

FLOOD PLAIN ANALYSIS REPORT  
FOR THE  
OUR MOTHER OF SORROWS CEMETERY  
WASHOE COUNTY, NEVADA

ALSO FILE UNDER: NORTH VIRGINIA DETENTION FACILITY

APRIL, 1991

Prepared for

CITY OF RENO  
AND  
DIOCESE OF RENO-LAS VEGAS

Prepared by

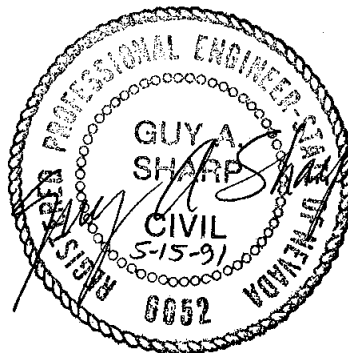
SEA, INCORPORATED  
Consulting Engineers  
950 Industrial Way  
Sparks, Nevada 89431

Project No. 150-08-5 & 375-03-1

Reno/Sparks, Nevada  
Las Vegas, Nevada  
Phoenix, Arizona

**SEA** incorporated  
CONSULTING ENGINEERS

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FOR THE  
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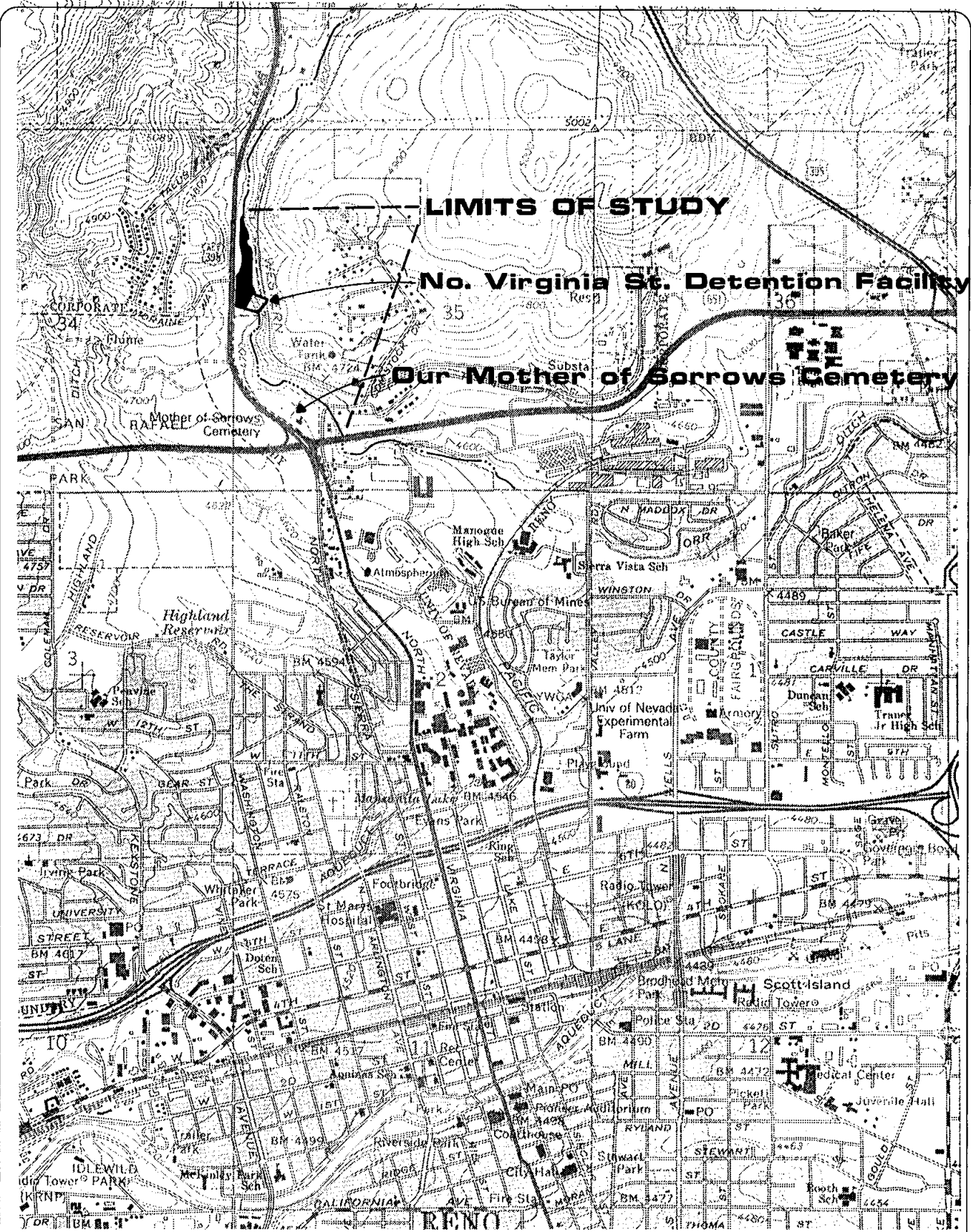
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**SEA**



**LIMITS OF STUDY**

**No. Virginia St. Detention Facility**

**Our Mother of Sorrows Cemetery**

**LOCATION MAP**  
**FLOOD PLAIN ANALYSIS**  
**OUR MOTHER OF SORROWS CEMETERY**  
 SEC. 36, T.20N., R.19E., M.D.M.

Project No. 150-08-6

PLATE 1



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- B - HEC-2 Output
- C - HEC-2 Output
- D - HEC-2 Output
- E - Flood Plain Map

# OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN ANALYSIS

## SECTION 1 PURPOSE AND AUTHORITY OF STUDY

The City of Reno proposes to build a detention dam immediately upstream of the Our Mother of Sorrows Cemetery. The detention dam will be constructed on property owned by the Diocese of Reno - Las Vegas, which also owns the cemetery property. The proposed dam would reduce the 100-year peak flow passing through the cemetery. The purpose of the study is to assess the net reduction of the flood plain within the improved areas of the cemetery as a result of the construction of the detention dam. The study is jointly sponsored by the City of Reno and the Diocese of Reno - Las Vegas.

## SECTION 2 SCOPE OF STUDY

The following scope of work was developed based upon discussions with representatives of the City of Reno and the Diocese of Reno - Las Vegas.

- A. Provide field surveyed topographic information to update an existing 1" = 80' topographic map. The updated topographic map was utilized as the datum for the flood plain model.
- B. Compute water surface profiles using the Army Corps of Engineers HEC-2 Water Surface Profile computer program for two conditions. The first condition assumes the existing 36" diameter corrugated metal pipe culvert through the cemetery would be plugged during flood conditions and all flow would be overland. The second condition assumes that the above-mentioned culvert is flowing at full capacity (for inlet control) and the overland flow is reduced by the capacity of the culvert. For each of these conditions, profiles were computed for the following design flows:
  1. Q100 = 650 cfs The 100-year flood for existing conditions (i.e. no detention dam).

2. Q100 = 216 cfs The projected peak discharge from the proposed detention dam outlet during the 100-year flood.
- C. Plot the flood plain on the topographic map between the following limits:
1. George's Den to Comstock Drive for the existing condition 100-year flood (without detention dam).
  2. The proposed dam site to Comstock Drive for the dam outlet discharge during the 100-year flood.
- D. Compute the area of inundation within the limits of the improved cemetery for both design flows. Areas of inundation to indicate the flood limits under existing conditions and the reduced flood limits after the dam is constructed.

## SECTION 3      HYDRAULIC ANALYSIS

### Hydraulic Model

A flood plain baseline was approximated from the topographic map. Cross sections normal to this baseline were located at 50' to 200' intervals as deemed appropriate. The elevations on the cross sections were computed based on City of Reno Datum. The channel lengths between cross sections along the flood plain baseline and overbank lengths were scaled off of the topographic map. The flood baseline and section locations are shown on the map included as Appendix E.

Channel and overbank roughness coefficients were estimated from a visual inspection of the site.

The capacity of the existing 48" diameter reinforced concrete pipe culvert under Comstock Drive was estimated and was then subtracted from the peak flow to obtain the overland flow rate crossing Comstock Drive. It was assumed that there would be no tailwater condition downstream of Comstock Drive. This was based upon the fact that the culvert

under McCarran Boulevard will pass the 100-year flow at a headwater depth of approximately 20.3 feet, which corresponds to a water surface elevation of approximately 4654. This is approximately 7 feet lower than the minimum elevation of the cemetery at Comstock Drive.

## **HEC-2 Results**

Due to the changes in the channel slope, it was found that both subcritical and supercritical flow regimes were present, within the study limits. Tables 1 and 2 summarize the computed water surface elevations for each design flow and condition. At certain sections where both supercritical and subcritical flow regimes were indicated by the water surface profiles, the water surface elevation used was the subcritical flow elevation. This situation indicates that a hydraulic jump is occurring in the vicinity of this section. Listings of the HEC-2 output for each flow and condition are included as Appendix A through D.

## **Analysis**

Comparing the water surface elevations for the two conditions (with or without the 36" diameter CMP culvert) and both design flows there is approximately 0.1 foot of drop in water surface elevation for the existing condition 100-year flood and approximately 0.3 foot drop in water surface elevation for the proposed dam outlet discharge 100-year flow as a result of the capacity of the existing 36" diameter CMP being reflected in the overland flows. Because of the limitations of accuracy in computing design flows, in determining roughness factors and in modeling sections based upon a topographic map with  $\pm 1$  foot accuracy, it is SEA's opinion that these profiles are hydraulically equivalent for the subject flood plain. Therefore, only one flood plain is shown for each design flow on the map included as Appendix E.

**TABLE 1**

Existing Condition 100-Year Flood Plain<sup>1</sup>  
(without Detention Facility)

SECTION NUMBER	CAPACITY OF EXISTING 36"φ CMP NOT USED CRITICAL DEPTH		CAPACITY OF EXISTING 36"φ USED CRITICAL DEPTH	
	WSEL <sup>2</sup>	WSEL <sup>2</sup>	WSEL <sup>2</sup>	WSEL <sup>2</sup>
2.008	61.65	61.7	61.65	61.7
3.020	60.40	62.4	60.26	62.4
4.030	62.03	62.4	61.94	62.4
5.040	63.13	62.7	63.00	62.6
6.060	64.79	64.9	64.67	64.8
7.070	65.54	65.6	65.40	65.4
8.080	67.30	66.6	67.17	66.5
9.100	76.57	76.2	76.43	76.1
10.110	81.07	80.5	80.97	80.4
0.115	85.39	85.4	85.28	85.3
11.120	78.84	86.0	78.84	85.8
<sup>3</sup> 12.140	80.07	86.0	80.07	85.9
13.160	86.45	86.5	86.45	86.5
14.180	87.97	89.1	87.97	89.1
15.200	90.02	90.4	90.02	90.4
16.220	94.47	94.1	94.47	94.1
17.240	99.43	99.4	99.43	99.4
18.260	102.64	102.7	102.64	102.7
19.280	104.78	105.1	104.78	105.1
20.300	108.79	108.2	108.79	108.2
21.320	113.80	113.8	113.80	113.8
<sup>3</sup> 22.340	117.28	117.3	117.28	117.3
23.360	124.77	124.8	124.77	124.8
<sup>3</sup> 24.380	127.14	127.4	127.14	127.4
25.400	132.36	132.3	132.36	132.3

## Notes:

- <sup>1</sup> Design Flow : 650 cfs
- <sup>2</sup> WSEL = Water Surface Elevation
- <sup>3</sup> Hydraulic Jump

**TABLE 2**Proposed Dam Outlet Discharge 100-Year Flood Plain<sup>1</sup>

SECTION NUMBER	CAPACITY OF EXISTING 36"φ CMP NOT USED CRITICAL DEPTH		CAPACITY OF EXISTING 36"φ USED CRITICAL DEPTH	
	WSEL <sup>2</sup>	WSEL <sup>2</sup>	WSEL <sup>2</sup>	WSEL <sup>2</sup>
2.008	60.22	60.2	60.22	60.2
3.020	59.53	60.5	59.26	60.5
4.030	61.45	61.5	61.26	61.3
<sup>3</sup> 5.040	62.23	62.5	61.87	62.2
6.060	64.02	64.0	63.79	63.8
7.070	64.74	64.9	64.52	64.7
8.080	66.53	66.1	66.30	66.0
9.100	75.79	75.7	75.55	75.5
10.110	80.53	80.2	80.39	80.2
0.115	84.70	84.7	84.52	84.5
11.120	77.08	85.1	77.08	84.8
<sup>3</sup> 12.140	78.41	85.1	78.41	84.8
13.160	84.55	84.6	84.55	84.6
14.180	86.75	87.3	86.75	87.3
15.200	88.94	89.1	88.94	89.1
16.220	93.33	93.3	93.33	93.3

## Notes:

- 1 Design Flow : 216 cfs
- 2 WSEL = Water Surface Elevation
- 3 Hydraulic Jump

The areas of inundation within the improved cemetery parcel were computed as follows:

1. The area within the flood plain for the existing conditions (design flow: 650 cfs) 100-year flood is 3.7 acres $\pm$ .
2. The area within the flood plain for the proposed dam outlet (design flow: 216 cfs) 100-year discharge is 2.6 acres $\pm$ .

As a result of the construction of the detention dam it is anticipated there would be a net reduction of the inundated area within the improved cemetery of 1.1 $\pm$  acres.

**APPENDIX A**  
**Subcritical HEC-2 Profile**  
**(36" culvert used)**

\*\*\*\*\*  
 \* HEC-2 WATER SURFACE PROFILES \*  
 \* \*  
 \* Version 4.6.0; February 1991 \*  
 \* \*  
 \* \*  
 \* RUN DATE 10APR91 TIME 07:11:10 \*  
 \*\*\*\*\*

\*\*\*\*\*  
 \* U.S. ARMY CORPS OF ENGINEERS \*  
 \* HYDROLOGIC ENGINEERING CENTER \*  
 \* 609 SECOND STREET, SUITE D \*  
 \* DAVIS, CALIFORNIA 95616-4687 \*  
 \* (916) 756-1104 \*  
 \*\*\*\*\*

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X   X XXXXXXX XXXXX          XXXXX
X   X X      X   X          X   X
X   X X      X           X
XXXXXXXX XXXX  X           XXXXX XXXXX
X   X X      X           X
X   X X      X   X          X
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PAGE 1

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\*\*\*\*\*  
 HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991  
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T1 OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN STUDY  
 SEA JOB #0150-11-5 & 0375-03-1 36' COMP CAPACITY UTILIZED  
 Q100 BASE FLOOD PROFILE FILE : 115SUB1DAT

ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
0	2	0	0	-1	0	0	0		
NPROF	IPLT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
1	0	0	0	0	0	0	0	0	15
NC	.030	.040	.030	.1	.3				
DI	2	462.	36.						
GR	2.008	14	2.087	2.625	0.	0.	0.	80.	
GR	70.00	0.000	68.00	.575	66.000	.861	64.000	1.308	62.000 1.656
GR	60.00	1.929	59.700	2.087	60.000	2.278	62.000	2.367	64.000 2.429
GR	65.40	2.625	66.000	2.925	68.000	3.490	70.000	3.769	
QT	2	563.	133.						
GR	0	0	.040	0	0				
GR	3.020	13	3.430	3.597	100.	140.	120.	80.	
GR	70.00	0.000	68.000	.567	66.000	1.042	64.000	1.488	62.000 1.936
GR	60.00	2.673	58.000	3.430	60.000	3.597	62.000	4.438	64.000 4.477

GR	66.00	4.612	68.000	4.697	70.000	4.795				
	0	.030	0	0	0					
	4.030	13	2.856	4.738	80.	120.	100.	80.		
GR	72.00	0.000	70.000	.287	68.000	.757	66.000	1.143	64.000	1.619
	62.00	2.368	60.400	2.856	62.000	4.305	64.000	4.357	66.000	4.456
	68.00	4.619	70.000	4.738	72.000	4.823				
X1	5.040	14	2.899	3.957	100.	100.	100.	80.		
	72.00	0.000	70.000	.336	68.000	.665	66.000	.981	64.000	1.265
	62.00	2.477	61.000	2.572	61.000	2.899	62.000	2.957	64.000	3.057
GR	66.00	3.710	68.000	3.806	70.000	3.957	72.000	4.058		
	6.060	14	2.955	4.108	200.	200.	200.	80.		
GR	74.00	0.000	72.000	.419	70.000	.773	68.000	1.064	66.000	1.495
GR	64.00	2.175	63.000	2.662	63.000	2.955	64.000	2.996	66.000	3.071
	68.00	3.150	70.000	4.108	72.000	4.163	74.000	4.204		

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	7.070	13	2.944	3.790	80.	120.	100.	80.		
	74.00	0.000	72.000	.383	70.000	.802	68.000	1.287	66.000	1.720
GR	64.00	2.432	63.700	2.596	64.000	2.944	66.000	2.995	68.000	3.081
GR	70.00	3.790	72.000	3.835	74.000	3.872				
	8.080	14	3.162	3.474	80.	120.	100.	80.		
GR	76.00	0.000	74.000	.474	72.000	1.006	70.000	1.371	68.000	1.850
	66.00	2.933	65.400	3.162	65.400	3.299	66.000	3.474	68.000	3.502
	70.00	3.545	72.000	3.607	74.000	3.668	76.000	3.760		
X1	9.100	12	2.108	2.972	200.	200.	200.	80.		
	84.00	0.000	82.000	.266	80.000	.589	80.000	.784	78.000	1.306
GR	76.00	2.108	74.400	2.972	76.000	3.046	78.000	3.183	80.000	3.259
GR	82.00	3.453	84.000	3.550						
	10.11	12	2.101	3.263	100.	100.	100.	80.		
GR	90.00	0.000	88.000	.365	86.000	.796	84.000	1.344	82.000	1.912
	80.00	2.101	80.000	3.263	82.000	3.993	84.000	4.355	86.000	4.497
	88.00	4.590	90.000	4.674						
X1	0.115	7	.88	1.62	60.	30.	50.	80.		
	96.	0.	.88.	.31	86.	.47	84.	.88	84.	1.62
GR	86.	1.88	96.	2.36						
	.040	.050	0	0	0					
	2	650.	216.							
X1	11.12	25	.619	1.263	60.	30.	50.	80.		
	96.00	0.000	94.000	.063	92.000	.132	90.000	.196	88.000	.266
	87.60	.504	86.000	.571	84.000	.619	82.000	.683	80.000	.737
GR	78.00	.784	76.000	.830	75.000	.871	75.000	.988	76.000	1.013
GR	78.00	1.066	80.000	1.121	82.000	1.165	84.000	1.263	86.000	1.665
	88.00	1.800	90.000	1.932	92.000	2.039	94.000	2.143	96.000	2.255
X1	12.14	26	.783	1.668	220.	180.	200.	80.		
	98.00	0.000	96.000	.046	94.000	.093	92.000	.128	90.000	.164
	88.00	.206	87.200	.248	87.600	.783	86.000	.847	84.000	.897
GR	82.00	.951	80.000	1.014	78.000	1.073	76.200	1.190	76.200	1.276
	78.00	1.304	80.000	1.369	82.000	1.424	84.000	1.500	86.000	1.599

GR	88.00	1.668	90.000	1.725	92.000	1.797	94.000	1.857	96.000	2.024
GR	98.00	2.071								
	13.16	19	.603	1.334	200.	200.	200.	80.		
GR	98.00	0.000	96.000	.027	94.000	.060	92.000	.105	91.000	.140
	90.00	.603	88.000	.658	86.000	.907	84.000	.978	82.000	1.016
	82.00	1.098	84.000	1.155	86.000	1.237	88.000	1.289	90.000	1.334
GR	92.00	1.393	94.000	1.443	96.000	1.583	98.000	1.618		
	14.18	20	.628	1.452	220.	160.	200.	80.		
	100.0	0.000	98.000	.055	96.000	.121	94.000	.196	92.000	.326
GR	91.00	.470	91.000	.628	90.000	.687	88.000	.734	86.000	.784
	85.00	.860	86.000	1.125	88.000	1.249	90.000	1.384	92.000	1.452
	94.00	1.494	96.000	1.527	96.000	1.750	98.000	1.799	100.000	1.851

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	15.20	19	1.680	2.383	180.	180.	200.	80.		
	104.0	0.000	102.000	.219	100.000	.277	98.000	.562	98.000	.737
GR	96.00	.871	94.000	1.207	92.000	1.510	90.000	1.680	88.000	2.036
	87.20	2.151	88.000	2.322	90.000	2.383	92.000	2.423	94.000	2.471
	96.00	2.540	98.000	2.571	100.000	2.610	104.000	2.673		
X1	16.22	18	1.505	2.020	180.	220.	200.	80.		
	108.0	0.000	106.000	.375	104.000	.640	102.000	.880	100.000	1.085
	98.00	1.194	96.000	1.343	94.000	1.505	92.000	1.683	92.000	1.946
GR	94.00	2.020	96.000	2.072	98.000	2.127	100.000	2.172	102.000	2.231
	104.0	2.282	106.000	2.345	108.000	2.400				
NC	0	.040	0	0	0					
X1	17.24	20	1.001	1.441	200.	200.	200.	80.		
	114.0	0.000	112.000	.071	110.000	.145	108.000	.213	106.000	.372
	104.0	.526	102.000	.688	100.000	.845	98.000	1.001	97.000	1.140
GR	97.00	1.367	98.000	1.441	100.000	1.493	102.000	1.542	104.000	1.593
	106.0	1.637	108.000	1.698	110.000	1.754	112.000	1.807	114.000	1.863
X1	18.26	20	.884	.994	200.	200.	200.	80.		
	118.0	0.000	116.000	.060	114.000	.130	112.000	.198	110.000	.257
	108.0	.328	106.000	.400	104.000	.467	102.000	.605	100.000	.844
GR	100.0	.994	102.000	1.206	104.000	1.297	106.000	1.378	108.000	1.453
GR	110.0	1.545	112.000	1.634	114.000	1.719	116.000	1.794	118.000	1.892
X	19.28	20	1.689	1.833	220.	180.	200.	80.		
GR	120.0	0.000	118.000	.164	116.000	.349	114.000	.589	112.000	.827
	110.0	1.005	108.000	1.168	106.000	1.359	104.000	1.491	102.000	1.689
	102.0	1.833	104.000	2.020	106.000	2.108	108.000	2.183	110.000	2.269
GR	112.0	2.344	114.000	2.425	116.000	2.511	118.000	2.594	120.000	2.672
	20.30	20	1.666	1.820	200.	200.	200.	80.		
GR	124.0	0.000	122.000	.092	120.000	.187	118.000	.287	116.000	.461
GR	114.0	.656	112.000	.857	110.000	1.105	108.000	1.358	106.000	1.666
	106.0	1.820	108.000	1.876	110.000	1.931	112.000	1.987	114.000	2.037
	116.0	2.091	118.000	2.149	120.000	2.201	122.000	2.250	124.000	2.307
	21.32	26	1.883	1.930	190.	210.	200.	80.		
	132.0	0.000	130.000	.060	128.000	.115	127.000	.141	126.200	.486
GR	126.0	.515	124.000	.694	122.000	.919	120.000	1.078	118.000	1.245
GR	116.0	1.401	114.000	1.562	112.000	1.723	110.000	1.883	110.000	1.930

	112.0	2.005	114.000	2.073	116.000	2.143	118.000	2.217	120.000	2.297
GR	122.0	2.371	124.000	2.440	126.000	2.519	128.000	2.589	130.000	2.669
	132.0	2.747								
X1	22.34	25	1.385	1.908	200.	200.	200.	80.		
GR	136.0	0.000	134.000	.053	132.000	.113	130.000	.147	128.000	.199
	126.0	.246	124.000	.303	122.200	.356	121.800	.624	120.000	.795
GR	118.0	.893	116.000	1.194	115.800	1.385	115.800	1.908	116.000	1.973
GR	118.0	2.033	120.000	2.102	122.000	2.157	124.000	2.219	126.000	2.283
	128.0	2.340	130.000	2.395	132.000	2.452	134.000	2.515	136.000	2.575

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X1	23.36	22	.808	.950	200.	200.	200.	80.		
	140.0	0.000	138.000	.049	136.000	.099	134.000	.149	132.000	.199
	130.0	.251	128.000	.297	126.000	.341	124.000	.402	123.400	.434
GR	123.2	.720	122.000	.808	122.000	.950	124.000	1.001	126.000	1.050
	128.0	1.102	130.000	1.183	132.000	1.267	134.000	1.357	136.000	1.452
	138.0	1.539	140.000	1.626						

X1	24.38	21	1.023	1.113	200.	200.	200.	80.		
	142.0	0.000	140.000	.056	138.000	.113	136.000	.170	134.000	.231
GR	132.0	.294	130.000	.348	129.400	.378	128.000	.616	126.000	.918
GR	124.0	1.023	124.000	1.113	126.000	1.346	128.000	1.469	130.000	1.600
	132.0	1.722	134.000	1.785	136.000	1.860	138.000	1.924	140.000	2.008
	142.0	2.084								

X1	25.40	20	1.456	1.750	200.	200.	200.	80.		
	146.0	0.000	144.000	.064	142.000	.125	141.000	.159	141.000	.495
GR	140.0	1.137	138.000	1.225	136.000	1.269	134.000	1.311	132.000	1.354
GR	130.0	1.456	130.000	1.750	132.000	1.994	134.000	2.127	136.000	2.296
	138.0	2.479	140.000	2.659	142.000	2.833	144.000	3.014	146.000	3.164

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\* OF 1

C HV= .100 CEHV= .300

\*SECNO 2.008

2006 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3 NO CRITICAL DEPTH ASSUMED

2.008	1.95	61.65	61.65	.00	62.33	.68	.00	.00	59.70
462.0	241.5	220.5	.0	37.5	32.3	.0	.0	.0	65.40
.00	6.44	6.84	.00	.030	.030	.000	.000	59.70	136.35
.010994	0.	0.	0.	0	17	0	.00	51.75	188.10

F W DISTRIBUTION FOR SECNO= 2.01 CWSEL= 61.65

SIA= 136. 154. 167. 210.

PER Q= 14.6 37.7 47.7  
 AREA= 14.8 22.7 32.3  
 VEL= 4.5 7.7 6.8  
 DEPTH= .8 1.8 1.5

\*SECNO 3.020

3301 HV CHANGED MORE THAN HVINS

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 8.40

3.020	4.43	62.43	.00	.00	62.46	.03	.07	.07	58.00
563.0	435.9	58.4	68.7	293.3	45.8	96.2	.6	.3	60.00
.02	1.49	1.27	.71	.030	.040	.040	.000	58.00	147.23
.000231	100.	120.	140.	2	0	0	.00	208.48	355.71

FLOW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 62.43

A=	147.	155.	214.	274.	288.	355.	356.
PER Q=	.1	14.3	63.1	10.4	12.2	.0	
AREA=	1.6	84.1	207.5	45.8	96.0	.1	
VEL=	.3	1.0	1.7	1.3	.7	.2	
DEPTH=	.2	1.4	3.4	3.4	1.4	.2	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 4.030

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .23

4.030	2.01	62.41	.00	.00	62.55	.14	.06	.03	60.40
563.0	176.7	386.3	.0	49.6	140.1	.0	1.3	.7	70.00
.03	3.56	2.76	.00	.030	.040	.000	.000	60.40	177.23
.004321	80.	100.	120.	3	0	0	.00	168.01	345.25

FLOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 62.41

STA=	177.	189.	228.	379.
PER Q=	.5	30.9	68.6	
AREA=	2.5	47.1	140.1	
VEL=	1.1	3.7	2.8	
DEPTH=	.2	1.2	1.2	

SECNO 5.040

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

5.040	2.01	63.01	63.01	.00	63.55	.54	.60	.12	61.00
563.0	531.2	31.8	.0	88.5	9.0	.0	1.6	1.0	70.00

.04	6.00	3.53	.00	.030	.040	.000	.000	61.00	149.36
.008846	100.	100.	100.	20	5	0	.00	91.23	240.59

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 63.01

A=	149.	198.	206.	232.	317.
PER Q=	12.9	12.4	69.1	5.6	
AREA=	24.6	11.5	52.5	9.0	
VEL=	2.9	6.1	7.4	3.5	
DEPTH=	.5	1.5	2.0	1.0	

\*SECNO 6.060

6.060	1.77	64.77	.00	.00	65.23	.46	1.68	.01	63.00
563.0	547.7	15.3	.0	99.5	5.1	.0	2.1	1.5	70.00
.05	5.50	3.01	.00	.030	.040	.000	.000	63.00	152.90
.007972	200.	200.	200.	0	0	0	.00	89.11	242.01

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 64.77

STA=	153.	174.	213.	236.	329.
PER Q=	3.4	45.9	47.9	2.7	
AREA=	8.2	49.7	41.6	5.1	
VEL=	2.4	5.2	6.5	3.0	
DEPTH=	.4	1.3	1.8	.9	

SECNO 7.070

7.070	1.74	65.44	65.41	.00	65.97	.54	.72	.02	64.00
563.0	557.1	5.9	.0	94.3	2.1	.0	2.3	1.6	70.00
.05	5.91	2.79	.00	.030	.040	.000	.000	63.70	153.68
.010120	80.	100.	120.	6	8	0	.00	84.77	238.45

FLOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 65.44

A=	154.	195.	208.	236.	303.
PER Q=	20.8	25.0	53.1	1.0	
AREA=	29.3	20.8	44.1	2.1	
VEL=	4.0	6.8	6.8	2.8	
DEPTH=	.7	1.6	1.6	.7	

\*SECNO 8.080

35 20 TRIALS ATTEMPTED WSEL,CWSEL  
 73 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

8.080	1.78	67.18	67.18	.00	67.69	.51	.98	.00	65.40
563.0	322.9	237.5	2.6	57.2	40.2	.8	2.5	1.8	66.00
.05	5.65	5.91	3.32	.030	.040	.030	.000	65.40	183.58
.013408	80.	100.	120.	20	5	0	.00	95.66	279.24

FLOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 67.18

STA=	184.	235.	253.	278.	279.
PER Q=	21.5	35.8	42.2	.5	
AREA=	30.1	27.1	40.2	.8	
VEL=	4.0	7.4	5.9	3.3	
DEPTH=	.6	1.5	1.6	.6	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 9.100

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3493 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

9.100	2.05	76.45	76.45	.00	76.99	.54	3.10	.01	76.00
563.0	7.8	498.3	56.9	3.2	86.1	7.9	2.9	2.2	74.40
.06	2.45	5.79	7.19	.030	.040	.030	.000	74.40	154.36
.018139	200.	200.	200.	20	8	0	.00	91.76	246.12

FLOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 76.45

STA=	154.	169.	238.	244.	246.
PER Q=	1.4	88.5	9.9	.2	
AREA=	3.2	86.1	7.4	.5	
VEL=	2.4	5.8	7.5	2.4	
DEPTH=	.2	1.2	1.2	.2	

\*SECNO 10.110

2485 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

3/20 CRITICAL DEPTH ASSUMED

10.110	.98	80.98	80.98	.00	81.40	.42	1.96	.01	80.00
563.0	16.1	484.4	62.5	3.6	90.9	14.0	3.2	2.5	80.00
.07	4.45	5.33	4.47	.030	.040	.030	.000	80.00	160.69
.021182	100.	100.	100.	20	11	0	.00	128.92	289.60

FLOW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 80.98

A=	161.	168.	261.	290.
PER Q=	2.9	86.0	11.1	
AREA=	3.6	90.9	14.0	
VEL=	4.4	5.3	4.5	
DEPTH=	.5	1.0	.5	

SECNO .115

85 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3Z20 CRITICAL DEPTH ASSUMED

.115	1.27	85.27	85.27	.00	85.80	.53	.98	.03	84.00
563.0	67.1	453.4	42.5	13.3	75.4	8.4	3.3	2.6	84.00
.07	5.04	6.01	5.03	.030	.040	.030	.000	84.00	49.51
.018962	60.	50.	30.	20	11	0	.00	93.34	142.85

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SECNO	DEPTH	CWSEL	CR1WS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .12 CWSEL= 85.27

STA=	50.	70.	130.	143.
PER Q=	11.9	80.5	7.5	
AREA=	13.3	75.4	8.4	
VEL=	5.0	6.0	5.0	
DEPTH=	.6	1.3	.6	

\*SECNO 11.120

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 11.40

11.120	10.83	85.83	.00	.00	85.88	.05	.03	.05	84.00
650.0	1.4	638.0	10.5	3.2	356.1	26.9	3.5	2.7	84.00
.08	.45	1.79	.39	.040	.040	.050	.000	75.00	46.01
.000195	60.	50.	30.	2	0	0	.00	84.46	130.47

FLOW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 85.83

A=	46.	50.	101.	130.
PER Q=	.2	98.2	1.6	
AREA=	3.2	356.1	26.9	
VEL=	.5	1.8	.4	
DEPTH=	.9	6.9	.9	

\*SECNO 12.140

12.140	9.67	85.87	.00	.00	85.93	.06	.05	.00	87.60
650.0	.0	650.0	.0	.0	322.6	.0	5.2	3.0	88.00
.11	.00	2.01	.00	.000	.040	.000	.000	76.20	68.02
.000335	220.	200.	180.	2	0	0	.00	59.38	127.40

FLOW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 85.87

STA=	68.	133.
PER Q=	100.0	
AREA=	322.6	
VEL=	2.0	
DEPTH=	5.4	

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 13.160

01 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3493 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

13.160	4.45	86.45	86.45	.00	87.64	1.19	.21	.34	90.00
650.0	.0	650.0	.0	.0	74.4	.0	6.1	3.2	90.00
.11	.00	8.74	.00	.000	.040	.000	.000	82.00	68.08
.019191	200.	200.	200.	20	14	0	.00	31.81	99.89

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 86.45

SIA= 68. 107.

PER Q= 100.0

AREA= 74.4

VEL= 8.7

DEPTH= 2.3

\*SECNO 14.180

01 HV CHANGED MORE THAN HVINS

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.96

14.180	4.08	89.08	.00	.00	89.46	.38	1.75	.08	91.00
650.0	.0	650.0	.0	.0	131.0	.0	6.5	3.4	92.00
.12	.00	4.96	.00	.000	.040	.000	.000	85.00	56.69
.004971	220.	200.	160.	3	0	0	.00	49.08	105.76

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 89.08

SIA= 57. 116.

