32		
+-----				
ALTERNATE	1		137.26	79.18
STRUCTURE	3	.36		
+-----				
ALTERNATE	1		147.42	83.70
STRUCTURE	2	.49		
+-----				
ALTERNATE	1		230.50	138.06

TR20 VER 9/23/89 15:28
REV PC/09/83

BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
STRUCTURE 1	.52		
+-----			
ALTERNATE 1		235.44	148.28
XSECTION 2	3.88		
+-----			
ALTERNATE 1		1894.55	867.73
XSECTION 3	3.20		
+-----			
ALTERNATE 1		1684.56	781.83
XSECTION 4	.81		
+-----			
ALTERNATE 1		296.57	180.07
XSECTION 6	.52		
+-----			
ALTERNATE 1		275.68	164.94
XSECTION 7	.49		
+-----			
ALTERNATE 1		264.92	151.71
XSECTION 8	.42		
+-----			
ALTERNATE 1		174.88	101.27
XSECTION 10	.08		
+-----			
ALTERNATE 1		104.77	57.91
XSECTION 11	.02		
+-----			
ALTERNATE 1		30.86	17.04
XSECTION 12	3.20		
+-----			
ALTERNATE 1		1694.91	785.30
XSECTION 14	.36		
+-----			

ALTERNATE	1	154.68	88.49
XSECTION	16	.03	
+			
ALTERNATE	1	31.67	15.95
XSECTION	17	.32	
+			
ALTERNATE	1	138.51	79.64
XSECTION	18	.23	
+			
ALTERNATE	1	247.34	131.70

R20 REQ 9/23/89 15:28 BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
REV PC/09/83 TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

(SECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
XSECTION 19	.03		
+			
ALTERNATE 1		58.56	36.05
XSECTION 20	.17		
+			
ALTERNATE 1		168.93	84.62
XSECTION 22	.30		
+			
ALTERNATE 1		78.13	22.45
XSECTION 24	.09		
+			
ALTERNATE 1		76.90	35.51
XSECTION 25	.16		
+			
ALTERNATE 1		49.98	20.51
XSECTION 26	.11		
+			
ALTERNATE 1		117.95	60.98
XSECTION 28	2.72		
+			
ALTERNATE 1		1517.70	682.73
XSECTION 30	2.57		
+			
ALTERNATE 1		1578.93	701.49
XSECTION 32	.25		
+			
ALTERNATE 1		106.28	61.68
XSECTION 33	.20		
+			
ALTERNATE 1		285.71	164.82
XSECTION 34	.19		
+			
ALTERNATE 1		264.79	151.30
XSECTION 36	2.25		
+			

ALTERNATE	1	1435.29	624.99
XSECTION	37	.05	
+			
ALTERNATE	1	81.63	48.82
XSECTION	38	.03	
+			
ALTERNATE	1	58.23	35.25

TR20 XEQ 9/23/89 15:28 BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
REV PC/09/83 TOTAL BASIN FUTURE CONDITIONS W/DET. & TYPE III STORM

JUG 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 XSECTION 39	2.15		
+			
ALTERNATE 1		1401.09	596.01
0 XSECTION 40	2.08		
+			
ALTERNATE 1		1356.62	577.42
XSECTION 42	.41		
+			
ALTERNATE 1		378.83	173.49
XSECTION 44	.23		
+			
ALTERNATE 1		198.75	78.66
XSECTION 46	.01		
+			
ALTERNATE 1		17.32	9.83
XSECTION 47	.16		
+			
ALTERNATE 1		158.16	76.20
0 XSECTION 48	.14		
+			
ALTERNATE 1		131.37	63.65
0 XSECTION 50	.08		
+			
ALTERNATE 1		99.39	54.52
0 XSECTION 52	2.02		
+			
ALTERNATE 1		1323.67	560.03
0 XSECTION 54	1.58		
+			
ALTERNATE 1		1265.38	692.81
0 XSECTION 56	1.52		
+			
ALTERNATE 1		1177.43	646.78
0 XSECTION 58	1.45		
+			
ALTERNATE 1		1077.69	596.15
0 XSECTION 59	.06		
+			

ALTERNATE	1	86.74	45.71
XSECTION	60	.08	
+-----			
ALTERNATE	1	92.98	50.52

R20 REQ 9/23/89 15:28 BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
 REV PC/09/83 TOTAL BASIN FUTURE CONDITIONS W/DEL. & TYPE III STORM

JOB 1 SUMMARY
 PAGE 73

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 XSECTION 62	1.19		
+-----			
ALTERNATE 1		688.62	380.08
0 XSECTION 64	.07		
+-----			
ALTERNATE 1		92.44	48.21
0 XSECTION 66	.17		
+-----			
ALTERNATE 1		220.89	114.26
XSECTION 68	.14		
+-----			
ALTERNATE 1		181.52	96.12
XSECTION 70	.77		
+-----			
ALTERNATE 1		175.39	127.40
XSECTION 72	.73		
+-----			
ALTERNATE 1		697.46	339.08
XSECTION 73	.04		
+-----			
ALTERNATE 1		63.76	32.63
0 XSECTION 74	.05		
+-----			
ALTERNATE 1		109.13	70.53
0 XSECTION 76	.10		
+-----			
ALTERNATE 1		186.88	116.96
0 XSECTION 78	.04		
+-----			
ALTERNATE 1		76.11	46.34
0 XSECTION 80	.57		
+-----			
ALTERNATE 1		514.20	244.27
0 XSECTION 82	.09		
+-----			
ALTERNATE 1		109.28	53.91
XSECTION 84	.07		
+-----			
ALTERNATE 1		80.04	38.05
XSECTION 86	.35		
+-----			

ALTERNATE 1

340.31 162.10

TR20 XEQ 9/23/89 15:28
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BLACK FOREST TR20 RUN 2 HR. 100 YR. & 10 YR. STORMS
TOTAL BASIN FUTURE CONDITIONS W/DEL. & TYPE III STORM

JOB 1 SUMMARY
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SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 XSECTION 88	.11		

ALTERNATE 1		109.86	52.96
0 XSECTION 90	.14		

ALTERNATE 1		137.37	65.81
0 XSECTION 180	.57		

ALTERNATE 1		514.20	244.27

END OF 1 JOBS IN THIS RUN

3m37mC:\MAB >

SECTION 5

GR	6732.000	100.000	6730.000	415.000	6728.000	438.000	6726.000	470.000	6724.000	520.000
GR	6724.000	630.000	6726.000	675.000	6728.000	690.000	6730.000	720.000	6732.000	745.000
YI	12.000	15.000	250.000	440.000	520.000	460.000	480.000	.000	.000	.000
GR	6748.000	70.000	6746.000	180.000	6744.000	212.000	6742.000	225.000	6740.000	250.000
GR	6738.000	270.000	6736.000	290.000	6734.000	315.000	6734.000	370.000	6736.000	395.000
GR	6738.000	420.000	6740.000	440.000	6742.000	470.000	6744.000	580.000	6742.000	720.000
BT	4.000	260.000	145.000	90.000	55.000	.000	.000	.000	.000	.000
YI	13.000	12.000	190.000	290.000	350.000	350.000	350.000	.000	.000	.000
GR	6756.000	.000	6752.000	110.000	6750.000	190.000	6748.000	230.000	6747.000	250.000
GR	6748.000	270.000	6750.000	275.000	6750.000	290.000	6744.200	360.000	6748.000	370.000
GR	6748.000	430.000	6750.000	470.000	.000	.000	.000	.000	.000	.000
YI	14.000	8.000	185.000	460.000	380.000	370.000	420.000	.000	.000	.000
GR	6768.000	.000	6762.500	185.000	6763.700	350.000	6762.000	440.000	6760.000	460.000
GR	6759.800	470.000	6760.000	630.000	6762.000	700.000	.000	.000	.000	.000
YI	15.000	12.000	255.000	505.000	360.000	480.000	430.000	.000	.000	.000
GR	6772.000	128.000	6770.000	255.000	6768.000	280.000	6766.000	315.000	6764.000	350.000
GR	6764.000	400.000	6766.000	440.000	6768.000	465.000	6770.000	505.000	6772.000	575.000
GR	6774.000	645.000	6776.000	715.000	.000	.000	.000	.000	.000	.000

1

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BT	4.000	170.000	125.000	80.000	50.000	.000	.000	.000	.000	.000
YI	16.000	7.000	220.000	430.000	750.000	800.000	775.000	.000	.000	.000
GR	6794.000	100.000	6796.000	220.000	6796.000	325.000	6794.000	345.000	6794.000	400.000
GR	6796.000	430.000	6798.000	640.000	.000	.000	.000	.000	.000	.000
YI	17.000	10.000	.000	43.000	200.000	200.000	200.000	.000	.000	.000
GR	6803.000	.000	6802.000	35.000	6802.000	39.000	6804.000	43.000	6805.900	240.000
GR	6804.000	285.000	6801.000	290.000	6802.000	300.000	6804.000	340.000	6806.000	435.000
YI	18.000	8.000	50.000	245.000	150.000	150.000	.000	.000	.000	.000
GR	6812.000	.000	6810.000	50.000	6808.500	90.000	6808.000	150.000	6806.000	170.000
GR	6808.000	200.000	6810.000	245.000	6812.000	270.000	.000	.000	.000	.000
EL	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

1

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SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	GLSS	BANK	ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOI	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

*PROF 1

CEHV= .100 CEHV= .300

*SECNO 11.000

3720 CRITICAL DEPTH ASSUMED

11.00	.60	6724.60	6724.60	6725.00	6724.88	.27	.00	.00	6730.00
315.	0.	315.	0.	0.	75.	0.	0.	0.	6730.00
.00	.00	4.20	.00	.060	.040	.060	.000	6724.00	504.91
.028964	0.	0.	0.	0	10	0	.00	138.67	643.58

1

*SECNO 12.000

12.00	1.04	6735.04	.00	.00	6735.35	.30	10.46	.01	6740.00
315.	0.	315.	0.	0.	71.	0.	1.	1.	6740.00
.03	.00	4.43	.00	.060	.040	.060	.000	6734.00	301.94
.016993	520.	480.	460.	6	0	0	.00	81.11	383.06

0

*SECNO 13.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

13.00	2.37	6746.57	6746.57	.00	6747.19	.61	9.16	.09	6750.00
260.	0.	0.	260.	0.	0.	41.	1.	2.	6750.00
.05	.00	.00	6.28	.060	.040	.060	.000	6744.20	331.36
.052273	350.	350.	350.	10	20	0	.00	34.88	366.24

1

*SECNO 14.000

3301 HV CHANGED MORE THAN HVINS

14.00	.64	6760.44	.00	.00	6760.55	.11	13.32	.05	6762.50
260.	0.	2.	258.	0.	1.	97.	2.	3.	6760.00
.08	.00	2.22	2.65	.060	.040	.060	.000	6759.80	455.49
.026253	380.	420.	370.	8	0	0	.00	190.28	645.77

0

*SECNO 15.000

15.00	1.28	6765.28	.00	.00	6765.40	.12	4.84	.00	6770.00
260.	0.	260.	0.	0.	95.	0.	3.	4.	6770.00
.13	.00	2.75	.00	.060	.040	.060	.000	6764.00	327.61
.005730	360.	430.	480.	8	0	0	.00	97.97	425.59

0

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PAGE 4

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HI	BLUSS	RANK ELEV
Q	QLOB	QCK	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLGR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 16.000

3265 DIVIDED FLOW

3280 CROSS SECTION 16.00 EXTENDED .58 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

16.00	.58	6794.58	6794.58	.00	6794.83	.24	7.32	.04	6796.00
170.	19.	151.	0.	10.	38.	0.	4.	6.	6796.00
.19	1.86	4.15	.00	.060	.040	.060	.000	6794.00	100.00
.029670	750.	775.	800.	20	14	0	.00	104.64	408.76

0

*SECNO 17.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

17.00	1.82	6802.82	6802.82	.00	6803.13	.31	6.60	.02	6803.00
170.	0.	66.	104.	0.	16.	23.	4.	6.	6804.00
.20	.00	4.22	4.59	.060	.040	.060	.000	6801.00	6.36
.036961	200.	200.	200.	5	23	0	.00	63.68	316.37

*SECNO 18.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

18.00	1.62	6807.62	6807.62	.00	6808.04	.42	1.41	.03	6810.00
170.	0.	170.	0.	0.	33.	0.	4.	6.	6810.00
.20	.00	5.20	.00	.060	.040	.060	.000	6806.00	153.83
.026168	150.	0.	150.	20	15	0	.00	40.42	194.25

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 HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR - 01,02,03,04,05,06
 MODIFICATION - 50,51,52,53,54,55,56
 IBM-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY
 T2 MIDDLE TRIBUTARY
 T3 50-YEAR EXISTING FLOODWAY

J1	ICHECK	INQ	NINV	IDIR	SIRT	METRIC	HVINS	0	WSEL	FQ
	-10.	3.	0.	0.	-1.000000	.00	.0	0.	6724.000	.000
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FW	ALLDC	IBW	CHNIN	ITRACE
	2.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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PAGE 6

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	GLSS	BANK	ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSIA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

*PROF 2

CEHV= .100 CEHV= .300

*SECNO 11.000

3720 CRITICAL DEPTH ASSUMED

11.00	.43	6724.43	6724.43	6724.00	6724.63	.20	.00	.00	6730.00
185.	0.	185.	0.	0.	52.	0.	0.	0.	6730.00
.00	.00	3.58	.00	.060	.040	.060	.000	6724.00	509.26

.031966	0.	0.	0.	0	22	0	.00	130.41	639.67
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*SECNO 12.000

12.00	.79	6734.79	.00	.00	6735.00	.20	10.37	.00	6740.00
185.	0.	185.	0.	0.	51.	0.	1.	1.	6740.00
.04	.00	3.60	.00	.060	.040	.060	.000	6734.00	305.11
.015563	520.	480.	460.	6	0	0	.00	74.78	379.89

*SECNO 13.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

13.00	1.88	6746.08	6746.08	.00	6746.56	.48	8.67	.08	6750.00
145.	0.	0.	145.	0.	0.	26.	1.	2.	6750.00
.05	.00	.00	5.56	.060	.040	.060	.000	6744.20	337.27
.055717	350.	350.	350.	8	20	0	.00	27.69	364.96

*SECNO 14.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3710 WSEL ASSUMED BASED ON MIN DIFF

14.00	.49	6760.29	6760.18	.00	6760.36	.07	13.77	10.85	6762.50
145.	0.	1.	144.	0.	0.	68.	1.	2.	6760.00
.10	.00	1.66	2.13	.060	.040	.060	.000	6759.80	457.10
.026575	380.	420.	370.	20	21	0	.00	183.03	640.13

*SECNO 15.000

15.00	.95	6764.95	.00	.00	6765.03	.08	4.67	.00	6770.00
145.	0.	145.	0.	0.	64.	0.	2.	4.	6770.00
.16	.00	2.25	.00	.060	.040	.060	.000	6764.00	333.40
.005395	360.	430.	480.	5	0	0	.00	85.58	418.97

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SECNO	DEPTH	CWSEL	CRIMS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELNIN	SSTA
SLOPE	XLOBL	XLCH	XLROB	ITRIAL	IDC	ICGNT	CORAR	TOPWID	ENDST

*SECNO 16.000

3265 DIVIDED FLOW

3280 CROSS SECTION 16.00 EXTENDED .49 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

16.00	.49	6794.49	6794.49	.00	6794.69	.21	7.80	.04	6796.00
125.	12.	113.	0.	7.	30.	0.	3.	5.	6796.00
.22	1.67	3.78	.00	.060	.040	.060	.000	6794.00	100.00
.030609	750.	775.	800.	20	11	0	.00	96.55	407.33

*SECNO 17.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

17.00	1.67	6802.67	6802.67	.00	6802.95	.28	6.83	.02	6803.00
125.	0.	42.	83.	0.	11.	19.	3.	6.	6804.00
.23	.00	3.82	4.45	.060	.040	.060	.000	6801.00	11.45
.038333	200.	200.	200.	4	23	0	.00	55.14	313.46

*SECNO 18.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

18.00	1.43	6807.43	6807.43	.00	6807.80	.37	1.58	.03	6810.00
125.	0.	125.	0.	0.	26.	0.	3.	6.	6810.00
.23	.00	4.86	.00	.060	.040	.060	.000	6806.00	155.65
.026763	150.	0.	150.	20	15	0	.00	35.86	191.52

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THIS RUN EXECUTED 07-24-89

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IBM-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY

T2 MIDDLE TRIBUTARY

T3 25-YEAR EXISTING FLOODWAY

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FR
	-10.	4.	0.	0.	-1.000000	.00	.0	0.	6723.500	.000
J2	NPROF	IFLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IRW	CHNIN	ITRACE
	3.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TUPWID	ENDST

*PROF 3

CEHV= .100 CEHV= .300

*SECNO 11.000

3720 CRITICAL DEPTH ASSUMED

11.00	.31	6724.31	6724.31	6723.50	6724.45	.14	.00	.00	6730.00
110.	0.	110.	0.	0.	36.	0.	0.	0.	6730.00
.00	.00	3.04	.00	.060	.040	.060	.000	6724.00	512.25

.034775	0.	0.	0.	0	22	0	.00	124.66	636.94
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)
 *SECNO 12.000
 12.00 .60 6734.60 .00 .00 6734.73 .13 10.28 .00 6740.00
 110. 0. 110. 0. 0. 37. 0. 0. 1. 6740.00
 .05 .00 2.94 .00 .060 .040 .060 .000 6734.00 307.52
 .014497 520. 480. 460. 8 0 0 .00 69.95 377.48

)
 *SECNO 13.000
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
 13.00 1.56 6745.76 6745.76 .00 6746.15 .40 8.50 .08 6750.00
 90. 0. 0. 90. 0. 0. 18. 1. 1. 6750.00
 .06 .00 .00 5.05 .060 .040 .060 .000 6744.20 341.21
 .059189 350. 350. 350. 4 20 0 .00 22.89 364.10

)
 *SECNO 14.000
 14.00 .40 6760.20 .00 .00 6760.25 .05 14.06 .03 6762.50
 90. 0. 0. 90. 0. 0. 51. 1. 2. 6760.00
 .12 .00 1.27 1.77 .060 .040 .060 .000 6759.80 458.06
 .026433 380. 420. 370. 9 0 0 .00 178.75 636.80

)
 *SECNO 15.000
 15.00 .74 6764.74 .00 .00 6764.80 .06 4.55 .00 6770.00
 90. 0. 90. 0. 0. 47. 0. 1. 4. 6770.00
 .19 .00 1.92 .00 .060 .040 .060 .000 6764.00 337.12
 .005208 360. 430. 480. 9 0 0 .00 77.59 414.72