PER Q= 100.0

AREA= 131.0

VEL= 5.0

DEPTH= 2.7

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 15.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .68

15.200	3.17	90.37	.00	.00	90.92	.55	1.41	.05	90.00
650.0	.6	649.3	.1	.5	109.2	.1	7.1	3.7	90.00
.13	1.24	5.95	.90	.040	.040	.050	.000	87.20	131.87
.010714	180.	200.	180.	3	0	0	.00	59.36	191.23

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 90.37

STA=	132.	134.	191.	191.
PER Q=	.1	99.9	.0	
AREA=	.5	109.2	.1	
VEL=	1.2	5.9	.9	
DEPTH=	.2	1.9	.2	

ECNO 16.220

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

16.220	2.47	94.47	94.47	.00	95.45	.97	2.76	.13	94.00
650.0	1.4	648.3	.3	.7	81.8	.2	7.5	3.9	94.00
.14	1.92	7.92	1.45	.040	.040	.050	.000	92.00	117.32
.018508	180.	200.	220.	20	15	0	.00	45.27	162.59

FLOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 94.47

STA=	117.	120.	162.	163.
PER Q=	.2	99.7	.1	
AREA=	.7	81.8	.2	
VEL=	1.9	7.9	1.4	
DEPTH=	.2	2.0	.2	

\*SECNO 17.240

35 MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

17.240	2.43	99.43	99.43	.00	100.39	.97	3.51	.00	98.00
650.0	24.1	618.4	7.5	6.3	76.9	2.1	7.9	4.1	98.00
.15	3.79	8.04	3.57	.040	.040	.040	.000	97.00	71.18
.016619	200.	200.	200.	4	5	0	.00	47.07	118.25

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 99.43

STA=	71.	80.	115.	118.
PER Q=	3.7	95.1	1.2	
AREA=	6.3	76.9	2.1	
VEL=	3.8	8.0	3.6	

DEPTH= .7 2.2 .7

SECNO 18.260

18.260	2.67	102.67	.00	.00	103.47	.80	3.06	.02	100.00
650.0	200.5	272.5	177.0	33.2	32.0	29.1	8.3	4.3	100.00
.15	6.04	8.51	6.08	.040	.040	.040	.000	100.00	44.70
.014150	200.	200.	200.	2	0	0	.00	54.22	98.92

FLOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 102.67

STA=	45.	48.	68.	80.	96.	99.
PER Q=	.4	30.4	41.9	27.0	.3	
AREA=	1.2	31.9	32.0	28.3	.8	
VEL=	2.1	6.2	8.5	6.2	2.1	
DEPTH=	.3	1.7	2.7	1.7	.3	

\*SECNO 19.280

19.280	3.10	105.10	.00	.00	105.73	.64	2.25	.02	102.00
650.0	197.9	267.4	184.7	36.2	35.6	33.4	8.8	4.6	102.00
.16	5.46	7.51	5.54	.040	.040	.040	.000	102.00	113.53
.009083	220.	200.	180.	2	0	0	.00	51.91	165.44

FLOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 105.10

A=	114.	119.	135.	147.	162.	165.
PER Q=	1.1	29.3	41.1	27.7	.7	
AREA=	3.1	33.1	35.6	31.3	2.1	
VEL=	2.3	5.8	7.5	5.8	2.3	
DEPTH=	.5	2.1	3.1	2.1	.5	

SECNO 20.300

85 20 TRIALS ATTEMPTED WSEL,CWSEL

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

20.300	2.79	108.79	108.79	.00	109.67	.88	2.24	.07	106.00
650.0	296.3	302.6	51.1	47.4	34.4	8.7	9.2	4.8	106.00
.17	6.25	8.79	5.85	.040	.040	.040	.000	106.00	100.60
.014221	200.	200.	200.	20	11	0	.00	51.23	151.83

FLOW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 108.79

STA=	101.	109.	133.	146.	150.	152.
PER Q=	1.2	44.4	46.6	7.6	.2	
AREA=	3.2	44.2	34.4	8.0	.7	
VEL=	2.4	6.5	8.8	6.2	2.2	
DEPTH=	.4	1.8	2.8	1.8	.4	

SECNO 21.320

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

393 PROBABLE MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

21.320	3.80	113.80	113.80	.00	114.85	1.05	2.72	.05	110.00
650.0	345.0	149.6	155.4	46.2	14.3	21.2	9.6	5.0	110.00
.18	7.46	10.48	7.34	.040	.040	.040	.000	110.00	126.26
.013419	190.	200.	210.	20	11	0	.00	39.03	165.29

FLOW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 113.80

A=	126.	138.	151.	154.	160.	165.
PER Q=	6.4	46.7	23.0	21.3	2.6	
AREA=	10.4	35.8	14.3	16.8	4.4	
VEL=	4.0	8.5	10.5	8.3	3.8	
DEPTH=	.9	2.8	3.8	2.8	.9	

\*SECNO 22.340

22.340	1.54	117.34	.00	.00	117.93	.59	3.03	.05	115.80
650.0	177.0	418.9	54.1	32.8	64.4	9.6	10.1	5.3	115.80
.19	5.40	6.51	5.62	.040	.040	.040	.000	115.80	79.41
.017280	200.	200.	200.	3	0	0	.00	81.65	161.05

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 22.34 CWSEL= 117.34

A=	79.	96.	111.	153.	158.	161.
PER Q=	6.2	21.0	64.4	7.2	1.2	
AREA=	10.8	22.0	64.4	7.5	2.1	
VEL=	3.7	6.2	6.5	6.2	3.5	
DEPTH=	.7	1.4	1.5	1.4	.7	

SECNO 23.360

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

23.360	2.77	124.77	124.77	.00	125.63	.86	3.19	.08	122.00
650.0	324.6	279.8	45.6	52.3	31.5	7.8	10.5	5.6	122.00
.19	6.20	8.90	5.85	.040	.040	.040	.000	122.00	30.28
.014751	200.	200.	200.	20	17	0	.00	51.30	81.59

FLOW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 124.77

STA=	30.	32.	35.	58.	65.	76.	80.	82.
PER Q=	.3	2.0	30.1	17.6	43.1	6.8	.2	
AREA=	.7	2.7	33.6	15.3	31.5	7.2	.6	
VEL=	2.3	4.6	5.8	7.5	8.9	6.1	2.2	
DEPTH=	.4	1.1	1.5	2.2	2.8	1.8	.4	

\*SECNO 24.380

24.380	3.35	127.35	.00	.00	128.03	.68	2.38	.02	124.00
650.0	156.5	198.2	295.3	30.7	24.1	48.2	11.0	5.9	124.00
.20	5.10	8.23	6.13	.040	.040	.040	.000	124.00	57.18
.009798	200.	200.	200.	1	0	0	.00	57.13	114.30

FLOW DISTRIBUTION FOR SECNO= 24.38 CWSEL= 127.35

TA=	57.	73.	82.	89.	108.	114.
PER Q=	4.7	19.3	30.5	43.5	1.9	
AREA=	10.9	19.7	24.1	43.7	4.5	
VEL=	2.8	6.4	8.2	6.5	2.8	
DEPTH=	.7	2.3	3.3	2.3	.7	

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

SECNO 25.400

.85 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 20 CRITICAL DEPTH ASSUMED

25.400	2.34	132.34	132.34	.00	133.18	.84	2.41	.05	130.00
650.0	59.9	444.4	145.7	11.0	55.1	26.5	11.4	6.1	130.00
.21	5.42	8.07	5.50	.040	.040	.040	.000	130.00	107.73
.015180	200.	200.	200.	20	19	0	.00	53.60	161.34

FLOW DISTRIBUTION FOR SECNO= 25.40 CWSEL= 132.34

STA=	108.	108.	116.	140.	160.	161.
PER Q=	.0	9.2	68.4	22.3	.1	
AREA=	.1	10.9	55.1	26.2	.3	
VEL=	1.3	5.5	8.1	5.5	1.4	
DEPTH=	.2	1.3	2.3	1.3	.2	

PROFILE FOR STREAM Q100 BASE FLOOD PROFILE

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

ELEVATION	58.	68.	78.	88.	98.	108.	118.	128.	138.	148.
SECNO	CUMDIS									
2.01	0.	I	E	R	.	M	.	.	.	.
	20.	CI	E	R	.	M	.	.	.	.
	40.	CI	E	R	.	M	.	.	.	.
	60.	CI	E	R	.	M	.	.	.	.





	2480.	C	.	.	.	.IL WE	.	M.	.	.	.	.	.
	2500.	C	.	.	.	.I WE	.	M	.	.	.	.	.
18.26	2520.	C	.	.	.	.I E	.	M	.	.	.	.	.
	2540.	C	.	.	.	.I WE	.	M	.	.	.	.	.
	2560.	C	.	.	.	.I WE	.	M	.	.	.	.	.
	2580.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2600.	C	.	.	.	.I E	.	.M	.	.	.	.	.
	2620.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2640.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2660.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2680.	C	.	.	.	.I E	.	.M	.	.	.	.	.
	2700.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
19.28	2720.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2740.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2760.	C	.	.	.	.I WE.	.	.M	.	.	.	.	.
	2780.	C	.	.	.	.I WE.	.	.M	.	.	.	.	.
	2800.	C	.	.	.	.I E.	.	.M	.	.	.	.	.
	2820.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2840.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2860.	C	.	C	.	.I E	.	.M	.	.	.	.	.
	2880.	C	.	.	C.	.I WE	.	.M	.	.	.	.	.
	2900.	C	.	.	.	C I WE	.	.M	.	.	.	.	.
20.30	2920.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2940.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2960.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	2980.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3000.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3020.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3040.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3060.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3080.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3100.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
21.32	3120.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3140.	C	.	.	.	C I WE	.	.M	.	.	.	.	.
	3160.	C	.	.	C	.I E	.	.M	.	.	.	.	.
	3180.	C	.	C	.	.I WE	.	.M	.	.	.	.	.
	3200.	C	.	C	.	.I WE	.	.M	.	.	.	.	.
	3220.	C	.	.	.	.I E	.	.M	.	.	.	.	.
	3240.	C	.	.	.	.I WE.	.	.M	.	.	.	.	.
	3260.	C	.	.	.	.I WE.	.	.M	.	.	.	.	.
	3280.	C	.	.	.	.I E.	.	.M	.	.	.	.	.
	3300.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
22.34	3320.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3340.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3360.	C	.	.	.	.I E	.	.M	.	.	.	.	.
	3380.	C	.	.	.	.I E	.	.M	.	.	.	.	.
	3400.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3420.	C	.	.	.	.I WE	.	.M	.	.	.	.	.
	3440.	C	.	C	.	.I WE	.	.M	.	.	.	.	.
	3460.	C	.	.	C.	.I E	.	.M	.	.	.	.	.
	3480.	C	.	.	.	C I WE	.	.M	.	.	.	.	.
	3500.	C	.	.	.	C I WE	.	.M	.	.	.	.	.
23.36	3520.	C	.	.	.	C I WE	.	.M	.	.	.	.	.
	3540.	C	.	.	.	C I WE	.	.M	.	.	.	.	.
	3560.	C	.	.	C	.I WE	.	.M	.	.	.	.	.
	3580.	C	.	.	C.	.I E	.	.M	.	.	.	.	.
	3600.	C	.	C	.	.I WE.	.	.M	.	.	.	.	.
	3620.	C	.	.	.	.I WE.	.	.M	.	.	.	.	.
	3640.	C	.	.	.	.I WE.	.	.M	.	.	.	.	.
	3660.	C	.	.	.	.I E.	.	.M	.	.	.	.	.

3680.	C	.	.	.	.	.	.	I	WE	.	M	.	.
3700.	C	.	.	.	.	.	.	I	WE	.	M	.	.
24.38	3720.	C	.	.	.	.	.	I	WE	.	M	.	.
3740.	C	.	.	.	.	.	.	I	WE	.	M	.	.
3760.	C	.	.	.	.	.	.	I	WE	.	M	.	.
3780.	C	.	.	.	.	.	.	I	WE	.	M	.	.
3800.	C	.	.	.	.	.	.	I	WE	.	M	.	.
3820.	.	C	.	.	.	.	.	I	WE	.	M	.	.
3840.	.	.	C	.	.	.	.	I	WE	.	M	.	.
3860.	.	.	.	C	.	.	.	I	WE	.	M	.	.
3880.	.	.	.	.	C	.	.	I	WE	.	M	.	.
3900.	.	.	.	.	.	.	C	I	WE	.	M	.	.
25.40	3920.	.	.	.	.	.	.	I	WE	.	M	.	.

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OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN STUDY  
 SEA JOB #0150-11-5 & 0375-03-1  
 Q100 PROFILE BELOW DAM FILE : 115CRT.DAT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FR
	0	3	0	0	-1	0	0	0		
J2	NPROF	IPLT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	0	0	0	0	0	0	0	15

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*PROF 2  
0

CCHV= .100 CEHV= .300  
 ECNO 2.008  
 96 WSEL NOT GIVEN, AVG OF MAX, MIN USED  
 3720 CRITICAL DEPTH ASSUMED

2.008	.52	60.22	60.22	.00	60.40	.18	.00	.00	59.70
36.0	16.6	19.4	.0	4.9	5.7	.0	.0	.0	65.40
.00	3.36	3.38	.00	.030	.030	.000	.000	59.70	151.91
.018336	0.	0.	0.	0	23	0	.00	31.11	183.02

FLOW DISTRIBUTION FOR SECNO= 2.01 CWSEL= 60.22

A=	152.	154.	167.	210.
PER Q=	1.1	45.0	53.9	
AREA=	.3	4.7	5.7	

VEL= 1.5 3.5 3.4  
 DEPTH= .1 .4 .4

SECNO 3.020

\*302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 24.96

3.020	2.45	60.45	.00	.00	60.48	.02	.06	.02	58.00
133.0	113.6	18.5	1.0	91.2	19.5	3.5	.2	.2	60.00
.02	1.24	.95	.28	.030	.040	.040	.000	58.00	200.40
.000402	100.	120.	140.	3	0	0	.00	102.70	303.10

FLOW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 60.45

STA= 200. 214. 274. 288. 303.  
 PER Q= .9 84.5 13.9 .7  
 AREA= 3.1 88.2 19.5 3.5  
 VEL= .4 1.3 .9 .3  
 DEPTH= .2 1.5 1.5 .2

\*SECNO 4.030

\*585 20 TRIALS ATTEMPTED WSEL,CWSEL

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

93 PROBABLE MINIMUM SPECIFIC ENERGY

5/20 CRITICAL DEPTH ASSUMED

4.030	.86	61.26	61.26	.00	61.49	.22	.11	.06	60.40
133.0	41.2	91.8	.0	9.1	27.0	.0	.3	.4	70.00
.03	4.53	3.40	.00	.030	.040	.000	.000	60.40	207.41
.025635	80.	100.	120.	20	22	0	.00	83.64	291.05

FLOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 61.26

A= 207. 228. 379.  
 PER Q= 31.0 69.0  
 AREA= 9.1 27.0  
 VEL= 4.5 3.4  
 DEPTH= .4 .4

\*SECNO 5.040

\*302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.42

5.040	1.19	62.19	.00	.00	62.37	.18	.88	.00	61.00
133.0	127.4	5.6	.0	37.0	3.2	.0	.4	.5	70.00
.04	3.44	1.73	.00	.030	.040	.000	.000	61.00	189.24
.004385	100.	100.	100.	5	0	0	.00	48.05	237.30

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 62.19

STA= 189. 198. 206. 232. 317.  
 PER Q= .4 9.9 85.5 4.2  
 AREA= .8 5.2 31.0 3.2  
 VEL= .7 2.5 3.7 1.7  
 DEPTH= .1 .7 1.2 .6

SECNO 6.060

7185 MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

6.060	.79	63.79	63.79	.00	64.07	.28	1.45	.03	63.00
133.0	130.7	2.3	.0	30.5	1.0	.0	.6	.8	70.00
.05	4.29	2.30	.00	.030	.040	.000	.000	63.00	182.33
.014180	200.	200.	200.	4	14	0	.00	56.64	238.98

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

LOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 63.79

STA= 182. 213. 236. 329.  
 PER Q= 28.6 69.6 1.8  
 AREA= 12.0 18.4 1.0  
 VEL= 3.2 5.0 2.3  
 DEPTH= .4 .8 .4

SECNO 7.070

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.45

7.070	.97	64.67	.00	.00	64.84	.17	.76	.01	64.00
133.0	132.4	.6	.0	40.0	.5	.0	.6	.9	70.00
.06	3.31	1.37	.00	.030	.040	.000	.000	63.70	175.47
.006746	80.	100.	120.	3	0	0	.00	61.42	236.89

LOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 64.67

A= 175. 195. 208. 236. 303.  
 PER Q= 9.4 28.9 61.2 .5  
 AREA= 6.4 10.8 22.8 .5  
 VEL= 2.0 3.6 3.6 1.4  
 DEPTH= .3 .8 .8 .3

\*SECNO 8.080

85 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

8.080	.90	66.30	66.30	.00	66.58	.28	.91	.03	65.40
133.0	57.1	75.9	.0	13.0	18.3	.1	.7	1.0	66.00
.07	4.41	4.15	.07	.030	.040	.030	.000	65.40	221.61
.018917	80.	100.	120.	20	11	0	.00	56.64	278.26

LOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 66.30

STA= 222. 235. 253. 278. 278.  
 PER Q= 2.8 40.1 57.0 .0  
 AREA= 2.0 11.0 18.3 .1  
 VEL= 1.9 4.8 4.2 .1  
 DEPTH= .2 .6 .7 .2

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

ECNO 9.100

7185 MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

9.100	1.15	75.55	75.55	.00	75.84	.29	4.48	.00	76.00
133.0	.0	119.6	13.3	.0	28.4	2.4	.8	1.2	74.40
.08	.00	4.21	5.48	.000	.040	.030	.000	74.40	188.19
.026922	200.	200.	200.	11	11	0	.00	53.81	242.01

LOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 75.55

STA= 188. 238. 242.  
 PER Q= 90.0 10.0  
 AREA= 28.4 2.4  
 VEL= 4.2 5.5  
 DEPTH= .6 .6

ECNO 10.110

7185 MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

10.110	.39	80.39	80.39	.00	80.57	.18	2.87	.01	80.00
133.0	1.6	125.0	6.4	.6	36.1	2.2	.9	1.4	80.00
.09	2.89	3.47	2.91	.030	.040	.030	.000	80.00	165.15
.030762	100.	100.	100.	4	17	0	.00	107.22	272.37

LOW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 80.39

STA= 165. 168. 261. 272.  
 PER Q= 1.2 94.0 4.8  
 AREA= .6 36.1 2.2  
 VEL= 2.9 3.5 2.9  
 DEPTH= .2 .4 .2

ECNO .115

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

.115	.52	84.52	84.52	.00	84.75	.24	1.44	.02	84.00
133.0	7.3	121.1	4.6	2.2	30.6	1.4	1.0	1.5	84.00

.09	3.32	3.96	3.31	.030	.040	.030	.000	84.00	61.92
.027372	60.	50.	30.	20	11	0	.00	73.05	134.98

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .12 CWSEL= 84.52

A=	62.	70.	130.	135.
PER Q=	5.5	91.1	3.5	
AREA=	2.2	30.6	1.4	
VEL=	3.3	4.0	3.3	
DEPTH=	.3	.5	.3	

\*SECNO 11.120

3502 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 43.27

11.120	9.77	84.77	.00	.00	84.78	.01	.00	.02	84.00
216.0	.1	215.5	.5	.6	301.7	4.8	1.1	1.6	84.00
.11	.11	.71	.10	.040	.040	.050	.000	75.00	48.04
.000039	60.	50.	30.	2	0	0	.00	65.44	113.48

FLOW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 84.77

A=	48.	50.	101.	113.
PER Q=	.0	99.8	.2	
AREA=	.6	301.7	4.8	
VEL=	.1	.7	.1	
DEPTH=	.4	5.9	.4	

SECNO 12.140

12.140	8.58	84.78	.00	.00	84.79	.01	.01	.00	87.60
216.0	.0	216.0	.0	.0	261.6	.0	2.5	1.9	88.00
.18	.00	.83	.00	.000	.040	.000	.000	76.20	70.20
.000064	220.	200.	180.	2	0	0	.00	52.90	123.10

FLOW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 84.78

A=	70.	133.
PER Q=	100.0	
AREA=	261.6	
VEL=	.8	
DEPTH=	4.9	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
-------	-------	-------	-------	-------	----	----	----	-------	-------------

Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 13.160

3301 HV CHANGED MORE THAN HVINS

585 20 TRIALS ATTEMPTED WSEL,CWSEL

593 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

13.160	2.55	84.55	84.55	.00	85.39	.84	.05	.25	90.00
216.0	.0	216.0	.0	.0	29.4	.0	3.1	2.0	90.00
.18	.00	7.35	.00	.000	.040	.000	.000	82.00	76.68
.021402	200.	200.	200.	20	14	0	.00	17.51	94.20

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 84.55

A= 77. 107.  
 PER Q= 100.0  
 AREA= 29.4  
 VEL= 7.3  
 DEPTH= 1.7

SECNO 14.180

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.85

14.180	2.32	87.32	.00	.00	87.56	.23	2.11	.06	91.00
216.0	.0	216.0	.0	.0	55.9	.0	3.3	2.1	92.00
.20	.00	3.86	.00	.000	.040	.000	.000	85.00	60.07
.006255	220.	200.	160.	3	0	0	.00	36.50	96.57

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 87.32

SIA= 60. 116.  
 PER Q= 100.0  
 AREA= 55.9  
 VEL= 3.9  
 DEPTH= 1.5

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 15.200

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .64

15.200	1.90	89.10	.00	.00	89.46	.36	1.87	.04	90.00
216.0	.0	216.0	.0	.0	44.6	.0	3.5	2.3	90.00
.21	.00	4.84	.00	.000	.040	.000	.000	87.20	147.13
.015451	180.	200.	180.	2	0	0	.00	41.32	188.46

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 89.10

A= 147. 191.  
 PER Q= 100.0  
 AREA= 44.6  
 VEL= 4.8  
 DEPTH= 1.1

\*SECNO 16.220

85 MINIMUM SPECIFIC ENERGY  
 .20 CRITICAL DEPTH ASSUMED

16.220	1.32	93.32	93.32	.00	93.86	.54	3.76	.05	94.00
216.0	.0	216.0	.0	.0	36.6	.0	3.7	2.5	94.00
.22	.00	5.90	.00	.000	.040	.000	.000	92.00	125.23
.023427	180.	200.	220.	4	19	0	.00	34.37	159.59

FLOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 93.32

A= 125. 162.  
 PER Q= 100.0  
 AREA= 36.6  
 VEL= 5.9  
 DEPTH= 1.1

\*SECNO 17.240

85 MINIMUM SPECIFIC ENERGY  
 .20 CRITICAL DEPTH ASSUMED

17.240	1.29	98.29	98.29	.00	98.82	.53	4.66	.00	98.00
216.0	.4	215.6	.0	.3	37.0	.1	3.9	2.7	98.00
.23	1.56	5.83	.06	.040	.040	.040	.000	97.00	78.26
.023181	200.	200.	200.	4	5	0	.00	37.63	115.89

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 98.29

A= 78. 80. 115. 116.  
 PER Q= .2 99.8 .0  
 AREA= .3 37.0 .1  
 VEL= 1.6 5.8 .1  
 DEPTH= .1 1.1 .1

\*SECNO 18.260

18.260	1.72	101.72	.00	.00	102.10	.39	3.27	.01	100.00
216.0	51.1	119.7	45.2	13.9	20.5	12.3	4.1	2.9	100.00
.24	3.67	5.85	3.67	.040	.040	.040	.000	100.00	51.21
.012145	200.	200.	200.	4	0	0	.00	42.78	93.99

LOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 101.72

STA=	51.	68.	80.	94.
PER Q=	23.6	55.4	20.9	
AREA=	13.9	20.5	12.3	
VEL=	3.7	5.8	3.7	
DEPTH=	.9	1.7	.9	

\*SECNO 19.280

19.280	1.89	103.89	.00	.00	104.24	.35	2.13	.00	102.00
216.0	49.2	120.4	46.4	14.2	21.8	13.4	4.3	3.0	102.00
.25	3.46	5.52	3.46	.040	.040	.040	.000	102.00	120.11
.009406	220.	200.	180.	3	0	0	.00	40.70	160.81

FLOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 103.89

A=	120.	135.	147.	161.
PER Q=	22.8	55.8	21.5	
AREA=	14.2	21.8	13.4	
VEL=	3.5	5.5	3.5	
DEPTH=	.9	1.9	.9	

\*\*SECNO 20.300

85 MINIMUM SPECIFIC ENERGY

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3/20 CRITICAL DEPTH ASSUMED

20.300	1.61	107.61	107.61	.00	108.17	.56	2.52	.06	106.00
216.0	68.7	135.5	11.8	16.1	19.9	2.9	4.5	3.2	106.00
.26	4.28	6.81	4.04	.040	.040	.040	.000	106.00	113.39
.017758	200.	200.	200.	19	9	0	.00	35.82	149.22

FLOW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 107.61

A=	113.	133.	146.	149.
PER Q=	31.8	62.7	5.5	
AREA=	16.1	19.9	2.9	
VEL=	4.3	6.8	4.0	
DEPTH=	.8	1.6	.8	

\*\*SECNO 21.320

7 85 MINIMUM SPECIFIC ENERGY

3/20 CRITICAL DEPTH ASSUMED

21.320	2.36	112.36	112.36	.00	113.02	.66	3.26	.03	110.00
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216.0	98.5	72.6	44.9	17.9	8.9	8.3	4.7	3.4	110.00
.27	5.52	8.17	5.38	.040	.040	.040	.000	110.00	135.51
.015390	190.	200.	210.	3	14	0	.00	25.87	161.38

FLOW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 112.36

STA=	136.	138.	151.	154.	160.	161.
PER Q=	.3	45.3	33.6	20.7	.1	
AREA=	.4	17.4	8.9	8.2	.2	
VEL=	1.5	5.6	8.2	5.5	1.4	
DEPTH=	.2	1.4	2.4	1.4	.2	

SECNO 22.340

22.340	.75	116.55	116.55	.00	116.88	.33	3.82	.03	115.80
216.0	48.3	151.9	15.8	11.9	31.6	3.8	4.9	3.6	115.80
.28	4.08	4.81	4.17	.040	.040	.040	.000	115.80	88.84
.024400	200.	200.	200.	6	17	0	.00	70.33	159.17

FLOW DISTRIBUTION FOR SECNO= 22.34 CWSEL= 116.55

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

STA=	89.	96.	111.	153.	158.	159.
PER Q=	2.1	20.3	70.3	6.9	.4	
AREA=	1.9	10.0	31.6	3.4	.4	
VEL=	2.5	4.4	4.8	4.4	2.3	
DEPTH=	.3	.7	.8	.7	.3	

\*SECNO 23.360

7485 MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

23.360	1.82	123.82	123.82	.00	124.27	.45	3.48	.04	122.00
216.0	73.5	130.0	12.4	20.7	20.6	3.4	5.1	3.8	122.00
.29	3.55	6.31	3.70	.040	.040	.040	.000	122.00	32.95
.013018	200.	200.	200.	3	14	0	.00	46.75	79.70

FLOW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 123.82

STA=	33.	35.	58.	65.	76.	80.
PER Q=	.2	14.9	18.9	60.2	5.8	
AREA=	.4	11.8	8.6	20.6	3.4	
VEL=	1.5	2.7	4.8	6.3	3.7	
DEPTH=	.2	.5	1.2	1.8	.9	

\*SECNO 24.380

24.380	2.13	126.13	.00	.00	126.52	.39	2.25	.01	124.00
216.0	37.6	93.9	84.5	9.7	15.4	21.2	5.3	4.0	124.00
.30	3.90	6.11	3.98	.040	.040	.040	.000	124.00	71.80
.009820	200.	200.	200.	3	0	0	.00	36.55	108.35









3800.	C	.	.	.	.	.	.	I WE	.	M	.	.
3820.	.	C	.	.	.	.	.	I.E	.	M	.	.
3840.	.	.	.C	.	.	.	.	IWE	.	M	.	.
3860.	.	.	.	.	C	.	.	I E	.	M	.	.
3880.	.	.	.	.	.	C	.	.IWE	.	M	.	.
3900.	.	.	.	.	.	.	C	.I E	.	M	.	.
25.40	3920.	.	.	.	.	.	.	. IWE	.	M	.	.

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THIS RUN EXECUTED 10APR91 07:11:26

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HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991

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

00 BASE FLOOD PROFILE

MMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10*KS	VCH	AREA	.01K
2.008	.00	.00	.00	59.70	462.00	61.65	61.65	62.33	109.94	6.84	69.76	44.06
* 2.008	.00	.00	.00	59.70	36.00	60.22	60.22	60.40	183.36	3.38	10.69	2.66
3.020	120.00	.00	.00	58.00	563.00	62.43	.00	62.46	2.31	1.27	435.26	370.30
* 3.020	120.00	.00	.00	58.00	133.00	60.45	.00	60.48	4.02	.95	114.18	66.35
4.030	100.00	.00	.00	60.40	563.00	62.41	.00	62.55	43.21	2.76	189.76	85.64
* 4.030	100.00	.00	.00	60.40	133.00	61.26	61.26	61.49	256.35	3.40	36.12	8.31
5.040	100.00	.00	.00	61.00	563.00	63.01	63.01	63.55	88.46	3.53	97.53	59.86
5.040	100.00	.00	.00	61.00	133.00	62.19	.00	62.37	43.85	1.73	40.23	20.09
6.060	200.00	.00	.00	63.00	563.00	64.77	.00	65.23	79.72	3.01	104.60	63.06
6.060	200.00	.00	.00	63.00	133.00	63.79	63.79	64.07	141.80	2.30	31.48	11.17
7.070	100.00	.00	.00	63.70	563.00	65.44	65.41	65.97	101.20	2.79	96.39	55.96
* 7.070	100.00	.00	.00	63.70	133.00	64.67	.00	64.84	67.46	1.37	40.46	16.19
* 8.080	100.00	.00	.00	65.40	563.00	67.18	67.18	67.69	134.08	5.91	98.16	48.62
* 8.080	100.00	.00	.00	65.40	133.00	66.30	66.30	66.58	189.17	4.15	31.29	9.67
* 9.100	200.00	.00	.00	74.40	563.00	76.45	76.45	76.99	181.39	5.79	97.16	41.80
* 9.100	200.00	.00	.00	74.40	133.00	75.55	75.55	75.84	269.22	4.21	30.87	8.11
* 10.110	100.00	.00	.00	80.00	563.00	80.98	80.98	81.40	211.82	5.33	108.51	38.68
* 10.110	100.00	.00	.00	80.00	133.00	80.39	80.39	80.57	307.62	3.47	38.82	7.58
* .115	50.00	.00	.00	84.00	563.00	85.27	85.27	85.80	189.62	6.01	97.17	40.89
* .115	50.00	.00	.00	84.00	133.00	84.52	84.52	84.75	273.72	3.96	34.18	8.04

*	11.120	50.00	.00	.00	75.00	650.00	85.83	.00	85.88	1.95	1.79	386.26	466.04
	11.120	50.00	.00	.00	75.00	216.00	84.77	.00	84.78	.39	.71	307.07	347.83

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10*KS	VCH	AREA	.01K
	12.140	200.00	.00	.00	76.20	650.00	85.87	.00	85.93	3.35	2.01	322.63	355.30
	12.140	200.00	.00	.00	76.20	216.00	84.78	.00	84.79	.64	.83	261.56	270.43
	13.160	200.00	.00	.00	82.00	650.00	86.45	86.45	87.64	191.91	8.74	74.36	46.92
*	13.160	200.00	.00	.00	82.00	216.00	84.55	84.55	85.39	214.02	7.35	29.40	14.76
	14.180	200.00	.00	.00	85.00	650.00	89.08	.00	89.46	49.71	4.96	130.98	92.19
	14.180	200.00	.00	.00	85.00	216.00	87.32	.00	87.56	62.55	3.86	55.89	27.31
	15.200	200.00	.00	.00	87.20	650.00	90.37	.00	90.92	107.14	5.95	109.76	62.80
	15.200	200.00	.00	.00	87.20	216.00	89.10	.00	89.46	154.51	4.84	44.65	17.38
*	16.220	200.00	.00	.00	92.00	650.00	94.47	94.47	95.45	185.08	7.92	82.77	47.78
	16.220	200.00	.00	.00	92.00	216.00	93.32	93.32	93.86	234.27	5.90	36.63	14.11
*	17.240	200.00	.00	.00	97.00	650.00	99.43	99.43	100.39	166.19	8.04	85.35	50.42
	17.240	200.00	.00	.00	97.00	216.00	98.29	98.29	98.82	231.81	5.83	37.33	14.19
	18.260	200.00	.00	.00	100.00	650.00	102.67	.00	103.47	141.50	8.51	94.34	54.64
	18.260	200.00	.00	.00	100.00	216.00	101.72	.00	102.10	121.45	5.85	46.73	19.60
	19.280	200.00	.00	.00	102.00	650.00	105.10	.00	105.73	90.83	7.51	105.19	68.20
	19.280	200.00	.00	.00	102.00	216.00	103.89	.00	104.24	94.06	5.52	49.48	22.27
	20.300	200.00	.00	.00	106.00	650.00	108.79	108.79	109.67	142.21	8.79	90.58	54.51
*	20.300	200.00	.00	.00	106.00	216.00	107.61	107.61	108.17	177.58	6.81	38.86	16.21
	21.320	200.00	.00	.00	110.00	650.00	113.80	113.80	114.85	134.19	10.48	81.69	56.11
*	21.320	200.00	.00	.00	110.00	216.00	112.36	112.36	113.02	153.90	8.17	35.08	17.41
	22.340	200.00	.00	.00	115.80	650.00	117.34	.00	117.93	172.80	6.51	106.76	49.45
	22.340	200.00	.00	.00	115.80	216.00	116.55	116.55	116.88	244.00	4.81	47.21	13.83
	23.360	200.00	.00	.00	122.00	650.00	124.77	124.77	125.63	147.51	8.90	91.58	53.52
	23.360	200.00	.00	.00	122.00	216.00	123.82	123.82	124.27	130.18	6.31	44.69	18.93
	24.380	200.00	.00	.00	124.00	650.00	127.35	.00	128.03	97.98	8.23	102.94	65.67
	24.380	200.00	.00	.00	124.00	216.00	126.13	.00	126.52	98.20	6.11	46.24	21.80
*	25.400	200.00	.00	.00	130.00	650.00	132.34	132.34	133.18	151.80	8.07	92.61	52.76
	25.400	200.00	.00	.00	130.00	216.00	131.24	131.24	131.74	198.16	6.03	39.78	15.34

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
2.008	462.00	61.65	.00	.00	.00	51.75	.00
* 2.008	36.00	60.22	-1.43	.00	.00	31.11	.00
3.020	563.00	62.43	.00	.78	.00	208.48	120.00
3.020	133.00	60.45	-1.98	.23	.00	102.70	120.00
4.030	563.00	62.41	.00	-.02	.00	168.01	100.00
4.030	133.00	61.26	-1.14	.81	.00	83.64	100.00
* 5.040	563.00	63.01	.00	.60	.00	91.23	100.00
5.040	133.00	62.19	-.82	.93	.00	48.05	100.00
6.060	563.00	64.77	.00	1.76	.00	89.11	200.00
6.060	133.00	63.79	-.98	1.60	.00	56.64	200.00
7.070	563.00	65.44	.00	.67	.00	84.77	100.00
7.070	133.00	64.67	-.77	.88	.00	61.42	100.00
* 8.080	563.00	67.18	.00	1.74	.00	95.66	100.00
* 8.080	133.00	66.30	-.88	1.63	.00	56.64	100.00
9.100	563.00	76.45	.00	9.27	.00	91.76	200.00
* 9.100	133.00	75.55	-.90	9.25	.00	53.81	200.00
10.110	563.00	80.98	.00	4.53	.00	128.92	100.00
* 10.110	133.00	80.39	-.59	4.84	.00	107.22	100.00
.115	563.00	85.27	.00	4.30	.00	93.34	50.00
.115	133.00	84.52	-.76	4.13	.00	73.05	50.00
11.120	650.00	85.83	.00	.56	.00	84.46	50.00
11.120	216.00	84.77	-1.06	.26	.00	65.44	50.00
12.140	650.00	85.87	.00	.04	.00	59.38	200.00
12.140	216.00	84.78	-1.09	.01	.00	52.90	200.00
* 13.160	650.00	86.45	.00	.58	.00	31.81	200.00
13.160	216.00	84.55	-1.90	-.23	.00	17.51	200.00
* 14.180	650.00	89.08	.00	2.63	.00	49.08	200.00
14.180	216.00	87.32	-1.76	2.78	.00	36.50	200.00
* 15.200	650.00	90.37	.00	1.29	.00	59.36	200.00
* 15.200	216.00	89.10	-1.27	1.78	.00	41.32	200.00
* 16.220	650.00	94.47	.00	4.10	.00	45.27	200.00
* 16.220	216.00	93.32	-1.15	4.22	.00	34.37	200.00

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
17.240	650.00	99.43	.00	4.95	.00	47.07	200.00
17.240	216.00	98.29	-1.13	4.97	.00	37.63	200.00

18.260	650.00	102.67	.00	3.24	.00	54.22	200.00
18.260	216.00	101.72	-.95	3.42	.00	42.78	200.00
19.280	650.00	105.10	.00	2.43	.00	51.91	200.00
19.280	216.00	103.89	-1.20	2.18	.00	40.70	200.00
20.300	650.00	108.79	.00	3.70	.00	51.23	200.00
20.300	216.00	107.61	-1.18	3.72	.00	35.82	200.00
21.320	650.00	113.80	.00	5.00	.00	39.03	200.00
21.320	216.00	112.36	-1.44	4.75	.00	25.87	200.00
22.340	650.00	117.34	.00	3.54	.00	81.65	200.00
22.340	216.00	116.55	-.79	4.18	.00	70.33	200.00
* 23.360	650.00	124.77	.00	7.43	.00	51.30	200.00
23.360	216.00	123.82	-.95	7.27	.00	46.75	200.00
24.380	650.00	127.35	.00	2.58	.00	57.13	200.00
24.380	216.00	126.13	-1.22	2.32	.00	36.55	200.00
* 25.400	650.00	132.34	.00	4.99	.00	53.60	200.00
* 25.400	216.00	131.24	-1.10	5.11	.00	40.67	200.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 2.008 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 2.008 PROFILE= 2 CRITICAL DEPTH ASSUMED

WARNING SECNO= 3.020 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 3.020 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 4.030 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 CAUTION SECNO= 4.030 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 4.030 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 4.030 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 5.040 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 5.040 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 5.040 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 WARNING SECNO= 5.040 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 6.060 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 6.060 PROFILE= 2 MINIMUM SPECIFIC ENERGY

WARNING SECNO= 7.070 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 8.080 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 8.080 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 8.080 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 8.080 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 8.080 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 8.080 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 9.100 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 9.100 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 9.100 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 9.100 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 9.100 PROFILE= 2 MINIMUM SPECIFIC ENERGY

AUTION SECNO= 10.110 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 10.110 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
AUTION SECNO= 10.110 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
AUTION SECNO= 10.110 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 10.110 PROFILE= 2 MINIMUM SPECIFIC ENERGY

AUTION SECNO= .115 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= .115 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= .115 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
AUTION SECNO= .115 PROFILE= 2 CRITICAL DEPTH ASSUMED  
AUTION SECNO= .115 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= .115 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

ARNING SECNO= 11.120 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
WARNING SECNO= 11.120 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

AUTION SECNO= 13.160 PROFILE= 1 CRITICAL DEPTH ASSUMED

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CAUTION SECNO= 13.160 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 13.160 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
AUTION SECNO= 13.160 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 13.160 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 13.160 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

ARNING SECNO= 14.180 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
WARNING SECNO= 14.180 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

ARNING SECNO= 15.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
WARNING SECNO= 15.200 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

AUTION SECNO= 16.220 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 16.220 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 16.220 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 16.220 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 16.220 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 17.240 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 17.240 PROFILE= 1 MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 17.240 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 17.240 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 20.300 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 20.300 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 20.300 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 20.300 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 20.300 PROFILE= 2 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 21.320 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 21.320 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 21.320 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

AUTION SECNO= 21.320 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 21.320 PROFILE= 2 MINIMUM SPECIFIC ENERGY

AUTION SECNO= 23.360 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 23.360 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 23.360 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
AUTION SECNO= 23.360 PROFILE= 2 CRITICAL DEPTH ASSUMED  
AUTION SECNO= 23.360 PROFILE= 2 MINIMUM SPECIFIC ENERGY

AUTION SECNO= 25.400 PROFILE= 1 CRITICAL DEPTH ASSUMED  
AUTION SECNO= 25.400 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 25.400 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 25.400 PROFILE= 2 CRITICAL DEPTH ASSUMED  
AUTION SECNO= 25.400 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 25.400 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

**APPENDIX B**  
**Supercritical HEC-2 Profile**  
**(36" culvert used)**

\*\*\*\*\*  
 \* HEC-2 WATER SURFACE PROFILES \*  
 \* \*  
 Version 4.6.0; February 1991 \*  
 \* \*  
 \* RUN DATE 10APR91 TIME 07:13:57 \*  
 \*\*\*\*\*

\*\*\*\*\*  
 \* U.S. ARMY CORPS OF ENGINEERS \*  
 \* HYDROLOGIC ENGINEERING CENTER \*  
 \* 609 SECOND STREET, SUITE D \*  
 \* DAVIS, CALIFORNIA 95616-4687 \*  
 \* (916) 756-1104 \*  
 \*\*\*\*\*

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X   X   XXXXXXXX   XXXXX   XXXXX
X   X   X           X   X           X   X
X   X   X           X           X
XXXXXXXX XXXX   X           XXXXX   XXXXX
X   X   X           X           X
X   X   X           X   X           X
X   X   XXXXXXXX   XXXXX   XXXXXXXX
  
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PAGE 1

THIS RUN EXECUTED 10APR91 07:13:57

\*\*\*\*\*  
 HEC-2 WATER SURFACE PROFILES  
 Version 4.6.0; February 1991  
 \*\*\*\*\*

T1 OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN STUDY  
 SEA JOB #0150-11-5 & 0375-03-1 (36' OUMP CAPACITY UTILIZED)  
 Q100 BASE FLOOD PROFILE FILE : 115CRT1.DAT

ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
0	2	0	1	-1	0	0	0	131.2	
NPROF	IPLOT	PRFVS.	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
1	0	0	0	0	0	0	0	0	15
NC	.040	.040	.040	.1	.3				
QT	2	650.	216.						
	25.40	20	1.456	1.750	0.	0.	0.	80.	
	146.0	0.000	144.000	.064	142.000	.125	141.000	.159	141.000 .495
GR	140.0	1.137	138.000	1.225	136.000	1.269	134.000	1.311	132.000 1.354
	130.0	1.456	130.000	1.750	132.000	1.994	134.000	2.127	136.000 2.296
	138.0	2.479	140.000	2.659	142.000	2.833	144.000	3.014	146.000 3.164
	24.38	21	1.023	1.113	200.	200.	200.	80.	
	142.0	0.000	140.000	.056	138.000	.113	136.000	.170	134.000 .231
GR	132.0	.294	130.000	.348	129.400	.378	128.000	.616	126.000 .918
GR	124.0	1.023	124.000	1.113	126.000	1.346	128.000	1.469	130.000 1.600

	132.0	1.722	134.000	1.785	136.000	1.860	138.000	1.924	140.000	2.008
GR	142.0	2.084								
	23.36	22	.808	.950	200.	200.	200.	80.		
GR	140.0	0.000	138.000	.049	136.000	.099	134.000	.149	132.000	.199
GR	130.0	.251	128.000	.297	126.000	.341	124.000	.402	123.400	.434
	123.2	.720	122.000	.808	122.000	.950	124.000	1.001	126.000	1.050
GR	128.0	1.102	130.000	1.183	132.000	1.267	134.000	1.357	136.000	1.452
GR	138.0	1.539	140.000	1.626						

	22.34	25	1.385	1.908	200.	200.	200.	80.		
GR	136.0	0.000	134.000	.053	132.000	.113	130.000	.147	128.000	.199
	126.0	.246	124.000	.303	122.200	.356	121.800	.624	120.000	.795
	118.0	.893	116.000	1.194	115.800	1.385	115.800	1.908	116.000	1.973
GR	118.0	2.033	120.000	2.102	122.000	2.157	124.000	2.219	126.000	2.283
GR	128.0	2.340	130.000	2.395	132.000	2.452	134.000	2.515	136.000	2.575

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X1	21.32	26	1.883	1.930	200.	200.	200.	80.		
GR	132.0	0.000	130.000	.060	128.000	.115	127.000	.141	126.200	.486
	126.0	.515	124.000	.694	122.000	.919	120.000	1.078	118.000	1.245
GR	116.0	1.401	114.000	1.562	112.000	1.723	110.000	1.883	110.000	1.930
GR	112.0	2.005	114.000	2.073	116.000	2.143	118.000	2.217	120.000	2.297
	122.0	2.371	124.000	2.440	126.000	2.519	128.000	2.589	130.000	2.669
	132.0	2.747								

	20.30	20	1.666	1.820	190.	210.	200.	80.		
	124.0	0.000	122.000	.092	120.000	.187	118.000	.287	116.000	.461
GR	114.0	.656	112.000	.857	110.000	1.105	108.000	1.358	106.000	1.666
GR	106.0	1.820	108.000	1.876	110.000	1.931	112.000	1.987	114.000	2.037
	116.0	2.091	118.000	2.149	120.000	2.201	122.000	2.250	124.000	2.307

X1	19.28	20	1.689	1.833	200.	200.	200.	80.		
	120.0	0.000	118.000	.164	116.000	.349	114.000	.589	112.000	.827
	110.0	1.005	108.000	1.168	106.000	1.359	104.000	1.491	102.000	1.689
GR	102.0	1.833	104.000	2.020	106.000	2.108	108.000	2.183	110.000	2.269
GR	112.0	2.344	114.000	2.425	116.000	2.511	118.000	2.594	120.000	2.672

X1	18.26	20	.884	.994	220.	180.	200.	80.		
GR	118.0	0.000	116.000	.060	114.000	.130	112.000	.198	110.000	.257
	108.0	.328	106.000	.400	104.000	.467	102.000	.605	100.000	.844
	100.0	.994	102.000	1.206	104.000	1.297	106.000	1.378	108.000	1.453
GR	110.0	1.545	112.000	1.634	114.000	1.719	116.000	1.794	118.000	1.892

	17.24	20	1.001	1.441	200.	200.	200.	80.		
GR	114.0	0.000	112.000	.071	110.000	.145	108.000	.213	106.000	.372
GR	104.0	.526	102.000	.688	100.000	.845	98.000	1.001	97.000	1.140
	97.00	1.367	98.000	1.441	100.000	1.493	102.000	1.542	104.000	1.593
GR	106.0	1.637	108.000	1.698	110.000	1.754	112.000	1.807	114.000	1.863

	.040	.050	.040	0	0					
	16.22	18	1.505	2.020	200.	200.	200.	80.		
GR	108.0	0.000	106.000	.375	104.000	.640	102.000	.880	100.000	1.085
	98.00	1.194	96.000	1.343	94.000	1.505	92.000	1.683	92.000	1.946
	94.00	2.020	96.000	2.072	98.000	2.127	100.000	2.172	102.000	2.231
GR	104.0	2.282	106.000	2.345	108.000	2.400				

	15.20	19	1.680	2.383	180.	220.	200.	80.		
GR	104.0	0.000	102.000	.219	100.000	.277	98.000	.562	98.000	.737
	96.00	.871	94.000	1.207	92.000	1.510	90.000	1.680	88.000	2.036
	87.20	2.151	88.000	2.322	90.000	2.383	92.000	2.423	94.000	2.471
GR	96.00	2.540	98.000	2.571	100.000	2.610	104.000	2.673		
	14.18	20	.628	1.452	180.	180.	200.	80.		
GR	100.0	0.000	98.000	.055	96.000	.121	94.000	.196	92.000	.326
GR	91.00	.470	91.000	.628	90.000	.687	88.000	.734	86.000	.784
	85.00	.860	86.000	1.125	88.000	1.249	90.000	1.384	92.000	1.452
	94.00	1.494	96.000	1.527	96.000	1.750	98.000	1.799	100.000	1.851

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	13.16	19	.603	1.334	220.	160.	200.	80.		
	98.00	0.000	96.000	.027	94.000	.060	92.000	.105	91.000	.140
GR	90.00	.603	88.000	.658	86.000	.907	84.000	.978	82.000	1.016
	82.00	1.098	84.000	1.155	86.000	1.237	88.000	1.289	90.000	1.334
	92.00	1.393	94.000	1.443	96.000	1.583	98.000	1.618		
X1	12.14	26	.783	1.668	200.	200.	200.	80.		
	98.00	0.000	96.000	.046	94.000	.093	92.000	.128	90.000	.164
GR	88.00	.206	87.200	.248	87.600	.783	86.000	.847	84.000	.897
GR	82.00	.951	80.000	1.014	78.000	1.073	76.200	1.190	76.200	1.276
	78.00	1.304	80.000	1.369	82.000	1.424	84.000	1.500	86.000	1.599
	88.00	1.668	90.000	1.725	92.000	1.797	94.000	1.857	96.000	2.024
GR	98.00	2.071								
	11.12	25	.619	1.263	220.	180.	200.	80.		
GR	96.00	0.000	94.000	.063	92.000	.132	90.000	.196	88.000	.266
GR	87.60	.504	86.000	.571	84.000	.619	82.000	.683	80.000	.737
	78.00	.784	76.000	.830	75.000	.871	75.000	.988	76.000	1.013
	78.00	1.066	80.000	1.121	82.000	1.165	84.000	1.263	86.000	1.665
GR	88.00	1.800	90.000	1.932	92.000	2.039	94.000	2.143	96.000	2.255

	.030	.030	.040	0	0					
QT	2	563.	133.							
X1	0.115	7	.88	1.62	60.	30.	50.	80.		
	96.	0.	88.	.31	86.	.47	84.	.88	84.	1.62
GR	86.	1.88	96.	2.36						

	10.11	12	2.101	3.263	60.	30.	50.	80.		
	90.00	0.000	88.000	.365	86.000	.796	84.000	1.344	82.000	1.912
GR	80.00	2.101	80.000	3.263	82.000	3.993	84.000	4.355	86.000	4.497
	88.00	4.590	90.000	4.674						

X1	9.100	12	2.108	2.972	100.	100.	100.	80.		
GR	84.00	0.000	82.000	.266	80.000	.589	80.000	.784	78.000	1.306
	76.00	2.108	74.400	2.972	76.000	3.046	78.000	3.183	80.000	3.259
GR	82.00	3.453	84.000	3.550						

	8.080	14	3.162	3.474	200.	200.	200.	80.		
	76.00	0.000	74.000	.474	72.000	1.006	70.000	1.371	68.000	1.850
GR	66.00	2.933	65.400	3.162	65.400	3.299	66.000	3.474	68.000	3.502
	70.00	3.545	72.000	3.607	74.000	3.668	76.000	3.760		

X1	7.070	13	2.944	3.790	80.	120.	100.	80.		
GR	74.00	0.000	72.000	.383	70.000	.802	68.000	1.287	66.000	1.720

GR	64.00	2.432	63.700	2.596	64.000	2.944	66.000	2.995	68.000	3.081
GR	70.00	3.790	72.000	3.835	74.000	3.872				
	6.060	14	2.955	4.108	80.	120.	100.	80.		
GR	74.00	0.000	72.000	.419	70.000	.773	68.000	1.064	66.000	1.495
GR	64.00	2.175	63.000	2.662	63.000	2.955	64.000	2.996	66.000	3.071
	68.00	3.150	70.000	4.108	72.000	4.163	74.000	4.204		

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	5.040	14	2.899	3.957	200.	200.	200.	80.		
	72.00	0.000	70.000	.336	68.000	.665	66.000	.981	64.000	1.265
GR	62.00	2.477	61.000	2.572	61.000	2.899	62.000	2.957	64.000	3.057
GR	66.00	3.710	68.000	3.806	70.000	3.957	72.000	4.058		
	4.030	13	2.856	4.738	100.	100.	100.	80.		
GR	72.00	0.000	70.000	.287	68.000	.757	66.000	1.143	64.000	1.619
	62.00	2.368	60.400	2.856	62.000	4.305	64.000	4.357	66.000	4.456
	68.00	4.619	70.000	4.738	72.000	4.823				

	.030	.040	.040	0	0					
	3.020	13	3.430	3.597	80.	120.	100.	80.		
GR	70.00	0.000	68.000	.567	66.000	1.042	64.000	1.488	62.000	1.936
GR	60.00	2.673	58.000	3.430	60.000	3.597	62.000	4.438	64.000	4.477
	66.00	4.612	68.000	4.697	70.000	4.795				

NC	.030	.040	.030	0	0					
	2	462.	36.							
	2.008	14	2.087	2.625	100.	140.	120.	80.		
GR	70.00	0.000	68.00	.575	66.000	.861	64.000	1.308	62.000	1.656
GR	60.00	1.929	59.700	2.087	60.000	2.278	62.000	2.367	64.000	2.429
	65.40	2.625	66.000	2.925	68.000	3.490	70.000	3.769		

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PROF 1

HV= .100 CEHV= .300  
 \*SECNO 25.400  
 2720 CRITICAL DEPTH ASSUMED

25.400	2.36	132.36	132.36	131.20	133.18	.82	.00	.00	130.00
650.0	60.2	443.3	146.5	11.2	55.4	26.8	.0	.0	130.00
.00	5.39	8.00	5.47	.040	.040	.040	.000	130.00	107.71
.014806	0.	0.	0.	0	13	0	.00	53.70	161.41

LOW DISTRIBUTION FOR SECNO= 25.40 CWSEL= 132.36

STA=	108.	108.	116.	140.	160.	161.
PER Q=	.0	9.2	68.2	22.5	.1	

AREA= .1 11.1 55.4 26.5 .3  
 VEL= 1.3 5.4 8.0 5.5 1.4  
 DEPTH= .2 1.4 2.4 1.4 .2

\*SECNO 24.380

001 HV CHANGED MORE THAN HVINS

002 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.83

24.380	1.76	125.76	127.14	.00	132.58	6.82	.00	.60	124.00
650.0	101.6	319.8	228.7	6.5	12.7	14.4	.0	.0	124.00
.00	15.60	25.22	15.83	.040	.040	.040	.000	124.00	74.45
.216850	0.	0.	0.	8	11	0	.00	31.00	105.45

FLOW DISTRIBUTION FOR SECNO= 24.38 CWSEL= 125.76

A= 74. 82. 89. 105.  
 PER Q= 15.6 49.2 35.2  
 AREA= 6.5 12.7 14.4  
 VEL= 15.6 25.2 15.8  
 DEPTH= .9 1.8 .9

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

\*SECNO 23.360

001 HV CHANGED MORE THAN HVINS

2485 20 TRIALS ATTEMPTED WSEL,CWSEL

093 PROBABLE MINIMUM SPECIFIC ENERGY

5/20 CRITICAL DEPTH ASSUMED

23.360	2.77	124.77	124.77	.00	125.63	.86	7.37	8.08	122.00
650.0	324.9	279.5	45.6	52.5	31.5	7.8	.3	.2	122.00
.01	6.19	8.87	5.83	.040	.040	.040	.000	122.00	30.27
.014629	200.	200.	200.	20	14	0	.00	51.32	81.60

FLOW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 124.77

A= 30. 32. 35. 58. 65. 76. 80. 82.  
 PER Q= .3 2.0 30.2 17.6 43.0 6.8 .2  
 AREA= .7 2.7 33.7 15.3 31.5 7.2 .6  
 VEL= 2.3 4.6 5.8 7.5 8.9 6.1 2.2  
 DEPTH= .4 1.1 1.5 2.2 2.8 1.8 .4

\*SECNO 22.340

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.05

22.340	.87	116.67	117.28	.00	118.86	2.20	6.63	.13	115.80
650.0	151.3	449.8	48.8	14.3	36.2	4.5	.6	.5	115.80
.01	10.54	12.43	10.83	.040	.040	.040	.000	115.80	87.51
.135868	200.	200.	200.	6	11	0	.00	71.92	159.44

OW DISTRIBUTION FOR SECNO= 22.34 CWSEL= 116.67

STA=	88.	96.	111.	153.	158.	159.
PER Q=	2.7	20.6	69.2	7.0	.5	
AREA=	2.7	11.7	36.2	4.0	.5	
VEL=	6.6	11.5	12.4	11.4	6.2	
DEPTH=	.3	.8	.9	.8	.3	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

ECNO 21.320

01 HV CHANGED MORE THAN HVINS

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

21.320	3.78	113.78	113.78	.00	114.85	1.07	6.32	6.25	110.00
650.0	344.6	150.1	155.3	45.8	14.2	21.0	.9	.7	110.00
.02	7.52	10.56	7.40	.040	.040	.040	.000	110.00	126.37
.013723	200.	200.	200.	20	26	0	.00	38.87	165.24

OW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 113.78

STA=	126.	138.	151.	154.	160.	165.
PER Q=	6.3	46.7	23.1	21.3	2.6	
AREA=	10.2	35.6	14.2	16.7	4.3	
VEL=	4.0	8.5	10.6	8.3	3.9	
DEPTH=	.9	2.8	3.8	2.8	.9	

\*SECNO 20.300

01 HV CHANGED MORE THAN HVINS

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.82

20.300	2.17	108.17	108.79	.00	110.19	2.02	4.57	.09	106.00
650.0	252.5	354.2	43.3	29.0	26.7	5.3	1.3	.9	106.00
.02	8.72	13.25	8.21	.040	.040	.040	.000	106.00	106.93
.045326	200.	200.	200.	6	19	0	.00	43.52	150.45

FLOW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 108.17

A=	107.	109.	133.	146.	150.	150.
PER Q=	.0	38.8	54.5	6.7	.0	
AREA=	.1	28.8	26.7	5.2	.0	
VEL=	1.5	8.8	13.3	8.3	.1	
DEPTH=	.1	1.2	2.2	1.2	.1	

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 19.280

3301 HV CHANGED MORE THAN HVINS

85 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

19.280	2.78	104.78	104.78	.00	105.67	.89	4.73	.62	102.00
650.0	188.6	284.4	176.9	29.7	32.0	27.6	1.6	1.1	102.00
.03	6.34	8.89	6.40	.040	.040	.040	.000	102.00	115.18
.014674	190.	200.	210.	20	11	0	.00	49.16	164.33

FLOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 104.78

A=	115.	119.	135.	147.	162.	164.
PER Q=	.6	28.4	43.8	26.8	.4	
AREA=	1.6	28.1	32.0	26.6	1.1	
VEL=	2.4	6.6	8.9	6.6	2.3	
DEPTH=	.4	1.8	2.8	1.8	.4	

SECNO 18.260

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

18.260	2.64	102.64	102.64	.00	103.47	.84	2.97	.05	100.00
650.0	199.2	274.8	176.0	32.4	31.6	28.5	2.0	1.4	100.00
.04	6.15	8.69	6.18	.040	.040	.040	.000	100.00	44.89
.015030	200.	200.	200.	20	11	0	.00	53.90	98.79

FLOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 102.64

STA=	45.	48.	68.	80.	96.	99.
PER Q=	.4	30.3	42.3	26.8	.2	
AREA=	1.1	31.3	31.6	27.7	.7	
VEL=	2.1	6.3	8.7	6.3	2.1	
DEPTH=	.3	1.6	2.6	1.6	.3	

\*SECNO 17.240

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

393 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

17.240	2.43	99.43	99.43	.00	100.39	.96	3.15	1.20	98.00
650.0	24.2	618.1	7.6	6.4	77.1	2.1	2.4	1.6	98.00
.05	3.78	8.01	3.56	.040	.040	.040	.000	97.00	71.13
.016419	220.	200.	180.	20	11	0	.00	47.13	118.26

FLOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 99.43

A=	71.	80.	115.	118.
PER Q=	3.7	95.1	1.2	
AREA=	6.4	77.1	2.1	
VEL=	3.8	8.0	3.6	
DEPTH=	.7	2.2	.7	

SECNO 16.220

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.51

16.220	2.11	94.11	94.49	.00	95.60	1.49	4.74	.05	94.00
650.0	.0	650.0	.0	.0	66.4	.0	2.8	1.8	94.00
.05	.07	9.78	.06	.040	.040	.050	.000	92.00	119.74
.037239	200.	200.	200.	4	5	0	.00	42.07	161.81

FLOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 94.11

STA=	120.	120.	162.
PER Q=	.0	100.0	
AREA=	.0	66.4	
VEL=	.1	9.8	
DEPTH=	.1	1.6	

SECNO 15.200

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
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

393 PROBABLE MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

15.200	2.82	90.02	90.02	.00	90.84	.82	5.45	.52	90.00
650.0	.0	650.0	.0	.0	89.6	.0	3.1	2.0	90.00
.06	.05	7.26	.00	.000	.040	.000	.000	87.20	134.24
.020780	200.	200.	200.	20	11	0	.00	56.43	190.68

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 90.02

STA= 134. 191.

PER Q= 100.0

AREA= 89.6

VEL= 7.3

DEPTH= 1.6

\*SECNO 14.180

85 20 TRIALS ATTEMPTED WSEL,CWSEL

393 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

14.180	2.97	87.97	87.97	.00	88.97	1.01	4.02	2.18	91.00
650.0	.0	650.0	.0	.0	80.8	.0	3.5	2.3	92.00
.07	.00	8.05	.00	.000	.040	.000	.000	85.00	58.78
.019445	180.	200.	220.	20	8	0	.00	40.97	99.76

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 87.97

A= 59. 116.

PER Q= 100.0

AREA= 80.8

VEL= 8.0

DEPTH= 2.0

SECNO 13.160

85 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

13.160	4.45	86.45	86.45	.00	87.64	1.19	3.86	2.12	90.00
650.0	.0	650.0	.0	.0	74.4	.0	3.9	2.4	90.00
.07	.00	8.74	.00	.000	.040	.000	.000	82.00	68.08
.019191	180.	200.	180.	20	14	0	.00	31.81	99.89

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 86.45

STA= 68. 107.

PER Q= 100.0

AREA= 74.4  
 VEL= 8.7  
 DEPTH= 2.3

\*SECNO 12.140

301 HV CHANGED MORE THAN HVINS

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

12.140	3.12	79.32	80.07	.00	81.79	2.47	5.72	.13	87.60
650.0	.0	650.0	.0	.0	51.5	.0	4.2	2.5	88.00
.08	.00	12.61	.00	.000	.040	.000	.000	76.20	82.73
.047117	220.	200.	160.	5	15	0	.00	25.03	107.75

FLOW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 79.32

A= 83. 133.  
 PER Q= 100.0  
 AREA= 51.5  
 VEL= 12.6  
 DEPTH= 2.1

\*SECNO 11.120

301 HV CHANGED MORE THAN HVINS

385 20 TRIALS ATTEMPTED WSEL,CWSEL  
 393 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

11.120	3.84	78.84	78.84	.00	80.19	1.36	5.61	3.11	84.00
650.0	.0	650.0	.0	.0	69.5	.0	4.5	2.7	84.00
.08	.00	9.36	.00	.000	.040	.000	.000	75.00	61.15
.018612	200.	200.	200.	20	11	0	.00	25.97	87.12

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 78.84

A= 61. 101.  
 PER Q= 100.0  
 AREA= 69.5  
 VEL= 9.4  
 DEPTH= 2.7

\*SECNO .115

3301 HV CHANGED MORE THAN HVINS

685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

.115	1.27	85.27	85.27	.00	85.80	.53	3.76	1.57	84.00
563.0	67.1	453.4	42.5	13.3	75.4	8.4	4.8	2.9	84.00
.09	5.04	6.01	5.03	.030	.040	.030	.000	84.00	49.50
.018940	220.	200.	180.	20	17	0	.00	93.35	142.85

LOW DISTRIBUTION FOR SECNO= .12 CWSEL= 85.27

STA=	50.	70.	130.	143.
PER Q=	11.9	80.5	7.5	
AREA=	13.3	75.4	8.4	
VEL=	5.0	6.0	5.0	
DEPTH=	.6	1.3	.6	

SECNO 10.110

01 HV CHANGED MORE THAN HVINS

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.54

10.110	.43	80.43	80.97	.00	83.08	2.65	2.51	.21	80.00
563.0	7.6	525.6	29.7	.7	39.8	2.7	4.9	3.1	80.00
.09	11.02	13.20	11.08	.030	.040	.030	.000	80.00	164.84
.390750	60.	50.	30.	6	15	0	.00	108.71	273.55

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

OW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 80.43

STA=	165.	168.	261.	274.
PER Q=	1.4	93.4	5.3	
AREA=	.7	39.8	2.7	
VEL=	11.0	13.2	11.1	
DEPTH=	.2	.4	.2	

\*SECNO 9.100

01 HV CHANGED MORE THAN HVINS

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .36

9.100	1.72	76.12	76.43	.00	77.18	1.06	5.42	.48	76.00
563.0	.4	506.2	56.5	.2	63.3	5.5	5.0	3.2	74.40
.10	1.69	7.99	10.34	.030	.040	.030	.000	74.40	164.91
.052046	60.	50.	30.	6	29	0	.00	79.40	244.32

FLOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 76.12

STA=	165.	169.	238.	244.	244.
PER Q=	.1	89.9	10.0	.0	
AREA=	.2	63.3	5.4	.0	
VEL=	1.7	8.0	10.4	.1	
DEPTH=	.1	.9	.9	.1	

SECNO 8.080

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.60

8.080	1.10	66.50	67.17	.00	69.14	2.64	7.88	.16	65.40
563.0	264.0	298.2	.8	19.9	23.2	.1	5.1	3.3	66.00
.10	13.26	12.88	5.86	.030	.040	.030	.000	65.40	213.16
.132886	100.	100.	100.	7	8	0	.00	65.32	278.48

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 66.50

STA=	213.	235.	253.	278.	278.
PER Q=	6.7	40.2	53.0	.1	
AREA=	5.3	14.6	23.2	.1	
VEL=	7.1	15.5	12.9	5.9	
DEPTH=	.2	.8	.9	.2	

SECNO 7.070

3301 HV CHANGED MORE THAN HVINS

.85 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 20 CRITICAL DEPTH ASSUMED

7.070	1.70	65.40	65.40	.00	65.97	.57	5.31	5.06	64.00
563.0	557.3	5.7	.0	91.6	2.0	.0	5.4	3.7	70.00
.11	6.09	2.86	.00	.030	.040	.000	.000	63.70	154.63
.010996	200.	200.	200.	20	14	0	.00	83.75	238.38

FLOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 65.40

STA=	155.	195.	208.	236.	303.
PER Q=	20.4	25.2	53.4	1.0	
AREA=	28.0	20.4	43.2	2.0	
VEL=	4.1	7.0	7.0	2.9	
DEPTH=	.7	1.6	1.6	.7	

\*SECNO 6.060

585 20 TRIALS ATTEMPTED WSEL,CWSEL  
693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

6.060	1.67	64.67	64.67	.00	65.22	.56	.86	.06	63.00
563.0	548.1	14.9	.0	90.5	4.5	.0	5.6	3.8	70.00
.11	6.06	3.31	.00	.030	.040	.000	.000	63.00	155.89
.010483	80.	100.	120.	20	8	0	.00	85.79	241.68

FLOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 64.67

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

A=	156.	174.	213.	236.	329.
PER Q=	2.6	45.3	49.4	2.6	
AREA=	6.0	45.4	39.0	4.5	
VEL=	2.4	5.6	7.1	3.3	
DEPTH=	.3	1.2	1.7	.9	

SECNO 5.040

3301 HV CHANGED MORE THAN HVINS

WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

5.040	1.57	62.57	63.00	.00	63.89	1.31	1.26	.08	61.00
563.0	534.4	28.6	.0	57.0	5.6	.0	5.7	4.0	70.00
.11	9.37	5.09	.00	.030	.040	.000	.000	61.00	170.55
.025694	80.	100.	120.	6	11	0	.00	68.29	238.84

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 62.57

A=	171.	198.	206.	232.	317.
PER Q=	4.8	11.9	78.2	5.1	
AREA=	7.9	8.1	41.1	5.6	
VEL=	3.4	8.3	10.7	5.1	
DEPTH=	.3	1.1	1.6	.8	

SECNO 4.030

3301 HV CHANGED MORE THAN HVINS

85 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

4.030	1.54	61.94	61.94	.00	62.33	.39	4.59	3.03	60.40
563.0	174.4	388.6	.0	29.1	86.5	.0	6.2	4.5	70.00
.12	5.99	4.49	.00	.030	.040	.000	.000	60.40	190.78

.020653 200. 200. 200. 20 8 0 .00 149.63 340.41

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

LOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 61.94

STA= 191. 228. 379.