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	QLOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTR	ELMIN	SSIA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDSI

*SECNO 16.000

3265 DIVIDED FLOW

3280 CROSS SECTION 16.00 EXTENDED .37 FEET

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

16.00	.37	6794.37	6794.37	.00	6794.53	.16	7.82	.03	6796.00
80.	6.	74.	0.	4.	22.	0.	2.	5.	6796.00
.26	1.44	3.31	.00	.060	.040	.060	.000	6794.00	100.00
.032489	750.	775.	800.	20	8	0	.00	86.83	405.62

*SECNO 17.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

17.00	1.50	6802.50	6802.50	.00	6802.73	.24	7.00	.02	6803.00
80.	0.	21.	59.	0.	7.	14.	2.	5.	6804.00

.27	.00	3.18	4.14	.060	.040	.060	.000	6801.00	17.60
.037829	200.	200.	200.	3	26	0	.00	44.83	309.94

0

*SECH0 18.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

18.00	1.20	6807.20	6807.20	.00	6807.51	.31	1.82	.02	6810.00
80.	0.	80.	0.	0.	18.	0.	2.	5.	6810.00
.27	.00	4.46	.00	.060	.040	.060	.000	6806.00	158.02
.028631	150.	0.	150.	20	15	0	.00	29.96	187.97

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THIS RUN EXECUTED 07-24-89

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IRM-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY

T2 MIDDLE TRIBUTARY

T3 10-YEAR EXISTING FLOODWAY

J1	ICHECK	INQ	NINQ	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	-10.	5.	0.	0.	-1.000000	.00	.0	0.	6723.000	.000
J2	HPROF	IPLOT	PREVS	XSECV	XSECH	FN	ALLDC	IRW	CHNIN	ITRACE
	15.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECH0	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROR	ALOR	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROR	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLORR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 4

CEHV= .100 CEHV= .300

*SECH0 11.000

3720 CRITICAL DEPTH ASSUMED

11.00	.22	6724.22	6724.22	6723.00	6724.32	.10	.00	.00	6730.00
65.	0.	65.	0.	0.	25.	0.	0.	0.	6730.00
.00	.00	2.55	.00	.060	.040	.060	.000	6724.00	514.47
.037375	0.	0.	0.	0	18	0	.00	120.51	634.98

0

*SECNO 12.000

12.00	.45	6734.45	.00	.00	6734.54	.09	10.21	.00	6740.00
65.	0.	65.	0.	0.	27.	0.	0.	1.	6740.00
.06	.00	2.40	.00	.060	.040	.060	.000	6734.00	309.41
.013719	520.	480.	460.	9	0	0	.00	66.18	375.59

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*SECNO 13.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

13.00	1.28	6745.48	6745.48	.00	6745.80	.32	8.41	.07	6750.00
55.	0.	0.	55.	0.	0.	12.	0.	1.	6750.00
.08	.00	.00	4.57	.060	.040	.060	.000	6744.20	344.55
.062922	350.	350.	350.	2	23	0	.00	18.81	363.37

)

*SECNO 14.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3710 WSEL ASSUMED BASED ON MIN DIFF

14.00	.32	6760.12	6760.05	.00	6760.15	.03	14.34	14.45	6762.50
55.	0.	0.	55.	0.	0.	38.	1.	2.	6760.00
.15	.00	.92	1.46	.060	.040	.060	.000	6759.80	458.80
.026250	380.	420.	370.	20	26	0	.00	175.41	634.20

)

*SECNO 15.000

15.00	.56	6764.56	.00	.00	6764.60	.04	4.45	.00	6770.00
55.	0.	55.	0.	0.	34.	0.	1.	4.	6770.00
.23	.00	1.62	.00	.060	.040	.060	.000	6764.00	340.16
.005060	360.	430.	480.	9	0	0	.00	71.08	411.24

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

*SECNO 16.000

3265 DIVIDED FLOW

3280 CROSS SECTION 16.00 EXTENDED .28 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

16.00	.28	6794.28	6794.28	.00	6794.40	.12	7.85	.02	6796.00
50.	3.	47.	0.	2.	17.	0.	2.	5.	6796.00
.30	1.23	2.85	.00	.060	.040	.060	.000	6794.00	100.00
.034364	750.	775.	800.	20	8	0	.00	78.99	404.23

)

*SECNO 17.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

17.00	1.33	6802.33	6802.33	.00	6802.54	.21	7.24	.03	6803.00
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50.	0.	8.	42.	0.	3.	11.	2.	5.	6804.00
.32	.00	2.51	3.85	.060	.040	.060	.000	6801.00	23.52
.038217	200.	200.	200.	20	29	0	.00	34.92	308.56

0

*SECNO 18.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

18.00	1.00	6807.00	6807.00	.00	6807.25	.25	2.11	.01	6810.00
50.	0.	50.	0.	0.	12.	0.	2.	5.	6810.00
.32	.00	4.03	.00	.060	.040	.060	.000	6806.00	160.04
.029961	150.	0.	150.	16	19	0	.00	24.90	184.94

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THIS RUN EXECUTED 07-24-89

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IBM-PC-XT VERSION AUGUST 1985

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

EAR EXISTING FLOODWAY

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10K*5	VCH	AREA	.01K
*	11.000	.00	.00	.00	6724.00	315.00	6724.60	6724.60	6724.88	289.64	4.20	75.04	18.51
*	11.000	.00	.00	.00	6724.00	185.00	6724.43	6724.43	6724.63	319.66	3.58	51.65	10.35
*	11.000	.00	.00	.00	6724.00	110.00	6724.31	6724.31	6724.45	347.75	3.04	36.21	5.90
*	11.000	.00	.00	.00	6724.00	65.00	6724.22	6724.22	6724.32	373.75	2.55	25.49	3.36
	12.000	480.00	.00	.00	6734.00	315.00	6735.04	.00	6735.35	169.93	4.43	71.08	24.16
	12.000	480.00	.00	.00	6734.00	185.00	6734.79	.00	6735.00	155.63	3.60	51.33	14.83
	12.000	480.00	.00	.00	6734.00	110.00	6734.60	.00	6734.73	144.97	2.94	37.37	9.14
	12.000	480.00	.00	.00	6734.00	65.00	6734.45	.00	6734.54	137.19	2.40	27.10	5.55
*	13.000	350.00	.00	.00	6744.20	260.00	6746.57	6746.57	6747.19	522.73	.00	41.38	11.37
*	13.000	350.00	.00	.00	6744.20	145.00	6746.08	6746.08	6746.56	557.17	.00	26.07	6.14
*	13.000	350.00	.00	.00	6744.20	90.00	6745.76	6745.76	6746.15	591.89	.00	17.82	3.70
*	13.000	350.00	.00	.00	6744.20	55.00	6745.48	6745.48	6745.80	629.22	.00	12.04	2.19
	14.000	420.00	.00	.00	6759.80	260.00	6760.44	.00	6760.55	262.53	2.22	98.20	16.05
*	14.000	420.00	.00	.00	6759.80	145.00	6760.29	6760.18	6760.36	265.75	1.66	68.13	8.89
	14.000	420.00	.00	.00	6759.80	90.00	6760.20	.00	6760.25	264.33	1.27	50.90	5.54
*	14.000	420.00	.00	.00	6759.80	55.00	6760.12	6760.05	6760.15	262.50	.92	37.76	3.39
	15.000	430.00	.00	.00	6764.00	260.00	6765.28	.00	6765.40	57.30	2.75	94.65	34.35
	15.000	430.00	.00	.00	6764.00	145.00	6764.95	.00	6765.03	53.95	2.25	64.31	19.74

	15.000	430.00	.00	.00	6764.00	90.00	6764.74	.00	6764.80	52.08	1.92	46.94	12.47
	15.000	430.00	.00	.00	6764.00	55.00	6764.56	.00	6764.60	50.60	1.62	34.02	7.73
*	16.000	775.00	.00	.00	6794.00	170.00	6794.58	6794.58	6794.83	276.70	4.15	46.61	9.87
*	16.000	775.00	.00	.00	6794.00	125.00	6794.49	6794.49	6794.69	306.09	3.78	37.04	7.14
*	16.000	775.00	.00	.00	6794.00	80.00	6794.37	6794.37	6794.53	324.89	3.31	26.56	4.44
*	16.000	775.00	.00	.00	6794.00	50.00	6794.28	6794.28	6794.40	343.64	2.85	18.51	2.70
*	17.000	200.00	.00	.00	6801.00	170.00	6802.82	6802.82	6803.13	369.61	4.22	38.30	8.84
*	17.000	200.00	.00	.00	6801.00	125.00	6802.67	6802.67	6802.95	383.33	3.82	29.65	6.38
*	17.000	200.00	.00	.00	6801.00	80.00	6802.50	6802.50	6802.73	378.29	3.18	20.87	4.11
*	17.000	200.00	.00	.00	6801.00	50.00	6802.33	6802.33	6802.54	382.17	2.51	14.13	2.56

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIMS	E6	10K*5	VCH	AREA	.01K
*	18.000	.00	.00	.00	6806.00	170.00	6807.62	6807.62	6808.04	261.68	5.20	32.67	10.51
*	18.000	.00	.00	.00	6806.00	125.00	6807.43	6807.43	6807.80	267.63	4.86	25.72	7.64
*	18.000	.00	.00	.00	6806.00	80.00	6807.20	6807.20	6807.51	286.31	4.46	17.95	4.73
*	18.000	.00	.00	.00	6806.00	50.00	6807.00	6807.00	6807.25	299.61	4.03	12.40	2.69

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EAR EXISTING FLOODWAY

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	11.000	315.00	6724.60	.00	.00	-.40	138.67	.00
*	11.000	185.00	6724.43	-.17	.00	.43	130.41	.00
*	11.000	110.00	6724.31	-.12	.00	.81	124.66	.00
*	11.000	65.00	6724.22	-.09	.00	1.22	120.51	.00
	12.000	315.00	6735.04	.00	10.44	.00	81.11	480.00
	12.000	185.00	6734.79	-.25	10.37	.00	74.78	480.00
	12.000	110.00	6734.60	-.20	10.29	.00	69.95	480.00
	12.000	65.00	6734.45	-.15	10.23	.00	66.18	480.00
*	13.000	260.00	6746.57	.00	11.53	.00	34.88	350.00
*	13.000	145.00	6746.08	-.49	11.29	.00	27.69	350.00
*	13.000	90.00	6745.76	-.33	11.16	.00	22.89	350.00
*	13.000	55.00	6745.48	-.28	11.03	.00	18.81	350.00
	14.000	260.00	6760.44	.00	13.87	.00	190.28	420.00
*	14.000	145.00	6760.29	-.15	14.21	.00	183.03	420.00
	14.000	90.00	6760.20	-.09	14.44	.00	178.75	420.00
*	14.000	55.00	6760.12	-.08	14.64	.00	175.41	420.00
	15.000	260.00	6765.28	.00	4.84	.00	97.97	430.00
	15.000	145.00	6764.95	-.33	4.66	.00	85.58	430.00
	15.000	90.00	6764.74	-.21	4.54	.00	77.59	430.00
	15.000	55.00	6764.56	-.18	4.44	.00	71.08	430.00

*	16.000	170.00	6794.58	.00	29.30	.00	104.64	775.00
*	16.000	125.00	6794.49	-.10	29.54	.00	96.55	775.00
*	16.000	80.00	6794.37	-.11	29.64	.00	86.83	775.00
*	16.000	50.00	6794.28	-.09	29.72	.00	78.99	775.00
*	17.000	170.00	6802.82	.00	8.23	.00	63.68	200.00
*	17.000	125.00	6802.67	-.15	8.18	.00	55.14	200.00
*	17.000	80.00	6802.50	-.18	8.12	.00	44.83	200.00
*	17.000	50.00	6802.33	-.17	8.05	.00	34.92	200.00
*	18.000	170.00	6807.62	.00	4.80	.00	40.42	.00
*	18.000	125.00	6807.43	-.18	4.76	.00	35.86	.00
*	18.000	80.00	6807.20	-.24	4.70	.00	29.96	.00
*	18.000	50.00	6807.00	-.20	4.67	.00	24.96	.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION	SECNO=	11.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	11.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	11.000	PROFILE= 3	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	11.000	PROFILE= 4	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	13.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	13.000	PROFILE= 1	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	13.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	13.000	PROFILE= 2	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	13.000	PROFILE= 3	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	13.000	PROFILE= 3	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	13.000	PROFILE= 4	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	13.000	PROFILE= 4	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	14.000	PROFILE= 2	WSEL ASSUMED BASED ON MIN DIFF
CAUTION	SECNO=	14.000	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	14.000	PROFILE= 4	WSEL ASSUMED BASED ON MIN DIFF
CAUTION	SECNO=	14.000	PROFILE= 4	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	16.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	16.000	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	16.000	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	16.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	16.000	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	16.000	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	16.000	PROFILE= 3	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	16.000	PROFILE= 3	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	16.000	PROFILE= 3	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	16.000	PROFILE= 4	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	16.000	PROFILE= 4	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	16.000	PROFILE= 4	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	17.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	17.000	PROFILE= 1	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	17.000	PROFILE= 2	CRITICAL DEPTH ASSUMED

CAUTION SECNO= 17.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 17.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 17.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 17.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 17.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 17.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 18.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 18.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 18.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 18.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 18.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 18.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 18.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 18.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 18.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL

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CAUTION SECNO= 18.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 18.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

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PAGE 1

THIS RUN EXECUTED 07-24-89

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IRM-PC-YT VERSION AUGUST 1985

* WATER SURFACE PROFILES *
 *
 * VERSION OF NOVEMBER 1976 *
 *
 * UPDATED MAY 1984 *
 *
 * IBM-PC-XT VERSION AUGUST 1985 *
 *
 * RUN DATE 07-24-89 TIME 15:55:51 *

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

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      X   X XXXXXXX XXXXX      XXXXX
      X   X X      X      X      X   X
      X   X X      X      X      X
      XXXXXXX XXXXX X      XXXXX XXXXX
      X   X X      X      X      X
      X   X X      X      X      X
      X   X XXXXXXX XXXXX      XXXXXXX
  
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PAGE 1

THIS RUN EXECUTED 07-24-89

 HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR - 01,02,03,04,05,06
 MODIFICATION - 50,51,52,53,54,55,56
 IBM-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY
 T2 MAIN TRIBUTARY
 T3 100-YEAR EXIST. FLOODWAY

J1	ICHECK	INQ	NINQ	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	2.	0.	0.	-1.000000	.00	.0	0.	6660.000	.000

J2	NPROF	IPL0T	PRFVS	XSECV	XSECH	FN	ALLOD	IRW	CHNIM	ITRACE
	1.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

NC	.060	.060	.040	.100	.300	.000	.000	.000	.000	.000
QT	4.000	2210.000	1610.000	1165.000	670.000	.000	.000	.000	.000	.000
Y1	50.000	18.000	490.000	545.000	.000	.000	.000	.000	.000	.000
RR	6665.000	100.000	6667.000	200.000	6664.000	270.000	6656.000	285.000	6655.000	320.000

GR	6656.000	380.000	6656.000	490.000	6653.000	495.000	6654.000	535.000	6656.000	545.000
GR	6658.000	600.000	6660.000	612.000	6662.000	622.000	6664.000	634.000	6666.000	648.000
GR	6668.000	670.000	6670.000	700.000	6672.000	720.000	.000	.000	.000	.000
X1	52.000	20.000	380.000	404.000	1150.000	1180.000	1165.000	.000	.000	.000
GR	6706.000	85.000	6704.000	125.000	6702.000	168.000	6700.000	205.000	6698.000	240.000
GR	6696.000	270.000	6696.000	360.000	6698.000	365.000	6696.000	370.000	6694.000	380.000
GR	6692.000	388.000	6690.000	390.000	6690.000	395.000	6692.000	402.000	6694.000	404.000
GR	6696.000	412.000	6698.000	590.000	6700.000	610.000	6702.000	635.000	6702.000	680.000
X1	54.000	16.000	310.000	438.000	1070.000	1100.000	1085.000	.000	.000	.000
GR	6728.000	120.000	6726.000	290.000	6724.000	292.000	6722.000	300.000	6720.000	310.000
GR	6718.000	320.000	6716.000	330.000	6716.000	400.000	6718.000	415.000	6720.000	438.000
GR	6722.200	510.000	6724.000	565.000	6726.000	605.000	6728.000	620.000	6730.000	648.000
GR	6732.000	705.000	.000	.000	.000	.000	.000	.000	.000	.000
QT	4.000	2090.000	1540.000	1095.000	620.000	.000	.000	.000	.000	.000
X1	56.000	13.000	390.000	410.000	160.000	85.000	110.000	.000	.000	.000
GR	6738.200	125.000	6736.000	245.000	6734.000	268.000	6730.000	300.000	6728.000	350.000
GR	6730.000	389.500	6717.000	390.000	6717.000	410.000	6730.000	410.500	6730.000	440.000
GR	6732.000	470.000	6734.000	550.000	6740.000	650.000	.000	.000	.000	.000
NC	.000	.000	.015	.000	.000	.000	.000	.000	.000	.000
X1	58.100	.000	.000	.000	10.000	10.000	10.000	.000	.000	.000
BT	13.000	125.000	6738.200	6738.200	245.000	6738.000	6736.000	268.000	6737.900	6734.000
BT	300.000	6737.800	6730.000	350.000	6737.600	6728.000	389.500	6737.500	6730.000	390.000
BT	6737.500	6727.000	410.000	6737.500	6727.000	410.500	6737.500	6730.000	440.000	6737.800
BT	6730.000	470.000	6738.000	6732.000	550.000	6739.000	6734.000	650.000	6740.000	6740.000

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PAGE 2

X1	58.200	.000	.000	.000	130.000	130.000	130.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
NC	.000	.000	.040	.000	.000	.000	.000	.000	.000	.000
QT	4.000	2065.000	1520.000	1080.000	615.000	.000	.000	.000	.000	.000
X1	60.000	32.000	328.000	452.000	225.000	225.000	205.000	.000	.000	.000
GR	6760.000	100.000	6758.000	150.000	6756.000	195.000	6754.000	220.000	6752.000	245.000
GR	6750.000	265.000	6748.000	273.000	6746.000	280.000	6744.000	295.000	6742.000	299.000
GR	6740.000	305.000	6738.000	318.000	6736.000	320.000	6734.000	323.000	6732.000	328.000
GR	6730.000	332.000	6728.000	340.000	6726.000	350.000	6724.000	380.000	6724.000	408.000
GR	6726.000	425.000	6728.000	438.000	6730.000	450.000	6732.000	452.000	6734.000	475.000
GR	6736.000	480.000	6738.000	500.000	6740.000	528.000	6742.000	600.000	6742.000	640.000
GR	6744.000	680.000	6746.000	700.000	.000	.000	.000	.000	.000	.000
X1	62.000	20.000	530.000	640.000	1140.000	1080.000	1110.000	.000	.000	.000
GR	6784.000	100.000	6780.000	300.000	6770.000	390.000	6768.000	450.000	6766.000	490.000
GR	6764.000	512.000	6762.000	530.000	6760.000	532.000	6758.000	534.000	6756.000	536.000
GR	6754.000	538.000	6754.000	565.000	6756.000	580.000	6758.000	600.000	6760.000	630.000
GR	6762.000	640.000	6764.000	660.000	6766.000	675.000	6768.000	690.000	6770.000	715.000
X1	63.000	10.000	295.000	460.000	290.000	310.000	275.000	.000	.000	.000
GR	6772.800	.000	6787.000	205.000	6776.000	285.000	6772.000	295.000	6770.100	305.000
GR	6770.100	375.000	6770.300	400.000	6772.000	460.000	6774.000	490.000	6780.000	610.000
X1	64.000	15.000	322.000	465.000	600.000	680.000	530.000	.000	.000	.000
GR	6810.000	100.000	6800.000	195.000	6790.000	272.000	6788.000	290.000	6786.000	308.000
GR	6784.000	322.000	6782.000	345.000	6782.000	390.000	6782.000	450.000	6784.000	465.000

GR	6786.000	488.000	6788.000	500.000	6790.000	520.000	6794.000	545.000	6794.000	670.000
XI	65.000	9.000	200.000	335.000	280.000	240.000	270.000	.000	.000	.000
RR	6802.000	.000	6798.000	75.000	6790.000	200.000	6788.000	275.000	6784.600	290.000
GR	6788.000	315.000	6790.000	335.000	6792.000	380.000	6796.000	450.000	.000	.000
XI	66.000	13.000	365.000	570.000	190.000	470.000	370.000	.000	.000	.000
RR	6824.000	100.000	6820.000	140.000	6810.000	200.000	6802.000	280.000	6800.000	330.000
RR	6798.000	365.000	6796.000	470.000	6794.000	485.000	6796.000	500.000	6798.000	570.000
GR	6800.000	600.000	6810.000	670.000	6820.000	785.000	.000	.000	.000	.000
QT	4.000	1990.000	1535.000	1080.000	610.000	.000	.000	.000	.000	.000
XI	68.000	16.000	255.000	465.000	180.000	160.000	165.000	.000	.000	.000
RR	6822.000	108.000	6820.000	125.000	6810.000	192.000	6808.000	208.000	6806.000	226.000
RR	6804.000	255.000	6802.000	285.000	6800.000	325.000	6800.000	415.000	6800.000	445.000
RR	6802.000	455.000	6804.000	465.000	6806.000	475.000	6808.000	478.000	6810.000	498.000
GR	6820.000	578.000	.000	.000	.000	.000	.000	.000	.000	.000
QT	4.000	1510.000	1160.000	790.000	490.000	.000	.000	.000	.000	.000
XI	69.000	10.000	180.000	215.000	570.000	620.000	600.000	.000	.000	.000
RR	6837.000	.000	6834.000	80.000	6832.000	180.000	6828.000	200.000	6832.000	215.000
GR	6834.000	285.000	6836.000	300.000	6836.900	370.000	6837.200	550.000	6838.000	680.000

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XI	70.000	12.000	445.000	520.000	650.000	640.000	575.000	.000	.000	.000
RR	6850.000	.000	6848.000	170.000	6846.000	180.000	6845.000	185.000	6845.000	260.000
RR	6848.000	275.000	6849.000	280.000	6849.000	445.000	6843.000	470.000	6843.000	490.000
RR	6848.000	520.000	6850.000	540.000	.000	.000	.000	.000	.000	.000
XI	71.000	8.000	105.000	170.000	770.000	750.000	770.000	.000	.000	.000
RR	6870.000	.000	6868.000	60.000	6860.000	105.000	6850.000	115.000	6850.000	125.000
GR	6858.000	135.000	6860.000	170.000	6870.000	240.000	.000	.000	.000	.000
QT	4.000	1445.000	1120.000	765.000	470.000	.000	.000	.000	.000	.000
NC	.060	.060	.030	.000	.000	.000	.000	.000	.000	.000
XI	72.000	25.000	380.000	430.000	775.000	720.000	800.000	.000	.000	.000
RR	6910.000	160.000	6900.000	285.000	6896.000	320.000	6890.000	360.000	6888.000	365.000
RR	6886.000	370.000	6884.000	372.000	6882.000	374.000	6880.000	376.000	6878.000	380.000
RR	6876.000	385.000	6874.000	390.000	6872.000	395.000	6872.000	405.000	6874.000	410.000
RR	6876.000	418.000	6878.000	425.000	6880.000	430.000	6882.000	435.000	6884.000	440.000
RR	6886.000	454.000	6888.000	460.000	6890.000	465.000	6894.000	490.000	6894.000	560.000
QT	4.000	1235.000	1045.000	710.000	430.000	.000	.000	.000	.000	.000
NC	.100	.100	.040	.000	.000	.000	.000	.000	.000	.000
XI	73.000	10.000	240.000	420.000	730.000	780.000	750.000	.000	.000	.000
RR	6926.000	100.000	6926.000	175.000	6920.000	225.000	6918.000	240.000	6912.000	300.000
RR	6910.000	330.000	6910.000	360.000	6912.000	380.000	6918.000	420.000	6919.000	450.000
NC	.060	.060	.030	.000	.000	.000	.000	.000	.000	.000
XI	74.000	25.000	160.000	206.000	850.000	860.000	855.000	.000	.000	.000
RR	6956.000	100.000	6950.000	140.000	6948.000	160.000	6946.000	168.000	6944.000	170.000
RR	6942.000	180.000	6940.000	185.000	6938.000	188.000	6940.000	190.000	6942.000	195.000
RR	6944.000	200.000	6946.000	204.000	6948.000	206.000	6950.000	215.000	6952.000	240.000
RR	6952.200	290.000	6954.000	328.000	6956.000	362.000	6956.000	400.000	6958.000	455.000
RR	6956.000	458.000	6956.000	478.000	6958.000	480.000	6960.000	495.000	6960.000	555.000
QT	4.000	630.000	460.000	335.000	225.000	.000	.000	.000	.000	.000

X1	76.000	7.000	240.000	246.000	330.000	320.000	325.000	.000	.000	.000
GR	6962.200	150.000	6960.000	230.000	6960.000	239.500	6955.000	240.000	6955.000	246.000
GR	6960.000	246.500	6960.000	320.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.015	.000	.000	.000	.000	.000	.000	.000
X1	78.100	.000	.000	.000	10.000	10.000	10.000	.000	.000	.000
RT	7.000	150.000	6963.800	6962.200	230.000	6963.100	6960.000	239.500	6962.900	6960.000
RT	240.000	6962.900	6959.000	246.000	6962.800	6959.000	246.500	6962.800	6960.000	320.000
RT	6962.400	6960.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	78.200	.000	.000	.000	75.000	75.000	75.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
X1	80.000	11.000	213.000	221.000	36.000	40.000	38.000	.000	.000	.000
GR	6968.000	100.000	6966.000	205.000	6964.000	210.000	6961.000	213.000	6957.000	214.000
GR	6957.000	219.000	6961.000	221.000	6966.000	225.000	6963.000	240.000	6970.000	250.000
GR	6980.000	360.000	.000	.000	.000	.000	.000	.000	.000	.000

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RT	4.000	455.000	330.000	235.000	155.000	.000	.000	.000	.000	.000
NC	.000	.000	.040	.000	.000	.000	.000	.000	.000	.000
X1	82.000	13.000	190.000	320.000	430.000	420.000	415.000	.000	.000	.000
GR	6984.000	100.000	6984.000	175.000	6982.000	190.000	6980.000	200.000	6978.000	220.000
GR	6978.000	305.000	6980.000	315.000	6982.000	320.000	6984.000	330.000	6986.000	340.000
GR	6988.000	350.000	6990.000	365.000	6996.000	390.000	.000	.000	.000	.000
X1	84.000	15.000	208.000	360.000	650.000	720.000	680.000	.000	.000	.000
GR	7015.000	100.000	7014.000	195.000	7012.000	208.000	7010.000	235.000	7008.000	260.000
GR	7006.000	275.000	7004.000	290.000	7006.000	308.000	7008.000	320.000	7010.000	340.000
GR	7012.000	360.000	7014.000	400.000	7016.000	460.000	7018.000	510.000	7020.000	540.000
RT	4.000	130.000	95.000	65.000	45.000	.000	.000	.000	.000	.000
X1	86.000	8.000	160.000	590.000	770.000	500.000	710.000	.000	.000	.000
GR	7044.000	100.000	7040.000	160.000	7038.000	275.000	7036.000	400.000	7036.000	450.000
GR	7038.000	560.000	7040.000	590.000	7042.000	690.000	.000	.000	.000	.000
X1	87.000	11.000	250.000	325.000	420.000	270.000	300.000	.000	.000	.000
GR	7060.000	.000	7050.000	110.000	7048.000	170.000	7046.000	250.000	7047.000	280.000
GR	7046.000	310.000	7044.000	315.000	7046.000	325.000	7048.000	340.000	7046.000	380.000
GR	7050.000	490.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	88.000	6.000	80.000	115.000	330.000	340.000	330.000	.000	.000	.000
GR	7062.000	.000	7060.000	80.000	7056.000	100.000	7058.000	115.000	7060.000	170.000
GR	7061.000	200.000	.000	.000	.000	.000	.000	.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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SECD	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HI	GLUSS	BANK	ELEV
0	QLOB	RCH	QROR	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROR	YNL	XNCH	XNR	WTH	ELMIN	SSTA	
SLOPE	YLOBL	YLCN	YLOBR	ITRIAL	IDC	ICONT	CDRAR	TOPWID	ENOST	

CEHV= .100 CEHV= .300

*SECNO 50.000

3720 CRITICAL DEPTH ASSUMED

50.00	3.98	6656.98	6656.98	6660.00	6657.72	.74	.00	.00	6656.00
2210.	763.	1425.	22.	250.	172.	13.	0.	0.	6656.00
.00	3.05	8.31	1.63	.060	.040	.060	.000	6653.00	283.16
.011247	0.	0.	0.	0	13	0	.00	288.87	572.03

*SECNO 52.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

52.00	7.65	6697.65	6697.65	.00	6698.53	.88	9.77	.04	6694.00
2210.	562.	1356.	293.	202.	145.	142.	12.	8.	6694.00
.05	2.78	9.38	2.06	.060	.040	.060	.000	6690.00	245.26
.006524	1150.	1165.	1180.	20	17	0	.00	311.79	558.80

*SECNO 54.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

54.00	2.87	6718.87	6718.87	.00	6720.05	1.18	11.01	.09	6720.00
2210.	0.	2210.	0.	0.	254.	0.	22.	13.	6720.00
.08	.00	8.71	.00	.060	.040	.060	.000	6716.00	315.65
.017963	1070.	1085.	1100.	20	18	0	.00	109.35	425.00

*SECNO 56.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

56.00	6.95	6723.95	6723.95	.00	6727.45	3.51	1.63	.70	6717.00
2090.	1.	2089.	1.	1.	139.	1.	22.	13.	6717.00
.08	.72	15.04	.72	.060	.040	.060	.000	6717.00	389.73
.012358	160.	110.	85.	20	17	0	.00	20.53	410.27

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SECNO	DEPTH	CWSEL	CRIMS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VDL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CDRAR	TOPWID	ENDS1

*SECNO 58.100

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 6737.50 MAX ELLC= 6740.00

58.10	7.69	6724.69	.00	.00	6727.55	2.86	.03	.06	6717.00
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2090.	0.	2089.	0.	1.	154.	1.	22.	13.	6717.00
.08	.24	13.57	.24	.060	.015	.060	.000	6717.00	389.70
.001235	10.	10.	10.	4	0	0	.00	20.59	410.30

0
*SECNO 58.200

3370 NORMAL BRIDGE,HRD= 13 MIN ELTRD= 6737.50 MAX ELLC= 6740.00

58.20	8.23	6725.23	.00	.00	6727.73	2.49	.14	.04	6717.00
2090.	0.	2089.	0.	1.	165.	1.	23.	13.	6717.00
.09	.23	12.67	.23	.060	.015	.060	.000	6717.00	389.68
.000983	130.	130.	130.	2	0	0	.00	20.63	410.32

0
*SECNO 60.000

3301 HV CHANGED MORE THAN HVINS

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

60.00	3.51	6727.51	6727.51	.00	6728.77	1.26	.52	.12	6732.00
2065.	0.	2065.	0.	0.	229.	0.	23.	14.	6732.00
.09	.00	9.02	.00	.060	.040	.060	.000	6724.00	342.47
.017664	225.	205.	225.	20	18	0	.00	92.32	434.79

0
*SECNO 62.000

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

62.00	4.45	6758.45	6758.45	.00	6759.92	1.47	19.36	.06	6762.00
2065.	0.	2065.	0.	0.	212.	0.	29.	16.	6762.00
.13	.00	9.73	.00	.060	.040	.060	.000	6754.00	533.55
.017221	1140.	1110.	1080.	8	11	0	.00	73.18	606.73

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLGBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 63.000

3301 HV CHANGED MORE THAN HVINS

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

63.00	2.15	6772.25	6772.25	.00	6773.10	.84	5.03	.06	6772.00
2065.	0.	2065.	0.	0.	280.	0.	31.	17.	6772.00
.14	.03	7.37	.87	.060	.040	.060	.000	6770.10	294.37
.019496	290.	275.	310.	20	11	0	.00	169.40	463.77

0
*SECNO 64.000

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

64.00	2.12	6784.12	6784.12	.00	6785.06	.94	10.27	.03	6784.00
2065.	0.	2065.	0.	0.	266.	0.	34.	19.	6784.00

.15	.03	7.78	.03	.060	.040	.060	.000	6782.00	321.14
.019240	600.	530.	680.	3	5	0	.00	145.27	466.41

0
*SECNO 65.000
7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

65.00	5.48	6790.08	6790.08	.00	6791.11	1.03	5.42	.03	6790.00
2065.	0.	2065.	0.	0.	253.	0.	36.	19.	6790.00
.16	.04	8.16	.04	.060	.040	.060	.000	6784.60	198.83
.021001	280.	270.	240.	3	20	0	.00	137.87	336.69

0
*SECNO 66.000
7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

66.00	4.20	6798.20	6798.20	.00	6798.91	.70	7.42	.03	6798.00
2065.	0.	2064.	0.	0.	307.	0.	38.	21.	6798.00
.18	.75	6.73	.75	.060	.040	.060	.000	6794.00	361.42
.019175	190.	370.	470.	5	14	0	.00	211.65	573.07

0
*SECNO 68.000
7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

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

68.00	1.90	6801.90	6801.90	.00	6802.72	.83	3.24	.04	6804.00
1990.	0.	1990.	0.	0.	273.	0.	39.	22.	6804.00
.19	.00	7.29	.00	.060	.040	.060	.000	6800.00	287.02
.020119	180.	165.	160.	3	14	0	.00	167.47	454.49

0
*SECNO 69.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

69.00	6.01	6834.01	6834.01	.00	6834.79	.78	7.50	.00	6832.00
1510.	221.	1134.	155.	101.	140.	71.	43.	24.	6832.00
.21	2.19	8.08	2.19	.060	.040	.060	.000	6828.00	79.69
.007675	570.	600.	620.	20	23	0	.00	205.40	285.09

0
*SECNO 70.000
3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

70.00	3.46	6846.46	6846.46	.00	6847.23	.77	6.25	.00	6849.00
1510.	460.	1050.	0.	120.	130.	0.	47.	27.	6848.00
.24	3.82	8.06	.00	.060	.040	.060	.000	6843.00	177.69
.015248	650.	575.	640.	20	11	0	.00	144.83	510.78

0
*SECNO 71.000

3301 HV CHANGED MORE THAN HVINS

71.00	7.17	6857.17	.00	.00	6859.27	2.11	11.64	.40	6860.00
1510.	0.	1510.	0.	0.	130.	0.	50.	28.	6860.00
.25	.00	11.65	.00	.060	.040	.060	.000	6850.00	107.83
.014983	770.	770.	750.	3	0	0	.00	26.14	133.97

0

*SECNO 72.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

72.00	5.49	6877.49	6877.49	.00	6879.17	1.68	9.47	.04	6878.00
1445.	0.	1445.	0.	0.	139.	0.	53.	29.	6880.00
.27	.00	10.42	.00	.060	.030	.060	.000	6872.00	381.28
.009510	775.	800.	720.	12	15	0	.00	41.93	423.21

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

*SECNO 73.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

73.00	2.61	6912.61	6912.61	.00	6913.51	.91	9.62	.08	6918.00
1235.	0.	1235.	0.	0.	162.	0.	55.	30.	6918.00
.30	.00	7.64	.00	.100	.040	.100	.000	6910.00	293.93
.019483	730.	750.	780.	20	14	0	.00	90.12	384.05

0

*SECNO 74.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

74.00	7.43	6945.43	6945.43	.00	6947.19	1.76	11.88	.26	6948.00
1235.	0.	1235.	0.	0.	116.	0.	58.	31.	6948.00
.32	.00	10.64	.00	.060	.030	.060	.000	6938.00	168.57
.010408	850.	855.	860.	20	23	0	.00	34.30	202.87

0

*SECNO 76.000

3280 CROSS SECTION 76.00 EXTENDED 1.57 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

76.00	6.57	6961.57	6961.57	.00	6962.30	.72	1.91	.10	6955.00
630.	77.	354.	199.	62.	39.	118.	59.	32.	6955.00

.34	1.23	8.98	1.69	.060	.030	.060	.000	6955.00	172.74
.002670	330.	325.	320.	20	9	0	.00	147.26	320.00

0

*SECNO 78.100

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLORR	ITRIAL	JDC	ICONT	CORAR	TOPWID	ENDST

3280 CROSS SECTION 78.10 EXTENDED 4.19 FEET

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 6962.40 MAX ELLC= 6962.20

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

78.10	9.19	6964.19	6964.19	.00	6964.81	.62	.03	.01	6955.00
630.	96.	291.	244.	72.	32.	119.	59.	32.	6955.00
.34	1.32	9.08	2.05	.060	.015	.060	.000	6955.00	150.00
.003889	10.	10.	10.	20	9	0	-434.03	170.00	320.00