PER Q= 31.0 69.0  
 AREA= 29.1 86.5  
 VEL= 6.0 4.5  
 DEPTH= .8 .8

\*SECNO 3.020

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

593 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3.020	2.26	60.26	60.26	.00	60.83	.57	1.55	.15	58.00
563.0	482.7	79.1	1.2	77.1	16.8	1.1	6.4	4.7	60.00
.13	6.26	4.71	1.04	.030	.040	.040	.000	58.00	206.25
.012006	100.	100.	100.	20	14	0	.00	90.18	296.42

FLOW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 60.26

A= 206. 214. 274. 288. 296.

PER Q= .2 85.5 14.0 .2  
 AREA= 1.0 76.2 16.8 1.1  
 VEL= 1.4 6.3 4.7 1.0  
 DEPTH= .1 1.3 1.3 .1

\*SECNO 2.008

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

2.008	1.94	61.64	61.64	.00	62.33	.69	1.00	.43	59.70
462.0	241.4	220.6	.0	37.4	32.2	.0	6.6	4.9	65.40
.13	6.45	6.85	.00	.030	.030	.000	.000	59.70	136.37
.011050	80.	100.	120.	20	15	0	.00	51.72	188.09

FLOW DISTRIBUTION FOR SECNO= 2.01 CWSEL= 61.64

STA= 136. 154. 167. 210.

PER Q= 14.5 37.7 47.7  
 AREA= 14.7 22.7 32.2  
 VEL= 4.6 7.7 6.8  
 DEPTH= .8 1.8 1.5

PROFILE FOR STREAM Q100 BASE FLOOD PROFILE

ALIGNED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

LEVATION SECNO	60. CUMDIS	70.	80.	90.	100.	110.	120.	130.	140.	150.
25.40	0.	.	.	.	.	.	.	I E	.	M
24.38	20.	.	.	.	.	.	I WC	E	M	.
	40.	.	.	.	.	.	I WC	E	M	.
	60.	.	.	.	.	.	I WC	E	M	.
	80.	.	.	.	.	.	I WC	E	M	.
	100.	.	.	.	.	.	I W E	.	M	.
	120.	.	.	.	.	.	I W E	.	M	.
	140.	.	.	.	.	.	I WC E	.	M	.
	160.	.	.	.	.	.	I WC E	.	M	.
	180.	.	.	.	.	.	I WCE	.	M	.
23.36	200.	.	.	.	.	.	I WE	.	M	.
	220.	.	.	.	.	.	I WE	.	M	.
	240.	.	.	.	.	.	I WCE	.	M	.
	260.	.	.	.	.	.	I WE	.	M	.
	280.	.	.	.	.	.	I WE	.	M	.
	300.	.	.	.	.	.	I W E	.	M	.
	320.	.	.	.	.	.	I WCE	.	M	.
	340.	.	.	.	.	.	I WCE	.	M	.
	360.	.	.	.	.	.	I W E	.	M	.
	380.	.	.	.	.	.	I W E	.	M	.
22.34	400.	.	.	.	.	.	I WCE	.	M	.
	420.	.	.	.	.	.	I W E	.	M	.
	440.	.	.	.	.	.	I WCE	.	M	.
	460.	.	.	.	.	.	I WCE	.	M	.
	480.	.	.	.	.	.	I W E	.	M	.
	500.	.	.	.	.	.	I WE	.	M	.
	520.	.	.	.	.	.	I W E	.	M	.
	540.	.	.	.	.	.	I WE	.	M	.
	560.	.	.	.	.	.	I WE	.	M	.
	580.	.	.	.	.	.	I WE	.	M	.
21.32	600.	.	.	.	.	.	I WE	.	M	.
	620.	.	.	.	.	.	I WE	.	M	.
	640.	.	.	.	.	.	I WE	.	M	.
	660.	.	.	.	.	.	I WCE	.	M	.
	680.	.	.	.	.	.	I WE	.	M	.
	700.	.	.	.	.	.	I WCE	.	M	.
	720.	.	.	.	.	.	I WE	.	M	.
	740.	.	.	.	.	.	I WCE	.	M	.
	760.	.	.	.	.	.	I WE	.	M	.
	780.	.	.	.	.	.	I WCE	.	M	.
20.30	800.	.	.	.	.	.	I WCE	.	M	.
	820.	.	.	.	.	.	I WCE	.	M	.
	840.	.	.	.	.	.	I W E	.	M	.
	860.	.	.	.	.	.	I WCE	.	M	.
	880.	.	.	.	.	.	I W E	.	M	.
	900.	.	.	.	.	.	I WE	.	M	.
	920.	.	.	.	.	.	I WCE	.	M	.
	940.	.	.	.	.	.	I WE	.	M	.
	960.	.	.	.	.	.	I WE	.	M	.
	980.	.	.	.	.	.	I WE	.	M	.
19.28	1000.	.	.	.	.	.	I WE	.	M	.





3420.	.I WE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3440.	.I WE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3460.	.I WE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3480.	.I WE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3500.	.I E	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3520.	.IWE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3540.	.IWE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3560.	.IWE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3580.	.IWE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4.03	3600.	.IWE	R M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

PROFILE FOR STREAM Q100 BASE FLOOD PROFILE

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

ELEVATION	-27.	-17.	-7.	3.	13.	23.	33.	43.	53.	63.
SECNO	CUMDIS									
3620.	.	.	.	.	.	.	.	.	.	I E. R M.
3640.	.	.	.	.	.	.	.	.	.	I WE. R M.
3660.	.	.	.	.	.	.	.	.	.	I E .R M.
3680.	.	.	.	.	.	.	.	.	.	I ER. M.
3.02	3700.	.	.	.	.	.	.	.	.	I WE . M.
3720.	.	.	.	.	.	.	.	.	.	I E . M.
3740.	.	.	.	.	.	.	.	.	.	I ER. M.
3760.	.	.	.	.	.	.	.	.	.	I WER M.
3780.	.	.	.	.	.	.	.	.	.	I WE.R M.
2.01	3800.	.	.	.	.	.	.	.	.	I E. R M.

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OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN STUDY

SEA JOB #0150-11-5 & 0375-03-1

T3 Q100 PROFILE BELOW DAM FILE : 115CRT.DAT

ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
0	3	0	1	0	0	0	0	131.2	
NPROF	IPLT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
15	0	0	0	0	0	0	0	0	15

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*PROF 2

CCHV= .100 CEHV= .300

\*SECNO 25.400

25.400	1.20	131.20	131.24	131.20	131.74	.54	.00	.00	130.00
216.0	11.4	177.0	27.7	2.9	28.2	7.0	.0	.0	130.00
.00	3.87	6.27	3.94	.040	.040	.040	.000	130.00	111.58
.022337	0.	0.	0.	0	7	0	.00	40.13	151.71

FLOW DISTRIBUTION FOR SECNO= 25.40 CWSEL= 131.20

STA= 112. 116. 140. 152.

PER Q=	5.3	81.9	12.8
AREA=	2.9	28.2	7.0
VEL=	3.9	6.3	3.9
DEPTH=	.6	1.2	.6

SECNO 24.380

3235 SLOPE TOO STEEP, EXCEEDS .40

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.45

24.380	.87	124.87	125.89	.00	131.17	6.30	.00	.58	124.00
216.0	22.6	142.7	50.8	1.6	6.3	3.6	.0	.0	124.00
.00	13.99	22.61	14.19	.040	.040	.040	.000	124.00	78.16
.441822	0.	0.	0.	6	15	0	.00	19.05	97.21

FLOW DISTRIBUTION FOR SECNO= 24.38 CWSEL= 124.87

STA= 78. 82. 89. 97.

PER Q=	10.4	66.0	23.5
AREA=	1.6	6.3	3.6
VEL=	14.0	22.6	14.2
DEPTH=	.4	.9	.4

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 23.360

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY

220 CRITICAL DEPTH ASSUMED

23.360	1.80	123.80	123.80	.00	124.27	.46	7.78	9.85	122.00
216.0	72.9	130.7	12.4	20.4	20.5	3.3	.1	.2	122.00
.01	3.58	6.38	3.74	.040	.040	.040	.000	122.00	32.99
.013415	200.	200.	200.	20	14	0	.00	46.69	79.68

FLOW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 123.80

TA=	33.	35.	58.	65.	76.	80.
PER Q=	.2	14.6	18.9	60.5	5.7	
AREA=	.3	11.5	8.5	20.5	3.3	
VEL=	1.5	2.7	4.8	6.4	3.7	
DEPTH=	.2	.5	1.2	1.8	.9	

\*SECNO 22.340

301 HV CHANGED MORE THAN HVINS

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.83

22.340	.42	116.22	116.55	.00	117.44	1.22	6.75	.08	115.80
216.0	39.2	163.8	13.0	5.2	17.7	1.7	.3	.4	115.80
.02	7.52	9.27	7.48	.040	.040	.040	.000	115.80	92.84
.196658	200.	200.	200.	5	18	0	.00	65.53	158.37

FLOW DISTRIBUTION FOR SECNO= 22.34 CWSEL= 116.22

A=	93.	96.	111.	153.	158.	158.
PER Q=	.5	17.6	75.8	6.0	.0	
AREA=	.3	4.9	17.7	1.7	.1	
VEL=	3.8	7.7	9.3	7.7	.2	
DEPTH=	.1	.3	.4	.3	.1	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 21.320

3301 HV CHANGED MORE THAN HVINS

85 20 TRIALS ATTEMPTED WSEL,CWSEL

3393 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

21.320	2.37	112.37	112.37	.00	113.02	.64	7.35	7.59	110.00
216.0	98.7	72.2	45.0	18.0	8.9	8.4	.4	.6	110.00
.03	5.47	8.09	5.33	.040	.040	.040	.000	110.00	135.43
.014965	200.	200.	200.	20	26	0	.00	25.99	161.42

FLOW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 112.37

STA=	135.	138.	151.	154.	160.	161.
PER Q=	.3	45.4	33.4	20.7		.1
AREA=	.5	17.6	8.9	8.2		.2
VEL=	1.5	5.6	8.1	5.4		1.4
DEPTH=	.2	1.4	2.4	1.4		.2

SECNO 20.300

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.66

20.300	1.31	107.31	107.61	.00	108.32	1.01	4.66	.04	106.00
216.0	60.0	145.7	10.3	10.6	16.1	1.9	.6	.8	106.00
.03	5.67	9.03	5.35	.040	.040	.040	.000	106.00	117.14
.041156	200.	200.	200.	5	14	0	.00	31.40	148.54

FLOW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 107.31

STA=	117.	133.	146.	149.
PER Q=	27.8	67.5	4.8	
AREA=	10.6	16.1	1.9	
VEL=	5.7	9.0	5.4	
DEPTH=	.7	1.3	.7	

\*SECNO 19.280

85 20 TRIALS ATTEMPTED WSEL,CWSEL

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

93 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

19.280	1.63	103.63	103.63	.00	104.18	.55	5.15	2.94	102.00
216.0	45.0	128.5	42.5	10.5	18.7	9.9	.7	.9	102.00
.04	4.30	6.86	4.29	.040	.040	.040	.000	102.00	122.24
.017818	190.	200.	210.	20	11	0	.00	36.57	158.81

FLOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 103.63

A=	122.	135.	147.	159.
PER Q=	20.8	59.5	19.7	
AREA=	10.5	18.7	9.9	
VEL=	4.3	6.9	4.3	
DEPTH=	.8	1.6	.8	

SECNO 18.260

35 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

18.260	1.56	101.56	101.56	.00	102.07	.51	3.56	1.62	100.00
216.0	48.5	124.5	43.0	11.6	18.7	10.3	.9	1.1	100.00
.05	4.18	6.66	4.17	.040	.040	.040	.000	100.00	52.62

.017770 200. 200. 200. 20 8 0 .00 40.12 92.74

LOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 101.56

STA= 53. 68. 80. 93.  
PER Q= 22.5 57.6 19.9  
AREA= 11.6 18.7 10.3  
VEL= 4.2 6.7 4.2  
DEPTH= .8 1.6 .8

\*SECNO 17.240

3585 20 TRIALS ATTEMPTED WSEL,CWSEL

593 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

17.240 1.31 98.31 98.31 .00 98.82 .51 3.96 1.93 98.00  
216.0 .5 215.5 .0 .3 37.5 .1 1.1 1.3 98.00  
.06 1.57 5.75 .06 .040 .040 .040 .000 97.00 78.16  
.022121 220. 200. 180. 20 15 0 .00 37.76 115.92

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SECNO DEPTH CWSEL CRIWS WSELK EG HV HL OLOSS L-BANK ELEV  
Q QLOB QCH QROB ALOB ACH AROB VOL TWA R-BANK ELEV  
TIME VLOB VCH VROB XNL XNCH XNR WTN ELMIN SSTA  
SLOPE XLOBL XLCH XLOBR ITRIAL IDC ICONT CORAR TOPWID ENDST

FLOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 98.31

A= 78. 80. 115. 116.  
PER Q= .2 99.8 .0  
AREA= .3 37.5 .1  
VEL= 1.6 5.7 .1  
DEPTH= .2 1.1 .2

\*SECNO 16.220

16.220 1.26 93.26 93.33 .00 93.87 .61 4.94 .01 94.00  
216.0 .0 216.0 .0 .0 34.5 .0 1.3 1.4 94.00  
.07 .00 6.25 .00 .000 .040 .000 .000 92.00 125.66  
.027773 200. 200. 200. 3 5 0 .00 33.75 159.41

FLOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 93.26

STA= 126. 162.  
PER Q= 100.0  
AREA= 34.5  
VEL= 6.3  
DEPTH= 1.0

\*SECNO 15.200

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3493 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

15.200 1.74 88.94 88.94 .00 89.44 .50 5.13 3.13 90.00  
216.0 .0 216.0 .0 .0 38.2 .0 1.4 1.6 90.00

.08	.00	5.66	.00	.000	.040	.000	.000	87.20	149.43
.023754	200.	200.	200.	20	11	0	.00	38.63	188.06

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 88.94

TA= 149. 191.  
 PER Q= 100.0  
 AREA= 38.2  
 VEL= 5.7  
 DEPTH= 1.0

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 14.180

385 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

14.180	1.75	86.75	86.75	.00	87.31	.56	4.70	2.59	91.00
216.0	.0	216.0	.0	.0	35.9	.0	1.6	1.8	92.00
.09	.00	6.01	.00	.000	.040	.000	.000	85.00	61.23
.023246	180.	200.	220.	20	5	0	.00	32.47	93.70

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 86.75

TA= 61. 116.  
 PER Q= 100.0  
 AREA= 35.9  
 VEL= 6.0  
 DEPTH= 1.1

SECNO 13.160

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

13.160	2.55	84.55	84.55	.00	85.39	.84	4.47	1.91	90.00
216.0	.0	216.0	.0	.0	29.4	.0	1.7	1.9	90.00
.10	.00	7.36	.00	.000	.040	.000	.000	82.00	76.69
.021475	180.	200.	180.	20	11	0	.00	17.50	94.19

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 84.55

STA= 77. 107.  
 PER Q= 100.0  
 AREA= 29.4  
 VEL= 7.4  
 DEPTH= 1.7

\*SECNO 12.140

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.45

12.140	1.87	78.07	78.41	.00	79.33	1.26	6.01	.04	87.60
216.0	.0	216.0	.0	.0	24.0	.0	1.9	2.0	88.00
.10	.00	9.01	.00	.000	.040	.000	.000	76.20	85.70
.045048	220.	200.	160.	4	15	0	.00	18.78	104.48

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 78.07

A= 86. 133.  
PER Q= 100.0  
AREA= 24.0  
VEL= 9.0  
DEPTH= 1.3

SECNO 11.120  
85 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
20 CRITICAL DEPTH ASSUMED

11.120	2.08	77.08	77.08	.00	77.88	.80	6.01	2.99	84.00
216.0	.0	216.0	.0	.0	30.1	.0	2.0	2.0	84.00
.11	.00	7.19	.00	.000	.040	.000	.000	75.00	64.42
.021458	200.	200.	200.	20	8	0	.00	18.90	83.32

FLOW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 77.08

STA= 64. 101.  
PER Q= 100.0  
AREA= 30.1  
VEL= 7.2  
DEPTH= 1.6

SECNO .115

01 HV CHANGED MORE THAN HVINS

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

.115	.52	84.52	84.52	.00	84.75	.24	4.70	1.34	84.00
133.0	7.3	121.1	4.6	2.2	30.6	1.4	2.1	2.3	84.00
.13	3.32	3.96	3.32	.030	.040	.030	.000	84.00	61.93
.027442	220.	200.	180.	20	11	0	.00	73.04	134.97

FLOW DISTRIBUTION FOR SECNO= .12 CWSEL= 84.52

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

TA= 62. 70. 130. 135.  
 PER Q= 5.5 91.1 3.5  
 AREA= 2.2 30.6 1.4  
 VEL= 3.3 4.0 3.3  
 DEPTH= .3 .5 .3

\*SECNO 10.110

235 SLOPE TOO STEEP, EXCEEDS .40

101 HV CHANGED MORE THAN HVINS

102 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.12

10.110	.18	80.18	80.39	.00	81.15	.97	3.53	.07	80.00
133.0	.8	129.2	3.0	.1	16.3	.4	2.2	2.3	80.00
.13	6.62	7.93	6.66	.030	.040	.030	.000	80.00	166.75
.464687	60.	50.	30.	5	15	0	.00	99.40	266.16

FLOW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 80.18

A= 167. 168. 261. 266.  
 PER Q= .6 97.2 2.2  
 AREA= .1 16.3 .4  
 VEL= 6.6 7.9 6.7  
 DEPTH= .1 .2 .1

\*SECNO 9.100

901 HV CHANGED MORE THAN HVINS

902 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .31

9.100	1.05	75.45	75.55	.00	75.88	.43	5.11	.16	76.00
133.0	.0	119.6	13.3	.0	23.5	2.0	2.2	2.4	74.40
.13	.00	5.10	6.65	.000	.040	.030	.000	74.40	192.74
.044995	60.	50.	30.	4	35	0	.00	48.87	241.62

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

LOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 75.45

STA= 193. 238. 242.  
PER Q= 90.0 10.0  
AREA= 23.5 2.0  
VEL= 5.1 6.6  
DEPTH= .5 .5

SECNO 8.080

\*301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.18

8.080	.55	65.95	66.30	.00	67.33	1.38	8.45	.09	65.40
133.0	44.3	88.7	.0	4.6	9.5	.0	2.2	2.5	66.00
.13	9.65	9.32	.00	.030	.040	.000	.000	65.40	236.22
.213375	100.	100.	100.	6	15	0	.00	40.49	276.71

LOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 65.95

STA= 236. 253. 278.  
PER Q= 33.3 66.7  
AREA= 4.6 9.5  
VEL= 9.7 9.3  
DEPTH= .3 .4

\*SECNO 7.070

01 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

7.070	.82	64.52	64.52	.00	64.80	.28	7.26	7.17	64.00
133.0	132.5	.5	.0	31.0	.3	.0	2.3	2.8	70.00
.15	4.27	1.68	.00	.030	.040	.000	.000	63.70	179.88
.014404	200.	200.	200.	20	14	0	.00	56.69	236.57

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

LOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 64.52

STA= 180. 195. 208. 236. 303.  
PER Q= 6.8 29.7 63.1 .3  
AREA= 3.8 8.7 18.5 .3  
VEL= 2.4 4.5 4.5 1.7

DEPTH= .3 .7 .7 .3

SECNO 6.060

5685 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

6.060	.79	63.79	63.79	.00	64.07	.28	1.14	.57	63.00
133.0	130.7	2.3	.0	30.6	1.0	.0	2.4	2.9	70.00
.15	4.27	2.30	.00	.030	.040	.000	.000	63.00	182.25
.014027	80.	100.	120.	20	8	0	.00	56.74	238.99

FLOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 63.79

STA= 182. 213. 236. 329.

PER Q=	28.7	69.5	1.8
AREA=	12.1	18.5	1.0
VEL=	3.2	5.0	2.3
DEPTH=	.4	.8	.4

SECNO 5.040

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.55

5.040	.67	61.67	61.87	.00	62.36	.69	1.67	.04	61.00
133.0	129.6	3.4	.0	19.2	1.0	.0	2.4	2.9	70.00
.15	6.73	3.24	.00	.030	.040	.000	.000	61.00	200.66
.033700	80.	100.	120.	5	8	0	.00	34.37	235.03

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 61.67

STA= 201. 206. 232. 317.

PER Q=	5.6	91.9	2.5
AREA=	1.7	17.5	1.0
VEL=	4.4	7.0	3.2
DEPTH=	.3	.7	.3

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 4.030

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

4.030	.86	61.26	61.26	.00	61.49	.22	5.83	3.81	60.40
133.0	41.2	91.8	.0	9.1	27.1	.0	2.6	3.2	70.00
.17	4.51	3.39	.00	.030	.040	.000	.000	60.40	207.38
.025435	200.	200.	200.	20	11	0	.00	83.76	291.14

FLOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 61.26

TA= 207. 228. 379.  
 PER Q= 31.0 69.0  
 AREA= 9.1 27.1  
 VEL= 4.5 3.4  
 DEPTH= .4 .4

SECNO 3.020

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

3.020	1.26	59.26	59.26	.00	59.59	.33	2.05	1.33	58.00
133.0	114.2	18.8	.0	24.2	5.3	.0	2.6	3.4	60.00
.18	4.73	3.52	.00	.030	.040	.000	.000	58.00	236.15
.016827	100.	100.	100.	20	14	0	.00	46.69	282.84

FLOW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 59.26

STA= 236. 274. 288.

PER Q= 85.9 14.1  
 AREA= 24.2 5.3  
 VEL= 4.7 3.5  
 DEPTH= .6 .6

SECNO 2.008

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

2.008	.52	60.22	60.22	.00	60.40	.18	1.49	.29	59.70
36.0	16.6	19.4	.0	4.9	5.7	.0	2.7	3.4	65.40
.18	3.36	3.38	.00	.030	.030	.000	.000	59.70	151.91
.018334	80.	100.	120.	20	18	0	.00	31.11	183.02

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SECNO	DEPTH	CWSEL	CRIS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 2.01 CWSEL= 60.22

STA= 152. 154. 167. 210.

PER Q= 1.1 45.0 53.9  
 AREA= .3 4.7 5.7  
 VEL= 1.5 3.5 3.4  
 DEPTH= .1 .4 .4

PROFILE FOR STREAM Q100 PROFILE BELOW DAM

PRINTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

ELEVATION	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.
SECNO	CUMDIS									
25.40	0.	.	.	.	.	.	.	I E	.	M
24.38	20.	.	.	.	.	.	.	IWC .E	.	M
	40.	.	.	.	.	.	.	IWC .E	.	M
	60.	.	.	.	.	.	.	IWC E	.	M
	80.	.	.	.	.	.	.	IWC E.	.	M
	100.	.	.	.	.	.	.	IW E.	.	M
	120.	.	.	.	.	.	.	I W E .	.	M
	140.	.	.	.	.	.	.	I W E .	.	M
	160.	.	.	.	.	.	.	IWC E	.	M
	180.	.	.	.	.	.	.	IWCE	.	M
23.36	200.	.	.	.	.	.	.	I WE	.	M
	220.	.	.	.	.	.	.	IWE	.	M
	240.	.	.	.	.	.	.	I E	.	M
	260.	.	.	.	.	.	.	I WE	.	M.
	280.	.	.	.	.	.	.	IWE	.	M.
	300.	.	.	.	.	.	.	IWE	.	M
	320.	.	.	.	.	.	.	IE	.	M
	340.	.	.	.	.	.	.	IWE	.	M
	360.	.	.	.	.	.	.	IWE.	.	M
	380.	.	.	.	.	.	.	WE	.	M
22.34	400.	.	.	.	.	.	.	IWE	.	M
	420.	.	.	.	.	.	.	WE	.	M
	440.	.	.	.	.	.	.	IWE	.	M
	460.	.	.	.	.	.	.	IWE	.	M
	480.	.	.	.	.	.	.	IWE	.	M
	500.	.	.	.	.	.	.	I WE	.	M
	520.	.	.	.	.	.	.	IWE	.	M
	540.	.	.	.	.	.	.	I WE	.	M
	560.	.	.	.	.	.	.	I WE	.	M
	580.	.	.	.	.	.	.	I WE	.	M
21.32	600.	.	.	.	.	.	.	I E	.	M
	620.	.	.	.	.	.	.	I WE	.	M
	640.	.	.	.	.	.	.	I E	.	M
	660.	.	.	.	.	.	.	I WE	.	M
	680.	.	.	.	.	.	.	I.E	.	M.
	700.	.	.	.	.	.	.	I WE	.	M
	720.	.	.	.	.	.	.	I WE	.	M
	740.	.	.	.	.	.	.	IWE	.	M
	760.	.	.	.	.	.	.	I WE	.	M
	780.	.	.	.	.	.	.	IWE.	.	M
20.30	800.	.	.	.	.	.	.	I WE.	.	M
	820.	.	.	.	.	.	.	IWE	.	M
	840.	.	.	.	.	.	.	IWE	.	M
	860.	.	.	.	.	.	.	I E	.	M
	880.	.	.	.	.	.	.	IWE	.	M
	900.	.	.	.	.	.	.	I WE	.	M
	920.	.	.	.	.	.	.	IWE	.	M
	940.	.	.	.	.	.	.	IWE	.	M
	960.	.	.	.	.	.	.	I E	.	M
	980.	.	.	.	.	.	.	IWE	.	M
19.28	1000.	.	.	.	.	.	.	I E	.	M
	1020.	.	.	.	.	.	.	I E	.	M
	1040.	.	.	.	.	.	.	I E	.	M
	1060.	.	.	.	.	.	.	IWE	.	M
	1080.	.	.	.	.	.	.	IWE	.	M
1100.	.	.	.	.	.	.	I E	.	M.	





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3520. .IE R M . . . . .
3540. .IE R M . . . . .
3560. .IE R M . . . . .
3580. .IE R M . . . . .
4.03 3600. .IE R M . . . . .

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PROFILE FOR STREAM Q100 PROFILE BELOW DAM

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

ELEVATION	-27.	-17.	-7.	3.	13.	23.	33.	43.	53.	63.		
SECNO	CUMDIS											
	3620.	.	.	.	.	.	.	.	.	.	IE .	R M .
	3640.	.	.	.	.	.	.	.	.	.	IWE .	R M .
	3660.	.	.	.	.	.	.	.	.	.	IE .R	M .
	3680.	.	.	.	.	.	.	.	.	.	I E R.	M .
3.02	3700.	.	.	.	.	.	.	.	.	.	IWE .	M .
	3720.	.	.	.	.	.	.	.	.	.	IWER .	M .
	3740.	.	.	.	.	.	.	.	.	.	IE R.	M .
	3760.	.	.	.	.	.	.	.	.	.	IE R	M .
	3780.	.	.	.	.	.	.	.	.	.	IE .R	M .
2.01	3800.	.	.	.	.	.	.	.	.	.	E . R	M .

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*****
HEC-2 WATER SURFACE PROFILES
Version 4.6.0; February 1991
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NOTE- ASTERISK (\*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

00 BASE FLOOD PROFILE

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10*KS	VCH	AREA	.01K
25.400	.00	.00	.00	130.00	650.00	132.36	132.36	133.18	148.06	8.00	93.36	53.42
25.400	.00	.00	.00	130.00	216.00	131.20	131.24	131.74	223.37	6.27	38.19	14.45
24.380	.00	.00	.00	124.00	650.00	125.76	127.14	132.58	2168.50	25.22	33.63	13.96
* 24.380	.00	.00	.00	124.00	216.00	124.87	125.89	131.17	4418.22	22.61	11.50	3.25
23.360	200.00	.00	.00	122.00	650.00	124.77	124.77	125.63	146.29	8.87	91.83	53.74
* 23.360	200.00	.00	.00	122.00	216.00	123.80	123.80	124.27	134.15	6.38	44.18	18.65

*	22.340	200.00	.00	.00	115.80	650.00	116.67	117.28	118.86	1358.68	12.43	55.05	17.63
	22.340	200.00	.00	.00	115.80	216.00	116.22	116.55	117.44	1966.58	9.27	24.62	4.87
*	21.320	200.00	.00	.00	110.00	650.00	113.78	113.78	114.85	137.23	10.56	81.01	55.49
	21.320	200.00	.00	.00	110.00	216.00	112.37	112.37	113.02	149.65	8.09	35.42	17.66
	20.300	200.00	.00	.00	106.00	650.00	108.17	108.79	110.19	453.26	13.25	60.95	30.53
	20.300	200.00	.00	.00	106.00	216.00	107.31	107.61	108.32	411.56	9.03	28.65	10.65
	19.280	200.00	.00	.00	102.00	650.00	104.78	104.78	105.67	146.74	8.89	89.37	53.66
	19.280	200.00	.00	.00	102.00	216.00	103.63	103.63	104.18	178.18	6.86	39.10	16.18
*	18.260	200.00	.00	.00	100.00	650.00	102.64	102.64	103.47	150.30	8.69	92.46	53.02
	18.260	200.00	.00	.00	100.00	216.00	101.56	101.56	102.07	177.70	6.66	40.61	16.20
*	17.240	200.00	.00	.00	97.00	650.00	99.43	99.43	100.39	164.19	8.01	85.70	50.73
	17.240	200.00	.00	.00	97.00	216.00	98.31	98.31	98.82	221.21	5.75	37.88	14.52
*	16.220	200.00	.00	.00	92.00	650.00	94.11	94.49	95.60	372.39	9.78	66.48	33.68
	16.220	200.00	.00	.00	92.00	216.00	93.26	93.33	93.87	277.73	6.25	34.55	12.96
*	15.200	200.00	.00	.00	87.20	650.00	90.02	90.02	90.84	207.80	7.26	89.56	45.09
*	15.200	200.00	.00	.00	87.20	216.00	88.94	88.94	89.44	237.54	5.66	38.19	14.01

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	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10*KS	VCH	AREA	.01K
*	14.180	200.00	.00	.00	85.00	650.00	87.97	87.97	88.97	194.45	8.05	80.79	46.61
	14.180	200.00	.00	.00	85.00	216.00	86.75	86.75	87.31	232.46	6.01	35.91	14.17
	13.160	200.00	.00	.00	82.00	650.00	86.45	86.45	87.64	191.91	8.74	74.36	46.92
	13.160	200.00	.00	.00	82.00	216.00	84.55	84.55	85.39	214.75	7.36	29.36	14.74
	12.140	200.00	.00	.00	76.20	650.00	79.32	80.07	81.79	471.17	12.61	51.53	29.94
	12.140	200.00	.00	.00	76.20	216.00	78.07	78.41	79.33	450.48	9.01	23.97	10.18
*	11.120	200.00	.00	.00	75.00	650.00	78.84	78.84	80.19	186.12	9.36	69.47	47.64
	11.120	200.00	.00	.00	75.00	216.00	77.08	77.08	77.88	214.58	7.19	30.05	14.75
*	.115	200.00	.00	.00	84.00	563.00	85.27	85.27	85.80	189.40	6.01	97.20	40.91
	.115	200.00	.00	.00	84.00	133.00	84.52	84.52	84.75	274.42	3.96	34.15	8.03
*	10.110	50.00	.00	.00	80.00	563.00	80.43	80.97	83.08	3907.50	13.20	43.20	9.01
	10.110	50.00	.00	.00	80.00	133.00	80.18	80.39	81.15	4646.87	7.93	16.86	1.95
*	9.100	50.00	.00	.00	74.40	563.00	76.12	76.43	77.18	520.46	7.99	69.00	24.68
*	9.100	50.00	.00	.00	74.40	133.00	75.45	75.55	75.88	449.95	5.10	25.46	6.27
*	8.080	100.00	.00	.00	65.40	563.00	66.50	67.17	69.14	1328.86	12.88	43.20	15.44
*	8.080	100.00	.00	.00	65.40	133.00	65.95	66.30	67.33	2133.75	9.32	14.10	2.88
*	7.070	200.00	.00	.00	63.70	563.00	65.40	65.40	65.97	109.96	2.86	93.57	53.69
*	7.070	200.00	.00	.00	63.70	133.00	64.52	64.52	64.80	144.04	1.68	31.30	11.08
*	6.060	100.00	.00	.00	63.00	563.00	64.67	64.67	65.22	104.83	3.31	94.99	54.99
*	6.060	100.00	.00	.00	63.00	133.00	63.79	63.79	64.07	140.27	2.30	31.60	11.23

	5.040	100.00	.00	.00	61.00	563.00	62.57	63.00	63.89	256.94	5.09	62.66	35.12
*	5.040	100.00	.00	.00	61.00	133.00	61.67	61.87	62.36	337.00	3.24	20.29	7.24
	4.030	200.00	.00	.00	60.40	563.00	61.94	61.94	62.33	206.53	4.49	115.58	39.18
*	4.030	200.00	.00	.00	60.40	133.00	61.26	61.26	61.49	254.35	3.39	36.22	8.34
	3.020	100.00	.00	.00	58.00	563.00	60.26	60.26	60.83	120.06	4.71	95.05	51.38
	3.020	100.00	.00	.00	58.00	133.00	59.26	59.26	59.59	168.27	3.52	29.49	10.25
	2.008	100.00	.00	.00	59.70	462.00	61.64	61.64	62.33	110.50	6.85	69.63	43.95
	2.008	100.00	.00	.00	59.70	36.00	60.22	60.22	60.40	183.34	3.38	10.69	2.66