0

*SECNO 78.200

3280 CROSS SECTION 78.20 EXTENDED 4.80 FEET

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 6962.40 MAX ELLC= 6962.20

78.20	9.80	6964.80	.00	.00	6965.02	.22	.17	.04	6955.00
630.	152.	218.	260.	127.	36.	164.	60.	32.	6955.00
.35	1.20	6.11	1.59	.060	.015	.060	.000	6955.00	150.00
.001529	75.	75.	75.	3	0	0	-434.03	170.00	320.00

*SECNO 80.000

3301 HV CHANGED MORE THAN HVINS

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

80.00	6.57	6963.57	6963.57	.00	6966.31	2.74	.08	.76	6961.00
630.	5.	622.	3.	3.	47.	3.	60.	32.	6961.00
.35	1.38	13.37	1.27	.060	.015	.060	.000	6957.00	210.43
.003531	36.	38.	40.	20	14	0	.00	12.62	223.05

0

*SECNO 82.000

3301 HV CHANGED MORE THAN HVINS

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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

82.00	.93	6978.93	6978.93	.00	6979.37	.44	2.68	.23	6982.00
455.	0.	455.	0.	0.	86.	0.	61.	33.	6982.00
.37	.00	5.30	.00	.060	.040	.060	.000	6978.00	210.67
.024707	430.	415.	420.	20	17	0	.00	98.99	309.66

*SECNO 84.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

84.00	2.83	7006.83	7006.83	.00	7007.59	.76	15.59	.10	7012.00
455.	0.	455.	0.	0.	85.	0.	62.	34.	7012.00
.40	.00	6.99	.00	.060	.040	.060	.000	7004.00	268.76
.021344	650.	680.	720.	4	23	0	.00	44.23	312.99

0

*SECNO 86.000

3301 HV CHANGED MORE THAN HVINS

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

86.00	.48	7036.48	7036.48	.00	7036.67	.19	16.72	.06	7040.00
130.	0.	130.	0.	0.	38.	0.	63.	35.	7040.00
.45	.00	3.46	.00	.060	.040	.060	.000	7036.00	369.97
.034741	770.	710.	500.	20	24	0	.00	106.46	476.43

*SECNO 87.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

87.00	2.44	7046.44	7046.44	.00	7046.70	.26	8.51	.02	7046.00
130.	5.	117.	7.	4.	27.	5.	63.	36.	7046.00
.48	1.38	4.27	1.38	.060	.040	.060	.000	7044.00	232.36
.023360	420.	300.	270.	5	29	0	.00	83.34	392.13

✓

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

*SECNO 88.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

88.00	1.92	7057.92	7057.92	.00	7058.41	.49	7.93	.07	7060.00
130.	0.	130.	0.	0.	23.	0.	63.	36.	7058.00
.49	.00	5.63	.00	.060	.040	.060	.000	7056.00	90.39
.024659	330.	330.	340.	4	15	0	.00	24.02	114.41

THIS RUN EXECUTED 07-24-89

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IBM-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY

T2 MAIN TRIBUTARY

T3 50-YEAR EXISTING FLOODWAY

J1	ICHECK	INO	NINV	IDIR	STRT	METRIC	HVINS	W	WSEL	FR
	-10.	3.	0.	0.	-1.000000	.00	.0	0.	6658.500	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IGW	CHNIN	ITRACE
	2.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	WSEL	CRWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CDRAR	TOPWID	ENDST

*PROF 2

CCHV= .100 CEHV= .300

*SECNO 50.000

3720 CRITICAL DEPTH ASSUMED

50.00	3.73	6656.73	6656.73	6658.50	6657.31	.58	.00	.00	6656.00
1610.	477.	1124.	9.	198.	158.	7.	0.	0.	6656.00
.00	2.41	7.12	1.22	.060	.040	.060	.000	6653.00	283.62
.009232	0.	0.	0.	0	17	0	.00	281.54	565.17

*SECNO 52.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

52.00	7.26	6697.26	6697.26	.00	6698.02	.77	8.22	.06	6694.00
1610.	336.	1122.	152.	152.	135.	88.	10.	7.	6694.00
.05	2.22	8.30	1.72	.060	.040	.060	.000	6690.00	251.14
.005591	1150.	1165.	1180.	20	23	0	.00	269.05	523.90

*SECNO 54.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

54.00	2.36	6718.36	6718.36	.00	6719.36	1.00	10.17	.07	6720.00
1610.	0.	1610.	0.	0.	200.	0.	17.	12.	6720.00
.09	.00	8.04	.00	.060	.040	.060	.000	6716.00	318.26
.018894	1070.	1085.	1100.	20	17	0	.00	100.93	419.13

0

*SECNO 56.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

56.00	5.67	6722.67	6722.67	.00	6725.53	2.86	1.73	.56	6717.00
1540.	0.	1539.	0.	1.	113.	1.	17.	12.	6717.00
.09	.65	13.58	.65	.060	.040	.060	.000	6717.00	389.78
.013209	160.	110.	85.	20	17	0	.00	20.44	410.22

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

*SECNO 58.100

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 6737.50 MAX ELLC= 6740.00

58.10	6.25	6723.25	.00	.00	6725.61	2.36	.03	.05	6717.00
1540.	0.	1540.	0.	1.	125.	1.	17.	12.	6717.00
.09	.22	12.32	.22	.060	.015	.060	.000	6717.00	389.76
.001343	10.	10.	10.	8	0	0	.00	20.48	410.24

0

*SECNO 58.200

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 6737.50 MAX ELLC= 6740.00

58.20	6.82	6723.82	.00	.00	6725.80	1.98	.15	.04	6717.00
1540.	0.	1540.	0.	1.	136.	1.	18.	12.	6717.00
.09	.20	11.28	.20	.060	.015	.060	.000	6717.00	389.74
.001002	130.	130.	130.	3	0	0	.00	20.52	410.26

0

*SECNO 60.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

60.00	2.99	6726.99	6726.99	.00	6728.06	1.07	.54	.09	6732.00
1520.	0.	1520.	0.	0.	183.	0.	19.	12.	6732.00
.10	.00	8.30	.00	.060	.040	.060	.000	6724.00	345.04
.018468	225.	205.	225.	20	14	0	.00	86.40	431.45

*SECNO 62.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

62.00	3.75	6757.75	6757.75	.00	6759.07	1.32	20.17	.08	6762.00
1520.	0.	1520.	0.	0.	165.	0.	23.	14.	6762.00
.13	.00	9.23	.00	.060	.040	.060	.000	6754.00	534.25
.017875	1140.	1110.	1080.	20	11	0	.00	63.22	597.47

0

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SECNO	DEPTH	CWSEL	CRIMS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VDL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLORL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 63.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

63.00	1.82	6771.92	6771.92	.00	6772.63	.70	5.33	.06	6772.00
1520.	0.	1520.	0.	0.	226.	0.	24.	15.	6772.00
.15	.00	6.73	.00	.060	.040	.060	.000	6770.10	295.41
.021071	290.	275.	310.	20	11	0	.00	161.87	457.28

*SECNO 64.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

64.00	1.76	6783.76	6783.76	.00	6784.54	.78	10.96	.02	6784.00
1520.	0.	1520.	0.	0.	215.	0.	27.	17.	6784.00
.17	.00	7.08	.00	.060	.040	.060	.000	6782.00	324.73
.020309	600.	530.	680.	5	8	0	.00	138.49	463.22

0

*SECNO 65.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

65.00	5.10	6789.70	6789.70	.00	6790.56	.85	5.42	.02	6790.00
1520.	0.	1520.	0.	0.	205.	0.	28.	18.	6790.00
.18	.00	7.41	.00	.060	.040	.060	.000	6784.60	211.08
.019810	280.	270.	240.	3	20	0	.00	120.97	332.05

1

*SECNO 66.000

66.00	3.85	6797.85	6797.83	.00	6798.50	.65	7.92	.02	6798.00
1520.	0.	1520.	0.	0.	235.	0.	30.	19.	6798.00
.19	.00	6.47	.00	.060	.040	.060	.000	6794.00	372.97
.023196	190.	370.	470.	5	13	0	.00	191.71	564.69

7

*SECNO 68.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

68.00	1.62	6801.62	6801.62	.00	6802.33	.71	3.64	.02	6804.00
1535.	0.	1535.	0.	0.	227.	0.	31.	20.	6804.00
.20	.00	6.78	.00	.060	.040	.060	.000	6800.00	292.69
.021034	180.	165.	160.	3	14	0	.00	160.39	453.08

0
1

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PAGE 17

SECD	DEPTH	CMSEL	CRMS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	IRIAL	IOC	ICONT	CDRAR	TOPWID	ENDST

*SECNO 69.000

3685 20 TRIALS ATTEMPTED WSEL,CMSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

69.00	5.46	6833.46	6833.46	.00	6834.34	.88	8.58	.05	6832.00
1160.	104.	983.	73.	53.	121.	37.	34.	22.	6832.00
.22	1.95	8.12	1.95	.060	.040	.060	.000	6828.00	107.00
.009448	570.	600.	620.	20	23	0	.00	159.10	266.10

*SECNO 70.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CMSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

70.00	3.15	6846.15	6846.15	.00	6846.85	.70	6.92	.02	6849.00
1160.	301.	859.	0.	93.	113.	0.	37.	24.	6848.00
.25	3.24	7.57	.00	.060	.040	.060	.000	6843.00	179.25
.014919	650.	575.	640.	20	14	0	.00	138.54	508.91

0

*SECNO 71.000

3301 HV CHANGED MORE THAN HVINS

71.00	6.42	6856.42	.00	.00	6858.13	1.71	10.97	.30	6860.00
1160.	0.	1160.	0.	0.	111.	0.	40.	25.	6860.00
.27	.00	10.50	.00	.060	.040	.060	.000	6850.00	108.58
.013628	770.	770.	750.	4	0	0	.00	24.44	133.02

*SECNO 72.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

72.00	4.85	6876.85	6876.85	.00	6878.37	1.52	9.24	.02	6878.00
1120.	0.	1120.	0.	0.	113.	0.	42.	26.	6880.00
.29	.00	9.88	.00	.060	.030	.060	.000	6872.00	382.87
.009863	775.	800.	720.	13	15	0	.00	38.12	420.99

0

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SECD	DEPTH	CMSEL	CRMS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 73.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

73.00	2.38	6912.38	6912.38	.00	6913.23	.84	10.16	.07	6918.00
1045.	0.	1045.	0.	0.	142.	0.	44.	27.	6918.00
.32	.00	7.37	.00	.100	.040	.100	.000	6910.00	296.18
.020383	730.	750.	780.	20	8	0	.00	86.37	382.55

*SECNO 74.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

74.00	7.04	6945.04	6945.04	.00	6946.64	1.60	12.21	.23	6948.00
1045.	0.	1045.	0.	0.	103.	0.	46.	28.	6948.00
.34	.00	10.15	.00	.060	.030	.060	.000	6938.00	168.96
.010564	850.	855.	860.	20	23	0	.00	33.13	202.09

*SECNO 76.000

3280 CROSS SECTION 76.00 EXTENDED 1.22 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

76.00	6.22	6961.22	6961.22	.00	6961.88	.65	1.87	.09	6955.00
460.	40.	299.	121.	41.	37.	92.	47.	29.	6955.00
.36	.98	7.99	1.32	.060	.030	.060	.000	6955.00	185.49
.002275	330.	325.	320.	20	9	0	.00	134.51	320.00

*SECNO 78.100

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3280 CROSS SECTION 78.10 EXTENDED 3.94 FEET

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 6962.40 MAX ELLO= 6962.20

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

78.10	8.94	6963.94	6963.94	.00	6964.49	.55	.03	.01	6955.00
460.	47.	245.	167.	50.	31.	100.	47.	29.	6955.00
.36	.95	8.04	1.67	.060	.015	.060	.000	6955.00	150.00
.003253	10.	10.	10.	20	10	0	-434.03	170.00	320.00

0

*SECNO 78.200

3280 CROSS SECTION 78.20 EXTENDED 4.47 FEET

3370 NORMAL BRIDGE,NAD= 7 MIN ELTRD= 6962.40 MAX ELLC= 6962.20

78.20	9.48	6964.48	.00	.00	6964.67	.20	.15	.04	6955.00
460.	91.	184.	185.	97.	34.	139.	48.	29.	6955.00
.37	.93	5.46	1.33	.060	.015	.060	.000	6955.00	150.00
.001318	75.	75.	75.	3	0	0	-434.03	170.00	320.00

0

*SECNO 80.000

3301 HV CHANGED MORE THAN HVINS

80.00	6.70	6963.70	.00	.00	6965.09	1.39	.06	.36	6961.00
460.	4.	454.	3.	4.	48.	3.	48.	29.	6961.00
.37	1.00	9.53	.92	.060	.015	.060	.000	6957.00	210.30
.001741	36.	38.	40.	3	0	0	.00	12.86	223.16

0

*SECNO 82.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

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PAGE 20

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
R	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLORL	XLCH	XLORR	ITRIAL	IDC	ICONT	CONAR	TOPWID	ENDST

82.00	.75	6978.75	6978.75	.00	6979.12	.36	1.52	.10	6982.00
330.	0.	330.	0.	0.	68.	0.	48.	30.	6982.00
.39	.00	4.84	.00	.060	.040	.060	.000	6978.00	212.48
.026906	430.	415.	420.	20	20	0	.00	96.29	308.76

0

*SECNO 84.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

84.00	2.50	7006.50	7006.50	.00	7007.15	.65	16.47	.09	7012.00
330.	0.	330.	0.	0.	51.	0.	49.	31.	7012.00
.42	.00	6.47	.00	.060	.040	.060	.000	7004.00	271.28
.021929	650.	680.	720.	5	23	0	.00	39.69	310.97

0

*SECNO 86.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

86.00	.40	7036.40	7036.40	.00	7036.56	.16	17.24	.05	7040.00
95.	0.	95.	0.	0.	30.	0.	50.	32.	7040.00
.48	.00	3.20	.00	.060	.040	.060	.000	7036.00	374.82
.036193	770.	710.	500.	20	20	0	.00	97.33	472.16

*SECNO 87.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

87.00	2.29	7046.29	7046.29	.00	7046.55	.26	8.33	.03	7046.00
95.	2.	91.	2.	2.	22.	2.	50.	33.	7046.00
.50	1.00	4.18	1.00	.060	.040	.060	.000	7044.00	238.52
.021886	420.	300.	270.	4	32	0	.00	59.50	387.90

*SECNO 88.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

88.00	1.69	7057.69	7057.69	.00	7058.13	.44	7.84	.05	7060.00
95.	0.	95.	0.	0.	18.	0.	50.	33.	7058.00
.52	.00	5.30	.00	.060	.040	.060	.000	7056.00	91.53
.025827	330.	330.	340.	3	19	0	.00	21.17	112.70

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HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IBM-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY

T2 MAIN TRIBUTARY

T3 25-YEAR EXISTING FLOODWAY

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVING	Q	WSEL	FR
	-10.	4.	0.	0.	-1.000000	.00	.0	0.	6658.000	.000
J2	NPROF	IPLBT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	CWSEL	CRIMS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	QLOB	ACH	QROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CDRAR	TOPWID	ENOSI

*PROF 3

CEHV= .100 CEHV= .300

*SECNO 50.000

3720 CRITICAL DEPTH ASSUMED

50.00	3.38	6656.38	6656.38	6658.00	6656.94	.56	.00	.00	6656.00
1165.	240.	923.	2.	126.	138.	2.	0.	0.	6656.00
.00	1.91	6.67	.80	.060	.040	.060	.000	6653.00	284.29
.009649	0.	0.	0.	0	13	0	.00	271.17	555.46

*SECNO 52.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

52.00	6.65	6696.65	6696.65	.00	6697.52	.87	8.90	.09	6694.00
1165.	134.	978.	53.	79.	121.	32.	7.	6.	6694.00
.05	1.69	8.11	1.65	.060	.040	.060	.000	6690.00	260.25
.006222	1150.	1165.	1180.	20	18	0	.00	202.84	469.84

0

*SECNO 54.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

54.00	1.93	6717.93	6717.93	.00	6718.77	.84	11.07	.00	6720.00
1165.	0.	1165.	0.	0.	158.	0.	11.	10.	6720.00
.09	.00	7.36	.00	.060	.040	.060	.000	6716.00	320.36
.019740	1070.	1085.	1100.	20	14	0	.00	94.10	414.46

0

*SECNO 56.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

56.00	4.51	6721.51	6721.51	.00	6723.80	2.28	1.84	.43	6717.00
1095.	0.	1095.	0.	0.	90.	0.	12.	10.	6717.00
.09	.58	12.13	.58	.060	.040	.060	.000	6717.00	389.83
.014284	160.	110.	85.	20	17	0	.00	20.35	410.17

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 58.100

3370 NORMAL BRIDGE,WRD= 13 MIN ELTRO= 6737.50 MAX ELLC= 6740.00

58.10	5.03	6722.03	.00	.00	6723.87	1.84	.03	.04	6717.00
-------	------	---------	-----	-----	---------	------	-----	-----	---------

1095.	0.	1095.	0.	0.	100.	0.	12.	10.	6717.00
.09	.20	10.90	.20	.060	.015	.060	.000	6717.00	389.81
.001406	10.	10.	10.	6	0	0	.00	20.39	410.19

0
*SECNO 58.200

3370 NORMAL BRIDGE,WRD= 13 MIN ELTRD= 6737.50 MAX ELLC= 6740.00

58.20	5.55	6722.55	.00	.00	6724.06	1.51	.15	.03	6717.00
1095.	0.	1095.	0.	1.	111.	1.	12.	10.	6717.00
.09	.18	9.86	.18	.060	.015	.060	.000	6717.00	389.79
.001008	130.	130.	130.	3	0	0	.00	20.43	410.21

0
*SECNO 60.000

3301 HV CHANGED MORE THAN HVINS

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

60.00	2.51	6726.51	6726.51	.00	6727.40	.89	.54	.06	6732.00
1080.	0.	1080.	0.	0.	143.	0.	13.	10.	6732.00
.10	.00	7.57	.00	.060	.040	.060	.000	6724.00	347.46
.019569	225.	205.	225.	20	14	0	.00	80.85	428.31

*SECNO 62.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

62.00	3.10	6757.10	6757.10	.00	6758.24	1.14	21.21	.07	6762.00
1080.	0.	1080.	0.	0.	126.	0.	16.	12.	6762.00
.14	.00	8.56	.00	.060	.040	.060	.000	6754.00	534.90
.018671	1140.	1110.	1080.	5	11	0	.00	56.12	591.02

0
1
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SECNO	DEPTH	CWSEL	CRIMS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CDRAR	TOPWID	ENDST

*SECNO 63.000

3301 HV CHANGED MORE THAN HVINS

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

63.00	1.50	6771.60	6771.60	.00	6772.19	.59	5.57	.05	6772.00
1080.	0.	1080.	0.	0.	175.	0.	17.	13.	6772.00
.15	.00	6.15	.00	.060	.040	.060	.000	6770.10	297.12
.022045	290.	275.	310.	20	11	0	.00	148.70	445.82

*SECNO 64.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

64.00	1.42	6783.42	6783.42	.00	6784.06	.64	11.59	.02	6784.00
1080.	0.	1080.	0.	0.	168.	0.	19.	15.	6784.00

.17	.00	6.42	.00	.060	.040	.060	.000	6782.00	328.68
.021685	600.	530.	680.	4	8	0	.00	131.96	460.64

0

*SECNO 65.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

65.00	4.59	6789.19	6789.19	.00	6790.00	.81	5.82	.05	6790.00
1080.	0.	1080.	0.	0.	149.	0.	20.	15.	6790.00
.18	.00	7.24	.00	.060	.040	.060	.000	6784.60	230.38
.021431	280.	270.	240.	2	23	0	.00	96.52	326.90

*SECNO 66.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

66.00	3.60	6797.60	6797.60	.00	6798.10	.50	7.72	.03	6798.00
1080.	0.	1080.	0.	0.	190.	0.	22.	16.	6798.00
.20	.00	5.70	.00	.060	.040	.060	.000	6794.00	386.12
.020342	190.	370.	470.	4	14	0	.00	169.79	555.92

*SECNO 68.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOR	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TDPWID	ENDSY

68.00	1.30	6801.30	6801.30	.00	6801.88	.58	3.51	.02	6804.00
1080.	0.	1080.	0.	0.	177.	0.	22.	17.	6804.00
.21	.00	6.11	.00	.060	.040	.060	.000	6800.00	299.05
.022250	180.	165.	160.	4	22	0	.00	152.43	451.49

0

*SECNO 69.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

69.00	4.75	6832.75	6832.75	.00	6833.67	.92	10.07	.10	6832.00
790.	20.	756.	14.	14.	96.	10.	24.	19.	6832.00
.23	1.41	7.87	1.41	.060	.040	.060	.000	6828.00	142.62
.012061	570.	600.	620.	20	26	0	.00	98.54	241.16

*SECNO 70.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

70.00	2.78	6845.78	6845.78	.00	6846.37	.59	7.46	.03	6849.00
790.	149.	641.	0.	62.	95.	0.	26.	20.	6848.00
.26	2.41	6.75	.00	.060	.040	.060	.000	6843.00	181.08
.013583	650.	575.	640.	8	14	0	.00	131.13	506.70

0

*SECNO 71.000

3301 HV CHANGED MORE THAN HVINS

71.00	5.35	6855.35	.00	.00	6856.67	1.32	10.68	.22	6860.00
790.	0.	790.	0.	0.	86.	0.	28.	22.	6860.00
.28	.00	9.21	.00	.060	.040	.060	.000	6850.00	109.65
.012620	770.	770.	750.	4	0	0	.00	22.04	131.69

*SECNO 72.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

72.00	4.04	6876.04	6876.04	.00	6877.32	1.28	9.11	.00	6878.00
765.	0.	765.	0.	0.	84.	0.	30.	22.	6880.00
.30	.00	9.09	.00	.060	.030	.060	.000	6872.00	384.91
.010302	775.	800.	720.	20	15	0	.00	33.21	418.12

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

*SECNO 73.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

73.00	1.96	6911.96	6911.96	.00	6912.65	.68	10.60	.06	6918.00
710.	0.	710.	0.	0.	107.	0.	32.	23.	6918.00
.34	.00	6.63	.00	.100	.040	.100	.000	6910.00	300.53
.021277	730.	750.	780.	20	11	0	.00	79.11	379.64

*SECNO 74.000

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

74.00	6.25	6944.25	6944.25	.00	6945.55	1.30	12.89	.19	6948.00
710.	0.	710.	0.	0.	78.	0.	33.	24.	6948.00
.36	.00	9.15	.00	.060	.030	.060	.000	6938.00	169.75
.011236	850.	855.	860.	17	23	0	.00	30.75	200.50

*SECNO 76.000

3280 CROSS SECTION 76.00 EXTENDED .88 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

76.00	5.88	6960.88	6960.88	.00	6961.48	.59	1.73	.07	6955.00
335.	18.	251.	66.	24.	35.	67.	34.	25.	6955.00
.38	.75	7.12	.98	.060	.030	.060	.000	6955.00	197.90

0 .001943 330. 325. 320. 20 10 0 .00 122.10 320.00

*SECNO 78.100

3280 CROSS SECTION 78.10 EXTENDED 3.68 FEET

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VDL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	VLOBL	XLCH	XLORR	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 6962.40 MAX ELLC= 6962.20

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

78.10	8.68	6963.68	6963.68	.00	6964.19	.51	.02	.01	6955.00
335.	18.	208.	109.	27.	29.	81.	34.	25.	6955.00
.38	.67	7.19	1.34	.060	.015	.060	.000	6955.00	150.00
.002792	10.	10.	10.	2	10	0	-433.19	170.00	320.00

0
*SECNO 78.200

3280 CROSS SECTION 78.20 EXTENDED 4.15 FEET

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 6962.40 MAX ELLC= 6962.20

78.20	9.16	6964.16	.00	.00	6964.35	.19	.13	.03	6955.00
335.	48.	158.	129.	69.	32.	116.	35.	25.	6955.00
.39	.70	4.97	1.11	.060	.015	.060	.000	6955.00	150.00
.001178	75.	75.	75.	3	0	0	-434.03	170.00	320.00

0
*SECNO 80.000

3301 HV CHANGED MORE THAN HVINS

80.00	6.84	6963.84	.00	.00	6964.54	.70	.04	.15	6961.00
335.	3.	330.	2.	4.	49.	3.	35.	25.	6961.00
.39	.72	6.77	.67	.060	.015	.060	.000	6957.00	210.16
.000851	36.	38.	40.	2	0	0	.00	13.12	223.27

0
*SECNO 82.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

82.00	.60	6978.60	6978.60	.00	6978.90	.30	.81	.04	6982.00
235.	0.	235.	0.	0.	54.	0.	35.	26.	6982.00
.41	.00	4.36	.00	.060	.040	.060	.000	6978.00	213.98
.029055	430.	415.	420.	20	28	0	.00	94.02	308.01

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VDL	TWA	LEFT/RIGHT

TIME	VLOB	VCH	VROR	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 84.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

84.00	2.17	7006.17	7006.17	.00	7006.74	.57	17.71	.08	7012.00
235.	0.	235.	0.	0.	39.	0.	36.	27.	7012.00
.45	.00	6.04	.00	.060	.040	.060	.000	7004.00	273.76
.023486	650.	680.	720.	4	26	0	.00	35.33	309.04

*SECNO 86.000

7685 20 TRIALS ATTEMPTED WSEL,CWSEL

693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

86.00	.33	7036.33	7036.33	.00	7036.46	.13	18.24	.04	7040.00
65.	0.	65.	0.	0.	23.	0.	36.	28.	7040.00
.51	.00	2.88	.00	.060	.040	.060	.000	7036.00	379.58
.036922	770.	710.	500.	20	20	0	.00	88.38	467.97

SECNO 87.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

87.00	1.79	7045.79	7045.79	.00	7046.24	.45	9.15	.10	7046.00
65.	0.	65.	0.	0.	12.	0.	36.	28.	7046.00
.53	.00	5.39	.00	.060	.040	.060	.000	7044.00	310.52
.025602	420.	300.	270.	6	29	0	.00	13.45	323.97

*SECNO 88.000

7185 MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

88.00	1.45	7057.45	7057.45	.00	7057.83	.38	8.75	.01	7060.00
65.	0.	65.	0.	0.	13.	0.	37.	28.	7058.00
.55	.00	4.93	.00	.060	.040	.060	.000	7056.00	92.74
.027483	330.	330.	340.	4	15	0	.00	18.15	110.89

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THIS RUN EXECUTED 07-24-87

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IRM-FC-XT VERSION AUGUST 1985

1) BLACK FOREST DRAINAGE STUDY

12 MAIN TRIBUTARY

13 10-YEAR EXISTING FLOODWAY

01	ICHECK	INQ	NINV	IDIR	SIRT	METRIC	HVINS	0	WSEL	FQ
-10.	5.	0.	0.	-1.000000	.00	.0	0.	6657.000	.000	

2	NPROF	IFLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IRW	CHNIM	ITRACE
	15.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDSI

PROF 4

CHV= .100 CEHV= .300
SECNO 50.000

*265 DIVIDED FLOW

3720 CRITICAL DEPTH ASSUMED

50.00	2.58	6655.58	6655.58	6657.00	6656.28	.70	.00	.00	6656.00
670.	22.	648.	0.	16.	95.	0.	0.	0.	6656.00
.00	1.35	6.81	.00	.060	.040	.060	.000	6653.00	299.54
.015409	0.	0.	0.	0	13	0	.00	107.75	542.92

SECNO 52.000

*301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

52.00	4.55	6694.55	6694.55	.00	6695.95	1.40	19.15	.21	6694.00
670.	1.	668.	1.	1.	70.	1.	2.	2.	6694.00
.03	1.37	9.51	1.36	.060	.040	.060	.000	6690.00	377.24
.017585	1150.	1165.	1180.	10	14	0	.00	28.97	406.21

*SECNO 54.000

*301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

54.00	1.36	6717.36	6717.36	.00	6717.97	.61	21.26	.08	6720.00
670.	0.	670.	0.	0.	106.	0.	5.	3.	6720.00
.08	.00	6.29	.00	.060	.040	.060	.000	6716.00	323.27
.021966	1070.	1085.	1100.	4	14	0	.00	86.96	410.18

*SECNO 56.000

*301 HV CHANGED MORE THAN HVINS

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLORL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

56.00	3.09	6720.09	6720.09	.00	6721.65	1.56	2.08	.28	6717.00
620.	0.	620.	0.	0.	62.	0.	5.	3.	6717.00
.09	.48	10.04	.48	.060	.040	.060	.000	6717.00	389.88
.016230	160.	110.	85.	4	17	0	.00	20.24	410.12

*SECNO 58.100

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 6737.50 MAX ELLC= 6740.00

58.10	3.50	6720.50	.00	.00	6721.72	1.22	.04	.03	6717.00
620.	0.	620.	0.	0.	70.	0.	5.	3.	6717.00
.09	.16	8.88	.16	.060	.015	.060	.000	6717.00	389.87
.001515	10.	10.	10.	4	0	0	.00	20.27	410.13

*SECNO 58.200

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 6737.50 MAX ELLC= 6740.00

58.20	3.95	6720.95	.00	.00	6721.91	.95	.16	.03	6717.00
620.	0.	620.	0.	0.	79.	0.	5.	3.	6717.00
.09	.14	7.83	.14	.060	.015	.060	.000	6717.00	389.85
.000998	130.	130.	130.	3	0	0	.00	20.30	410.15

*SECNO 60.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

60.00	1.89	6725.89	6725.89	.00	6726.54	.65	.55	.03	6732.00
615.	0.	615.	0.	0.	95.	0.	6.	4.	6732.00
.10	.00	6.48	.00	.060	.040	.060	.000	6724.00	351.66
.021308	225.	205.	225.	20	11	0	.00	72.41	424.06

*SECNO 62.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

62.00	2.24	6756.24	6756.24	.00	6757.17	.88	22.86	.07	6762.00
615.	0.	615.	0.	0.	82.	0.	8.	5.	6762.00
.14	.00	7.51	.00	.060	.040	.060	.000	6754.00	535.76
.019920	1140.	1110.	1080.	4	8	0	.00	46.63	582.39

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLORL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 63.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

63.00	1.07	6771.17	6771.17	.00	6771.61	.44	6.04	.04	6772.00
615.	0.	615.	0.	0.	116.	0.	8.	6.	6772.00
.15	.00	5.32	.00	.060	.040	.060	.000	6770.10	299.37
.024385	290.	275.	310.	20	11	0	.00	131.36	430.72

*SECNO 64.000

64.00	1.04	6783.04	.00	.00	6783.45	.41	11.84	.00	6784.00
615.	0.	615.	0.	0.	119.	0.	10.	7.	6784.00
.18	.00	5.16	.00	.060	.040	.060	.000	6782.00	333.07
.020558	600.	530.	680.	5	0	0	.00	124.71	457.78

*SECNO 65.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

65.00	3.81	6788.41	6788.41	.00	6789.16	.75	5.60	.10	6790.00
615.	0.	615.	0.	0.	88.	0.	10.	8.	6790.00
.19	.00	6.95	.00	.060	.040	.060	.000	6784.60	259.60
.020961	280.	270.	240.	4	26	0	.00	59.51	319.11

*SECNO 66.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

66.00	3.10	6797.10	6797.10	.00	6797.54	.44	6.10	.03	6798.00
615.	0.	615.	0.	0.	116.	0.	11.	9.	6798.00
.21	.00	5.30	.00	.060	.040	.060	.000	6794.00	412.22
.022876	190.	370.	470.	11	14	0	.00	126.30	538.52

*SECNO 68.000

68.00	.92	6800.92	.00	.00	6801.31	.39	3.77	.00	6804.00
610.	0.	610.	0.	0.	121.	0.	12.	9.	6804.00
.22	.00	5.03	.00	.060	.040	.060	.000	6800.00	306.55
.022846	180.	165.	160.	3	0	0	.00	143.06	449.61

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	GLUSS	BANK ELEV
Q	QLOB	QCH	QROR	ALOB	ACH	AROR	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLORR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 69.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

69.00	3.77	6831.77	6831.77	.00	6832.73	.96	12.88	.17	6832.00
490.	0.	490.	0.	0.	62.	0.	13.	10.	6832.00
.24	.00	7.87	.00	.060	.040	.060	.000	6828.00	181.14
.019919	570.	600.	620.	20	26	0	.00	33.01	214.15

*SECNO 70.000

3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

70.00	2.38	6845.38	6845.38	.00	6845.87	.49	8.85	.05	6849.00
490.	42.	448.	0.	29.	77.	0.	14.	11.	6848.00
.27	1.43	5.85	.00	.060	.040	.060	.000	6843.00	183.08
.012120	650.	575.	640.	4	18	0	.00	123.06	504.30

*SECNO 71.000

71.00	4.21	6854.21	.00	.00	6855.17	.96	9.16	.14	6860.00
490.	0.	490.	0.	0.	62.	0.	16.	13.	6860.00
.30	.00	7.86	.00	.060	.040	.060	.000	6850.00	110.78
.011679	770.	770.	750.	3	0	0	.00	19.50	130.28

*SECNO 72.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

72.00	3.15	6875.15	6875.15	.00	6876.19	1.05	9.02	.03	6878.00
470.	0.	470.	0.	0.	57.	0.	17.	13.	6880.00
.33	.00	8.21	.00	.060	.030	.060	.000	6872.00	387.13
.010884	775.	800.	720.	20	15	0	.00	27.46	414.59

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SECNO	DEPTH	CWSEL	CRIMS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
B	GLOR	QCH	QROR	ALOB	ACH	OROR	VOL	TWA	LEFT/RIGHT
TIME	VLOR	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLORL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDSI

*SECNO 73.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

73.00	1.50	6911.50	6911.50	.00	6912.04	.54	11.24	.05	6918.00
430.	0.	430.	0.	0.	73.	0.	18.	14.	6918.00
.36	.00	5.90	.00	.100	.040	.100	.000	6910.00	307.56
.022803	730.	750.	780.	20	14	0	.00	67.40	374.96

*SECNO 74.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

74.00	5.33	6943.33	6943.33	.00	6944.41	1.08	14.02	.16	6948.00
430.	0.	430.	0.	0.	51.	0.	19.	15.	6948.00
.39	.00	8.36	.00	.060	.030	.060	.000	6938.00	173.37
.012355	850.	855.	860.	20	26	0	.00	24.94	198.31

*SECNO 76.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

76.00	3.50	6958.50	6958.50	.00	6960.26	1.76	3.54	.20	6955.00
225.	0.	224.	0.	1.	21.	1.	19.	15.	6955.00
.40	.72	10.67	.72	.060	.030	.060	.000	6955.00	239.65
.008718	330.	325.	320.	20	21	0	.00	6.70	246.35

0

*SECNO 78.100

3370 NORMAL BRIDGE, NR0= 7 MIN ELTRD= 6962.40 MAX ELLC= 6962.20

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SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLORR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

78.10	3.90	6958.90	.00	.00	6960.33	1.42	.03	.03	6955.00
225.	0.	225.	0.	1.	23.	1.	19.	15.	6955.00
.40	.32	9.58	.32	.060	.015	.060	.000	6955.00	239.81
.001520	10.	10.	10.	9	0	0	.00	6.78	246.39

0

*SECNO 78.200

3370 NORMAL BRIDGE, NR0= 7 MIN ELTRD= 6962.40 MAX ELLC= 6962.20

78.20	4.15	6959.15	.00	.00	6960.50	1.35	.17	.01	6955.00
225.	0.	224.	0.	1.	24.	1.	19.	15.	6955.00
.40	.50	9.34	.50	.060	.015	.060	.000	6955.00	239.59
.003527	75.	75.	75.	2	0	0	-.91	6.83	246.41

0

*SECNO 80.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

80.00	3.61	6960.61	6960.61	.00	6962.10	1.50	.15	.04	6961.00
225.	0.	225.	0.	0.	23.	0.	19.	15.	6961.00
.40	.00	9.82	.00	.060	.015	.060	.000	6957.00	213.10
.004503	36.	38.	40.	20	11	0	.00	7.70	220.80

0

*SECNO 82.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

82.00	.46	6978.46	6978.46	.00	6978.69	.22	3.34	.13	6982.00
155.	0.	155.	0.	0.	41.	0.	20.	16.	6982.00
.43	.00	3.80	.00	.060	.040	.060	.000	6978.00	215.39
.030873	430.	415.	420.	20	17	0	.00	91.92	307.31

0

*SECNO 84.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

84.00	1.85	7005.85	7005.85	.00	7006.32	.47	18.73	.07	7012.00
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155.	0.	155.	0.	0.	28.	0.	20.	16.	7012.00
.47	.00	5.51	.00	.060	.040	.060	.000	7004.00	276.15
.024735	650.	680.	720.	4	26	0	.00	30.46	306.62

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SECD	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	INL	YNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 86.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