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100 BASE FLOOD PROFILE

SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
25.400	650.00	132.36	.00	.00	1.16	53.70	.00
25.400	216.00	131.20	-1.16	.00	.00	40.13	.00
24.380	650.00	125.76	.00	-6.59	.00	31.00	.00
24.380	216.00	124.87	-.89	-6.33	.00	19.05	.00
* 23.360	650.00	124.77	.00	-.99	.00	51.32	200.00
23.360	216.00	123.80	-.97	-1.07	.00	46.69	200.00
* 22.340	650.00	116.67	.00	-8.11	.00	71.92	200.00
22.340	216.00	116.22	-.45	-7.59	.00	65.53	200.00
* 21.320	650.00	113.78	.00	-2.88	.00	38.87	200.00
21.320	216.00	112.37	-1.41	-3.84	.00	25.99	200.00
* 20.300	650.00	108.17	.00	-5.61	.00	43.52	200.00
* 20.300	216.00	107.31	-.86	-5.06	.00	31.40	200.00
19.280	650.00	104.78	.00	-3.39	.00	49.16	200.00
* 19.280	216.00	103.63	-1.15	-3.68	.00	36.57	200.00
18.260	650.00	102.64	.00	-2.14	.00	53.90	200.00
* 18.260	216.00	101.56	-1.08	-2.07	.00	40.12	200.00
17.240	650.00	99.43	.00	-3.20	.00	47.13	200.00
* 17.240	216.00	98.31	-1.13	-3.25	.00	37.76	200.00
16.220	650.00	94.11	.00	-5.32	.00	42.07	200.00
16.220	216.00	93.26	-.85	-5.05	.00	33.75	200.00
15.200	650.00	90.02	.00	-4.09	.00	56.43	200.00
15.200	216.00	88.94	-1.08	-4.32	.00	38.63	200.00
* 14.180	650.00	87.97	.00	-2.06	.00	40.97	200.00
14.180	216.00	86.75	-1.22	-2.20	.00	32.47	200.00
* 13.160	650.00	86.45	.00	-1.52	.00	31.81	200.00

*	13.160	216.00	84.55	-1.90	-2.20	.00	17.50	200.00
*	12.140	650.00	79.32	.00	-7.13	.00	25.03	200.00
*	12.140	216.00	78.07	-1.25	-6.47	.00	18.78	200.00
*	11.120	650.00	78.84	.00	-.48	.00	25.97	200.00
*	11.120	216.00	77.08	-1.76	-.99	.00	18.90	200.00
*	.115	563.00	85.27	.00	6.44	.00	93.35	200.00
*	.115	133.00	84.52	-.76	7.44	.00	73.04	200.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	10.110	563.00	80.43	.00	-4.85	.00	108.71	50.00
*	10.110	133.00	80.18	-.25	-4.34	.00	99.40	50.00
*	9.100	563.00	76.12	.00	-4.31	.00	79.40	50.00
*	9.100	133.00	75.45	-.67	-4.73	.00	48.87	50.00
	8.080	563.00	66.50	.00	-9.62	.00	65.32	100.00
	8.080	133.00	65.95	-.55	-9.50	.00	40.49	100.00
	7.070	563.00	65.40	.00	-1.09	.00	83.75	200.00
	7.070	133.00	64.52	-.89	-1.43	.00	56.69	200.00
*	6.060	563.00	64.67	.00	-.74	.00	85.79	100.00
	6.060	133.00	63.79	-.88	-.73	.00	56.74	100.00
*	5.040	563.00	62.57	.00	-2.09	.00	68.29	100.00
	5.040	133.00	61.67	-.91	-2.12	.00	34.37	100.00
*	4.030	563.00	61.94	.00	-.63	.00	149.63	200.00
	4.030	133.00	61.26	-.68	-.40	.00	83.76	200.00
*	3.020	563.00	60.26	.00	-1.69	.00	90.18	100.00
*	3.020	133.00	59.26	-.99	-2.00	.00	46.69	100.00
	2.008	462.00	61.64	.00	1.39	.00	51.72	100.00
*	2.008	36.00	60.22	-1.42	.96	.00	31.11	100.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 25.400 PROFILE= 1 CRITICAL DEPTH ASSUMED

WARNING SECNO= 24.380 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 24.380 PROFILE= 2 SLOPE TOO STEEP

WARNING SECNO= 24.380 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 23.360 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO=	23.360	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	23.360	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	23.360	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	23.360	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	23.360	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	22.340	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	22.340	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	21.320	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	21.320	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	21.320	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	21.320	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	21.320	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	21.320	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	20.300	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	20.300	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	19.280	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	19.280	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	19.280	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	19.280	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	19.280	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	19.280	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	18.260	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	18.260	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	18.260	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	18.260	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	18.260	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	18.260	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	17.240	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	17.240	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	17.240	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	17.240	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	17.240	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	17.240	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	16.220	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	15.200	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	15.200	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY

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CAUTION SECNO=	15.200	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	15.200	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	15.200	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	15.200	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	14.180	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	14.180	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	14.180	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	14.180	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	14.180	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	14.180	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL

AUTION SECNO=	13.160	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	13.160	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	13.160	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	13.160	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	13.160	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	13.160	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	12.140	PROFILE= 1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	12.140	PROFILE= 2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
AUTION SECNO=	11.120	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	11.120	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	11.120	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	11.120	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	11.120	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	11.120	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	.115	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	.115	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	.115	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	.115	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	.115	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	.115	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	10.110	PROFILE= 1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	10.110	PROFILE= 2	SLOPE TOO STEEP
WARNING SECNO=	10.110	PROFILE= 2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	9.100	PROFILE= 1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	9.100	PROFILE= 2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	8.080	PROFILE= 1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	8.080	PROFILE= 2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
AUTION SECNO=	7.070	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	7.070	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	7.070	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	7.070	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	7.070	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	7.070	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	6.060	PROFILE= 1	CRITICAL DEPTH ASSUMED

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CAUTION SECNO=	6.060	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	6.060	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	6.060	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	6.060	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	6.060	PROFILE= 2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	5.040	PROFILE= 1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	5.040	PROFILE= 2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	4.030	PROFILE= 1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	4.030	PROFILE= 1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	4.030	PROFILE= 1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	4.030	PROFILE= 2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	4.030	PROFILE= 2	PROBABLE MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 4.030 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 3.020 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3.020 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3.020 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 3.020 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3.020 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3.020 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 2.008 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 2.008 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 2.008 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 2.008 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 2.008 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 2.008 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

**APPENDIX C**  
**Subcritical HEC-2 Profile**  
**(36" culvert not used)**

\*\*\*\*\*  
 \* HEC-2 WATER SURFACE PROFILES \*  
 \* \*  
 Version 4.6.0; February 1991 \*  
 \* \*  
 \* RUN DATE 03APR91 TIME 10:08:31 \*  
 \*\*\*\*\*

\*\*\*\*\*  
 \* U.S. ARMY CORPS OF ENGINEERS \*  
 \* HYDROLOGIC ENGINEERING CENTER \*  
 \* 609 SECOND STREET, SUITE D \*  
 \* DAVIS, CALIFORNIA 95616-4687 \*  
 \* (916) 756-1104 \*  
 \*\*\*\*\*

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X   X  XXXXXXX  XXXXX          XXXXX
X   X X      X   X          X   X
X   X X      X           X
XXXXXXXX XXXX  X           XXXXX XXXXX
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 03APR91 10:08:31

\*\*\*\*\*  
 HEC-2 WATER SURFACE PROFILES  
 version 4.6.0; February 1991  
 \*\*\*\*\*

T1 OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN STUDY  
 SEA JOB #0150-11-5 & 0375-03-1 (36" Ø CMP CAPACITY IGNORED)  
 Q100 BASE FLOOD PROFILE FILE : 115SUB.DAT

ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
0	2	0	0	-1	0	0	0		
NPROF	IPLT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
1	0	0	0	0	0	0	0	0	15
NC	.030	.040	.030	.1	.3				
QT	2	462.	36.						
X	2.008	14	2.087	2.625	0.	0.	0.	80.	
GR	70.00	0.000	68.00	.575	66.000	.861	64.000	1.308	62.000 1.656
GR	60.00	1.929	59.700	2.087	60.000	2.278	62.000	2.367	64.000 2.429
GR	65.40	2.625	66.000	2.925	68.000	3.490	70.000	3.769	
QT	2	650.	216.						
NC	0	0	.040	0	0				
X	3.020	13	3.430	3.597	100.	140.	120.	80.	
GR	70.00	0.000	68.000	.567	66.000	1.042	64.000	1.488	62.000 1.936
GR	60.00	2.673	58.000	3.430	60.000	3.597	62.000	4.438	64.000 4.477

GR	66.00	4.612	68.000	4.697	70.000	4.795				
	0	.030	0	0	0					
	4.030	13	2.856	4.738	80.	120.	100.	80.		
GR	72.00	0.000	70.000	.287	68.000	.757	66.000	1.143	64.000	1.619
GR	62.00	2.368	60.400	2.856	62.000	4.305	64.000	4.357	66.000	4.456
	68.00	4.619	70.000	4.738	72.000	4.823				
X1	5.040	14	2.899	3.957	100.	100.	100.	80.		
	72.00	0.000	70.000	.336	68.000	.665	66.000	.981	64.000	1.265
	62.00	2.477	61.000	2.572	61.000	2.899	62.000	2.957	64.000	3.057
GR	66.00	3.710	68.000	3.806	70.000	3.957	72.000	4.058		
	6.060	14	2.955	4.108	200.	200.	200.	80.		
GR	74.00	0.000	72.000	.419	70.000	.773	68.000	1.064	66.000	1.495
GR	64.00	2.175	63.000	2.662	63.000	2.955	64.000	2.996	66.000	3.071
	68.00	3.150	70.000	4.108	72.000	4.163	74.000	4.204		

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PAGE 2

GR	7.070	13	2.944	3.790	80.	120.	100.	80.		
	74.00	0.000	72.000	.383	70.000	.802	68.000	1.287	66.000	1.720
GR	64.00	2.432	63.700	2.596	64.000	2.944	66.000	2.995	68.000	3.081
GR	70.00	3.790	72.000	3.835	74.000	3.872				
	8.080	14	3.162	3.474	80.	120.	100.	80.		
GR	76.00	0.000	74.000	.474	72.000	1.006	70.000	1.371	68.000	1.850
	66.00	2.933	65.400	3.162	65.400	3.299	66.000	3.474	68.000	3.502
	70.00	3.545	72.000	3.607	74.000	3.668	76.000	3.760		
X1	9.100	12	2.108	2.972	200.	200.	200.	80.		
	84.00	0.000	82.000	.266	80.000	.589	80.000	.784	78.000	1.306
GR	76.00	2.108	74.400	2.972	76.000	3.046	78.000	3.183	80.000	3.259
GR	82.00	3.453	84.000	3.550						
	10.11	12	2.101	3.263	100.	100.	100.	80.		
GR	90.00	0.000	88.000	.365	86.000	.796	84.000	1.344	82.000	1.912
	80.00	2.101	80.000	3.263	82.000	3.993	84.000	4.355	86.000	4.497
	88.00	4.590	90.000	4.674						
X1	0.115	7	.88	1.62	60.	30.	50.	80.		
	96.	0.	88.	.31	86.	.47	84.	.88	84.	1.62
	86.	1.88	96.	2.36						
	.040	.050	0	0	0					
	11.12	25	.619	1.263	60.	30.	50.	80.		
GR	96.00	0.000	94.000	.063	92.000	.132	90.000	.196	88.000	.266
GR	87.60	.504	86.000	.571	84.000	.619	82.000	.683	80.000	.737
	78.00	.784	76.000	.830	75.000	.871	75.000	.988	76.000	1.013
GR	78.00	1.066	80.000	1.121	82.000	1.165	84.000	1.263	86.000	1.665
GR	88.00	1.800	90.000	1.932	92.000	2.039	94.000	2.143	96.000	2.255
	12.14	26	.783	1.668	220.	180.	200.	80.		
GR	98.00	0.000	96.000	.046	94.000	.093	92.000	.128	90.000	.164
	88.00	.206	87.200	.248	87.600	.783	86.000	.847	84.000	.897
	82.00	.951	80.000	1.014	78.000	1.073	76.200	1.190	76.200	1.276
GR	78.00	1.304	80.000	1.369	82.000	1.424	84.000	1.500	86.000	1.599
GR	88.00	1.668	90.000	1.725	92.000	1.797	94.000	1.857	96.000	2.024

	98.00	2.071							
	13.16	19	.603	1.334	200.	200.	200.	80.	
	98.00	0.000	96.000	.027	94.000	.060	92.000	.105	91.000 .140
GR	90.00	.603	88.000	.658	86.000	.907	84.000	.978	82.000 1.016
GR	82.00	1.098	84.000	1.155	86.000	1.237	88.000	1.289	90.000 1.334
	92.00	1.393	94.000	1.443	96.000	1.583	98.000	1.618	

X1	14.18	20	.628	1.452	220.	160.	200.	80.	
	100.0	0.000	98.000	.055	96.000	.121	94.000	.196	92.000 .326
	91.00	.470	91.000	.628	90.000	.687	88.000	.734	86.000 .784
GR	85.00	.860	86.000	1.125	88.000	1.249	90.000	1.384	92.000 1.452
GR	94.00	1.494	96.000	1.527	96.000	1.750	98.000	1.799	100.000 1.851

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X1	15.20	19	1.680	2.383	180.	180.	200.	80.	
	104.0	0.000	102.000	.219	100.000	.277	98.000	.562	98.000 .737
	96.00	.871	94.000	1.207	92.000	1.510	90.000	1.680	88.000 2.036
GR	87.20	2.151	88.000	2.322	90.000	2.383	92.000	2.423	94.000 2.471
GR	96.00	2.540	98.000	2.571	100.000	2.610	104.000	2.673	

	16.22	18	1.505	2.020	180.	220.	200.	80.	
GR	108.0	0.000	106.000	.375	104.000	.640	102.000	.880	100.000 1.085
	98.00	1.194	96.000	1.343	94.000	1.505	92.000	1.683	92.000 1.946
	94.00	2.020	96.000	2.072	98.000	2.127	100.000	2.172	102.000 2.231
GR	104.0	2.282	106.000	2.345	108.000	2.400			

	0	.040	0	0	0				
X1	17.24	20	1.001	1.441	200.	200.	200.	80.	
GR	114.0	0.000	112.000	.071	110.000	.145	108.000	.213	106.000 .372
	104.0	.526	102.000	.688	100.000	.845	98.000	1.001	97.000 1.140
	97.00	1.367	98.000	1.441	100.000	1.493	102.000	1.542	104.000 1.593
GR	106.0	1.637	108.000	1.698	110.000	1.754	112.000	1.807	114.000 1.863

	18.26	20	.884	.994	200.	200.	200.	80.	
GR	118.0	0.000	116.000	.060	114.000	.130	112.000	.198	110.000 .257
GR	108.0	.328	106.000	.400	104.000	.467	102.000	.605	100.000 .844
	100.0	.994	102.000	1.206	104.000	1.297	106.000	1.378	108.000 1.453
GR	110.0	1.545	112.000	1.634	114.000	1.719	116.000	1.794	118.000 1.892

	19.28	20	1.689	1.833	220.	180.	200.	80.	
	120.0	0.000	118.000	.164	116.000	.349	114.000	.589	112.000 .827
GR	110.0	1.005	108.000	1.168	106.000	1.359	104.000	1.491	102.000 1.689
	102.0	1.833	104.000	2.020	106.000	2.108	108.000	2.183	110.000 2.269
	112.0	2.344	114.000	2.425	116.000	2.511	118.000	2.594	120.000 2.672

X1	20.30	20	1.666	1.820	200.	200.	200.	80.	
	124.0	0.000	122.000	.092	120.000	.187	118.000	.287	116.000 .461
GR	114.0	.656	112.000	.857	110.000	1.105	108.000	1.358	106.000 1.666
GR	106.0	1.820	108.000	1.876	110.000	1.931	112.000	1.987	114.000 2.037
	116.0	2.091	118.000	2.149	120.000	2.201	122.000	2.250	124.000 2.307

X1	21.32	26	1.883	1.930	190.	210.	200.	80.	
GR	132.0	0.000	130.000	.060	128.000	.115	127.000	.141	126.200 .486
	126.0	.515	124.000	.694	122.000	.919	120.000	1.078	118.000 1.245
GR	116.0	1.401	114.000	1.562	112.000	1.723	110.000	1.883	110.000 1.930
GR	112.0	2.005	114.000	2.073	116.000	2.143	118.000	2.217	120.000 2.297

LR	122.0	2.371	124.000	2.440	126.000	2.519	128.000	2.589	130.000	2.669
GR	132.0	2.747								
I	22.34	25	1.385	1.908	200.	200.	200.	80.		
GR	136.0	0.000	134.000	.053	132.000	.113	130.000	.147	128.000	.199
GR	126.0	.246	124.000	.303	122.200	.356	121.800	.624	120.000	.795
R	118.0	.893	116.000	1.194	115.800	1.385	115.800	1.908	116.000	1.973
GR	118.0	2.033	120.000	2.102	122.000	2.157	124.000	2.219	126.000	2.283
GR	128.0	2.340	130.000	2.395	132.000	2.452	134.000	2.515	136.000	2.575

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X1	23.36	22	.808	.950	200.	200.	200.	80.		
GR	140.0	0.000	138.000	.049	136.000	.099	134.000	.149	132.000	.199
	130.0	.251	128.000	.297	126.000	.341	124.000	.402	123.400	.434
	123.2	.720	122.000	.808	122.000	.950	124.000	1.001	126.000	1.050
GR	128.0	1.102	130.000	1.183	132.000	1.267	134.000	1.357	136.000	1.452
	138.0	1.539	140.000	1.626						

X1	24.38	21	1.023	1.113	200.	200.	200.	80.		
GR	142.0	0.000	140.000	.056	138.000	.113	136.000	.170	134.000	.231
	132.0	.294	130.000	.348	129.400	.378	128.000	.616	126.000	.918
GR	124.0	1.023	124.000	1.113	126.000	1.346	128.000	1.469	130.000	1.600
GR	132.0	1.722	134.000	1.785	136.000	1.860	138.000	1.924	140.000	2.008
	142.0	2.084								

X1	25.40	20	1.456	1.750	200.	200.	200.	80.		
	146.0	0.000	144.000	.064	142.000	.125	141.000	.159	141.000	.495
	140.0	1.137	138.000	1.225	136.000	1.269	134.000	1.311	132.000	1.354
GR	130.0	1.456	130.000	1.750	132.000	1.994	134.000	2.127	136.000	2.296
GR	138.0	2.479	140.000	2.659	142.000	2.833	144.000	3.014	146.000	3.164

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

ROF 1

HV= .100 CEHV= .300

ECNO 2.008

2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3720 CRITICAL DEPTH ASSUMED

2.008	1.95	61.65	61.65	.00	62.33	.68	.00	.00	59.70
462.0	241.5	220.5	.0	37.5	32.3	.0	.0	.0	65.40
.00	6.44	6.84	.00	.030	.030	.000	.000	59.70	136.35
.010994	0.	0.	0.	0	17	0	.00	51.75	188.10

HOW DISTRIBUTION FOR SECNO= 2.01 CWSEL= 61.65

STA= 136. 154. 167. 210.

PER Q= 14.6 37.7 47.7

AREA= 14.8 22.7 32.3  
 VEL= 4.5 7.7 6.8  
 DEPTH= .8 1.8 1.5

\*SECNO 3.020

.01 HV CHANGED MORE THAN HVINS

.02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 8.41

3.020	4.43	62.43	.00	.00	62.47	.04	.08	.06	58.00
650.0	503.2	67.4	79.4	293.4	45.8	96.2	.6	.3	60.00
.02	1.72	1.47	.83	.030	.040	.040	.000	58.00	147.22
.000308	100.	120.	140.	2	0	0	.00	208.49	355.71

FLOW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 62.43

A=	147.	155.	214.	274.	288.	355.	356.
PER Q=	.1	14.3	63.1	10.4	12.2	.0	
AREA=	1.6	84.2	207.6	45.8	96.0	.1	
VEL=	.3	1.1	2.0	1.5	.8	.2	
DEPTH=	.2	1.4	3.4	3.4	1.4	.2	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 4.030

.02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .23

4.030	2.00	62.40	.00	.00	62.59	.19	.07	.05	60.40
650.0	204.0	446.0	.0	49.2	139.2	.0	1.3	.7	70.00
.03	4.14	3.20	.00	.030	.040	.000	.000	60.40	177.48
.005893	80.	100.	120.	3	0	0	.00	167.75	345.23

FLOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 62.40

A=	177.	189.	228.	379.
PER Q=	.5	30.9	68.6	
AREA=	2.4	46.8	139.2	
VEL=	1.3	4.3	3.2	
DEPTH=	.2	1.2	1.2	

SECNO 5.040

85 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

5.040	2.13	63.13	63.13	.00	63.70	.57	.72	.11	61.00
650.0	612.6	37.4	.0	99.4	10.2	.0	1.6	1.0	70.00
.03	6.16	3.69	.00	.030	.040	.000	.000	61.00	143.17

.008906 100. 100. 100. 20 8 0 .00 97.92 241.10

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 63.13

STA= 143. 198. 206. 232. 317.  
PER Q= 15.4 12.3 66.6 5.8  
AREA= 31.2 12.4 55.8 10.2  
VEL= 3.2 6.4 7.7 3.7  
DEPTH= .6 1.6 2.1 1.1

\*SECNO 6.060

6.060 1.90 64.90 .00 .00 65.40 .51 1.69 .01 63.00  
650.0 631.8 18.2 .0 109.6 5.8 .0 2.2 1.5 70.00  
.04 5.77 3.16 .00 .030 .040 .000 .000 63.00 149.69  
.008061 200. 200. 200. 1 0 0 .00 92.68 242.36

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SECNO DEPTH CWSEL CRIWS WSELK EG HV HL OLOSS L-BANK ELEV  
Q QLOB QCH QROB ALOB ACH AROB VOL TWA R-BANK ELEV  
TIME VLOB VCH VROB XNL XNCH XNR WTN ELMIN SSTA  
SLOPE XLOBL XLCH XLOBR ITRIAL IDC ICONT CORAR TOPWID ENDST

FLOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 64.90

A= 150. 174. 213. 236. 329.  
PER Q= 4.3 46.4 46.5 2.8  
AREA= 10.9 54.3 44.4 5.8  
VEL= 2.6 5.5 6.8 3.2  
DEPTH= .4 1.4 1.9 1.0

SECNO 7.070

7.070 1.86 65.56 65.54 .00 66.14 .58 .72 .02 64.00  
650.0 642.7 7.3 .0 105.1 2.5 .0 2.4 1.7 70.00  
.04 6.12 2.93 .00 .030 .040 .000 .000 63.70 150.01  
.009943 80. 100. 120. 6 8 0 .00 88.70 238.71

FLOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 65.56

STA= 150. 195. 208. 236. 303.  
PER Q= 22.5 24.5 51.9 1.1  
AREA= 34.8 22.5 47.7 2.5  
VEL= 4.2 7.1 7.1 2.9  
DEPTH= .8 1.7 1.7 .8

SECNO 8.080

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

8.080 1.90 67.30 67.30 .00 67.84 .55 .96 .00 65.40  
650.0 382.1 264.6 3.3 65.8 43.2 .9 2.6 1.8 66.00  
.05 5.81 6.13 3.50 .030 .040 .030 .000 65.40 178.42  
.013123 80. 100. 120. 20 5 0 .00 100.96 279.37

FLOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 67.30

STA=	178.	235.	253.	278.	279.
PER Q=	23.9	34.9	40.7	.5	
AREA=	36.5	29.3	43.2	.9	
VEL=	4.3	7.8	6.1	3.5	
DEPTH=	.6	1.6	1.7	.6	

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 9.100

.85 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

9.100	2.17	76.57	76.57	.00	77.15	.58	2.99	.01	76.00
650.0	14.7	569.3	66.0	5.2	94.7	9.0	3.1	2.3	74.40
.06	2.81	6.01	7.33	.030	.040	.030	.000	74.40	150.34
.017196	200.	200.	200.	20	8	0	.00	96.47	246.81

FLOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 76.57

STA=	150.	169.	238.	244.	247.
PER Q=	2.3	87.6	9.8	.4	
AREA=	5.2	94.7	8.1	.9	
VEL=	2.8	6.0	7.8	2.8	
DEPTH=	.3	1.4	1.4	.3	

SECNO 10.110

3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3493 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

10.110	1.06	81.06	81.06	.00	81.53	.46	1.89	.01	80.00
650.0	19.9	552.7	77.4	4.3	98.7	16.5	3.3	2.6	80.00
.06	4.67	5.60	4.70	.030	.040	.030	.000	80.00	160.05
.020953	100.	100.	100.	20	8	0	.00	132.00	292.05

FLOW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 81.06

STA=	160.	168.	261.	292.
PER Q=	3.1	85.0	11.9	
AREA=	4.3	98.7	16.5	
VEL=	4.7	5.6	4.7	
DEPTH=	.5	1.1	.5	

\*SECNO .115

3785 20 TRIALS ATTEMPTED WSEL,CWSEL  
 393 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

.115	1.39	85.39	85.39	.00	85.96	.57	.95	.03	84.00
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650.0	83.1	514.4	52.6	15.8	82.3	10.0	3.5	2.7	84.00
.06	5.25	6.25	5.24	.030	.040	.030	.000	84.00	47.61
.018272	60.	50.	30.	20	11	0	.00	96.44	144.05

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .12 CWSEL= 85.39

A=	48.	70.	130.	144.
PER Q=	12.8	79.1	8.1	
AREA=	15.8	82.3	10.0	
VEL=	5.2	6.3	5.2	
DEPTH=	.7	1.4	.7	

ECNO 11.120

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 10.12

11.120	10.99	85.99	.00	.00	86.04	.05	.03	.05	84.00
650.0	1.7	635.6	12.7	3.8	364.6	32.0	3.8	2.8	84.00
.07	.46	1.74	.40	.040	.040	.050	.000	75.00	45.69
.000178	60.	50.	30.	2	0	0	.00	87.42	133.11

OW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 85.99

STA=	46.	50.	101.	133.
PER Q=	.3	97.8	1.9	
AREA=	3.8	364.6	32.0	
VEL=	.5	1.7	.4	
DEPTH=	1.0	7.1	1.0	

ECNO 12.140

12.140	9.83	86.03	.00	.00	86.09	.06	.05	.00	87.60
650.0	.0	650.0	.0	.0	332.2	.0	5.4	3.1	88.00
.10	.00	1.96	.00	.000	.040	.000	.000	76.20	67.66
.000310	220.	200.	180.	2	0	0	.00	60.34	128.00

FLOW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 86.03

A=	68.	133.
PER Q=	100.0	
AREA=	332.2	
VEL=	2.0	
DEPTH=	5.5	

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 13.160

3301 HV CHANGED MORE THAN HVINS

685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

13.160	4.45	86.45	86.45	.00	87.64	1.19	.20	.34	90.00
650.0	.0	650.0	.0	.0	74.4	.0	6.4	3.3	90.00
.11	.00	8.74	.00	.000	.040	.000	.000	82.00	68.08
.019184	200.	200.	200.	20	14	0	.00	31.82	99.90

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 86.45

STA= 68. 107.  
 PER Q= 100.0  
 AREA= 74.4  
 VEL= 8.7  
 DEPTH= 2.3

SECNO 14.180

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.96

14.180	4.08	89.08	.00	.00	89.46	.38	1.75	.08	91.00
650.0	.0	650.0	.0	.0	131.0	.0	6.8	3.5	92.00
.12	.00	4.96	.00	.000	.040	.000	.000	85.00	56.69
.004972	220.	200.	160.	3	0	0	.00	49.08	105.76

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 89.08

STA= 57. 116.  
 PER Q= 100.0  
 AREA= 131.0  
 VEL= 5.0  
 DEPTH= 2.7

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 15.200

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .68

15.200	3.17	90.37	.00	.00	90.92	.55	1.41	.05	90.00
650.0	.6	649.3	.1	.5	109.2	.1	7.4	3.8	90.00
.13	1.24	5.95	.90	.040	.040	.050	.000	87.20	131.87
.010714	180.	200.	180.	3	0	0	.00	59.36	191.23

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 90.37

A=	132.	134.	191.	191.
PER Q=	.1	99.9	.0	
AREA=	.5	109.2	.1	
VEL=	1.2	5.9	.9	
DEPTH=	.2	1.9	.2	

SECNO 16.220

85 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

16.220	2.47	94.47	94.47	.00	95.45	.97	2.76	.13	94.00
650.0	1.4	648.3	.3	.7	81.8	.2	7.8	4.0	94.00
.14	1.92	7.92	1.45	.040	.040	.050	.000	92.00	117.32
.018507	180.	200.	220.	20	15	0	.00	45.27	162.59

FLOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 94.47

STA=	117.	120.	162.	163.
PER Q=	.2	99.7	.1	
AREA=	.7	81.8	.2	
VEL=	1.9	7.9	1.4	
DEPTH=	.2	2.0	.2	

SECNO 17.240

7185 MINIMUM SPECIFIC ENERGY  
7720 CRITICAL DEPTH ASSUMED

17.240	2.43	99.43	99.43	.00	100.39	.97	3.51	.00	98.00
650.0	24.1	618.4	7.5	6.3	76.9	2.1	8.2	4.2	98.00
.14	3.79	8.04	3.57	.040	.040	.040	.000	97.00	71.18
.016621	200.	200.	200.	4	5	0	.00	47.07	118.25

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 99.43

STA=	71.	80.	115.	118.
PER Q=	3.7	95.1	1.2	

AREA= 6.3 76.9 2.1  
 VEL= 3.8 8.0 3.6  
 DEPTH= .7 2.2 .7

\*SECNO 18.260

18.260 2.67 102.67 .00 .00 103.47 .80 3.06 .02 100.00  
 650.0 200.5 272.5 177.0 33.2 32.0 29.1 8.6 4.4 100.00  
 .15 6.04 8.50 6.08 .040 .040 .040 .000 100.00 44.70  
 .014148 200. 200. 200. 2 0 0 .00 54.22 98.92

FLOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 102.67

STA= 45. 48. 68. 80. 96. 99.  
 PER Q= .4 30.4 41.9 27.0 .3  
 AREA= 1.2 31.9 32.0 28.3 .8  
 VEL= 2.1 6.2 8.5 6.2 2.1  
 DEPTH= .3 1.7 2.7 1.7 .3

SECNO 19.280

19.280 3.10 105.10 .00 .00 105.73 .64 2.25 .02 102.00  
 650.0 197.9 267.4 184.7 36.2 35.6 33.4 9.1 4.7 102.00  
 .16 5.46 7.51 5.54 .040 .040 .040 .000 102.00 113.53  
 .009084 220. 200. 180. 2 0 0 .00 51.91 165.44

FLOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 105.10

STA= 114. 119. 135. 147. 162. 165.  
 PER Q= 1.1 29.3 41.1 27.7 .7  
 AREA= 3.1 33.1 35.6 31.3 2.1  
 VEL= 2.3 5.8 7.5 5.8 2.3  
 DEPTH= .5 2.1 3.1 2.1 .5

SECNO 20.300

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

20.300 2.79 108.79 108.79 .00 109.67 .88 2.24 .07 106.00  
 650.0 296.3 302.6 51.1 47.4 34.4 8.7 9.5 4.9 106.00  
 .17 6.25 8.79 5.85 .040 .040 .040 .000 106.00 100.60  
 .014219 200. 200. 200. 20 11 0 .00 51.23 151.83

FLOW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 108.79

STA= 101. 109. 133. 146. 150. 152.  
 PER Q= 1.2 44.4 46.6 7.6 .2  
 AREA= 3.2 44.2 34.4 8.0 .7  
 VEL= 2.4 6.5 8.8 6.2 2.2

DEPTH= .4 1.8 2.8 1.8 .4

ECNO 21.320

85 20 TRIALS ATTEMPTED WSEL,CWSEL  
3693 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

21.320	3.80	113.80	113.80	.00	114.85	1.05	2.72	.05	110.00
650.0	345.0	149.6	155.4	46.2	14.3	21.2	9.9	5.1	110.00
.17	7.46	10.48	7.34	.040	.040	.040	.000	110.00	126.26
.013418	190.	200.	210.	20	11	0	.00	39.03	165.29

FLOW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 113.80

STA=	126.	138.	151.	154.	160.	165.
PER Q=	6.4	46.7	23.0	21.3	2.6	
AREA=	10.4	35.8	14.3	16.8	4.4	
VEL=	4.0	8.5	10.5	8.3	3.8	
DEPTH=	.9	2.8	3.8	2.8	.9	

ECNO 22.340

22.340	1.54	117.34	.00	.00	117.93	.59	3.03	.05	115.80
650.0	177.0	418.9	54.1	32.8	64.4	9.6	10.4	5.4	115.80
.18	5.40	6.51	5.62	.040	.040	.040	.000	115.80	79.41
.017281	200.	200.	200.	3	0	0	.00	81.65	161.05

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 22.34 CWSEL= 117.34

STA=	79.	96.	111.	153.	158.	161.
PER Q=	6.2	21.0	64.4	7.2	1.2	
AREA=	10.8	22.0	64.4	7.5	2.1	
VEL=	3.7	6.2	6.5	6.2	3.5	
DEPTH=	.7	1.4	1.5	1.4	.7	

\*SECNO 23.360

35 20 TRIALS ATTEMPTED WSEL,CWSEL  
313 PROBABLE MINIMUM SPECIFIC ENERGY  
3720 CRITICAL DEPTH ASSUMED

23.360	2.77	124.77	124.77	.00	125.63	.86	3.19	.08	122.00
650.0	324.6	279.8	45.6	52.3	31.5	7.8	10.8	5.7	122.00
.19	6.20	8.90	5.85	.040	.040	.040	.000	122.00	30.28
.014751	200.	200.	200.	20	17	0	.00	51.30	81.59

FLOW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 124.77

S =	30.	32.	35.	58.	65.	76.	80.	82.
PER Q=	.3	2.0	30.1	17.6	43.1	6.8	.2	
AREA=	.7	2.7	33.6	15.3	31.5	7.2	.6	

VEL= 2.3 4.6 5.8 7.5 8.9 6.1 2.2  
 DEPTH= .4 1.1 1.5 2.2 2.8 1.8 .4

SECNO 24.380

24.380 3.35 127.35 .00 .00 128.03 .68 2.38 .02 124.00  
 650.0 156.5 198.2 295.3 30.7 24.1 48.2 11.3 6.0 124.00  
 .20 5.10 8.23 6.13 .040 .040 .040 .000 124.00 57.18  
 .009797 200. 200. 200. 1 0 0 .00 57.13 114.30

FLOW DISTRIBUTION FOR SECNO= 24.38 CWSEL= 127.35

SIA= 57. 73. 82. 89. 108. 114.  
 PER Q= 4.7 19.3 30.5 43.5 1.9  
 AREA= 10.9 19.7 24.1 43.7 4.5  
 VEL= 2.8 6.4 8.2 6.5 2.8  
 DEPTH= .7 2.3 3.3 2.3 .7

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SECNO	DEPTH	CWSEL	CRIS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 25.400

3495 20 TRIALS ATTEMPTED WSEL,CWSEL  
 1.73 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

25.400 2.34 132.34 132.34 .00 133.18 .84 2.41 .05 130.00  
 650.0 59.9 444.4 145.7 11.0 55.1 26.5 11.7 6.2 130.00  
 .21 5.42 8.07 5.50 .040 .040 .040 .000 130.00 107.73  
 .015180 200. 200. 200. 20 19 0 .00 53.60 161.34

FLOW DISTRIBUTION FOR SECNO= 25.40 CWSEL= 132.34

S = 108. 108. 116. 140. 160. 161.  
 PER Q= .0 9.2 68.4 22.3 .1  
 AREA= .1 10.9 55.1 26.2 .3  
 VEL= 1.3 5.5 8.1 5.5 1.4  
 DEPTH= .2 1.3 2.3 1.3 .2

FILE FOR STREAM Q100 BASE FLOOD PROFILE

PRINTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

ELEVATION	58.	68.	78.	88.	98.	108.	118.	128.	138.	148.
SECNO	CUMDIS									
2.01	0.	I	E	R	.	M	.	.	.	.
20.	CI	E	R	.	M	.	.	.	.	.