86.00	.26	7036.26	7036.26	.00	7036.37	.11	19.30	.04	7040.00
45.	0.	45.	0.	0.	17.	0.	21.	17.	7040.00
.54	.00	2.62	.00	.060	.040	.060	.000	7036.00	363.58
.039150	770.	710.	500.	20	17	0	.00	80.87	464.45

*SECNO 87.000

87.00	1.56	7045.56	7045.54	.00	7045.94	.38	9.49	.08	7046.00
45.	0.	45.	0.	0.	9.	0.	21.	18.	7046.00
.56	.00	4.95	.00	.060	.040	.060	.000	7044.00	311.11
.026071	420.	300.	270.	10	32	0	.00	11.68	322.79

*SECNO 88.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

88.00	1.26	7057.26	7057.26	.00	7057.58	.32	9.00	.01	7060.00
45.	0.	45.	0.	0.	10.	0.	21.	18.	7058.00
.58	.00	4.56	.00	.060	.040	.060	.000	7056.00	93.72
.028578	330.	330.	340.	20	15	0	.00	15.70	109.42

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THIS RUN EXECUTED 07-24 89

 NEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR - 01,02,03,04,05,06
 MODIFICATION - 50,51,52,53,54,55,56
 IBM-PC-XT VERSION AUGUST 1985

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

EAR EXIST. FLOODWAY

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10KFS	VCH	AREA	.01K
*	50.000	.00	.00	.00	6653.00	2210.00	6656.98	6656.98	6657.72	112.47	8.31	434.75	208.39
*	50.000	.00	.00	.00	6653.00	1610.00	6656.73	6656.73	6657.31	92.32	7.12	363.58	167.56
*	50.000	.00	.00	.00	6653.00	1165.00	6656.38	6656.38	6656.94	96.49	6.67	266.02	118.60
*	50.000	.00	.00	.00	6653.00	670.00	6655.58	6655.58	6656.28	154.09	6.81	111.45	53.97
*	52.000	1165.00	.00	.00	6690.00	2210.00	6697.65	6697.65	6698.53	65.24	9.38	488.99	273.61
*	52.000	1165.00	.00	.00	6690.00	1610.00	6697.26	6697.26	6698.02	55.91	8.30	375.12	215.32
*	52.000	1165.00	.00	.00	6690.00	1165.00	6696.65	6696.65	6697.52	62.22	8.11	231.81	147.69
*	52.000	1165.00	.00	.00	6690.00	670.00	6694.55	6694.55	6695.95	175.85	9.51	71.61	50.53
*	54.000	1085.00	.00	.00	6716.00	2210.00	6718.87	6718.87	6720.05	179.63	8.71	253.85	164.89
*	54.000	1085.00	.00	.00	6716.00	1610.00	6718.36	6718.36	6719.36	188.94	8.04	200.21	117.13
*	54.000	1085.00	.00	.00	6716.00	1165.00	6717.93	6717.93	6718.77	197.40	7.36	158.21	82.92
*	54.000	1085.00	.00	.00	6716.00	670.00	6717.36	6717.36	6717.97	219.66	6.29	106.49	45.21
*	56.000	110.00	.00	.00	6717.00	2090.00	6723.95	6723.95	6727.45	123.58	15.04	140.77	188.00
*	56.000	110.00	.00	.00	6717.00	1540.00	6722.67	6722.67	6725.53	132.09	13.58	114.62	133.99
*	56.000	110.00	.00	.00	6717.00	1095.00	6721.51	6721.51	6723.80	142.84	12.13	91.05	91.62
*	56.000	110.00	.00	.00	6717.00	620.00	6720.09	6720.09	6721.65	162.30	10.04	62.12	48.67
	58.100	10.00	6737.50	6740.00	6717.00	2090.00	6724.69	.00	6727.55	12.35	13.57	156.21	594.68
	58.100	10.00	6737.50	6740.00	6717.00	1540.00	6723.25	.00	6725.61	13.43	12.32	126.48	420.18
	58.100	10.00	6737.50	6740.00	6717.00	1095.00	6722.03	.00	6723.87	14.06	10.90	101.45	292.05
	58.100	10.00	6737.50	6740.00	6717.00	620.00	6720.50	.00	6721.72	15.15	8.88	70.31	159.29
	58.200	130.00	6737.50	6740.00	6717.00	2090.00	6725.23	.00	6727.73	9.83	12.67	167.47	666.64
	58.200	130.00	6737.50	6740.00	6717.00	1540.00	6723.82	.00	6725.80	10.02	11.28	138.28	486.60
	58.200	130.00	6737.50	6740.00	6717.00	1095.00	6722.95	.00	6724.06	10.08	9.86	112.21	344.92
	58.200	130.00	6737.50	6740.00	6717.00	620.00	6720.95	.00	6721.91	9.98	7.83	79.76	196.26
*	60.000	205.00	.00	.00	6724.00	2065.00	6727.51	6727.51	6728.77	176.64	9.02	228.98	155.37
*	60.000	205.00	.00	.00	6724.00	1520.00	6726.99	6726.99	6728.06	184.68	8.30	183.03	111.85
*	60.000	205.00	.00	.00	6724.00	1080.00	6726.51	6726.51	6727.40	195.69	7.57	142.65	77.20
*	60.000	205.00	.00	.00	6724.00	615.00	6725.89	6725.89	6726.54	213.08	6.48	94.87	42.13

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10KFS	VCH	AREA	.01K
*	62.000	1110.00	.00	.00	6754.00	2065.00	6758.45	6758.45	6759.92	172.21	9.73	212.23	157.36
*	62.000	1110.00	.00	.00	6754.00	1520.00	6757.75	6757.75	6759.07	178.75	9.23	164.66	113.69
*	62.000	1110.00	.00	.00	6754.00	1080.00	6757.10	6757.10	6758.24	186.71	8.56	126.14	79.04
*	62.000	1110.00	.00	.00	6754.00	615.00	6756.24	6756.24	6757.12	199.20	7.51	81.84	43.57
*	63.000	275.00	.00	.00	6770.10	2065.00	6772.25	6772.25	6773.10	194.96	7.37	280.54	147.89
*	63.000	275.00	.00	.00	6770.10	1520.00	6771.92	6771.92	6772.63	210.71	6.73	225.89	104.71
*	63.000	275.00	.00	.00	6770.10	1080.00	6771.60	6771.60	6772.19	220.45	6.15	175.47	72.74
*	63.000	275.00	.00	.00	6770.10	615.00	6771.17	6771.17	6771.61	243.65	5.32	115.57	39.40
*	64.000	530.00	.00	.00	6782.00	2065.00	6784.12	6784.12	6785.06	192.40	7.78	265.66	148.87
*	64.000	530.00	.00	.00	6782.00	1520.00	6783.76	6783.76	6784.54	203.09	7.08	214.60	106.66
*	64.000	530.00	.00	.00	6782.00	1080.00	6783.42	6783.42	6784.06	216.85	6.42	168.12	73.34
	64.000	530.00	.00	.00	6782.00	615.00	6783.04	.00	6783.45	205.58	5.16	119.11	42.89

*	65.000	270.00	.00	.00	6784.60	2065.00	6790.08	6790.08	6791.11	210.01	8.16	253.26	142.49
*	65.000	270.00	.00	.00	6784.60	1520.00	6789.70	6789.70	6790.56	198.10	7.41	205.19	107.99
*	65.000	270.00	.00	.00	6784.60	1080.00	6789.19	6789.19	6790.00	214.31	7.24	149.22	73.77
*	65.000	270.00	.00	.00	6784.60	615.00	6788.41	6788.41	6789.16	209.61	6.95	88.43	42.48
*	66.000	370.00	.00	.00	6794.00	2065.00	6798.20	6798.20	6798.91	191.75	6.73	307.62	149.13
*	66.000	370.00	.00	.00	6794.00	1520.00	6797.85	6797.83	6798.50	231.96	6.47	234.88	99.80
*	66.000	370.00	.00	.00	6794.00	1080.00	6797.60	6797.60	6798.10	203.42	5.70	189.60	75.72
*	66.000	370.00	.00	.00	6794.00	615.00	6797.10	6797.10	6797.54	228.76	5.30	116.01	40.66
*	68.000	165.00	.00	.00	6800.00	1990.00	6801.90	6801.90	6802.72	201.19	7.29	272.95	140.30
*	68.000	165.00	.00	.00	6800.00	1535.00	6801.62	6801.62	6802.33	210.34	6.78	226.52	105.84
*	68.000	165.00	.00	.00	6800.00	1080.00	6801.30	6801.30	6801.68	272.50	6.11	176.72	72.40
*	68.000	165.00	.00	.00	6800.00	610.00	6800.92	.00	6801.31	228.46	5.03	121.32	40.36
*	69.000	600.00	.00	.00	6828.00	1510.00	6834.01	6834.01	6834.79	76.75	8.08	312.40	172.37
*	69.000	600.00	.00	.00	6828.00	1160.00	6833.46	6833.46	6834.34	94.48	8.12	211.69	119.34
*	69.000	600.00	.00	.00	6828.00	790.00	6832.75	6832.75	6833.67	120.61	7.87	119.92	71.93
*	69.000	600.00	.00	.00	6828.00	490.00	6831.77	6831.77	6832.73	199.19	7.87	62.28	34.72
*	70.000	575.00	.00	.00	6843.00	1510.00	6846.46	6846.46	6847.23	152.48	8.06	250.63	122.28
*	70.000	575.00	.00	.00	6843.00	1160.00	6846.15	6846.15	6846.85	149.19	7.57	206.42	94.97
*	70.000	575.00	.00	.00	6843.00	790.00	6845.78	6845.78	6846.37	135.83	6.75	156.65	67.78
*	70.000	575.00	.00	.00	6843.00	490.00	6845.38	6845.38	6845.87	121.20	5.85	106.02	44.51
	71.000	770.00	.00	.00	6850.00	1510.00	6857.17	.00	6859.27	149.83	11.65	129.65	123.36
	71.000	770.00	.00	.00	6850.00	1160.00	6856.42	.00	6858.13	136.28	10.50	110.51	99.37
	71.000	770.00	.00	.00	6850.00	790.00	6855.35	.00	6856.67	126.20	9.21	85.73	70.32
	71.000	770.00	.00	.00	6850.00	490.00	6854.21	.00	6855.17	116.79	7.86	62.31	45.34
*	72.000	800.00	.00	.00	6872.00	1445.00	6877.49	6877.49	6879.17	95.10	10.42	136.74	148.17
*	72.000	800.00	.00	.00	6872.00	1120.00	6876.85	6876.85	6878.37	96.63	9.88	113.33	112.78
*	72.000	800.00	.00	.00	6872.00	765.00	6876.04	6876.04	6877.32	103.02	9.09	84.16	75.37
*	72.000	800.00	.00	.00	6872.00	470.00	6875.15	6875.15	6876.19	108.84	8.21	57.26	45.05

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	D	CWSEL	CRWS	EG	10K*5	VCH	AREA	.01K
*	73.000	750.00	.00	.00	6910.00	1235.00	6912.61	6912.61	6913.51	194.83	7.64	161.62	88.48
*	73.000	750.00	.00	.00	6910.00	1045.00	6912.38	6912.38	6913.23	203.85	7.37	141.80	73.20
*	73.000	750.00	.00	.00	6910.00	710.00	6911.96	6911.96	6912.65	212.77	6.83	107.16	48.67
*	73.000	750.00	.00	.00	6910.00	430.00	6911.50	6911.50	6912.04	228.03	5.90	72.86	28.48
*	74.000	855.00	.00	.00	6938.00	1235.00	6945.43	6945.43	6947.19	104.08	10.64	116.11	121.06
*	74.000	855.00	.00	.00	6938.00	1045.00	6945.04	6945.04	6946.64	105.64	10.15	102.99	101.67
*	74.000	855.00	.00	.00	6938.00	710.00	6944.25	6944.25	6945.55	112.36	9.15	77.56	66.98
*	74.000	855.00	.00	.00	6938.00	430.00	6943.33	6943.33	6944.41	123.55	8.36	51.46	38.68
*	76.000	325.00	.00	.00	6955.00	630.00	6961.57	6961.57	6962.30	26.70	8.98	219.31	121.92
*	76.000	325.00	.00	.00	6955.00	460.00	6961.22	6961.22	6961.88	22.75	7.99	169.91	96.45
*	76.000	325.00	.00	.00	6955.00	335.00	6960.88	6960.88	6961.48	19.43	7.12	126.12	76.00
*	76.000	325.00	.00	.00	6955.00	225.00	6958.50	6958.50	6960.26	87.18	10.67	22.24	24.10
*	78.100	10.00	6962.40	6962.20	6955.00	630.00	6964.19	6964.19	6964.81	38.89	9.08	223.09	101.02
*	78.100	10.00	6962.40	6962.20	6955.00	460.00	6963.94	6963.94	6964.49	32.53	8.04	180.09	80.65

* 78.100	10.00	6962.40	6962.20	6955.00	335.00	6963.68	6963.68	6964.19	27.92	7.19	136.68	63.40
78.100	10.00	6962.40	6962.20	6955.00	225.00	6958.90	.00	6960.33	15.20	9.58	24.96	57.71
78.200	75.00	6962.40	6962.20	6955.00	630.00	6964.80	.00	6965.02	15.29	6.11	326.27	161.12
78.200	75.00	6962.40	6962.20	6955.00	460.00	6964.48	.00	6964.67	13.18	5.46	270.40	126.73
78.200	75.00	6962.40	6962.20	6955.00	335.00	6964.16	.00	6964.35	11.78	4.97	216.28	97.60
78.200	75.00	6962.40	6962.20	6955.00	225.00	6959.15	.00	6960.50	35.27	9.34	25.71	37.89
* 80.000	38.00	.00	.00	6957.00	630.00	6963.57	6963.57	6966.31	35.31	13.37	52.46	106.02
80.000	38.00	.00	.00	6957.00	460.00	6963.70	.00	6965.09	17.41	9.53	54.16	110.24
80.000	38.00	.00	.00	6957.00	335.00	6963.84	.00	6964.54	8.51	6.77	56.02	114.86
* 80.000	38.00	.00	.00	6957.00	225.00	6960.61	6960.61	6962.10	45.03	9.82	22.90	33.53
* 82.000	415.00	.00	.00	6978.00	455.00	6978.93	6978.93	6979.37	247.07	5.30	85.80	28.95
* 82.000	415.00	.00	.00	6978.00	330.00	6978.75	6978.75	6979.12	269.06	4.84	68.20	20.12
* 82.000	415.00	.00	.00	6978.00	235.00	6978.60	6978.60	6978.90	290.55	4.36	53.85	13.79
* 82.000	415.00	.00	.00	6978.00	155.00	6978.46	6978.46	6978.69	308.73	3.80	40.82	8.82
* 84.000	680.00	.00	.00	7004.00	455.00	7006.83	7006.83	7007.59	213.44	6.99	65.13	31.14
* 84.000	680.00	.00	.00	7004.00	330.00	7006.50	7006.50	7007.15	219.29	6.47	51.01	22.28
* 84.000	680.00	.00	.00	7004.00	235.00	7006.17	7006.17	7006.74	234.86	6.04	38.91	15.33
* 84.000	680.00	.00	.00	7004.00	155.00	7005.85	7005.85	7006.32	247.35	5.51	28.12	9.86
* 86.000	710.00	.00	.00	7036.00	130.00	7036.48	7036.48	7036.67	347.41	3.46	37.59	6.97
* 86.000	710.00	.00	.00	7036.00	95.00	7036.40	7036.40	7036.56	361.93	3.20	29.68	4.99
* 86.000	710.00	.00	.00	7036.00	65.00	7036.33	7036.33	7036.46	369.22	2.88	22.60	3.38
* 86.000	710.00	.00	.00	7036.00	45.00	7036.26	7036.26	7036.37	391.50	2.62	17.19	2.27
* 87.000	300.00	.00	.00	7044.00	130.00	7046.44	7046.44	7046.70	233.60	4.27	36.68	8.51
* 87.000	300.00	.00	.00	7044.00	95.00	7046.29	7046.29	7046.55	218.86	4.18	25.70	6.42
* 87.000	300.00	.00	.00	7044.00	65.00	7045.79	7045.79	7046.24	256.02	5.39	12.06	4.06
87.000	300.00	.00	.00	7044.00	45.00	7045.56	7045.54	7045.94	260.71	4.95	9.69	2.79

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	SECNO	XLCH	ELTRD	ELLC	ELMTN	Q	CWSEL	CRWS	EG	10KWS	VCH	AREA	.01K
*	88.000	330.00	.00	.00	7056.00	130.00	7057.92	7057.92	7058.41	246.59	5.63	23.09	8.28
*	88.000	330.00	.00	.00	7056.00	95.00	7057.69	7057.69	7058.13	258.27	5.30	17.93	5.91
*	88.000	330.00	.00	.00	7056.00	65.00	7057.45	7057.45	7057.83	274.83	4.93	13.18	3.92
*	88.000	330.00	.00	.00	7056.00	45.00	7057.26	7057.26	7057.58	285.78	4.56	9.86	2.66

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EAR EXIST. FLOODWAY

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	50.000	2210.00	6656.98	.00	.00	-3.02	288.87	.00
*	50.000	1610.00	6656.73	-.25	.00	-1.77	281.54	.00
*	50.000	1165.00	6656.38	-.35	.00	-1.62	271.17	.00
*	50.000	670.00	6655.58	-.80	.00	-1.42	107.75	.00

*	52.000	2210.00	6697.65	.00	40.67	.00	311.79	1165.00
*	52.000	1610.00	6697.26	-.39	40.52	.00	269.05	1165.00
*	52.000	1165.00	6696.65	-.61	40.27	.00	202.84	1165.00
*	52.000	670.00	6694.55	-2.10	38.97	.00	28.97	1165.00
*	54.000	2210.00	6718.87	.00	21.22	.00	109.35	1085.00
*	54.000	1610.00	6718.36	-.51	21.10	.00	100.93	1085.00
*	54.000	1165.00	6717.93	-.43	21.28	.00	94.10	1085.00
*	54.000	670.00	6717.36	-.57	22.81	.00	86.96	1085.00
*	56.000	2090.00	6723.95	.00	5.08	.00	20.53	110.00
*	56.000	1540.00	6722.67	-1.28	4.31	.00	20.44	110.00
*	56.000	1095.00	6721.51	-1.16	3.58	.00	20.35	110.00
*	56.000	620.00	6720.09	-1.43	2.73	.00	20.24	110.00
	58.100	2090.00	6724.67	.00	.74	.00	20.59	10.00
	58.100	1540.00	6723.25	-1.43	.59	.00	20.48	10.00
	58.100	1095.00	6722.03	-1.23	.52	.00	20.39	10.00
	58.100	620.00	6720.50	-1.53	.41	.00	20.27	10.00
	58.200	2090.00	6725.23	.00	.55	.00	20.63	130.00
	58.200	1540.00	6723.82	-1.41	.57	.00	20.52	130.00
	58.200	1095.00	6722.55	-1.27	.52	.00	20.43	130.00
	58.200	620.00	6720.95	-1.60	.46	.00	20.30	130.00
*	60.000	2065.00	6727.51	.00	2.27	.00	92.32	205.00
*	60.000	1520.00	6726.99	-.51	3.17	.00	86.40	205.00
*	60.000	1080.00	6726.51	-.48	3.96	.00	80.85	205.00
*	60.000	615.00	6725.89	-.62	4.94	.00	72.41	205.00
*	62.000	2065.00	6758.45	.00	30.94	.00	73.18	1110.00
*	62.000	1520.00	6757.75	-.70	30.76	.00	63.22	1110.00
*	62.000	1080.00	6757.10	-.65	30.59	.00	56.12	1110.00
*	62.000	615.00	6756.24	-.86	30.35	.00	46.63	1110.00
*	63.000	2065.00	6772.25	.00	13.80	.00	169.40	275.00
*	63.000	1520.00	6771.92	-.33	14.18	.00	161.87	275.00
*	63.000	1080.00	6771.60	-.32	14.50	.00	148.70	275.00
*	63.000	615.00	6771.17	-.43	14.93	.00	131.36	275.00

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	SECNO	G	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	64.000	2065.00	6784.12	.00	11.87	.00	145.27	530.00
*	64.000	1520.00	6783.76	-.36	11.84	.00	138.47	530.00
*	64.000	1080.00	6783.42	-.34	11.82	.00	131.96	530.00
	64.000	615.00	6783.04	-.38	11.87	.00	124.71	530.00
*	65.000	2065.00	6790.08	.00	5.95	.00	137.87	270.00
*	65.000	1520.00	6789.70	-.37	5.94	.00	120.97	270.00
*	65.000	1080.00	6789.19	-.51	5.77	.00	96.52	270.00
*	65.000	615.00	6788.41	-.78	5.37	.00	59.51	270.00
*	66.000	2065.00	6798.20	.00	8.13	.00	211.65	370.00
	66.000	1520.00	6797.85	-.36	8.14	.00	191.71	370.00
*	66.000	1080.00	6797.60	-.25	8.41	.00	169.79	370.00

*	66.000	615.00	6797.10	-.50	8.67	.00	126.30	370.00
*	68.000	1990.00	6801.90	.00	3.69	.00	167.47	165.00
*	68.000	1535.00	6801.62	-.28	3.77	.00	160.39	165.00
*	68.000	1080.00	6801.30	-.32	3.70	.00	152.43	165.00
	68.000	610.00	6800.92	-.38	3.82	.00	143.06	165.00
*	69.000	1510.00	6834.01	.00	32.11	.00	205.40	600.00
*	69.000	1160.00	6833.46	-.55	31.84	.00	159.10	600.00
*	69.000	790.00	6832.75	-.71	31.45	.00	98.54	600.00
*	69.000	490.00	6831.77	-.97	30.85	.00	33.01	600.00
*	70.000	1510.00	6846.46	.00	12.45	.00	144.83	575.00
*	70.000	1160.00	6846.15	-.31	12.69	.00	138.54	575.00
*	70.000	790.00	6845.78	-.37	13.04	.00	131.13	575.00
*	70.000	490.00	6845.38	-.40	13.61	.00	123.06	575.00
	71.000	1510.00	6857.17	.00	10.70	.00	26.14	770.00
	71.000	1160.00	6856.42	-.75	10.27	.00	24.44	770.00
	71.000	790.00	6855.35	-1.07	9.57	.00	22.04	770.00
	71.000	490.00	6854.21	-1.14	8.83	.00	19.50	770.00
*	72.000	1445.00	6877.49	.00	20.32	.00	41.93	800.00
*	72.000	1120.00	6876.85	-.63	20.44	.00	38.12	800.00
*	72.000	765.00	6876.04	-.82	20.68	.00	33.21	800.00
*	72.000	470.00	6875.15	-.89	20.93	.00	27.46	800.00
*	73.000	1235.00	6912.61	.00	35.12	.00	90.12	750.00
*	73.000	1045.00	6912.38	-.22	35.53	.00	86.37	750.00
*	73.000	710.00	6911.96	-.42	35.93	.00	79.11	750.00
*	73.000	430.00	6911.50	-.47	36.35	.00	67.40	750.00
*	74.000	1235.00	6945.43	.00	32.83	.00	34.30	855.00
*	74.000	1045.00	6945.04	-.39	32.66	.00	33.13	855.00
*	74.000	710.00	6944.25	-.80	32.28	.00	30.75	855.00
*	74.000	430.00	6943.33	-.92	31.83	.00	24.94	855.00

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	SECNO	R	CWSEL	DIFWSP	DIFWSX	DIFKWS	TGFWD	XLCH
*	76.000	630.00	6961.57	.00	16.14	.00	147.26	325.00
*	76.000	460.00	6961.22	-.35	16.18	.00	134.51	325.00
*	76.000	335.00	6960.88	-.34	16.63	.00	122.10	325.00
*	76.000	225.00	6958.50	-2.38	15.18	.00	6.70	325.00
*	78.100	630.00	6964.19	.00	2.62	.00	170.00	10.00
*	78.100	460.00	6963.94	-.25	2.71	.00	170.00	10.00
*	78.100	335.00	6963.68	-.26	2.80	.00	170.00	10.00
	78.100	225.00	6958.90	-4.77	.40	.00	6.78	10.00
	78.200	630.00	6964.80	.00	.61	.00	170.00	75.00
	78.200	460.00	6964.48	-.33	.54	.00	170.00	75.00
	78.200	335.00	6964.16	-.32	.48	.00	170.00	75.00
	78.200	225.00	6959.15	-5.01	.25	.00	6.83	75.00
*	80.000	630.00	6963.57	.00	-1.24	.00	12.62	38.00
	80.000	460.00	6963.70	.13	-.78	.00	12.86	38.00

	80.000	335.00	6963.84	.14	-.32	.00	13.12	38.00
*	80.000	225.00	6960.61	-3.23	1.46	.00	7.70	38.00
*	82.000	455.00	6978.93	.00	15.37	.00	98.99	415.00
*	82.000	330.00	6978.75	-.18	15.05	.00	96.29	415.00
*	82.000	235.00	6978.60	-.15	14.76	.00	94.02	415.00
*	82.000	155.00	6978.46	-.14	17.86	.00	91.92	415.00
*	84.000	455.00	7006.83	.00	27.90	.00	44.23	680.00
*	84.000	330.00	7006.50	-.34	27.74	.00	39.69	680.00
*	84.000	235.00	7006.17	-.32	27.57	.00	35.33	680.00
*	84.000	155.00	7005.85	-.33	27.38	.00	30.46	680.00
*	86.000	130.00	7036.48	.00	29.65	.00	106.46	710.00
*	86.000	95.00	7036.40	-.08	29.91	.00	97.33	710.00
*	86.000	65.00	7036.33	-.08	30.15	.00	88.38	710.00
*	86.000	45.00	7036.26	-.06	30.42	.00	80.87	710.00
*	87.000	130.00	7046.44	.00	9.96	.00	83.34	300.00
*	87.000	95.00	7046.29	-.15	9.88	.00	59.50	300.00
*	87.000	65.00	7045.79	-.49	9.47	.00	13.45	300.00
*	87.000	45.00	7045.56	-.24	9.29	.00	11.68	300.00
*	88.000	130.00	7057.92	.00	11.48	.00	24.02	330.00
*	88.000	95.00	7057.69	-.23	11.41	.00	21.17	330.00
*	88.000	65.00	7057.45	-.24	11.66	.00	18.15	330.00
*	88.000	45.00	7057.26	-.20	11.70	.00	15.70	330.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION	SECNO=	50.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	50.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	50.000	PROFILE= 3	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	50.000	PROFILE= 4	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	52.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	52.000	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	52.000	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	52.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	52.000	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	52.000	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	52.000	PROFILE= 3	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	52.000	PROFILE= 3	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	52.000	PROFILE= 3	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	52.000	PROFILE= 4	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	52.000	PROFILE= 4	MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	54.000	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	54.000	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	54.000	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION	SECNO=	54.000	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION	SECNO=	54.000	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION	SECNO=	54.000	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL

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

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PAGE 1

BT	4,000	1235,000	1045,000	650,000	410,000	.000	.000	.000	.000	.000
HC	.060	.060	.030	.000	.000	.000	.000	.000	.000	.000
Y1	74,000	25,000	160,000	206,000	.000	.000	.000	.000	.000	.000

GR	6956.000	100.000	6950.000	140.000	6948.000	160.000	6946.000	168.000	6944.000	170.000
GR	6942.000	180.000	6940.000	185.000	6938.000	188.000	6940.000	190.000	6942.000	195.000
GR	6944.000	200.000	6946.000	204.000	6948.000	206.000	6950.000	215.000	6952.000	240.000
GR	6952.200	290.000	6954.000	328.000	6956.000	362.000	6956.000	400.000	6958.000	455.000
GR	6956.000	458.000	6956.000	478.000	6958.000	480.000	6960.000	495.000	6960.000	555.000

NC	.040	.040	.015	.100	.300	.000	.000	.000	.000	.000
BT	4.000	515.000	375.000	270.000	160.000	.000	.000	.000	.000	.000
X1	90.000	7.000	184.000	196.000	370.000	280.000	330.000	.000	.000	.000
GR	6963.000	100.000	6960.000	175.000	6957.000	184.000	6954.000	190.000	6957.000	196.000
GR	6960.000	205.000	6958.000	260.000	.000	.000	.000	.000	.000	.000

X1	92.000	7.000	139.000	151.000	1200.000	1210.000	1205.000	.000	.000	.000
GR	7009.000	100.000	7006.000	130.000	7003.000	139.000	7000.000	145.000	7003.000	151.000
GR	7006.000	160.000	7008.000	240.000	.000	.000	.000	.000	.000	.000

X1	94.000	8.000	140.000	144.000	180.000	174.000	177.000	.000	.000	.000
GR	7018.000	100.000	7014.000	125.000	7012.900	140.000	7010.900	141.000	7010.900	143.000
GR	7012.900	144.000	7014.000	170.000	7020.200	240.000	.000	.000	.000	.000

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X1	96.100	.000	.000	.000	10.000	10.000	10.000	.000	.000	.000
BT	8.000	100.000	7018.000	7018.000	125.000	7019.500	7014.000	140.000	7019.400	7012.500
BT	141.000	7019.400	7014.900	143.000	7019.400	7014.900	144.000	7019.300	7012.500	170.000
BT	7019.000	7014.000	240.000	7020.200	7020.200	.000	.000	.000	.000	.000

X1	96.200	.000	.000	.000	60.000	60.000	60.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000

NC	.040	.040	.030	.000	.000	.000	.000	.000	.000	.000
BT	4.000	625.000	395.000	270.000	170.000	.000	.000	.000	.000	.000
X1	98.000	10.000	110.000	128.000	145.000	170.000	150.000	.000	.000	.000
GR	7022.000	100.000	7020.000	110.000	7020.000	128.000	7022.000	130.000	7024.000	280.000
GR	7026.000	295.000	7028.000	310.000	7030.000	330.000	7034.000	360.000	7038.000	385.000

X1	100.000	9.000	180.000	190.000	450.000	450.000	450.000	.000	.000	.000
GR	7042.000	100.000	7040.000	180.000	7038.000	182.000	7038.000	187.000	7042.000	190.000
GR	7044.000	280.000	7046.000	355.000	7048.000	380.000	7050.000	400.000	.000	.000

X1	102.000	8.000	220.000	315.000	710.000	670.000	700.000	.000	.000	.000
GR	7072.000	100.000	7072.000	135.000	7070.000	220.000	7070.000	315.000	7071.000	350.000
GR	7070.000	390.000	7072.000	520.000	7074.000	635.000	.000	.000	.000	.000

BT	4.000	590.000	380.000	260.000	170.000	.000	.000	.000	.000	.000
X1	104.000	9.000	275.000	410.000	220.000	220.000	220.000	.000	.000	.000
GR	7082.000	110.000	7082.000	238.000	7080.000	275.000	7078.000	310.000	7078.000	390.000
GR	7080.000	410.000	7082.000	430.000	7084.000	505.000	7086.000	715.000	.000	.000

BT	4.000	495.000	325.000	215.000	130.000	.000	.000	.000	.000	.000
X1	106.000	18.000	435.000	500.000	1200.000	1140.000	1200.000	.000	.000	.000
GR	7152.000	100.000	7150.000	130.000	7140.000	265.000	7138.000	290.000	7136.000	360.000
GR	7134.000	388.000	7132.000	415.000	7130.000	435.000	7128.000	440.000	7126.000	465.000
GR	7128.000	480.000	7131.000	500.000	7132.000	520.000	7134.000	528.000	7136.000	565.000
GR	7138.000	620.000	7140.000	635.000	7150.000	740.000	.000	.000	.000	.000

BT	4.000	390.000	280.000	200.000	115.000	.000	.000	.000	.000	.000
X1	108.000	10.000	240.000	295.000	365.000	400.000	380.000	.000	.000	.000

HR	7152.000	100.000	7150.000	150.000	7148.000	174.000	7146.000	200.000	7144.000	240.000
HR	7142.000	270.000	7144.000	295.000	7146.000	300.000	7148.000	315.000	7150.000	320.000
YI	110.000	12.000	160.000	197.000	375.000	380.000	380.000	.000	.000	.000
HR	7172.000	100.000	7170.000	135.000	7168.000	150.000	7166.000	155.000	7160.000	160.000
HR	7158.000	165.000	7158.000	185.000	7160.000	197.000	7162.000	205.000	7162.000	242.000
HR	7162.000	250.000	7168.000	270.000	.000	.000	.000	.000	.000	.000
A	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
R	QLOB	QCH	QROR	ALOB	ACH	AROR	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROR	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLORR	ITRIAL	IDC	ICONT	CORRR	TOPWID	ENDSI

IPROF 1

*SECNO 74.000

3720 CRITICAL DEPTH ASSUMED

74.00	7.45	6945.45	6945.45	6945.43	6947.19	1.74	.00	.00	6948.00
1235.	0.	1235.	0.	0.	117.	0.	0.	0.	6948.00
.00	.00	10.58	.00	.060	.030	.060	.000	6938.00	168.55
.010253	0.	0.	0.	0	4	0	.00	34.35	202.90

ICHV= .100 CEHV= .300

*SECNO 90.000

3265 DIVIDED FLOW

3280 CROSS SECTION 90.00 EXTENDED 1.50 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

90.00	5.50	6959.50	6959.50	.00	6960.67	1.16	1.60	.06	6957.00
515.	16.	446.	53.	9.	48.	41.	1.	0.	6957.00
.01	1.67	9.28	1.31	.040	.015	.040	.000	6954.00	176.49
.001602	370.	330.	280.	20	15	0	.00	68.41	260.00

*SECNO 92.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

92.00	5.39	7005.39	7005.39	.00	7006.96	1.57	2.19	.12	7003.00
515.	16.	484.	16.	9.	47.	9.	3.	2.	7003.00
.05	1.84	10.36	1.84	.040	.015	.040	.000	7000.00	131.83
.002076	1200.	1205.	1210.	20	8	0	.00	26.33	158.17

*SECNO 94.000

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SECNO	DEPTH	CWSEL	CRING	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

94.00	4.59	7015.49	7015.49	.00	7016.26	.77	.47	.08	7012.90
515.	122.	180.	213.	37.	16.	65.	3.	2.	7012.90
.05	3.26	11.04	3.25	.040	.015	.040	.000	7010.90	115.71
.003612	180.	177.	174.	20	9	0	.00	71.07	186.78

0

*SECNO 96.100

3280 CROSS SECTION 96.10 EXTENDED 2.26 FEET

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 7018.00 MAX ELLC= 7020.20

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

96.10	9.36	7020.26	7020.26	.00	7020.62	.36	.05	.04	7012.90
515.	182.	124.	209.	50.	15.	75.	3.	2.	7012.90
.05	3.66	8.00	2.79	.040	.015	.040	.000	7010.90	100.00
.007365	10.	10.	10.	20	14	0	-501.90	140.00	240.00

0

*SECNO 96.200

3280 CROSS SECTION 96.20 EXTENDED 2.74 FEET

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 7018.00 MAX ELLC= 7020.20

96.20	9.84	7020.74	.00	.00	7020.87	.13	.23	.02	7012.90
515.	173.	85.	257.	69.	17.	121.	4.	2.	7012.90
.06	2.50	4.87	2.12	.040	.015	.040	.000	7010.90	100.00
.002329	60.	60.	60.	2	0	0	-501.90	140.00	240.00

0

*SECNO 98.000

3280 CROSS SECTION 98.00 EXTENDED 1.12 FEET

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SECNO	DEPTH	CWSEL	CRING	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

98.00	3.12	7023.12	7023.12	.00	7023.82	.69	.55	.17	7020.00
625.	88.	435.	103.	21.	56.	52.	4.	3.	7020.00
.07	4.13	7.73	1.99	.040	.030	.040	.000	7020.00	100.00
.005333	145.	150.	170.	20	17	0	.00	114.30	214.30

*SECNO 100.000

3260 CROSS SECTION 100.00 EXTENDED .21 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

100.00	4.21	7042.21	7042.21	.00	7042.77	.56	2.79	.01	7040.00
625.	340.	277.	1.	97.	34.	1.	6.	4.	7042.00
.09	3.59	8.12	.70	.040	.030	.040	.000	7038.00	100.00
.007302	450.	450.	450.	20	11	0	.00	99.38	199.38

*SECNO 102.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

102.00	.90	7070.90	7070.90	.00	7071.22	.33	6.61	.02	7070.00
625.	42.	444.	139.	17.	85.	57.	8.	7.	7070.00
.13	2.46	5.20	2.46	.040	.030	.040	.000	7070.00	181.80
.012695	710.	700.	670.	20	17	0	.00	259.05	448.43

*SECNO 104.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

104.00	1.11	7079.11	7079.11	.00	7079.59	.48	2.88	.05	7080.00
590.	0.	590.	0.	0.	106.	0.	9.	7.	7080.00
.14	.00	5.58	.00	.040	.030	.040	.000	7078.00	290.59
.013501	220.	220.	220.	20	11	0	.00	110.51	401.09

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SECNO	DEPTH	CWSEL	CRITWS	WSELK	EG	HV	HL	CROSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSYA
SLOPE	XLORL	XLCH	XLOBR	TRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 106.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