3640.	C	.	.	.	.	.	.	I WE.	M	.	.
3660.	C	.	.	.	.	.	.	I E.	M	.	.
3680.	C	.	.	.	.	.	.	I WE	M	.	.
3700.	C	.	.	.	.	.	.	I WE	M	.	.
24.38	3720.	C	.	.	.	.	.	I WE	M	.	.
3740.	C	.	.	.	.	.	.	I WE	M	.	.
3760.	C	.	.	.	.	.	.	I WE	M	.	.
3780.	C	.	.	.	.	.	.	I WE	M	.	.
3800.	C	.	.	.	.	.	.	I WE	M	.	.
3820.	.	C	.	.	.	.	.	I WE	M	.	.
3840.	.	.	C	.	.	.	.	I WE	M	.	.
3860.	.	.	.	C	.	.	.	I WE	M	.	.
3880.	.	.	.	.	C	.	.	I WE	M	.	.
3900.	.	.	.	.	.	C	.	I WE	M	.	.
25.40	3920.	.	.	.	.	.	.	I WE	M	.	.

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OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN STUDY

SEA JOB #0150-11-5 & 0375-03-1

Q100 PROFILE BELOW DAM FILE : 115CRT.DAT

ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
0	3	0	0	-1	0	0	0		
NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
15	0	0	0	0	0	0	0	0	15

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\* OF 2

C V= .100 CEHV= .300

\*SECNO 2.008

2096 WSEL NOT GIVEN, AVG OF MAX, MIN USED

3 0 CRITICAL DEPTH ASSUMED

2.008	.52	60.22	60.22	.00	60.40	.18	.00	.00	59.70
36.0	16.6	19.4	.0	4.9	5.7	.0	.0	.0	65.40
.00	3.36	3.38	.00	.030	.030	.000	.000	59.70	151.91
.018336	0.	0.	0.	0	23	0	.00	31.11	183.02

FI W DISTRIBUTION FOR SECNO= 2.01 CWSEL= 60.22

STA= 152. 154. 167. 210.

PER Q= 1.1 45.0 53.9  
 AREA= .3 4.7 5.7  
 VEL= 1.5 3.5 3.4  
 DEPTH= .1 .4 .4

\*SECNO 3.020

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 26.10

3.020	2.48	60.48	.00	.00	60.54	.06	.13	.01	58.00
216.0	184.2	29.9	1.9	94.0	19.9	4.1	.2	.2	60.00
.02	1.96	1.50	.45	.030	.040	.040	.000	58.00	199.31
.000969	100.	120.	140.	3	0	0	.00	105.04	304.34

FLOW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 60.48

STA=	199.	214.	274.	288.	304.
PER Q=	1.0	84.3	13.8	.9	
AREA=	3.6	90.4	19.9	4.1	
VEL=	.6	2.0	1.5	.5	
DEPTH=	.2	1.5	1.5	.2	

SECNO 4.030

85 20 TRIALS ATTEMPTED WSEL,CWSEL

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3693 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

4.030	1.05	61.45	61.45	.00	61.72	.27	.24	.06	60.40
216.0	66.9	149.1	.0	13.4	39.8	.0	.3	.4	70.00
.02	4.99	3.74	.00	.030	.040	.000	.000	60.40	202.90
.024034	80.	100.	120.	20	18	0	.00	101.54	304.44

FLOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 61.45

STA=	203.	228.	379.
PER Q=	31.0	69.0	
AREA=	13.4	39.8	
VEL=	5.0	3.7	
DEPTH=	.5	.5	

SECNO 5.040

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.13

5.040	1.45	62.45	.00	.00	62.70	.26	.98	.00	61.00
216.0	205.5	10.5	.0	49.8	4.8	.0	.5	.6	70.00
.03	4.13	2.19	.00	.030	.040	.000	.000	61.00	176.55
.005297	100.	100.	100.	5	0	0	.00	61.79	238.34

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 62.45

TA=	177.	198.	206.	232.	317.
PER Q=	3.0	11.5	80.7	4.8	
AREA=	4.8	7.2	37.8	4.8	
VEL=	1.3	3.5	4.6	2.2	
DEPTH=	.2	.9	1.4	.7	

\*SECNO 6.060

185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

6.060	1.02	64.02	64.02	.00	64.37	.35	1.59	.03	63.00
216.0	211.5	4.5	.0	44.0	1.7	.0	.7	.9	70.00
.04	4.81	2.65	.00	.030	.040	.000	.000	63.00	173.52
.013231	200.	200.	200.	3	19	0	.00	66.21	239.73

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 64.02

A=	174.	213.	236.	329.
PER Q=	34.3	63.6	2.1	
AREA=	20.2	23.9	1.7	
VEL=	3.7	5.8	2.6	
DEPTH=	.5	1.0	.5	

\*SECNO 7.070

7.070	1.20	64.90	.00	.00	65.14	.24	.76	.01	64.00
216.0	214.6	1.4	.0	54.8	.8	.0	.8	1.0	70.00
.05	3.92	1.71	.00	.030	.040	.000	.000	63.70	168.82
.007067	80.	100.	120.	3	0	0	.00	68.54	237.36

FLOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 64.90

STA=	169.	195.	208.	236.	303.
PER Q=	13.2	27.6	58.6	.7	
AREA=	11.6	13.8	29.3	.8	
VEL=	2.5	4.3	4.3	1.7	
DEPTH=	.5	1.1	1.1	.5	

\* CNO 8.080

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

303 PROBABLE MINIMUM SPECIFIC ENERGY

370 CRITICAL DEPTH ASSUMED

8.080	1.13	66.53	66.53	.00	66.88	.35	.88	.03	65.40
216.0	102.8	112.8	.3	21.4	24.1	.2	.9	1.1	66.00
.05	4.79	4.68	2.18	.030	.040	.030	.000	65.40	211.52
.016662	80.	100.	120.	20	11	0	.00	67.00	278.52

FLOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 66.53

A= 212. 235. 253. 278. 279.  
 PER Q= 7.6 40.0 52.2 .2  
 AREA= 6.2 15.3 24.1 .2  
 VEL= 2.6 5.7 4.7 2.2  
 DEPTH= .3 .8 1.0 .3

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 9.100

85 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

9.100	1.39	75.79	75.79	.00	76.15	.36	4.07	.00	76.00
216.0	.0	194.3	21.7	.0	41.8	3.6	1.1	1.4	74.40
.06	.00	4.64	6.05	.000	.040	.030	.000	74.40	177.64
.025356	200.	200.	200.	20	11	0	.00	65.27	242.91

FLOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 75.79

S.A= 178. 238. 243.  
 PER Q= 90.0 10.0  
 AREA= 41.8 3.6  
 VEL= 4.6 6.0  
 DEPTH= .7 .7

\*SECNO 10.110

7185 MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

10.110	.53	80.53	80.53	.00	80.78	.25	2.63	.01	80.00
216.0	3.6	198.5	13.9	1.1	49.3	4.1	1.2	1.6	80.00
.07	3.36	4.03	3.38	.030	.040	.030	.000	80.00	164.07
.027363	100.	100.	100.	4	18	0	.00	112.46	276.53

FLOW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 80.53

S.A= 164. 168. 261. 277.  
 PER Q= 1.7 91.9 6.4  
 AREA= 1.1 49.3 4.1  
 VEL= 3.4 4.0 3.4  
 DEPTH= .3 .5 .3

\*CNO .115

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

.115	.70	84.70	84.70	.00	85.02	.31	1.27	.02	84.00
216.0	15.6	190.6	9.9	4.1	41.7	2.6	1.3	1.7	84.00

.07	3.84	4.57	3.83	.030	.040	.030	.000	84.00	58.86
.024227	60.	50.	30.	20	11	0	.00	78.06	136.92

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= .12 CWSEL= 84.70

A=	59.	70.	130.	137.
PER Q=	7.2	88.2	4.6	
AREA=	4.1	41.7	2.6	
VEL=	3.8	4.6	3.8	
DEPTH=	.4	.7	.4	

\*SECNO. 11.120

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 27.12

11.120	10.05	85.05	.00	.00	85.05	.01	.01	.03	84.00
216.0	.1	214.9	1.0	1.1	315.8	8.8	1.5	1.8	84.00
.09	.13	.68	.11	.040	.040	.050	.000	75.00	47.51
.000033	60.	50.	30.	2	0	0	.00	70.36	117.87

FLOW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 85.05

A=	48.	50.	101.	118.
PER Q=	.1	99.5	.5	
AREA=	1.1	315.8	8.8	
VEL=	.1	.7	.1	
DEPTH=	.5	6.1	.5	

\*SECNO 12.140

12.140	8.85	85.05	.00	.00	85.06	.01	.01	.00	87.60
216.0	.0	216.0	.0	.0	276.2	.0	2.8	2.1	88.00
.16	.00	.78	.00	.000	.040	.000	.000	76.20	69.65
.000055	220.	200.	180.	2	0	0	.00	54.52	124.17

FLOW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 85.05

STA=	70.	133.
PER Q=	100.0	
AREA=	276.2	
VEL=	.8	
DEPTH=	5.1	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
-------	-------	-------	-------	-------	----	----	----	-------	-------------

Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 13.160

301 HV CHANGED MORE THAN HVINS

185 MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

13.160	2.54	84.54	84.54	.00	85.39	.84	.04	.25	90.00
216.0	.0	216.0	.0	.0	29.3	.0	3.6	2.3	90.00
.17	.00	7.36	.00	.000	.040	.000	.000	82.00	76.69
.021516	200.	200.	200.	4	14	0	.00	17.49	94.19

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 84.54

AREA= 77. 107.

PER Q= 100.0  
 AREA= 29.3  
 VEL= 7.4  
 DEPTH= 1.7

\*SECNO 14.180

01 HV CHANGED MORE THAN HVINS

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.86

14.180	2.32	87.32	.00	.00	87.56	.23	2.11	.06	91.00
216.0	.0	216.0	.0	.0	55.9	.0	3.7	2.4	92.00
.19	.00	3.86	.00	.000	.040	.000	.000	85.00	60.07
.006241	220.	200.	160.	3	0	0	.00	36.51	96.58

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 87.32

AREA= 60. 116.

PER Q= 100.0  
 AREA= 55.9  
 VEL= 3.9  
 DEPTH= 1.5

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 15.200

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .63

15.200	1.90	89.10	.00	.00	89.46	.36	1.87	.04	90.00
216.0	.0	216.0	.0	.0	44.6	.0	4.0	2.6	90.00
.20	.00	4.84	.00	.000	.040	.000	.000	87.20	147.15
.015489	180.	200.	180.	2	0	0	.00	41.31	188.46

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 89.10

STA= 147. 191.

PER Q= 100.0  
 AREA= 44.6  
 VEL= 4.8  
 DEPTH= 1.1

SECNO 16.220

7185 MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

16.220	1.32	93.32	93.32	.00	93.86	.54	3.77	.05	94.00
216.0	.0	216.0	.0	.0	36.6	.0	4.2	2.7	94.00
.21	.00	5.90	.00	.000	.040	.000	.000	92.00	125.23
.023424	180.	200.	220.	4	19	0	.00	34.37	159.59

LOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 93.32

STA= 125. 162.

PER Q= 100.0  
 AREA= 36.6  
 VEL= 5.9  
 DEPTH= 1.1

SECNO 17.240

7185 MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

17.240	1.29	98.29	98.29	.00	98.82	.53	4.66	.00	98.00
216.0	.4	215.6	.0	.3	37.0	.1	4.3	2.9	98.00
.22	1.56	5.83	.06	.040	.040	.040	.000	97.00	78.26
.023185	200.	200.	200.	4	5	0	.00	37.63	115.89

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

LOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 98.29

STA= 78. 80. 115. 116.

PER Q= .2 99.8 .0  
 AREA= .3 37.0 .1  
 VEL= 1.6 5.8 .1  
 DEPTH= .1 1.1 .1

\*SECNO 18.260

18.260	1.72	101.72	.00	.00	102.10	.39	3.27	.01	100.00
--------	------	--------	-----	-----	--------	-----	------	-----	--------

216.0	51.1	119.7	45.2	13.9	20.5	12.3	4.5	3.1	100.00
.23	3.67	5.85	3.67	.040	.040	.040	.000	100.00	51.21
.012143	200.	200.	200.	4	0	0	.00	42.78	93.99

FLOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 101.72

TA=	51.	68.	80.	94.
PER Q=	23.6	55.4	20.9	
AREA=	13.9	20.5	12.3	
VEL=	3.7	5.8	3.7	
DEPTH=	.9	1.7	.9	

SECNO 19.280

19.280	1.89	103.89	.00	.00	104.24	.35	2.13	.00	102.00
216.0	49.2	120.4	46.4	14.2	21.8	13.4	4.7	3.3	102.00
.24	3.46	5.52	3.46	.040	.040	.040	.000	102.00	120.11
.009407	220.	200.	180.	3	0	0	.00	40.70	160.81

LOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 103.89

STA=	120.	135.	147.	161.
PER Q=	22.8	55.8	21.5	
AREA=	14.2	21.8	13.4	
VEL=	3.5	5.5	3.5	
DEPTH=	.9	1.9	.9	

\*SECNO 20.300

Z185 MINIMUM SPECIFIC ENERGY

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

Z0 CRITICAL DEPTH ASSUMED

20.300	1.61	107.61	107.61	.00	108.17	.56	2.52	.06	106.00
216.0	68.7	135.5	11.8	16.1	19.9	2.9	5.0	3.5	106.00
.25	4.28	6.81	4.04	.040	.040	.040	.000	106.00	113.39
.017757	200.	200.	200.	19	9	0	.00	35.82	149.22

OW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 107.61

STA=	113.	133.	146.	149.
PER Q=	31.8	62.7	5.5	
AREA=	16.1	19.9	2.9	
VEL=	4.3	6.8	4.0	
DEPTH=	.8	1.6	.8	

\*SECNO 21.320

Z185 MINIMUM SPECIFIC ENERGY

Z0 CRITICAL DEPTH ASSUMED

21.320	2.36	112.36	112.36	.00	113.02	.66	3.26	.03	110.00
216.0	98.5	72.6	44.9	17.9	8.9	8.3	5.1	3.6	110.00

.26	5.52	8.17	5.38	.040	.040	.040	.000	110.00	135.51
.015390	190.	200.	210.	3	14	0	.00	25.87	161.38

FLOW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 112.36

TA=	136.	138.	151.	154.	160.	161.
PER Q=	.3	45.3	33.6	20.7	.1	
AREA=	.4	17.4	8.9	8.2	.2	
VEL=	1.5	5.6	8.2	5.5	1.4	
DEPTH=	.2	1.4	2.4	1.4	.2	

\*SECNO 22.340

22.340	.75	116.55	116.55	.00	116.88	.33	3.82	.03	115.80
216.0	48.3	151.9	15.8	11.9	31.6	3.8	5.3	3.8	115.80
.27	4.08	4.81	4.17	.040	.040	.040	.000	115.80	88.84
.024400	200.	200.	200.	6	17	0	.00	70.33	159.17

FLOW DISTRIBUTION FOR SECNO= 22.34 CWSEL= 116.55

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SIA=	89.	96.	111.	153.	158.	159.
PER Q=	2.1	20.3	70.3	6.9	.4	
AREA=	1.9	10.0	31.6	3.4	.4	
VEL=	2.5	4.4	4.8	4.4	2.3	
DEPTH=	.3	.7	.8	.7	.3	

SECNO 23.360

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

23.360	1.82	123.82	123.82	.00	124.27	.45	3.48	.04	122.00
216.0	73.5	130.0	12.4	20.7	20.6	3.4	5.5	4.1	122.00
.28	3.55	6.31	3.70	.040	.040	.040	.000	122.00	32.95
.013018	200.	200.	200.	3	14	0	.00	46.75	79.70

FLOW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 123.82

SIA=	33.	35.	58.	65.	76.	80.
PER Q=	.2	14.9	18.9	60.2	5.8	
AREA=	.4	11.8	8.6	20.6	3.4	
VEL=	1.5	2.7	4.8	6.3	3.7	
DEPTH=	.2	.5	1.2	1.8	.9	

SECNO 24.380

24.380	2.13	126.13	.00	.00	126.52	.39	2.25	.01	124.00
216.0	37.6	93.9	84.5	9.7	15.4	21.2	5.7	4.3	124.00
.29	3.90	6.11	3.98	.040	.040	.040	.000	124.00	71.80
.009820	200.	200.	200.	3	0	0	.00	36.55	108.35







	2620.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2640.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2660.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	2680.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	2700.	C	.	.	.	.	I E	.	.M	.	.	.	.
19.28	2720.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2740.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	2760.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2780.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2800.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	2820.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2840.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	2860.	C	.	C	.	.	IWE	.	.M	.	.	.	.
	2880.	C	.	.	C	.	I E	.	.M	.	.	.	.
	2900.	C	.	.	.	C	IWE	.	.M	.	.	.	.
20.30	2920.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2940.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	2960.	C	.	.	.	.	I E	.	.M	.	.	.	.
	2980.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3000.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3020.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3040.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3060.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3080.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3100.	C	.	.	.	.	I WE	.	.M	.	.	.	.
21.32	3120.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3140.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3160.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3180.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3200.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3220.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	3240.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3260.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	3280.	C	.	.	.	.	IE	.	.M	.	.	.	.
	3300.	C	.	.	.	.	IE	.	.M	.	.	.	.
22.34	3320.	C	.	.	.	.	IE	.	.M	.	.	.	.
	3340.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	3360.	C	.	.	.	.	IE	.	.M	.	.	.	.
	3380.	C	.	.	.	.	IE	.	.M	.	.	.	.
	3400.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	3420.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	3440.	C	.	.	.	.	IE	.	.M	.	.	.	.
	3460.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3480.	C	.	.	.	.	IWE	.	.M	.	.	.	.
	3500.	C	.	.	.	.	I WE	.	.M	.	.	.	.
23.36	3520.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3540.	C	.	.	.	C	I E	.	.M	.	.	.	.
	3560.	C	.	.	.	C	I WE	.	.M	.	.	.	.
	3580.	C	.	C	.	.	I E	.	.M	.	.	.	.
	3600.	C	.	C	.	.	I E	.	.M	.	.	.	.
	3620.	C	.	C	.	.	I E	.	.M	.	.	.	.
	3640.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3660.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3680.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3700.	C	.	.	.	.	I E	.	.M	.	.	.	.
24.38	3720.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3740.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3760.	C	.	.	.	.	I WE	.	.M	.	.	.	.
	3780.	C	.	.	.	.	I E	.	.M	.	.	.	.
	3800.	C	.	.	.	.	I WE	.	.M	.	.	.	.

3820.	.	C	.	.	.	.	.	I.E	.	M	.	.
3840.	.	.	.C	.	.	.	.	IWE	.	M	.	.
3860.	.	.	.	C	.	.	.	I E	.	M	.	.
3880.	.	.	.	.	C	.	.	.IWE	.	M	.	.
3900.	.	.	.	.	.	.	C	.I E	.	M	.	.
25.40	3920.	.	.	.	.	.	.	.IWE	.	M	.	.

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HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991

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

00 BASE FLOOD PROFILE

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
2.008	.00	.00	.00	59.70	462.00	61.65	61.65	62.33	109.94	6.84	69.76	44.06
* 2.008	.00	.00	.00	59.70	36.00	60.22	60.22	60.40	183.36	3.38	10.69	2.66
3.020	120.00	.00	.00	58.00	650.00	62.43	.00	62.47	3.08	1.47	435.35	370.41
3.020	120.00	.00	.00	58.00	216.00	60.48	.00	60.54	9.69	1.50	118.03	69.38
4.030	100.00	.00	.00	60.40	650.00	62.40	.00	62.59	58.93	3.20	188.40	84.68
4.030	100.00	.00	.00	60.40	216.00	61.45	61.45	61.72	240.34	3.74	53.23	13.93
* 5.040	100.00	.00	.00	61.00	650.00	63.13	63.13	63.70	89.06	3.69	109.59	68.88
5.040	100.00	.00	.00	61.00	216.00	62.45	.00	62.70	52.97	2.19	54.61	29.68
6.060	200.00	.00	.00	63.00	650.00	64.90	.00	65.40	80.61	3.16	115.33	72.39
6.060	200.00	.00	.00	63.00	216.00	64.02	64.02	64.37	132.31	2.65	45.72	18.78
7.070	100.00	.00	.00	63.70	650.00	65.56	65.54	66.14	99.43	2.93	107.55	65.18
7.070	100.00	.00	.00	63.70	216.00	64.90	.00	65.14	70.67	1.71	55.62	25.69
* 8.080	100.00	.00	.00	65.40	650.00	67.30	67.30	67.84	131.23	6.13	109.87	56.74
* 8.080	100.00	.00	.00	65.40	216.00	66.53	66.53	66.88	166.62	4.68	45.70	16.73
9.100	200.00	.00	.00	74.40	650.00	76.57	76.57	77.15	171.96	6.01	108.96	49.57
* 9.100	200.00	.00	.00	74.40	216.00	75.79	75.79	76.15	253.56	4.64	45.42	13.56
10.110	100.00	.00	.00	80.00	650.00	81.06	81.06	81.53	209.53	5.60	119.46	44.90
* 10.110	100.00	.00	.00	80.00	216.00	80.53	80.53	80.78	273.63	4.03	54.48	13.06
.115	50.00	.00	.00	84.00	650.00	85.39	85.39	85.96	182.72	6.25	108.13	48.09
* .115	50.00	.00	.00	84.00	216.00	84.70	84.70	85.02	242.27	4.57	48.29	13.88

11.120	50.00	.00	.00	75.00	650.00	85.99	.00	86.04	1.78	1.74	400.40	486.54
* 11.120	50.00	.00	.00	75.00	216.00	85.05	.00	85.05	.33	.68	325.63	376.30

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10*KS	VCH	AREA	.01K
12.140	200.00	.00	.00	76.20	650.00	86.03	.00	86.09	3.10	1.96	332.24	369.19
12.140	200.00	.00	.00	76.20	216.00	85.05	.00	85.06	.55	.78	276.17	290.19
* 13.160	200.00	.00	.00	82.00	650.00	86.45	86.45	87.64	191.84	8.74	74.37	46.93
13.160	200.00	.00	.00	82.00	216.00	84.54	84.54	85.39	215.16	7.36	29.34	14.73
* 14.180	200.00	.00	.00	85.00	650.00	89.08	.00	89.46	49.72	4.96	130.97	92.18
14.180	200.00	.00	.00	85.00	216.00	87.32	.00	87.56	62.41	3.86	55.94	27.34
* 15.200	200.00	.00	.00	87.20	650.00	90.37	.00	90.92	107.14	5.95	109.76	62.80
15.200	200.00	.00	.00	87.20	216.00	89.10	.00	89.46	154.89	4.84	44.61	17.36
* 16.220	200.00	.00	.00	92.00	650.00	94.47	94.47	95.45	185.07	7.92	82.77	47.78
16.220	200.00	.00	.00	92.00	216.00	93.32	93.32	93.86	234.24	5.90	36.63	14.11
* 17.240	200.00	.00	.00	97.00	650.00	99.43	99.43	100.39	166.21	8.04	85.34	50.42
17.240	200.00	.00	.00	97.00	216.00	98.29	98.29	98.82	231.85	5.83	37.33	14.19
18.260	200.00	.00	.00	100.00	650.00	102.67	.00	103.47	141.48	8.50	94.34	54.65
18.260	200.00	.00	.00	100.00	216.00	101.72	.00	102.10	121.43	5.85	46.74	19.60
19.280	200.00	.00	.00	102.00	650.00	105.10	.00	105.73	90.84	7.51	105.19	68.20
19.280	200.00	.00	.00	102.00	216.00	103.89	.00	104.24	94.07	5.52	49.48	22.27
* 20.300	200.00	.00	.00	106.00	650.00	108.79	108.79	109.67	142.19	8.79	90.58	54.51
20.300	200.00	.00	.00	106.00	216.00	107.61	107.61	108.17	177.57	6.81	38.86	16.21
* 21.320	200.00	.00	.00	110.00	650.00	113.80	113.80	114.85	134.18	10.48	81.69	56.11
21.320	200.00	.00	.00	110.00	216.00	112.36	112.36	113.02	153.90	8.17	35.08	17.41
22.340	200.00	.00	.00	115.80	650.00	117.34	.00	117.93	172.81	6.51	106.76	49.45
22.340	200.00	.00	.00	115.80	216.00	116.55	116.55	116.88	244.00	4.81	47.21	13.83
* 23.360	200.00	.00	.00	122.00	650.00	124.77	124.77	125.63	147.51	8.90	91.58	53.52
23.360	200.00	.00	.00	122.00	216.00	123.82	123.82	124.27	130.18	6.31	44.69	18.93
24.380	200.00	.00	.00	124.00	650.00	127.35	.00	128.03	97.97	8.23	102.94	65.67
24.380	200.00	.00	.00	124.00	216.00	126.13	.00	126.52	98.20	6.11	46.24	21.80
* 25.400	200.00	.00	.00	130.00	650.00	132.34	132.34	133.18	151.80	8.07	92.60	52.76
25.400	200.00	.00	.00	130.00	216.00	131.24	131.24	131.74	198.13	6.03	39.79	15.35

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Q100 BASE FLOOD PROFILE

S MARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
2.008	462.00	61.65	.00	.00	.00	51.75	.00
2.008	36.00	60.22	-1.43	.00	.00	31.11	.00
* 3.020	650.00	62.43	.00	.78	.00	208.49	120.00
3.020	216.00	60.48	-1.95	.26	.00	105.04	120.00
* 4.030	650.00	62.40	.00	-.03	.00	167.75	100.00
4.030	216.00	61.45	-.95	.96	.00	101.54	100.00
* 5.040	650.00	63.13	.00	.74	.00	97.92	100.00
* 5.040	216.00	62.45	-.69	1.00	.00	61.79	100.00
6.060	650.00	64.90	.00	1.76	.00	92.68	200.00
* 6.060	216.00	64.02	-.88	1.57	.00	66.21	200.00
7.070	650.00	65.56	.00	.67	.00	88.70	100.00
7.070	216.00	64.90	-.66	.89	.00	68.54	100.00
8.080	650.00	67.30	.00	1.73	.00	100.96	100.00
* 8.080	216.00	66.53	-.76	1.63	.00	67.00	100.00
9.100	650.00	76.57	.00	9.27	.00	96.47	200.00
9.100	216.00	75.79	-.78	9.26	.00	65.27	200.00
10.110	650.00	81.06	.00	4.49	.00	132.00	100.00
10.110	216.00	80.53	-.53	4.74	.00	112.46	100.00
* .115	650.00	85.39	.00	4.33	.00	96.44	50.00
.115	216.00	84.70	-.69	4.17	.00	78.06	50.00
* 11.120	650.00	85.99	.00	.60	.00	87.42	50.00
11.120	216.00	85.05	-.95	.34	.00	70.36	50.00
12.140	650.00	86.03	.00	.04	.00	60.34	200.00
12.140	216.00	85.05	-.98	.01	.00	54.52	200.00
* 13.160	650.00	86.45	.00	.42	.00	31.82	200.00
* 13.160	216.00	84.54	-1.91	-.51	.00	17.49	200.00
* 14.180	650.00	89.08	.00	2.63	.00	49.08	200.00
* 14.180	216.00	87.32	-1.76	2.78	.00	36.51	200.00
* 15.200	650.00	90.37	.00	1.29	.00	59.36	200.00
* 15.200	216.00	89.10	-1.27	1.78	.00	41.31	200.00
* 16.220	650.00	94.47	.00	4.10	.00	45.27	200.00
* 16.220	216.00	93.32	-1.15	4.22	.00	34.37	200.00

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SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
* 17.240	650.00	99.43	.00	4.95	.00	47.07	200.00
* 17.240	216.00	98.29	-1.13	4.97	.00	37.63	200.00
18.260	650.00	102.67	.00	3.24	.00	54.22	200.00

	18.260	216.00	101.72	-.95	3.42	.00	42.78	200.00
	19.280	650.00	105.10	.00	2.43	.00	51.91	200.00
	19.280	216.00	103.89	-1.20	2.18	.00	40.70	200.00
*	20.300	650.00	108.79	.00	3.70	.00	51.23	200.00
	20.300	216.00	107.61	-1.18	3.72	.00	35.82	200.00
*	21.320	650.00	113.80	.00	5.00	.00	39.03	200.00
	21.320	216.00	112.36	-1.44	4.75	.00	25.87	200.00
	22.340	650.00	117.34	.00	3.54	.00	81.65	200.00
	22.340	216.00	116.55	-.79	4.18	.00	70.33	200.00
	23.360	650.00	124.77	.00	7.43	.00	51.30	200.00
*	23.360	216.00	123.82	-.95	7.27	.00	46.75	200.00
	24.380	650.00	127.35	.00	2.58	.00	57.13	200.00
	24.380	216.00	126.13	-1.22	2.32	.00	36.55	200.00
	25.400	650.00	132.34	.00	4.99	.00	53.60	200.00
*	25.400	216.00	131.24	-1.10	5.11	.00	40.67	200.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

- CAUTION SECNO= 2.008 PROFILE= 1 CRITICAL DEPTH ASSUMED
- CAUTION SECNO= 2.008 PROFILE= 2 CRITICAL DEPTH ASSUMED
- WARNING SECNO= 3.020 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
- WARNING SECNO= 3.020 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
- WARNING SECNO= 4.030 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
- CAUTION SECNO= 4.030 PROFILE= 2 CRITICAL DEPTH ASSUMED
- CAUTION SECNO= 4.030 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
- CAUTION SECNO= 4.030 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
- CAUTION SECNO= 5.040 PROFILE= 1 CRITICAL DEPTH ASSUMED
- CAUTION SECNO= 5.040 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
- CAUTION SECNO= 5.040 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
- WARNING SECNO= 5.040 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
- CAUTION SECNO= 6.060 PROFILE= 2 CRITICAL DEPTH ASSUMED
- CAUTION SECNO= 6.060 PROFILE= 2 MINIMUM SPECIFIC ENERGY
- CAUTION SECNO= 8.080 PROFILE= 1 CRITICAL DEPTH ASSUMED
- CAUTION SECNO= 8.080 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
- CAUTION SECNO= 8.080 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
- CAUTION SECNO= 8.080 PROFILE= 2 CRITICAL DEPTH ASSUMED
- CAUTION SECNO= 8.080 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
- CAUTION SECNO= 8.080 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
- CAUTION SECNO= 9.100 PROFILE= 1 CRITICAL DEPTH ASSUMED
- CAUTION SECNO= 9.100 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY

WARNING SECNO= 9.100 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 9.100 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 WARNING SECNO= 9.100 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 WARNING SECNO= 9.100 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL  
  
 CAUTION SECNO= 10.110 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 WARNING SECNO= 10.110 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 WARNING SECNO= 10.110 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 10.110 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 WARNING SECNO= 10.110 PROFILE= 2 MINIMUM SPECIFIC ENERGY  
  
 CAUTION SECNO= .115 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= .115 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 WARNING SECNO= .115 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= .115 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= .115 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 WARNING SECNO= .115 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL  
  
 WARNING SECNO= 11.120 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 11.120 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
  
 CAUTION SECNO= 13.160 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 13.160 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY

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WARNING SECNO= 13.160 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 13.160 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 13.160 PROFILE= 2 MINIMUM SPECIFIC ENERGY  
  
 WARNING SECNO= 14.180 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 14.180 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
  
 WARNING SECNO= 15.200 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 15.200 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
  
 WARNING SECNO= 16.220 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 16.220 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 16.220 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 WARNING SECNO= 16.220 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 16.220 PROFILE= 2 MINIMUM SPECIFIC ENERGY  
  
 WARNING SECNO= 17.240 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 WARNING SECNO= 17.240 PROFILE= 1 MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 17.240 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 17.240 PROFILE= 2 MINIMUM SPECIFIC ENERGY  
  
 CAUTION SECNO= 20.300 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 20.300 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 WARNING SECNO= 20.300 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 20.300 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 20.300 PROFILE= 2 MINIMUM SPECIFIC ENERGY  
  
 WARNING SECNO= 21.320 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 21.320 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 21.320 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 WARNING SECNO= 21.320 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 21.320 PROFILE= 2 MINIMUM SPECIFIC ENERGY

AUTION SECNO= 23.360 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 23.360 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 23.360 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
AUTION SECNO= 23.360 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 23.360 PROFILE= 2 MINIMUM SPECIFIC ENERGY

AUTION SECNO= 25.400 PROFILE= 1 CRITICAL DEPTH ASSUMED  
AUTION SECNO= 25.400 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 25.400 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
AUTION SECNO= 25.400 PROFILE= 2 CRITICAL DEPTH ASSUMED  
AUTION SECNO= 25.400 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 25.400 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

**APPENDIX D**  
**Supercritical HEC-2 Profile**  
**(36" culvert not used)**

\*\*\*\*\*  
 \* HEC-2 WATER SURFACE PROFILES \*  
 \*  
 Version 4.6.0; February 1991 \*  
 \*  
 \* RUN DATE 03APR91 TIME 10:09:09 \*  
 \*\*\*\*\*

\*\*\*\*\*  
 \* U.S. ARMY CORPS OF ENGINEERS \*  
 \* HYDROLOGIC ENGINEERING CENTER \*  
 \* 609 SECOND STREET, SUITE D \*  
 \* DAVIS, CALIFORNIA 95616-4687 \*  
 \* (916) 756-1104 \*  
 \*\*\*\*\*

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X   X  XXXXXXX  XXXXX          XXXXX
X   X  X      X   X          X   X
X   X  X      X              X
XXXXXXX XXXX  X            XXXXX XXXXX
X   X  X      X              X
X   X  X      X   X          X
X   X  XXXXXXX  XXXXX          XXXXXXX
  
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THIS RUN EXECUTED 03APR91 10:09:10

\*\*\*\*\*  
 HEC-2 WATER SURFACE PROFILES  
 Version 4.6.0; February 1991  
 \*\*\*\*\*

T1 OUR MOTHER OF SORROWS CEMETERY FLOOD PLAIN STUDY  
 T SEA JOB #0150-11-5 & 0375-03-1 (36' DUMP CAPACITY IGNORED)  
 T Q100 BASE FLOOD PROFILE FILE : 115CRT.DAT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2	0	1	-1	0	0	0	131.2	
J2	NPROF	IPLT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1	0	0	0	0	0	0	0	0	15
NC	.040	.040	.040	.1	.3					
QT	2	650.	216.							
X1	25.40	20	1.456	1.750	0.	0.	0.	80.		
GR	146.0	0.000	144.000	.064	142.000	.125	141.000	.159	141.000	.495
GR	140.0	1.137	138.000	1.225	136.000	1.269	134.000	1.311	132.000	1.354
GR	130.0	1.456	130.000	1.750	132.000	1.994	134.000	2.127	136.000	2.296
GR	138.0	2.479	140.000	2.659	142.000	2.833	144.000	3.014	146.000	3.164
X1	24.38	21	1.023	1.113	200.	200.	200.	80.		
GR	142.0	0.000	140.000	.056	138.000	.113	136.000	.170	134.000	.231
GR	132.0	.294	130.000	.348	129.400	.378	128.000	.616	126.000	.918
GR	124.0	1.023	124.000	1.113	126.000	1.346	128.000	1.469	130.000	1.600

	132.0	1.722	134.000	1.785	136.000	1.860	138.000	1.924	140.000	2.008
GR	142.0	2.084								
	23.36	22	.808	.950	200.	200.	200.	80.		
GR	140.0	0.000	138.000	.049	136.000	.099	134.000	.149	132.000	.199
GR	130.0	.251	128.000	.297	126.000	.341	124.000	.402	123.400	.434
	123.2	.720	122.000	.808	122.000	.950	124.000	1.001	126.000	1.050
GR	128.0	1.102	130.000	1.183	132.000	1.267	134.000	1.357	136.000	1.452
GR	138.0	1.539	140.000	1.626						

	22.34	25	1.385	1.908	200.	200.	200.	80.		
GR	136.0	0.000	134.000	.053	132.000	.113	130.000	.147	128.000	.199
GR	126.0	.246	124.000	.303	122.200	.356	121.800	.624	120.000	.795
	118.0	.893	116.000	1.194	115.800	1.385	115.800	1.908	116.000	1.973
GR	118.0	2.033	120.000	2.102	122.000	2.157	124.000	2.219	126.000	2.283
GR	128.0	2.340	130.000	2.395	132.000	2.452	134.000	2.515	136.000	2.575

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X1	21.32	26	1.883	1.930	200.	200.	200.	80.		
GR	132.0	0.000	130.000	.060	128.000	.115	127.000	.141	126.200	.486
G	126.0	.515	124.000	.694	122.000	.919	120.000	1.078	118.000	1.245
GR	116.0	1.401	114.000	1.562	112.000	1.723	110.000	1.883	110.000	1.930
GR	112.0	2.005	114.000	2.073	116.000	2.143	118.000	2.217	120.000	2.297
G	122.0	2.371	124.000	2.440	126.000	2.519	128.000	2.589	130.000	2.669
G	132.0	2.747								

X	20.30	20	1.666	1.820	190.	210.	200.	80.		
G	124.0	0.000	122.000	.092	120.000	.187	118.000	.287	116.000	.461
GR	114.0	.656	112.000	.857	110.000	1.105	108.000	1.358	106.000	1.666
GR	106.0	1.820	108.000	1.876	110.000	1.931	112.000	1.987	114.000	2.037
G	116.0	2.091	118.000	2.149	120.000	2.201	122.000	2.250	124.000	2.307

X1	19.28	20	1.689	1.833	200.	200.	200.	80.		
G	120.0	0.000	118.000	.164	116.000	.349	114.000	.589	112.000	.827
G	110.0	1.005	108.000	1.168	106.000	1.359	104.000	1.491	102.000	1.689
GR	102.0	1.833	104.000	2.020	106.000	2.108	108.000	2.183	110.000	2.269
GR	112.0	2.344	114.000	2.425	116.000	2.511	118.000	2.594	120.000	2.672

Xi	18.26	20	.884	.994	220.	180.	200.	80.		
GR	118.0	0.000	116.000	.060	114.000	.130	112.000	.198	110.000	.257
Gi	108.0	.328	106.000	.400	104.000	.467	102.000	.605	100.000	.844
Gi	100.0	.994	102.000	1.206	104.000	1.297	106.000	1.378	108.000	1.453
GR	110.0	1.545	112.000	1.634	114.000	1.719	116.000	1.794	118.000	1.892

X'	17.24	20	1.001	1.441	200.	200.	200.	80.		
GR	114.0	0.000	112.000	.071	110.000	.145	108.000	.213	106.000	.372
GR	104.0	.526	102.000	.688	100.000	.845	98.000	1.001	97.000	1.140
GR	97.00	1.367	98.000	1.441	100.000	1.493	102.000	1.542	104.000	1.593
GR	106.0	1.637	108.000	1.698	110.000	1.754	112.000	1.807	114.000	1.863

NC	.040	.050	.040	0	0					
X1	16.22	18	1.505	2.020	200.	200.	200.	80.		
GR	108.0	0.000	106.000	.375	104.000	.640	102.000	.880	100.000	1.085
GR	98.00	1.194	96.000	1.343	94.000	1.505	92.000	1.683	92.000	1.946
GR	94.00	2.020	96.000	2.072	98.000	2.127	100.000	2.172	102.000	2.231
GR	104.0	2.282	106.000	2.345	108.000	2.400				

	15.20	19	1.680	2.383	180.	220.	200.	80.		
GR	104.0	0.000	102.000	.219	100.000	.277	98.000	.562	98.000	.737
	96.00	.871	94.000	1.207	92.000	1.510	90.000	1.680	88.000	2.036
	87.20	2.151	88.000	2.322	90.000	2.383	92.000	2.423	94.000	2.471
GR	96.00	2.540	98.000	2.571	100.000	2.610	104.000	2.673		
	14.18	20	.628	1.452	180.	180.	200.	80.		
GR	100.0	0.000	98.000	.055	96.000	.121	94.000	.196	92.000	.326
GR	91.00	.470	91.000	.628	90.000	.687	88.000	.734	86.000	.784
	85.00	.860	86.000	1.125	88.000	1.249	90.000	1.384	92.000	1.452
	94.00	1.494	96.000	1.527	96.000	1.750	98.000	1.799	100.000	1.851

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	13.16	19	.603	1.334	220.	160.	200.	80.		
	98.00	0.000	96.000	.027	94.000	.060	92.000	.105	91.000	.140
GR	90.00	.603	88.000	.658	86.000	.907	84.000	.978	82.000	1.016
	82.00	1.098	84.000	1.155	86.000	1.237	88.000	1.289	90.000	1.334
	92.00	1.393	94.000	1.443	96.000	1.583	98.000	1.618		

X1	12.14	26	.783	1.668	200.	200.	200.	80.		
	98.00	0.000	96.000	.046	94.000	.093	92.000	.128	90.000	.164
GR	88.00	.206	87.200	.248	87.600	.783	86.000	.847	84.000	.897
GR	82.00	.951	80.000	1.014	78.000	1.073	76.200	1.190	76.200	1.276
	78.00	1.304	80.000	1.369	82.000	1.424	84.000	1.500	86.000	1.599
	88.00	1.668	90.000	1.725	92.000	1.797	94.000	1.857	96.000	2.024
GR	98.00	2.071								

	11.12	25	.619	1.263	220.	180.	200.	80.		
GR	96.00	0.000	94.000	.063	92.000	.132	90.000	.196	88.000	.266
GR	87.60	.504	86.000	.571	84.000	.619	82.000	.683	80.000	.737
	78.00	.784	76.000	.830	75.000	.871	75.000	.988	76.000	1.013
	78.00	1.066	80.000	1.121	82.000	1.165	84.000	1.263	86.000	1.665
GR	88.00	1.800	90.000	1.932	92.000	2.039	94.000	2.143	96.000	2.255

N	.030	.030	.040	0	0					
X1	0.115	7	.88	1.62	60.	30.	50.	80.		
GP	96.	0.	88.	.31	86.	.47	84.	.88	84.	1.62
G	86.	1.88	96.	2.36						

X1	10.11	12	2.101	3.263	60.	30.	50.	80.		
G	90.00	0.000	88.000	.365	86.000	.796	84.000	1.344	82.000	1.912
G	80.00	2.101	80.000	3.263	82.000	3.993	84.000	4.355	86.000	4.497
GR	88.00	4.590	90.000	4.674						

X	9.100	12	2.108	2.972	100.	100.	100.	80.		
GR	84.00	0.000	82.000	.266	80.000	.589	80.000	.784	78.000	1.306
GR	76.00	2.108	74.400	2.972	76.000	3.046	78.000	3.183	80.000	3.259
G	82.00	3.453	84.000	3.550						

X1	8.080	14	3.162	3.474	200.	200.	200.	80.		
G	76.00	0.000	74.000	.474	72.000	1.006	70.000	1.371	68.000	1.850
G	66.00	2.933	65.400	3.162	65.400	3.299	66.000	3.474	68.000	3.502
GR	70.00	3.545	72.000	3.607	74.000	3.668	76.000	3.760		

X	7.070	13	2.944	3.790	80.	120.	100.	80.		
GR	74.00	0.000	72.000	.383	70.000	.802	68.000	1.287	66.000	1.720
GR	64.00	2.432	63.700	2.596	64.000	2.944	66.000	2.995	68.000	3.081

	70.00	3.790	72.000	3.835	74.000	3.872				
	6.060	14	2.955	4.108	80.	120.	100.	80.		
	74.00	0.000	72.000	.419	70.000	.773	68.000	1.064	66.000	1.495
GR	64.00	2.175	63.000	2.662	63.000	2.955	64.000	2.996	66.000	3.071
GR	68.00	3.150	70.000	4.108	72.000	4.163	74.000	4.204		

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X1	5.040	14	2.899	3.957	200.	200.	200.	80.		
	72.00	0.000	70.000	.336	68.000	.665	66.000	.981	64.000	1.265
	62.00	2.477	61.000	2.572	61.000	2.899	62.000	2.957	64.000	3.057
GR	66.00	3.710	68.000	3.806	70.000	3.957	72.000	4.058		
	4.030	13	2.856	4.738	100.	100.	100.	80.		
	72.00	0.000	70.000	.287	68.000	.757	66.000	1.143	64.000	1.619
GR	62.00	2.368	60.400	2.856	62.000	4.305	64.000	4.357	66.000	4.456
	68.00	4.619	70.000	4.738	72.000	4.823				

NC	.030	.040	.040	0	0					
X1	3.020	13	3.430	3.597	80.	120.	100.	80.		
	70.00	0.000	68.000	.567	66.000	1.042	64.000	1.488	62.000	1.936
GR	60.00	2.673	58.000	3.430	60.000	3.597	62.000	4.438	64.000	4.477
GR	66.00	4.612	68.000	4.697	70.000	4.795				

	.030	.040	.030	0	0					
QT	2	462.	36.							
X1	2.008	14	2.087	2.625	100.	140.	120.	80.		
	70.00	0.000	68.00	.575	66.000	.861	64.000	1.308	62.000	1.656
GR	60.00	1.929	59.700	2.087	60.000	2.278	62.000	2.367	64.000	2.429
GR	65.40	2.625	66.000	2.925	68.000	3.490	70.000	3.769		

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\* OF 1  
0

C V= .100 CEHV= .300  
\* CND 25.400

3720 CRITICAL DEPTH ASSUMED

25.400	2.36	132.36	132.36	131.20	133.18	.82	.00	.00	130.00
650.0	60.2	443.3	146.5	11.2	55.4	26.8	.0	.0	130.00
.00	5.39	8.00	5.47	.040	.040	.040	.000	130.00	107.71
.014806	0.	0.	0.	0	13	0	.00	53.70	161.41

FLOW DISTRIBUTION FOR SECNO= 25.40 CWSEL= 132.36

S =	108.	108.	116.	140.	160.	161.
PER Q=	.0	9.2	68.2	22.5	.1	
AREA=	.1	11.1	55.4	26.5	.3	

VEL= 1.3 5.4 8.0 5.5 1.4  
 DEPTH= .2 1.4 2.4 1.4 .2

ECNO 24.380

01 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.83

24.380	1.76	125.76	127.14	.00	132.58	6.82	.00	.60	124.00
650.0	101.6	319.8	228.7	6.5	12.7	14.4	.0	.0	124.00
.00	15.60	25.22	15.83	.040	.040	.040	.000	124.00	74.45
.216850	0.	0.	0.	8	11	0	.00	31.00	105.45

QW DISTRIBUTION FOR SECNO= 24.38 CWSEL= 125.76

STA= 74. 82. 89. 105.  
 PER Q= 15.6 49.2 35.2  
 AREA= 6.5 12.7 14.4  
 VEL= 15.6 25.2 15.8  
 DEPTH= .9 1.8 .9

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 23.360

01 HV CHANGED MORE THAN HVINS

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

23.360	2.77	124.77	124.77	.00	125.63	.86	7.37	8.08	122.00
650.0	324.9	279.5	45.6	52.5	31.5	7.8	.3	.2	122.00
.01	6.19	8.87	5.83	.040	.040	.040	.000	122.00	30.27
.014629	200.	200.	200.	20	14	0	.00	51.32	81.60

QW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 124.77

STA= 30. 32. 35. 58. 65. 76. 80. 82.  
 PER Q= .3 2.0 30.2 17.6 43.0 6.8 .2  
 AREA= .7 2.7 33.7 15.3 31.5 7.2 .6  
 VEL= 2.3 4.6 5.8 7.5 8.9 6.1 2.2  
 DEPTH= .4 1.1 1.5 2.2 2.8 1.8 .4

\*SECNO 22.340

01 HV CHANGED MORE THAN HVINS

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.05

22.340	.87	116.67	117.28	.00	118.86	2.20	6.63	.13	115.80
650.0	151.3	449.8	48.8	14.3	36.2	4.5	.6	.5	115.80
.01	10.54	12.43	10.83	.040	.040	.040	.000	115.80	87.51
.135868	200.	200.	200.	6	11	0	.00	71.92	159.44

FLOW DISTRIBUTION FOR SECNO= 22.34 CWSEL= 116.67

A=	88.	96.	111.	153.	158.	159.
PER Q=	2.7	20.6	69.2	7.0	.5	
AREA=	2.7	11.7	36.2	4.0	.5	
VEL=	6.6	11.5	12.4	11.4	6.2	
DEPTH=	.3	.8	.9	.8	.3	

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

ECNO 21.320

3301 HV CHANGED MORE THAN HVINS

85 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

21.320	3.78	113.78	113.78	.00	114.85	1.07	6.32	6.25	110.00
650.0	344.6	150.1	155.3	45.8	14.2	21.0	.9	.7	110.00
.02	7.52	10.56	7.40	.040	.040	.040	.000	110.00	126.37
.013723	200.	200.	200.	20	26	0	.00	38.87	165.24

FLOW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 113.78

STA=	126.	138.	151.	154.	160.	165.
PER Q=	6.3	46.7	23.1	21.3	2.6	
AREA=	10.2	35.6	14.2	16.7	4.3	
VEL=	4.0	8.5	10.6	8.3	3.9	
DEPTH=	.9	2.8	3.8	2.8	.9	

ECNO 20.300

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.82

20.300	2.17	108.17	108.79	.00	110.19	2.02	4.57	.09	106.00
650.0	252.5	354.2	43.3	29.0	26.7	5.3	1.3	.9	106.00
.02	8.72	13.25	8.21	.040	.040	.040	.000	106.00	106.93
.045326	200.	200.	200.	6	19	0	.00	43.52	150.45

FLOW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 108.17

A=	107.	109.	133.	146.	150.	150.
PER Q=	.0	38.8	54.5	6.7	.0	
AREA=	.1	28.8	26.7	5.2	.0	
VEL=	1.5	8.8	13.3	8.3	.1	
DEPTH=	.1	1.2	2.2	1.2	.1	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 19.280

01 HV CHANGED MORE THAN HVINS

85 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

19.280	2.78	104.78	104.78	.00	105.67	.89	4.73	.62	102.00
650.0	188.6	284.4	176.9	29.7	32.0	27.6	1.6	1.1	102.00
.03	6.34	8.89	6.40	.040	.040	.040	.000	102.00	115.18
.014674	190.	200.	210.	20	11	0	.00	49.16	164.33

FLOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 104.78

A=	115.	119.	135.	147.	162.	164.
PER Q=	.6	28.4	43.8	26.8	.4	
AREA=	1.6	28.1	32.0	26.6	1.1	
VEL=	2.4	6.6	8.9	6.6	2.3	
DEPTH=	.4	1.8	2.8	1.8	.4	

\*SECNO 18.260

35 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

18.260	2.64	102.64	102.64	.00	103.47	.84	2.97	.05	100.00
650.0	199.2	274.8	176.0	32.4	31.6	28.5	2.0	1.4	100.00
.04	6.15	8.69	6.18	.040	.040	.040	.000	100.00	44.89
.015030	200.	200.	200.	20	11	0	.00	53.90	98.79

FLOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 102.64

SIA=	45.	48.	68.	80.	96.	99.
PER Q=	.4	30.3	42.3	26.8	.2	
AREA=	1.1	31.3	31.6	27.7	.7	
VEL=	2.1	6.3	8.7	6.3	2.1	
DEPTH=	.3	1.6	2.6	1.6	.3	

\* SECNO 17.240

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

.93 PROBABLE MINIMUM SPECIFIC ENERGY

.20 CRITICAL DEPTH ASSUMED

17.240	2.43	99.43	99.43	.00	100.39	.96	3.15	1.20	98.00
650.0	24.2	618.1	7.6	6.4	77.1	2.1	2.4	1.6	98.00
.05	3.78	8.01	3.56	.040	.040	.040	.000	97.00	71.13
.016419	220.	200.	180.	20	11	0	.00	47.13	118.26

FLOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 99.43

A=	71.	80.	115.	118.
PER Q=	3.7	95.1	1.2	
AREA=	6.4	77.1	2.1	
VEL=	3.8	8.0	3.6	
DEPTH=	.7	2.2	.7	

\*SECNO 16.220

01 HV CHANGED MORE THAN HVINS

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.51

16.220	2.11	94.11	94.49	.00	95.60	1.49	4.74	.05	94.00
650.0	.0	650.0	.0	.0	66.4	.0	2.8	1.8	94.00
.05	.07	9.78	.06	.040	.040	.050	.000	92.00	119.74
.037239	200.	200.	200.	4	5	0	.00	42.07	161.81

FLOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 94.11

A=	120.	120.	162.
PER Q=	.0	100.0	
AREA=	.0	66.4	
VEL=	.1	9.8	
DEPTH=	.1	1.6	

SECNO 15.200

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

585 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY

720 CRITICAL DEPTH ASSUMED

15.200	2.82	90.02	90.02	.00	90.84	.82	5.45	.52	90.00
650.0	.0	650.0	.0	.0	89.6	.0	3.1	2.0	90.00
.06	.05	7.26	.00	.000	.040	.000	.000	87.20	134.24
.020780	200.	200.	200.	20	11	0	.00	56.43	190.68

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 90.02

STA= 134. 191.  
 PER Q= 100.0  
 AREA= 89.6  
 VEL= 7.3  
 DEPTH= 1.6

SECNO 14.180  
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

14.180	2.97	87.97	87.97	.00	88.97	1.01	4.02	2.18	91.00
650.0	.0	650.0	.0	.0	80.8	.0	3.5	2.3	92.00
.07	.00	8.05	.00	.000	.040	.000	.000	85.00	58.78
.019445	180.	200.	220.	20	8	0	.00	40.97	99.76

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 87.97

STA= 59. 116.  
 PER Q= 100.0  
 AREA= 80.8  
 VEL= 8.0  
 DEPTH= 2.0

\*SECNO 13.160  
 35 20 TRIALS ATTEMPTED WSEL,CWSEL  
 73 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

13.160	4.45	86.45	86.45	.00	87.64	1.19	3.86	2.12	90.00
650.0	.0	650.0	.0	.0	74.4	.0	3.9	2.4	90.00
.07	.00	8.74	.00	.000	.040	.000	.000	82.00	68.08
.019191	180.	200.	180.	20	14	0	.00	31.81	99.89

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 86.45

S = 68. 107.  
 PER Q= 100.0  
 AREA= 74.4

VEL= 8.7  
DEPTH= 2.3

SECNO 12.140

\*301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.57

12.140	3.12	79.32	80.07	.00	81.79	2.47	5.72	.13	87.60
650.0	.0	650.0	.0	.0	51.5	.0	4.2	2.5	88.00
.08	.00	12.61	.00	.000	.040	.000	.000	76.20	82.73
.047117	220.	200.	160.	5	15	0	.00	25.03	107.75

OW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 79.32

STA= 83. 133.

PER Q= 100.0  
AREA= 51.5  
VEL= 12.6  
DEPTH= 2.1

\*SECNO 11.120

01 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

11.120	3.84	78.84	78.84	.00	80.19	1.36	5.61	3.11	84.00
650.0	.0	650.0	.0	.0	69.5	.0	4.5	2.7	84.00
.08	.00	9.36	.00	.000	.040	.000	.000	75.00	61.15
.018612	200.	200.	200.	20	11	0	.00	25.97	87.12

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

OW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 78.84

STA= 61. 101.

PER Q= 100.0  
AREA= 69.5  
VEL= 9.4  
DEPTH= 2.7

\*SECNO .115

01 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

.115	1.39	85.39	85.39	.00	85.96	.57	3.68	1.70	84.00
650.0	83.2	514.1	52.7	15.9	82.5	10.1	4.9	2.9	84.00
.09	5.23	6.23	5.22	.030	.040	.030	.000	84.00	47.55
.018098	220.	200.	180.	20	18	0	.00	96.53	144.09

FLOW DISTRIBUTION FOR SECNO= .12 CWSEL= 85.39

TA=	48.	70.	130.	144.
PER Q=	12.8	79.1	8.1	
AREA=	15.9	82.5	10.1	
VEL=	5.2	6.2	5.2	
DEPTH=	.7	1.4	.7	

SECNO 10.110

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.53

10.110	.47	80.47	81.07	.00	83.33	2.86	2.40	.23	80.00
650.0	9.7	602.8	37.5	.8	43.9	3.3	5.0	3.1	80.00
.09	11.46	13.73	11.53	.030	.040	.030	.000	80.00	164.51
.371184	60.	50.	30.	6	15	0	.00	110.32	274.83

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 80.47

STA=	165.	168.	261.	275.
PER Q=	1.5	92.7	5.8	
AREA=	.8	43.9	3.3	
VEL=	11.5	13.7	11.5	
DEPTH=	.2	.5	.2	

SECNO 9.100

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .38

9.100	1.80	76.20	76.56	.00	77.39	1.20	5.44	.50	76.00
650.0	1.4	583.5	65.1	.6	68.5	6.0	5.0	3.2	74.40
.09	2.38	8.52	10.92	.030	.040	.030	.000	74.40	162.53
.053323	60.	50.	30.	6	29	0	.00	82.20	244.72

FLOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 76.20

TA=	163.	169.	238.	244.	245.
PER Q=	.2	89.8	10.0	.0	
AREA=	.6	68.5	5.9	.1	
VEL=	2.4	8.5	11.1	.1	
DEPTH=	.1	1.0	1.0	.1	

\*SECNO 8.080

001 HV CHANGED MORE THAN HVINS

002 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.55

8.080	1.18	66.58	67.29	.00	69.37	2.80	7.86	.16	65.40
650.0	314.3	334.5	1.2	23.2	25.1	.2	5.2	3.3	66.00
.10	13.55	13.31	6.33	.030	.040	.030	.000	65.40	209.73
.127347	100.	100.	100.	7	8	0	.00	68.84	278.56

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 66.58

S =	210.	235.	253.	278.	279.
PER Q=	8.5	39.9	51.5	.2	
AREA=	7.2	16.0	25.1	.2	
VEL=	7.7	16.2	13.3	6.3	
DEPTH=	.3	.9	1.0	.3	

\*SECNO 7.070

3501 HV CHANGED MORE THAN HVINS

3 5 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3 3 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

7.070	1.83	65.53	65.53	.00	66.14	.61	5.16	4.95	64.00
650.0	642.8	7.2	.0	102.2	2.4	.0	5.5	3.7	70.00
.11	6.29	3.00	.00	.030	.040	.000	.000	63.70	150.97
.010749	200.	200.	200.	20	14	0	.00	87.67	238.64

FLOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 65.53

S =	151.	195.	208.	236.	303.
PER Q=	22.0	24.6	52.2	1.1	
AREA=	33.4	22.0	46.8	2.4	
VEL=	4.3	7.3	7.3	3.0	
DEPTH=	.8	1.7	1.7	.8	

SECNO 6.060

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

6.060	1.79	64.79	64.79	.00	65.39	.60	.84	.41	63.00
650.0	632.2	17.8	.0	100.9	5.2	.0	5.7	3.9	70.00
.11	6.27	3.43	.00	.030	.040	.000	.000	63.00	152.44
.010206	80.	100.	120.	20	8	0	.00	89.61	242.06

FLOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 64.79

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

A=	152.	174.	213.	236.	329.
PER Q=	3.5	46.0	47.7	2.7	
AREA=	8.5	50.4	42.0	5.2	
VEL=	2.7	5.9	7.4	3.4	
DEPTH=	.4	1.3	1.8	.9	

\*SECNO 5.040

01 HV CHANGED MORE THAN HVINS

02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.59

5.040	1.68	62.68	63.13	.00	64.07	1.39	1.24	.08	61.00
650.0	615.9	34.1	.0	63.9	6.4	.0	5.9	4.0	70.00
.11	9.63	5.35	.00	.030	.040	.000	.000	61.00	165.33
.025903	80.	100.	120.	6	11	0	.00	73.94	239.27

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 62.68

A=	165.	198.	206.	232.	317.
PER Q=	6.6	12.2	76.0	5.2	
AREA=	11.1	8.9	43.9	6.4	
VEL=	3.9	8.8	11.3	5.3	
DEPTH=	.3	1.2	1.7	.9	

SECNO 4.030

3301 HV CHANGED MORE THAN HVINS

35 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

4.030	1.63	62.03	62.03	.00	62.45	.41	4.51	3.11	60.40
650.0	201.4	448.6	.0	32.6	96.8	.0	6.3	4.5	70.00
.12	6.18	4.64	.00	.030	.040	.000	.000	60.40	188.40
.019828	200.	200.	200.	20	8	0	.00	156.08	344.47

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 62.03

STA= 188. 228. 379.  
 PER Q= 31.0 69.0  
 AREA= 32.6 96.8  
 VEL= 6.2 4.6  
 DEPTH= .8 .8

SECNO 3.020

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3493 PROBABLE MINIMUM SPECIFIC ENERGY

20 CRITICAL DEPTH ASSUMED

3.020	2.40	60.40	60.40	.00	60.99	.60	1.46	.20	58.00
650.0	555.8	90.7	3.5	86.8	18.6	2.6	6.6	4.8	60.00
.13	6.40	4.86	1.33	.030	.040	.040	.000	58.00	202.19
.011152	100.	100.	100.	20	14	0	.00	98.87	301.06

OW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 60.40

STA= 202. 214. 274. 288. 301.  
 PER Q= .6 84.9 13.9 .5  
 AREA= 2.3 84.5 18.6 2.6  
 VEL= 1.8 6.5 4.9 1.3  
 DEPTH= .2 1.4 1.4 .2

\*SECNO 2.008

3495 20 TRIALS ATTEMPTED WSEL,CWSEL

3473 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

2.008	1.94	61.64	61.64	.00	62.33	.69	.96	.37	59.70
462.0	241.4	220.6	.0	37.4	32.2	.0	6.8	5.0	65.40
.13	6.45	6.85	.00	.030	.030	.000	.000	59.70	136.37
.011051	80.	100.	120.	20	15	0	.00	51.72	188.09

FLOW DISTRIBUTION FOR SECNO= 2.01 CWSEL= 61.64

S = 136. 154. 167. 210.  
 PER Q= 14.5 37.7 47.7  
 AREA= 14.7 22.7 32.2  
 VEL= 4.6 7.7 6.8  
 DEPTH= .8 1.8 1.5

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

ELEVATION SECNO	60. CUMDIS	70.	80.	90.	100.	110.	120.	130.	140.	150.
25.40	0.	.	.	.	.	.	.	I E	.	M
24.38	20.	.	.	.	.	.	I WC	E	.	M
	40.	.	.	.	.	.	I WC	E	.	M
	60.	.	.	.	.	.	I WC	E	.	M
	80.	.	.	.	.	.	I WC	E	.	M
	100.	.	.	.	.	.	I W E	.	.	M
	120.	.	.	.	.	.	I W E	.	.	M
	140.	.	.	.	.	.	I WC E	.	.	M
	160.	.	.	.	.	.	I WC E	.	.	M
	180.	.	.	.	.	.	I WCE	.	.	M
23.36	200.	.	.	.	.	.	I WE	.	M	.
	220.	.	.	.	.	.	I WE	.	M	.
	240.	.	.	.	.	.	I WCE	.	M	.
	260.	.	.	.	.	.	I WE	.	M	.
	280.	.	.	.	.	.	I WE	.	M	.
	300.	.	.	.	.	.	I W E	.	M	.
	320.	.	.	.	.	.	I WCE	.	M	.
	340.	.	.	.	.	.	I WCE	.	M	.
	360.	.	.	.	.	.	I W E	.	M	.
	380.	.	.	.	.	.	I W E	.	M	.
22.34	400.	.	.	.	.	.	I WCE	.	M	.
	420.	.	.	.	.	.	I W E	.	M	.
	440.	.	.	.	.	.	I WCE	.	M	.
	460.	.	.	.	.	.	I WCE	.	M	.
	480.	.	.	.	.	.	I W E	.	M	.
	500.	.	.	.	.	.	I WE	.	M	.
	520.	.	.	.	.	.	I W E	.	M	.
	540.	.	.	.	.	.	I WE	.	M	.
	560.	.	.	.	.	.	I WE	.	M	.
	580.	.	.	.	.	.	I W E	.	M	.
21.32	600.	.	.	.	.	.	I WE	.	M	.
	620.	.	.	.	.	.	I WE	.	M	.
	640.	.	.	.	.	.	I WE	.	M	.
	660.	.	.	.	.	.	I WCE	.	M	.
	680.	.	.	.	.	.	I WE	.	M	.
	700.	.	.	.	.	.	I WCE	.	M	.
	720.	.	.	.	.	.	I WE	.	M	.
	740.	.	.	.	.	.	I WCE	.	M	.
	760.	.	.	.	.	.	I WE	.	M	.
	780.	.	.	.	.	.	I WCE	.	M	.
20.30	800.	.	.	.	.	.	I WCE	.	M	.
	820.	.	.	.	.	.	I WCE	.	M	.
	840.	.	.	.	.	.	I W E	.	M	.
	860.	.	.	.	.	.	I WCE	.	M	.
	880.	.	.	.	.	.	I W E	.	M	.
	900.	.	.	.	.	.	I WE	.	M	.
	920.	.	.	.	.	.	I WCE	.	M	.
	940.	.	.	.	.	.	I WE	.	M	.
	960.	.	.	.	.	.	I WE	.	M	.
	980.	.	.	.	.	.	I WE	.	M	.
19.28	1000.	.	.	.	.	.	I WE	.	M	.
	1020.	.	.	.	.	.	I WE	.	M	.