106.00	2.70	7128.70	7128.70	.00	7129.47	.77	15.25	.09	7130.00
495.	0.	495.	0.	0.	70.	0.	11.	10.	7131.00
.19	.00	7.06	.00	.040	.030	.040	.000	7126.00	438.26
.011855	1200.	1200.	1140.	20	20	0	.00	46.39	484.65

*SECNO 108.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

108.00	2.16	7144.16	7144.16	.00	7144.74	.58	4.59	.02	7144.00
390.	0.	390.	0.	0.	64.	0.	12.	10.	7144.00
.21	.78	6.09	.04	.040	.030	.040	.000	7142.00	236.73
.012398	365.	380.	400.	20	16	0	.00	58.68	295.41

*SECNO 110.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

110.00	1.97	7159.97	7159.97	.00	7160.73	.76	4.57	.06	7160.00
390.	0.	390.	0.	0.	56.	0.	12.	10.	7160.00
.22	.00	7.00	.00	.040	.030	.040	.000	7158.00	160.09
.011668	375.	380.	380.	20	11	0	.00	36.71	196.79

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THIS RUN EXECUTED 07-24-89

HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

T6M-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY

T2 BAPTIST ROAD TRIBUTARY

T3 50-YEAR EXISTING FLOODWAY

J1	ICHECK	INQ	NINQ	IDIR	STRT	METRIC	HVINS	W	WSEL	FR
	-10.	3.	0.	0.	-1.000000	.00	.0	0.	6945.040	.000

J2	NPROF	IPLDT	PRFVS	XSECV	XSECH	FN	ALLDC	INW	CHNTH	ITRACE
	2.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMTN	SSTA
SLOPE	XLOBL	XLCH	XLROB	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDST

*PROF 2

*SECNO 74.000

3720 CRITICAL DEPTH ASSUMED

74.00	7.05	6945.05	6945.05	6945.04	6946.64	1.60	.00	.00	6948.00
1045.	0.	1045.	0.	0.	103.	0.	0.	0.	6948.00
.00	.00	10.14	.00	.060	.030	.060	.000	6938.00	168.95

.010545 0. 0. 0. 0 4 0 .00 33.14 202.09

CEHV= .100 CEHV= .300

*SECNO 90.000

3285 DIVIDED FLOW

3280 CROSS SECTION 90.00 EXTENDED .84 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

90.00	4.84	6958.84	6958.84	.00	6959.96	1.13	1.85	.05	6957.00
375.	7.	352.	16.	5.	40.	15.	1.	0.	6957.00
.01	1.45	8.79	1.07	.040	.015	.040	.000	6954.00	178.49
.001835	370.	330.	280.	20	14	0	.00	45.99	260.00

*SECNO 92.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

92.00	4.88	7004.68	7004.68	.00	7006.03	1.35	2.46	.07	7003.00
375.	6.	362.	6.	4.	38.	4.	2.	1.	7003.00
.05	1.52	9.50	1.52	.040	.015	.040	.000	7000.00	133.97
.002285	1200.	1205.	1210.	20	8	0	.00	22.06	156.03

*SECNO 94.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

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

3720 CRITICAL DEPTH ASSUMED

94.00	4.31	7015.21	7015.21	.00	7015.82	.61	.45	.07	7012.90
375.	84.	145.	146.	31.	15.	54.	2.	1.	7012.90
.06	2.70	9.48	2.70	.040	.015	.040	.000	7010.90	117.41
.002917	180.	177.	174.	20	10	0	.00	66.31	183.72

*SECNO 96.100

3280 CROSS SECTION 96.10 EXTENDED 1.97 FEET

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 7018.00 MAX ELLC= 7020.20

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

96.10	9.07	7019.97	7019.97	.00	7020.40	.43	.05	.02	7012.90
375.	133.	118.	124.	38.	14.	49.	2.	1.	7012.90
.06	3.45	8.25	2.53	.040	.015	.040	.000	7010.90	100.00

.008657 10. 10. 10. 20 9 0 -500.69 137.44 237.44

*SECNO 96.200

3280 CROSS SECTION 96.20 EXTENDED 2.55 FEET

3370 NORMAL BRIDGE, NRD= 8 MIN ELIRD= 7018.00 MAX ELLC= 7020.20

96.20	9.65	7020.55	.00	.00	7020.65	.10	.21	.03	7012.90
375.	128.	70.	176.	62.	17.	103.	3.	2.	7012.90
.06	2.09	4.23	1.71	.040	.015	.040	.000	7010.90	100.00
.001869	60.	60.	60.	2	0	0	-501.90	140.00	240.00

*SECNO 98.000

3280 CROSS SECTION 98.00 EXTENDED .39 FEET

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

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SECNO	DEPTH	CWSEL	CRINS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CDRAR	TOPWID	ENDST

98.00	2.39	7022.39	7022.39	.00	7023.17	.77	.52	.20	7020.00
395.	53.	327.	15.	14.	43.	9.	3.	2.	7020.00
.07	3.82	7.60	1.75	.040	.030	.040	.000	7020.00	100.00
.007354	145.	150.	170.	20	11	0	.00	59.33	159.33

*SECNO 100.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

100.00	3.75	7041.75	7041.75	.00	7042.28	.54	3.27	.02	7040.00
395.	176.	219.	0.	61.	29.	0.	4.	3.	7042.00
.09	2.88	7.44	.60	.040	.030	.040	.000	7038.00	110.16
.007199	450.	450.	450.	20	11	0	.00	79.65	169.81

*SECNO 102.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

102.00	.69	7070.69	7070.69	.00	7070.96	.26	6.82	.03	7070.00
395.	22.	301.	72.	10.	66.	34.	5.	5.	7070.00
.14	2.16	4.57	2.16	.040	.030	.040	.000	7070.00	190.59
.013932	710.	700.	670.	20	21	0	.00	221.27	434.97

*SECNO 104.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

104.00	.84	7078.84	7078.84	.00	7079.22	.38	3.15	.03	7080.00
380.	0.	380.	0.	0.	77.	0.	8.	8.	7080.00
.15	.00	4.94	.00	.040	.030	.040	.000	7078.00	295.30
.014734	220.	220.	220.	20	11	0	.00	103.10	398.40

0

*SECNO 106.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	ELNTH	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

106.00	2.29	7128.29	7128.29	.00	7128.90	.61	16.29	.07	7130.00
325.	0.	325.	0.	0.	52.	0.	8.	8.	7131.00
.21	.00	6.26	.00	.040	.030	.040	.000	7126.00	439.28
.012392	1200.	1200.	1140.	20	20	0	.00	42.65	481.92

1

*SECNO 108.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

108.00	1.92	7143.92	7143.92	.00	7144.39	.48	4.87	.01	7144.00
280.	0.	280.	0.	0.	50.	0.	8.	8.	7144.00
.23	.00	5.55	.00	.040	.030	.040	.000	7142.00	241.26
.013326	365.	380.	400.	20	12	0	.00	52.69	293.95

1

*SECNO 110.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

110.00	1.62	7159.62	7159.62	.00	7160.26	.65	4.87	.05	7160.00
280.	0.	280.	0.	0.	43.	0.	9.	9.	7160.00
.24	.00	6.45	.00	.040	.030	.040	.000	7158.00	160.96
.012328	375.	380.	380.	20	11	0	.00	33.73	194.69

0

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HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IBM-PC-XT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY

12 BAPTIST ROAD TRIBUTARY
13 25-YEAR EXISTING FLOODWAY

J1	ICHECK	INO	NINV	IDIR	STRT	METRIC	HVINS	0	WSEL	FO
	-10.	4.	0.	0.	-1.000000	.00	.0	0.	6644.250	.000

J2	NPROF	IFLOT	PRFVS	XSECV	XSECH	FN	BLDLC	IRW	CHNIN	ITRACE
	3.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECD0	DEPTH	WSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOOR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 3

*SECNO 74.000

3720 CRITICAL DEPTH ASSUMED

74.00	6.06	6944.06	6944.06	6644.25	6945.33	1.27	.00	.00	6948.00
650.	0.	650.	0.	0.	72.	0.	0.	0.	6948.00
.00	.00	9.04	.00	.060	.030	.060	.000	6938.00	169.94
.011817	0.	0.	0.	0	14	0	.00	30.19	200.12

0

CEHV= .100 CEHV= .300

*SECNO 90.000

3265 DIVIDED FLOW

3280 CROSS SECTION 90.00 EXTENDED .04 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

90.00	4.04	6958.04	6958.04	.00	6959.21	1.17	2.20	.01	6957.00
270.	2.	266.	2.	2.	30.	2.	0.	0.	6957.00
.01	1.18	8.75	1.17	.040	.015	.040	.000	6954.00	180.89
.002617	370.	330.	280.	20	19	0	.00	19.19	260.00

0

*SECNO 92.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

92.00	4.04	7004.04	7004.04	.00	7005.21	1.17	3.15	.00	7003.00
270.	2.	266.	2.	2.	30.	2.	1.	1.	7003.00
.05	1.18	8.75	1.18	.040	.015	.040	.000	7000.00	135.89
.002617	1200.	1205.	1210.	20	5	0	.00	18.21	154.11

0

*SECNO 94.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SS/A
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENBSI

3720 CRITICAL DEPTH ASSUMED

94.00	3.99	7014.89	7014.89	.00	7015.43	.54	.47	.06	7012.90
270.	55.	119.	96.	24.	14.	42.	2.	1.	7012.90
.06	2.30	8.51	2.29	.040	.015	.040	.000	7010.90	119.45
.002651	180.	177.	174.	20	6	0	.00	60.58	180.03

6

*SECNO 96.100

3280 CROSS SECTION 96.10 EXTENDED 1.86 FEET

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 7018.00 MAX ELLC= 7020.20

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

96.10	8.96	7019.86	7019.86	.00	7020.18	.32	.04	.02	7012.90
270.	94.	96.	80.	34.	14.	40.	2.	1.	7012.90
.06	2.77	6.91	2.00	.040	.015	.040	.000	7010.90	100.00
.006342	10.	10.	10.	20	11	0	-499.19	136.17	236.17

9

*SECNO 96.200

3280 CROSS SECTION 96.20 EXTENDED 2.30 FEET

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 7018.00 MAX ELLC= 7020.20

96.20	9.40	7020.30	.00	.00	7020.39	.09	.18	.02	7012.90
270.	95.	62.	113.	52.	16.	79.	2.	1.	7012.90
.07	1.84	3.97	1.42	.040	.015	.040	.000	7010.90	100.00
.001789	60.	60.	60.	2	0	0	-501.90	140.00	240.00

1

*SECNO 98.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

98.00	1.78	7021.78	7021.78	.00	7022.56	.78	.55	.21	7020.00
270.	27.	239.	4.	8.	32.	2.	2.	1.	7020.00
.07	3.46	7.42	2.78	.040	.030	.040	.000	7020.00	101.09
.010400	145.	150.	170.	20	21	0	.00	28.69	129.78

0

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENOST

*SECNO 100.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

100.00	3.37	7041.37	7041.37	.00	7041.89	.52	3.80	.03	7040.00
270.	91.	179.	0.	38.	26.	0.	3.	2.	7042.00
.10	2.42	6.90	.00	.040	.030	.040	.000	7038.00	125.04
.006999	450.	450.	450.	20	14	0	.00	64.49	189.53

0

*SECNO 102.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

102.00	.56	7070.56	7070.56	.00	7070.77	.22	6.85	.03	7070.00
270.	13.	215.	42.	7.	53.	22.	4.	4.	7070.00
.15	1.92	4.06	1.92	.040	.030	.040	.000	7070.00	196.28
.014646	710.	700.	670.	20	20	0	.00	196.85	426.28

0

*SECNO 104.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

104.00	.67	7078.67	7078.67	.00	7078.96	.30	3.30	.02	7080.00
260.	0.	260.	0.	0.	59.	0.	4.	5.	7080.00
.16	.00	4.39	.00	.040	.030	.040	.000	7078.00	298.36
.015394	220.	220.	220.	20	8	0	.00	98.29	396.65

0

*SECNO 106.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

106.00	1.95	7127.95	7127.95	.00	7128.45	.50	17.43	.06	7130.00
215.	0.	215.	0.	0.	38.	0.	5.	7.	7131.00
.22	.00	5.65	.00	.040	.030	.040	.000	7126.00	440.62
.013566	1200.	1200.	1140.	20	23	0	.00	39.00	479.63

0

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SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	HL	QLOSS	RANK	ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENOSI	

*SECNO 108.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

108.00	1.66	7143.66	7143.66	.00	7144.09	.43	5.31	.01	7144.00
200.	0.	200.	0.	0.	38.	0.	6.	7.	7144.00
.24	.00	5.25	.00	.040	.030	.040	.000	7142.00	245.04

.014421 365. 380. 400. 20 15 0 .00 45.76 290.80

*SECNO 110.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

110.00	1.32	7159.32	7159.32	.00	7159.86	.55	5.24	.04	7160.00
200.	0.	200.	0.	0.	34.	0.	8.	7.	7160.00
.26	.00	5.94	.00	.040	.030	.040	.000	7158.00	161.71
.013192	375.	380.	380.	20	15	0	.00	31.18	192.89

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HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984

ERROR CORR - 01,02,03,04,05,06

MODIFICATION - 50,51,52,53,54,55,56

IRM-PC-KT VERSION AUGUST 1985

T1 BLACK FOREST DRAINAGE STUDY

T2 BAPTIST ROAD TRIBUTARY

T3 10-YEAR EXISTING FLOODWAY

J1	ICHECK	INO	NINV	IDIR	STRT	METRIC	HVINS	0	WSEL	FR
	-10.	5.	0.	0.	-1.000000	.00	.0	0.	6943.330	.000
J2	NPROF	IPL0T	PRFVS	XSECV	XSECH	FN	ALLOC	IGW	CHNIN	ITRACE
	15.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	HL	GLOSS	BANK	ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNOH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

*PROF 4

*SECNO 74.000

3720 CRITICAL DEPTH ASSUMED

74.00	5.23	6943.23	6943.23	6943.33	6944.31	1.08	.00	.00	6948.00
410.	0.	410.	0.	0.	49.	0.	0.	0.	6948.00
.00	.00	8.35	.00	.060	.030	.060	.000	6938.00	173.85
.012649	0.	0.	0.	0	4	0	.00	24.22	198.07

CCHV= .100 CEHV= .300

*SECNO 90.000

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

90.00	3.25	6957.25	6957.25	.00	6958.15	.90	2.57	.02	6957.00
160.	0.	160.	0.	0.	21.	0.	0.	0.	6957.00
.01	.02	7.61	.02	.040	.015	.040	.000	6954.00	183.25
.003248	370.	330.	280.	20	14	0	.00	13.51	196.75

*SECH0 92.000

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

92.00	3.28	7003.28	7003.28	.00	7004.15	.87	3.82	.00	7003.00
160.	0.	160.	0.	0.	21.	0.	1.	1.	7003.00
.06	.53	7.50	.53	.040	.015	.040	.000	7000.00	138.17
.003094	1200.	1205.	1210.	20	5	0	.00	13.66	151.83

*SECH0 94.000

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

94.00	3.51	7014.41	7014.41	.00	7014.90	.49	.48	.04	7012.90
160.	26.	89.	45.	15.	12.	26.	1.	1.	7012.90
.07	1.74	7.37	1.74	.040	.015	.040	.000	7010.90	122.42
.002415	180.	177.	174.	20	8	0	.00	52.25	174.66

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SECH0	DEPTH	CWSEL	CRIWS	WSELK	ES	HV	HL	QLOSS	BANK ELEV
R	QIDB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XHL	XNCH	XNR	WIN	ELMIN	SSIA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONI	EDRAR	TOPWID	ENDSI

*SECH0 96.100

3280 CROSS SECTION 96.10 EXTENDED 1.65 FEET

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 7018.00 MAX ELLC= 7020.20

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

96.10	8.75	7019.65	7019.65	.00	7019.90	.25	.03	.02	7012.90
160.	52.	73.	35.	25.	13.	25.	1.	1.	7012.90
.07	2.07	5.61	1.38	.040	.015	.040	.000	7010.90	100.00
.004557	10.	10.	10.	20	11	0	-474.65	133.73	233.73

*SECH0 96.200

3280 CROSS SECTION 96.20 EXTENDED 1.99 FEET

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 7018.00 MAX ELLC= 7020.20

96.20	9.08	7019.98	.00	.00	7020.06	.08	.15	.02	7012.90
160.	57.	50.	54.	39.	14.	50.	1.	1.	7012.90
.08	1.45	3.46	1.07	.040	.015	.040	.000	7010.90	100.00
.001520	60.	60.	60.	2	0	0	-500.82	137.58	237.58

*SECNO 98.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

98.00	1.34	7021.34	7021.34	.00	7021.93	.59	.51	.15	7020.00
170.	13.	154.	2.	4.	24.	1.	1.	1.	7020.00
.08	2.99	6.41	2.40	.040	.030	.040	.000	7020.00	103.31
.011344	145.	150.	170.	20	17	0	.00	28.03	129.34

0

*SECNO 100.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
R	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XHL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TDPWID	ENDST

3720 CRITICAL DEPTH ASSUMED

100.00	2.96	7040.96	7040.96	.00	7041.44	.49	3.83	.01	7040.00
170.	34.	136.	0.	18.	22.	0.	2.	2.	7042.00
.11	1.85	6.20	.00	.040	.030	.040	.000	7038.00	141.76
.006627	450.	450.	450.	20	17	0	.00	47.46	189.22

*SECNO 102.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

102.00	.42	7070.42	7070.42	.00	7070.59	.18	7.01	.03	7070.00
170.	6.	143.	21.	4.	40.	12.	3.	3.	7070.00
.17	1.70	3.60	1.70	.040	.030	.040	.000	7070.00	202.24
.016892	710.	700.	670.	20	17	0	.00	171.28	417.17

0

*SECNO 104.000

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

104.00	.50	7078.50	7078.50	.00	7078.74	.23	3.74	.02	7080.00
170.	0.	170.	0.	0.	44.	0.	3.	4.	7080.00
.18	.00	3.89	.00	.040	.030	.040	.000	7078.00	301.20
.017080	220.	220.	220.	4	11	0	.00	93.83	395.03

*SECNO 106.000

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

106.00	1.60	7127.60	7127.60	.00	7128.00	.41	19.05	.05	7130.00
130.	0.	130.	0.	0.	25.	0.	4.	6.	7131.00
.25	.00	5.11	.00	.040	.030	.040	.000	7126.00	445.06
.014482	1200.	1200.	1140.	20	23	0	.00	31.90	476.96