0

HV=	.100	CEHV=	.300							
*SECNO 25.400										
25.400	1.20	131.20	131.24	131.20	131.74	.54	.00	.00	130.00	
216.0	11.4	177.0	27.7	2.9	28.2	7.0	.0	.0	130.00	
.00	3.87	6.27	3.94	.040	.040	.040	.000	130.00	111.58	
.022337	0.	0.	0.	0	7	0	.00	40.13	151.71	

FLOW DISTRIBUTION FOR SECNO= 25.40 CWSEL= 131.20

Q =	112.	116.	140.	152.
PER Q=	5.3	81.9	12.8	
AREA=	2.9	28.2	7.0	
VEL=	3.9	6.3	3.9	
DEPTH=	.6	1.2	.6	

\* SECNO 24.380

3235 SLOPE TOO STEEP, EXCEEDS .40

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.45

24.380	.87	124.87	125.89	.00	131.17	6.30	.00	.58	124.00
216.0	22.6	142.7	50.8	1.6	6.3	3.6	.0	.0	124.00
.00	13.99	22.61	14.19	.040	.040	.040	.000	124.00	78.16
.441822	0.	0.	0.	6	15	0	.00	19.05	97.21

FLOW DISTRIBUTION FOR SECNO= 24.38 CWSEL= 124.87

Q =	78.	82.	89.	97.
PER Q=	10.4	66.0	23.5	
AREA=	1.6	6.3	3.6	
VEL=	14.0	22.6	14.2	
DEPTH=	.4	.9	.4	

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\* CNO 23.360

3301 HV CHANGED MORE THAN HVINS

3 5 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 3720 CRITICAL DEPTH ASSUMED

23.360	1.80	123.80	123.80	.00	124.27	.46	7.78	9.85	122.00
216.0	72.9	130.7	12.4	20.4	20.5	3.3	.1	.2	122.00
.01	3.58	6.38	3.74	.040	.040	.040	.000	122.00	32.99
.013415	200.	200.	200.	20	14	0	.00	46.69	79.68

OW DISTRIBUTION FOR SECNO= 23.36 CWSEL= 123.80

STA=	33.	35.	58.	65.	76.	80.
PER Q=	.2	14.6	18.9	60.5	5.7	
AREA=	.3	11.5	8.5	20.5	3.3	
VEL=	1.5	2.7	4.8	6.4	3.7	
DEPTH=	.2	.5	1.2	1.8	.9	

\*SECNO 22.340

3 01 HV CHANGED MORE THAN HVINS

3 02 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.83

22.340	.42	116.22	116.55	.00	117.44	1.22	6.75	.08	115.80
216.0	39.2	163.8	13.0	5.2	17.7	1.7	.3	.4	115.80
.02	7.52	9.27	7.48	.040	.040	.040	.000	115.80	92.84
.196658	200.	200.	200.	5	18	0	.00	65.53	158.37

F W DISTRIBUTION FOR SECNO= 22.34 CWSEL= 116.22

STA=	93.	96.	111.	153.	158.	158.
PER Q=	.5	17.6	75.8	6.0	.0	
AREA=	.3	4.9	17.7	1.7	.1	
VEL=	3.8	7.7	9.3	7.7	.2	
DEPTH=	.1	.3	.4	.3	.1	

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 21.320

3 1 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

34 3 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

21.320	2.37	112.37	112.37	.00	113.02	.64	7.35	7.59	110.00
216.0	98.7	72.2	45.0	18.0	8.9	8.4	.4	.6	110.00
.03	5.47	8.09	5.33	.040	.040	.040	.000	110.00	135.43
.014965	200.	200.	200.	20	26	0	.00	25.99	161.42

FLOW DISTRIBUTION FOR SECNO= 21.32 CWSEL= 112.37

A= 135. 138. 151. 154. 160. 161.  
 PER Q= .3 45.4 33.4 20.7 .1  
 AREA= .5 17.6 8.9 8.2 .2  
 VEL= 1.5 5.6 8.1 5.4 1.4  
 DEPTH= .2 1.4 2.4 1.4 .2

ECNO 20.300

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.66

20.300	1.31	107.31	107.61	.00	108.32	1.01	4.66	.04	106.00
216.0	60.0	145.7	10.3	10.6	16.1	1.9	.6	.8	106.00
.03	5.67	9.03	5.35	.040	.040	.040	.000	106.00	117.14
.041156	200.	200.	200.	5	14	0	.00	31.40	148.54

FLOW DISTRIBUTION FOR SECNO= 20.30 CWSEL= 107.31

STA= 117. 133. 146. 149.  
 PER Q= 27.8 67.5 4.8  
 AREA= 10.6 16.1 1.9  
 VEL= 5.7 9.0 5.4  
 DEPTH= .7 1.3 .7

\*SECNO 19.280

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3 3 PROBABLE MINIMUM SPECIFIC ENERGY

3 0 CRITICAL DEPTH ASSUMED

19.280	1.63	103.63	103.63	.00	104.18	.55	5.15	2.94	102.00
216.0	45.0	128.5	42.5	10.5	18.7	9.9	.7	.9	102.00
.04	4.30	6.86	4.29	.040	.040	.040	.000	102.00	122.24
.017818	190.	200.	210.	20	11	0	.00	36.57	158.81

FLOW DISTRIBUTION FOR SECNO= 19.28 CWSEL= 103.63

STA= 122. 135. 147. 159.  
 PER Q= 20.8 59.5 19.7  
 AREA= 10.5 18.7 9.9  
 VEL= 4.3 6.9 4.3  
 DEPTH= .8 1.6 .8

\*SECNO 18.260

34 20 TRIALS ATTEMPTED WSEL,CWSEL

34 3 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

18.260	1.56	101.56	101.56	.00	102.07	.51	3.56	1.62	100.00
216.0	48.5	124.5	43.0	11.6	18.7	10.3	.9	1.1	100.00
.05	4.18	6.66	4.17	.040	.040	.040	.000	100.00	52.62
.017770	200.	200.	200.	20	8	0	.00	40.12	92.74

FLOW DISTRIBUTION FOR SECNO= 18.26 CWSEL= 101.56

STA= 53. 68. 80. 93.  
 PER Q= 22.5 57.6 19.9  
 AREA= 11.6 18.7 10.3  
 VEL= 4.2 6.7 4.2  
 DEPTH= .8 1.6 .8

ECNO 17.240  
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL  
 3693 PROBABLE MINIMUM SPECIFIC ENERGY  
 20 CRITICAL DEPTH ASSUMED

17.240	1.31	98.31	98.31	.00	98.82	.51	3.96	1.93	98.00
216.0	.5	215.5	.0	.3	37.5	.1	1.1	1.3	98.00
.06	1.57	5.75	.06	.040	.040	.040	.000	97.00	78.16
.022121	220.	200.	180.	20	15	0	.00	37.76	115.92

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 17.24 CWSEL= 98.31

STA= 78. 80. 115. 116.  
 PER Q= .2 99.8 .0  
 AREA= .3 37.5 .1  
 VEL= 1.6 5.7 .1  
 DEPTH= .2 1.1 .2

\*SECNO 16.220

16.220	1.26	93.26	93.33	.00	93.87	.61	4.94	.01	94.00
216.0	.0	216.0	.0	.0	34.5	.0	1.3	1.4	94.00
.07	.00	6.25	.00	.000	.040	.000	.000	92.00	125.66
.027773	200.	200.	200.	3	5	0	.00	33.75	159.41

FLOW DISTRIBUTION FOR SECNO= 16.22 CWSEL= 93.26

S = 126. 162.  
 PER Q= 100.0  
 AREA= 34.5  
 VEL= 6.3  
 DEPTH= 1.0

\*SECNO 15.200

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

15.200	1.74	88.94	88.94	.00	89.44	.50	5.13	3.13	90.00
216.0	.0	216.0	.0	.0	38.2	.0	1.4	1.6	90.00
.08	.00	5.66	.00	.000	.040	.000	.000	87.20	149.43

.023754 200. 200. 200. 20 11 0 .00 38.63 188.06

FLOW DISTRIBUTION FOR SECNO= 15.20 CWSEL= 88.94

STA= 149. 191.

PER Q= 100.0  
AREA= 38.2  
VEL= 5.7  
DEPTH= 1.0

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 14.180

7485 20 TRIALS ATTEMPTED WSEL,CWSEL

93 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

14.180	1.75	86.75	86.75	.00	87.31	.56	4.70	2.59	91.00
216.0	.0	216.0	.0	.0	35.9	.0	1.6	1.8	92.00
.09	.00	6.01	.00	.000	.040	.000	.000	85.00	61.23
.023246	180.	200.	220.	20	5	0	.00	32.47	93.70

FLOW DISTRIBUTION FOR SECNO= 14.18 CWSEL= 86.75

STA= 61. 116.

PER Q= 100.0  
AREA= 35.9  
VEL= 6.0  
DEPTH= 1.1

\*SECNO 13.160

315 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

13.160	2.55	84.55	84.55	.00	85.39	.84	4.47	1.91	90.00
216.0	.0	216.0	.0	.0	29.4	.0	1.7	1.9	90.00
.10	.00	7.36	.00	.000	.040	.000	.000	82.00	76.69
.021475	180.	200.	180.	20	11	0	.00	17.50	94.19

FLOW DISTRIBUTION FOR SECNO= 13.16 CWSEL= 84.55

STA= 77. 107.

PER Q= 100.0  
AREA= 29.4  
VEL= 7.4  
DEPTH= 1.7

\*SECNO 12.140

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.45

12.140	1.87	78.07	78.41	.00	79.33	1.26	6.01	.04	87.60
216.0	.0	216.0	.0	.0	24.0	.0	1.9	2.0	88.00
.10	.00	9.01	.00	.000	.040	.000	.000	76.20	85.70
.045048	220.	200.	160.	4	15	0	.00	18.78	104.48

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 12.14 CWSEL= 78.07

STA= 86. 133.  
 PER Q= 100.0  
 AREA= 24.0  
 VEL= 9.0  
 DEPTH= 1.3

\*SECNO 11.120

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

11.120	2.08	77.08	77.08	.00	77.88	.80	6.01	2.99	84.00
216.0	.0	216.0	.0	.0	30.1	.0	2.0	2.0	84.00
.11	.00	7.19	.00	.000	.040	.000	.000	75.00	64.42
.021458	200.	200.	200.	20	8	0	.00	18.90	83.32

FLOW DISTRIBUTION FOR SECNO= 11.12 CWSEL= 77.08

STA= 64. 101.  
 PER Q= 100.0  
 AREA= 30.1  
 VEL= 7.2  
 DEPTH= 1.6

\*SECNO .115

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

.115	.70	84.70	84.70	.00	85.02	.31	4.56	1.86	84.00
216.0	15.6	190.5	9.9	4.1	41.7	2.6	2.2	2.3	84.00
.12	3.84	4.57	3.83	.030	.040	.030	.000	84.00	58.86
.024203	220.	200.	180.	20	17	0	.00	78.06	136.92

FLOW DISTRIBUTION FOR SECNO= .12 CWSEL= 84.70

STA= 59. 70. 130. 137.  
 PER Q= 7.2 88.2 4.6  
 AREA= 4.1 41.7 2.6  
 VEL= 3.8 4.6 3.8  
 DEPTH= .4 .7 .4

SECNO	DEPTH	CWSEL	CRIS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 10.110

235 SLOPE TOO STEEP, EXCEEDS .40

301 HV CHANGED MORE THAN HVINS

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.49

10.110	.23	80.23	80.53	.00	81.69	1.46	3.22	.11	80.00
216.0	1.6	208.1	6.3	.2	21.4	.8	2.2	2.4	80.00
.12	8.14	9.74	8.18	.030	.040	.030	.000	80.00	166.34
.488680	60.	50.	30.	6	15	0	.00	101.41	267.75

OW DISTRIBUTION FOR SECNO= 10.11 CWSEL= 80.23

STA=	166.	168.	261.	268.
PER Q=	.8	96.3	2.9	
AREA=	.2	21.4	.8	
VEL=	8.1	9.7	8.2	
DEPTH=	.1	.2	.1	

\*SECNO 9.100

301 HV CHANGED MORE THAN HVINS

302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .31

9.100	1.25	75.65	75.80	.00	76.20	.56	5.21	.27	76.00
216.0	.0	194.3	21.7	.0	33.6	2.9	2.2	2.5	74.40
.13	.00	5.79	7.54	.000	.040	.030	.000	74.40	183.89
.045564	60.	50.	30.	5	32	0	.00	58.48	242.37

FLOW DISTRIBUTION FOR SECNO= 9.10 CWSEL= 75.65

S =	184.	238.	242.
PER Q=	90.0	10.0	
AREA=	33.6	2.9	
VEL=	5.8	7.5	
DEPTH=	.6	.6	

SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SECNO 8.080

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.04

8.080	.69	66.09	66.53	.00	67.88	1.79	8.20	.12	65.40
216.0	81.3	134.7	.0	7.2	12.9	.0	2.3	2.6	66.00
.13	11.23	10.42	.22	.030	.040	.030	.000	65.40	230.90
.189285	100.	100.	100.	6	11	0	.00	47.11	278.02

FLOW DISTRIBUTION FOR SECNO= 8.08 CWSEL= 66.09

STA=	231.	235.	253.	278.	278.
PER Q=	.2	37.4	62.4	.0	
AREA=	.2	7.1	12.9	.0	
VEL=	2.6	11.4	10.4	.2	
DEPTH=	.0	.4	.5	.0	

SECNO 7.070

3301 HV CHANGED MORE THAN HVINS

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

7.070	1.04	64.74	64.74	.00	65.10	.36	6.55	6.31	64.00
216.0	214.8	1.1	.0	44.4	.6	.0	2.5	2.8	70.00
.14	4.83	2.04	.00	.030	.040	.000	.000	63.70	173.40
.013044	200.	200.	200.	20	14	0	.00	63.64	237.04

FLOW DISTRIBUTION FOR SECNO= 7.07 CWSEL= 64.74

STA=	173.	195.	208.	236.	303.
PER Q=	10.6	28.5	60.4	.5	
AREA=	7.9	11.7	24.9	.6	
VEL=	2.9	5.2	5.2	2.0	
DEPTH=	.4	.9	.9	.4	

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SECNO	DEPTH	CWSEL	CRISW	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

\*SECNO 6.060

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

593 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

6.060	1.02	64.02	64.02	.00	64.37	.35	1.05	.55	63.00
216.0	211.5	4.5	.0	44.2	1.7	.0	2.5	2.9	70.00
.15	4.78	2.63	.00	.030	.040	.000	.000	63.00	173.44
.013044	80.	100.	120.	20	8	0	.00	66.31	239.74

FLOW DISTRIBUTION FOR SECNO= 6.06 CWSEL= 64.02

TA=	173.	213.	236.	329.
PER Q=	34.4	63.5	2.1	
AREA=	20.3	23.9	1.7	
VEL=	3.7	5.7	2.6	
DEPTH=	.5	1.0	.5	

SECNO 5.040

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.50

5.040	.91	61.91	62.23	.00	62.80	.89	1.51	.05	61.00
216.0	208.7	7.3	.0	27.2	2.0	.0	2.6	3.0	70.00
.15	7.67	3.73	.00	.030	.040	.000	.000	61.00	198.79
.029444	80.	100.	120.	5	8	0	.00	37.39	236.18

FLOW DISTRIBUTION FOR SECNO= 5.04 CWSEL= 61.91

SA=	199.	206.	232.	317.
PER Q=	7.4	89.2	3.4	
AREA=	3.2	24.0	2.0	
VEL=	5.0	8.0	3.7	
DEPTH=	.5	.9	.5	

SECNO 4.030

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SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XLN	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3301 HV CHANGED MORE THAN HVINS

3693 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

4.030	1.05	61.45	61.45	.00	61.72	.26	5.22	3.40	60.40
216.0	66.9	149.1	.0	13.6	40.3	.0	2.8	3.4	70.00
.16	4.93	3.70	.00	.030	.040	.000	.000	60.40	202.74
.023263	200.	200.	200.	20	8	0	.00	102.16	304.90

LOW DISTRIBUTION FOR SECNO= 4.03 CWSEL= 61.45

STA= 203. 228. 379.  
 PER Q= 31.0 69.0  
 AREA= 13.6 40.3  
 VEL= 4.9 3.7  
 DEPTH= .5 .5

\*SECNO 3.020

585 20 TRIALS ATTEMPTED WSEL,CWSEL

593 PROBABLE MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3.020	1.53	59.53	59.53	.00	59.93	.39	1.90	.18	58.00
216.0	185.5	30.5	.0	35.6	7.9	.0	2.9	3.5	60.00
.17	5.21	3.88	.00	.030	.040	.000	.000	58.00	227.96
.015770	100.	100.	100.	20	14	0	.00	56.68	284.64

FLOW DISTRIBUTION FOR SECNO= 3.02 CWSEL= 59.53

A= 228. 274. 288.  
 PER Q= 85.9 14.1  
 AREA= 35.6 7.9  
 VEL= 5.2 3.9  
 DEPTH= .8 .8

SECNO 2.008

85 20 TRIALS ATTEMPTED WSEL,CWSEL

3693 PROBABLE MINIMUM SPECIFIC ENERGY

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SECNO	DEPTH	CWSEL	CRIS	WSELK	EG	HV	HL	GLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3720 CRITICAL DEPTH ASSUMED

2.008	.52	60.22	60.22	.00	60.40	.18	1.40	.18	59.70
36.0	16.6	19.4	.0	4.9	5.7	.0	3.0	3.6	65.40
.18	3.36	3.38	.00	.030	.030	.000	.000	59.70	151.91
.018334	80.	100.	120.	20	22	0	.00	31.11	183.02

FLOW DISTRIBUTION FOR SECNO= 2.01 CWSEL= 60.22

SIA= 152. 154. 167. 210.  
 PER Q= 1.1 45.0 53.9  
 AREA= .3 4.7 5.7  
 VEL= 1.5 3.5 3.4  
 DEPTH= .1 .4 .4

PROFILE FOR STREAM Q100 PROFILE BELOW DAM

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

LEVATION	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.
SECNO	CUMDIS									
25.40	0.	.	.	.	.	.	.	I E	.	M
24.38	20.	.	.	.	.	.	.	IWC .E	.	M
	40.	.	.	.	.	.	.	IWC .E	.	M
	60.	.	.	.	.	.	.	IWC E	.	M
	80.	.	.	.	.	.	.	IWC E.	.	M
	100.	.	.	.	.	.	.	IW E.	.	M
	120.	.	.	.	.	.	.	I W E .	.	M
	140.	.	.	.	.	.	.	I W E .	.	M
	160.	.	.	.	.	.	.	IWC E .	.	M
	180.	.	.	.	.	.	.	IWCE .	.	M
23.36	200.	.	.	.	.	.	.	I WE .	.	M
	220.	.	.	.	.	.	.	IWE .	.	M
	240.	.	.	.	.	.	.	I E .	.	M
	260.	.	.	.	.	.	.	I WE .	.	M
	280.	.	.	.	.	.	.	IWE .	.	M
	300.	.	.	.	.	.	.	IWE .	.	M
	320.	.	.	.	.	.	.	IE .	.	M
	340.	.	.	.	.	.	.	IWE .	.	M
	360.	.	.	.	.	.	.	IWE .	.	M
	380.	.	.	.	.	.	.	WE .	.	M
22.34	400.	.	.	.	.	.	.	IWE .	.	M
	420.	.	.	.	.	.	.	WE .	.	M
	440.	.	.	.	.	.	.	IWE .	.	M
	460.	.	.	.	.	.	.	IWE .	.	M
	480.	.	.	.	.	.	.	IWE .	.	M
	500.	.	.	.	.	.	.	I WE .	.	M
	520.	.	.	.	.	.	.	IWE .	.	M
	540.	.	.	.	.	.	.	I WE .	.	M
	560.	.	.	.	.	.	.	I WE .	.	M
	580.	.	.	.	.	.	.	I WE .	.	M
21.32	600.	.	.	.	.	.	.	I E .	.	M
	620.	.	.	.	.	.	.	I WE .	.	M
	640.	.	.	.	.	.	.	I E .	.	M
	660.	.	.	.	.	.	.	I WE .	.	M
	680.	.	.	.	.	.	.	I E .	.	M
	700.	.	.	.	.	.	.	I WE .	.	M
	720.	.	.	.	.	.	.	I WE .	.	M
	740.	.	.	.	.	.	.	IWE .	.	M
	760.	.	.	.	.	.	.	I WE .	.	M
	780.	.	.	.	.	.	.	IWE .	.	M
20.30	800.	.	.	.	.	.	.	I WE .	.	M
	820.	.	.	.	.	.	.	IWE .	.	M
	840.	.	.	.	.	.	.	IWE .	.	M
	860.	.	.	.	.	.	.	I E .	.	M
	880.	.	.	.	.	.	.	IWE .	.	M
	900.	.	.	.	.	.	.	I WE .	.	M
	920.	.	.	.	.	.	.	IWE .	.	M
	940.	.	.	.	.	.	.	IWE .	.	M
	960.	.	.	.	.	.	.	I E .	.	M
	980.	.	.	.	.	.	.	IWE .	.	M
19.28	1000.	.	.	.	.	.	.	I E .	.	M
	1020.	.	.	.	.	.	.	I E .	.	M
	1040.	.	.	.	.	.	.	I E .	.	M
	1060.	.	.	.	.	.	.	IWE .	.	M





3480.	.IWE	R M	.	.	.	.	.	.	.	.	.	.
3500.	.IWE	R M	.	.	.	.	.	.	.	.	.	.
3520.	.IE	R M	.	.	.	.	.	.	.	.	.	.
3540.	.IE	R M	.	.	.	.	.	.	.	.	.	.
3560.	.IE	R M	.	.	.	.	.	.	.	.	.	.
3580.	.IE	R M	.	.	.	.	.	.	.	.	.	.
4.03 3600.	.IE	R M	.	.	.	.	.	.	.	.	.	.

PROFILE FOR STREAM Q100 PROFILE BELOW DAM

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

ELEVATION	-27.	-17.	-7.	3.	13.	23.	33.	43.	53.	63.		
SECNO	CUMDIS											
	3620.	.	.	.	.	.	.	.	.	.	IE	R M.
	3640.	.	.	.	.	.	.	.	.	.	IE	R M.
	3660.	.	.	.	.	.	.	.	.	.	IWE	R M.
	3680.	.	.	.	.	.	.	.	.	.	IE R.	M.
3.02	3700.	.	.	.	.	.	.	.	.	.	IE	M.
	3720.	.	.	.	.	.	.	.	.	.	IE R.	M.
	3740.	.	.	.	.	.	.	.	.	.	IE R.	M.
	3760.	.	.	.	.	.	.	.	.	.	IE R.	M.
	3780.	.	.	.	.	.	.	.	.	.	IE	R M.
2.01	3800.	.	.	.	.	.	.	.	.	.	IE	R M.
											E	R M.

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EC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991

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

Q100 BASE FLOOD PROFILE

SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
* 25.400	.00	.00	.00	130.00	650.00	132.36	132.36	133.18	148.06	8.00	93.36	53.42
25.400	.00	.00	.00	130.00	216.00	131.20	131.24	131.74	223.37	6.27	38.19	14.45
* 24.380	.00	.00	.00	124.00	650.00	125.76	127.14	132.58	2168.50	25.22	33.63	13.96
* 24.380	.00	.00	.00	124.00	216.00	124.87	125.89	131.17	4418.22	22.61	11.50	3.25
* 23.360	200.00	.00	.00	122.00	650.00	124.77	124.77	125.63	146.29	8.87	91.83	53.74

*	23.360	200.00	.00	.00	122.00	216.00	123.80	123.80	124.27	134.15	6.38	44.18	18.65
*	22.340	200.00	.00	.00	115.80	650.00	116.67	117.28	118.86	1358.68	12.43	55.05	17.63
*	22.340	200.00	.00	.00	115.80	216.00	116.22	116.55	117.44	1966.58	9.27	24.62	4.87
*	21.320	200.00	.00	.00	110.00	650.00	113.78	113.78	114.85	137.23	10.56	81.01	55.49
*	21.320	200.00	.00	.00	110.00	216.00	112.37	112.37	113.02	149.65	8.09	35.42	17.66
*	20.300	200.00	.00	.00	106.00	650.00	108.17	108.79	110.19	453.26	13.25	60.95	30.53
*	20.300	200.00	.00	.00	106.00	216.00	107.31	107.61	108.32	411.56	9.03	28.65	10.65
*	19.280	200.00	.00	.00	102.00	650.00	104.78	104.78	105.67	146.74	8.89	89.37	53.66
*	19.280	200.00	.00	.00	102.00	216.00	103.63	103.63	104.18	178.18	6.86	39.10	16.18
*	18.260	200.00	.00	.00	100.00	650.00	102.64	102.64	103.47	150.30	8.69	92.46	53.02
*	18.260	200.00	.00	.00	100.00	216.00	101.56	101.56	102.07	177.70	6.66	40.61	16.20
*	17.240	200.00	.00	.00	97.00	650.00	99.43	99.43	100.39	164.19	8.01	85.70	50.73
*	17.240	200.00	.00	.00	97.00	216.00	98.31	98.31	98.82	221.21	5.75	37.88	14.52
*	16.220	200.00	.00	.00	92.00	650.00	94.11	94.49	95.60	372.39	9.78	66.48	33.68
*	16.220	200.00	.00	.00	92.00	216.00	93.26	93.33	93.87	277.73	6.25	34.55	12.96
*	15.200	200.00	.00	.00	87.20	650.00	90.02	90.02	90.84	207.80	7.26	89.56	45.09
*	15.200	200.00	.00	.00	87.20	216.00	88.94	88.94	89.44	237.54	5.66	38.19	14.01

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRWS	EG	10*KS	VCH	AREA	.01K	
*	14.180	200.00	.00	.00	85.00	650.00	87.97	87.97	88.97	194.45	8.05	80.79	46.61
*	14.180	200.00	.00	.00	85.00	216.00	86.75	86.75	87.31	232.46	6.01	35.91	14.17
*	13.160	200.00	.00	.00	82.00	650.00	86.45	86.45	87.64	191.91	8.74	74.36	46.92
*	13.160	200.00	.00	.00	82.00	216.00	84.55	84.55	85.39	214.75	7.36	29.36	14.74
*	12.140	200.00	.00	.00	76.20	650.00	79.32	80.07	81.79	471.17	12.61	51.53	29.94
*	12.140	200.00	.00	.00	76.20	216.00	78.07	78.41	79.33	450.48	9.01	23.97	10.18
*	11.120	200.00	.00	.00	75.00	650.00	78.84	78.84	80.19	186.12	9.36	69.47	47.64
*	11.120	200.00	.00	.00	75.00	216.00	77.08	77.08	77.88	214.58	7.19	30.05	14.75
*	.115	200.00	.00	.00	84.00	650.00	85.39	85.39	85.96	180.98	6.23	108.47	48.32
*	.115	200.00	.00	.00	84.00	216.00	84.70	84.70	85.02	242.03	4.57	48.31	13.88
*	10.110	50.00	.00	.00	80.00	650.00	80.47	81.07	83.33	3711.84	13.73	48.01	10.67
*	10.110	50.00	.00	.00	80.00	216.00	80.23	80.53	81.69	4886.80	9.74	22.33	3.09
*	9.100	50.00	.00	.00	74.40	650.00	76.20	76.56	77.39	533.23	8.52	75.01	28.15
*	9.100	50.00	.00	.00	74.40	216.00	75.65	75.80	76.20	455.64	5.79	36.46	10.12
*	8.080	100.00	.00	.00	65.40	650.00	66.58	67.29	69.37	1273.47	13.31	48.51	18.21
*	8.080	100.00	.00	.00	65.40	216.00	66.09	66.53	67.88	1892.85	10.42	20.17	4.96
*	7.070	200.00	.00	.00	63.70	650.00	65.53	65.53	66.14	107.49	3.00	104.57	62.70
*	7.070	200.00	.00	.00	63.70	216.00	64.74	64.74	65.10	130.44	2.04	45.00	18.91
*	6.060	100.00	.00	.00	63.00	650.00	64.79	64.79	65.39	102.06	3.43	106.10	64.34

	6.060	100.00	.00	.00	63.00	216.00	64.02	64.02	64.37	130.44	2.63	45.93	18.91
*	5.040	100.00	.00	.00	61.00	650.00	62.68	63.13	64.07	259.03	5.35	70.32	40.39
	5.040	100.00	.00	.00	61.00	216.00	61.91	62.23	62.80	294.44	3.73	29.15	12.59
*	4.030	200.00	.00	.00	60.40	650.00	62.03	62.03	62.45	198.28	4.64	129.38	46.16
	4.030	200.00	.00	.00	60.40	216.00	61.45	61.45	61.72	232.63	3.70	53.88	14.16
*	3.020	100.00	.00	.00	58.00	650.00	60.40	60.40	60.99	111.52	4.86	108.08	61.55
	3.020	100.00	.00	.00	58.00	216.00	59.53	59.53	59.93	157.70	3.88	43.47	17.20
*	2.008	100.00	.00	.00	59.70	462.00	61.64	61.64	62.33	110.51	6.85	69.63	43.95
*	2.008	100.00	.00	.00	59.70	36.00	60.22	60.22	60.40	183.34	3.38	10.69	2.66

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Q100 BASE FLOOD PROFILE

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	25.400	650.00	132.36	.00	.00	1.16	53.70	.00
	25.400	216.00	131.20	-1.16	.00	.00	40.13	.00
*	24.380	650.00	125.76	.00	-6.59	.00	31.00	.00
*	24.380	216.00	124.87	-.89	-6.33	.00	19.05	.00
	23.360	650.00	124.77	.00	-.99	.00	51.32	200.00
*	23.360	216.00	123.80	-.97	-1.07	.00	46.69	200.00
	22.340	650.00	116.67	.00	-8.11	.00	71.92	200.00
*	22.340	216.00	116.22	-.45	-7.59	.00	65.53	200.00
	21.320	650.00	113.78	.00	-2.88	.00	38.87	200.00
*	21.320	216.00	112.37	-1.41	-3.84	.00	25.99	200.00
*	20.300	650.00	108.17	.00	-5.61	.00	43.52	200.00
*	20.300	216.00	107.31	-.86	-5.06	.00	31.40	200.00
*	19.280	650.00	104.78	.00	-3.39	.00	49.16	200.00
*	19.280	216.00	103.63	-1.15	-3.68	.00	36.57	200.00
*	18.260	650.00	102.64	.00	-2.14	.00	53.90	200.00
*	18.260	216.00	101.56	-1.08	-2.07	.00	40.12	200.00
*	17.240	650.00	99.43	.00	-3.20	.00	47.13	200.00
*	17.240	216.00	98.31	-1.13	-3.25	.00	37.76	200.00
*	16.220	650.00	94.11	.00	-5.32	.00	42.07	200.00
	16.220	216.00	93.26	-.85	-5.05	.00	33.75	200.00
*	15.200	650.00	90.02	.00	-4.09	.00	56.43	200.00
*	15.200	216.00	88.94	-1.08	-4.32	.00	38.63	200.00
*	14.180	650.00	87.97	.00	-2.06	.00	40.97	200.00
*	14.180	216.00	86.75	-1.22	-2.20	.00	32.47	200.00

*	13.160	650.00	86.45	.00	-1.52	.00	31.81	200.00
*	13.160	216.00	84.55	-1.90	-2.20	.00	17.50	200.00
	12.140	650.00	79.32	.00	-7.13	.00	25.03	200.00
*	12.140	216.00	78.07	-1.25	-6.47	.00	18.78	200.00
	11.120	650.00	78.84	.00	-.48	.00	25.97	200.00
*	11.120	216.00	77.08	-1.76	-.99	.00	18.90	200.00
	.115	650.00	85.39	.00	6.56	.00	96.53	200.00
*	.115	216.00	84.70	-.69	7.63	.00	78.06	200.00

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	10.110	650.00	80.47	.00	-4.92	.00	110.32	50.00
	10.110	216.00	80.23	-.24	-4.47	.00	101.41	50.00
*	9.100	650.00	76.20	.00	-4.27	.00	82.20	50.00
	9.100	216.00	75.65	-.55	-4.58	.00	58.48	50.00
*	8.080	650.00	66.58	.00	-9.62	.00	68.84	100.00
	8.080	216.00	66.09	-.49	-9.56	.00	47.11	100.00
*	7.070	650.00	65.53	.00	-1.05	.00	87.67	200.00
*	7.070	216.00	64.74	-.79	-1.35	.00	63.64	200.00
	6.060	650.00	64.79	.00	-.74	.00	89.61	100.00
*	6.060	216.00	64.02	-.77	-.72	.00	66.31	100.00
	5.040	650.00	62.68	.00	-2.11	.00	73.94	100.00
*	5.040	216.00	61.91	-.77	-2.11	.00	37.39	100.00
	4.030	650.00	62.03	.00	-.64	.00	156.08	200.00
	4.030	216.00	61.45	-.58	-.46	.00	102.16	200.00
	3.020	650.00	60.40	.00	-1.64	.00	98.87	100.00
	3.020	216.00	59.53	-.86	-1.92	.00	56.68	100.00
	2.008	462.00	61.64	.00	1.25	.00	51.72	100.00
	2.008	36.00	60.22	-1.42	.69	.00	31.11	100.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 25.400 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 WARNING SECNO= 24.380 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 CAUTION SECNO= 24.380 PROFILE= 2 SLOPE TOO STEEP  
 WARNING SECNO= 24.380 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=	23.360	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	23.360	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	23.360	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	23.360	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	23.360	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	23.360	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	22.340	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	22.340	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	21.320	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	21.320	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	21.320	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	21.320	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	21.320	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	21.320	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	20.300	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=	20.300	PROFILE=	2	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	19.280	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	19.280	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	19.280	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	19.280	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	19.280	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	19.280	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	18.260	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	18.260	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	18.260	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
AUTION SECNO=	18.260	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	18.260	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	18.260	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	17.240	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	17.240	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	17.240	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	17.240	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	17.240	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
AUTION SECNO=	17.240	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=	16.220	PROFILE=	1	CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=	15.200	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	15.200	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY

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CAUTION SECNO=	15.200	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	15.200	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	15.200	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	15.200	PROFILE=	2	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	14.180	PROFILE=	1	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	14.180	PROFILE=	1	PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=	14.180	PROFILE=	1	20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=	14.180	PROFILE=	2	CRITICAL DEPTH ASSUMED
CAUTION SECNO=	14.180	PROFILE=	2	PROBABLE MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 14.180 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 13.160 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 13.160 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 13.160 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 13.160 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 13.160 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 13.160 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 12.140 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 12.140 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 11.120 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 11.120 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 11.120 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 11.120 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 11.120 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 11.120 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= .115 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= .115 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= .115 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= .115 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= .115 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= .115 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 10.110 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 CAUTION SECNO= 10.110 PROFILE= 2 SLOPE TOO STEEP  
 WARNING SECNO= 10.110 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 9.100 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 9.100 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO= 8.080 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 8.080 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 7.070 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 7.070 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 7.070 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 7.070 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 7.070 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 7.070 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6.060 PROFILE= 1 CRITICAL DEPTH ASSUMED

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CAUTION SECNO= 6.060 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 6.060 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
 CAUTION SECNO= 6.060 PROFILE= 2 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 6.060 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 6.060 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO= 5.040 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE  
 WARNING SECNO= 5.040 PROFILE= 2 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO= 4.030 PROFILE= 1 CRITICAL DEPTH ASSUMED  
 CAUTION SECNO= 4.030 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
 CAUTION SECNO= 4.030 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 4.030 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 4.030 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 4.030 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 3.020 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3.020 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3.020 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 3.020 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 3.020 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 3.020 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 2.008 PROFILE= 1 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 2.008 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 2.008 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL  
CAUTION SECNO= 2.008 PROFILE= 2 CRITICAL DEPTH ASSUMED  
CAUTION SECNO= 2.008 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY  
CAUTION SECNO= 2.008 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

