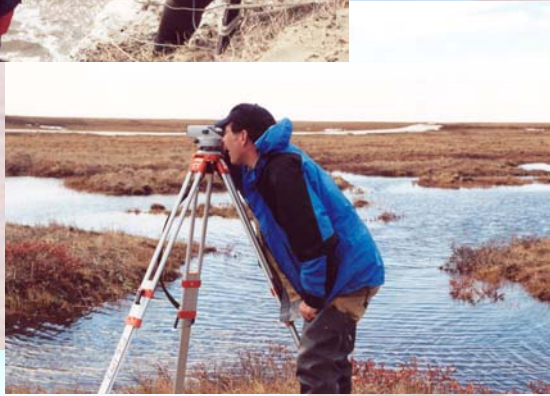


**2001 Water Surface Profiles
for Selected Flood Peak Discharges on
Fish Creek, Judy Creek and the
Ublutuoch River, North Slope, Alaska**



2001 Water Surface Profiles for Selected Flood Peak Discharges on Fish Creek, Judy Creek and the Ublutuoch River North Slope, Alaska

March 2002



Prepared For:



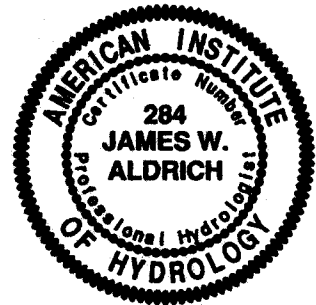
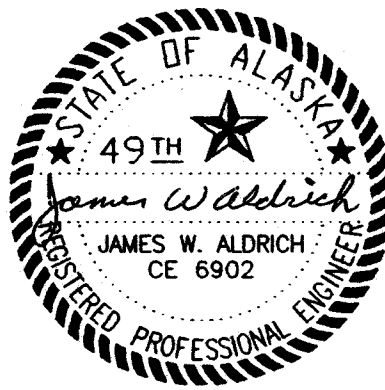
Prepared By:



URS Corporation
3504 Industrial Ave., Suite
125
Fairbanks, AK 99701
(907) 374-0303

WATER SURFACE PROFILES
FOR SELECTED FLOOD PEAK DISCHARGES ON
FISH CREEK, JUDY CREEK AND THE UBLUTUOCH RIVER
NORTH SLOPE, ALASKA

MARCH 2002




James C. Dietzmann

James W. Aldrich, P.E., P.H.

Prepared by
URS CORPORATION
3504 Industrial Ave., Suite 125
Fairbanks, AK 99701

Prepared for
PHILLIPS ALASKA, INC.
700 G Street
Anchorage, AK 99501

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	INTRODUCTION.....	1
2.0	FISH CREEK	1
2.1	SITE DESCRIPTION	1
2.2	FLOOD EVENTS	1
2.3	WATER SURFACE PROFILES	5
3.0	JUDY CREEK.....	5
3.1	SITE DESCRIPTION	5
3.2	FLOOD EVENTS	8
3.3	WATER SURFACE PROFILES	8
4.0	UBLUTUOCH RIVER.....	10
4.1	SITE DESCRIPTION	10
4.2	FLOOD EVENTS	10
4.3	WATER SURFACE ELEVATIONS.....	11
5.0	REFERENCES	12

LIST OF TABLES

		<u>Page</u>
Table 2.1	Fish Creek Flood Peak Discharge	2
Table 2.2	Fish Creek Water Surface Elevations	6
Table 3.1	Judy Creek Flood Peak Discharge	8
Table 3.2	Judy Creek Water Surface Elevations	9
Table 4.1	Ublutuoch River Flood Peak Discharge.....	10
Table 4.2	Ublutuoch River Water Surface Elevations	12

LIST OF FIGURES

		<u>Page</u>
Figure 1	Project Location Map.....	3
Figure 2	Monitoring Site Locations	4
Figure 3	100- Year Floodplain	7

LIST OF APPENDIXES

- Appendix A Potential Effect of Storm Surge on NPRA River Water Surface Elevations
- Appendix B Water Surface Profile Methods
- Appendix C Water Surface Profile Calibration
- Appendix D HEC-RAS Reports
- Appendix E Surveyed Cross Sections

1.0 INTRODUCTION

This report is a summary of the water surface profile computations, and related analyses, for Fish Creek, Judy Creek, and the Ublutuoch River. The three streams are located within the National Petroleum Reserve, on the north slope of Alaska (Figure 1).

Each of the three rivers is discussed in a separate section of the report, Sections 2.0 through 4.0. The following information is presented for each river.

- A general description of the river and reach covered by the analysis.
- The magnitude of the 2-, 10-, 50-, 100- and 200-year flood peak discharges.
- The time of year during which the annual flood peak discharge is expected to occur.
- The effect of snow blockage and storm surge on water surface elevations during flood peak discharges.
- Water surface elevations at the peak discharge of the 2-, 10-, 50-, 100- and 200-year floods.

A more detailed description of storm surge is presented in Appendix A. The methods used to compute water surface profiles is presented in Appendix B, and the calibration procedures are discussed in Appendix C. The water surface profile computations are presented in Appendix D, and the cross section survey data are presented in Appendix E. All of the elevations presented in this report are based on the British Petroleum mean sea level datum (BPMSL).

2.0 FISH CREEK

2.1 SITE DESCRIPTION

Fish Creek lies to the west of the Colville River delta, and flows northeast into Harrison Bay. It has a drainage area of approximately 1,827 square miles, of which 22 percent is covered with lakes. Both the headwaters and the mouth are located on the Arctic Coastal Plain. Fish Creek has a relatively low gradient and highly sinuous channel, with an average water surface slope of approximately 0.00012 feet/foot between River Mile 43.3 and the mouth. The channel banks and the bed consist of sand and silt sized material. Undercut stream banks and bank sloughing are common along the outside of meander bends.

2.2 FLOOD EVENTS

Flood-peak discharge estimates were made at River Miles 0.7, 11.7, 18.4, 25.1, 32.4, and 43.3 along Fish Creek (Figure 2). The estimates were based on regression equations developed from

historical data collected on the North Slope, and calibrated with the 2001 flood-peak discharge data collected on Fish Creek, Judy Creek, and the Ublutuoch River. The methods used to develop the regression equations are presented in the report titled “2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska” (URS, 2001). The flood-peak discharge estimates for Fish Creek are presented in Table 2.1.

Table 2.1 Flood-Peak Discharge On Fish Creek

River Mile	Drainage Area (mile ²)	Flood-Peak Discharge (cfs)				
		2-Year Return Period	10-Year Return Period	50-Year Return Period	100-Year Return Period	200-Year Return Period
0.7	1,827	16,884	30,993	45,099	51,116	57,545
11.7	1,537	14,265	26,418	38,702	43,995	49,683
18.4	1,507	13,994	25,941	38,033	43,249	48,857
25.1	1,461	13,577	25,209	37,003	42,101	47,587
32.4	783	7,391	14,166	21,306	24,499	28,005
43.3	769	7,262	13,932	20,969	24,119	27,578

A timing analysis was conducted for selected streams draining the Arctic Coastal Plain of the North Slope (URS, 2001). Based on that analysis, it is estimated that large, infrequent flood events on streams that drain primarily the Arctic Coastal Plain are much more likely to occur during the spring snowmelt than at any other time.

An analysis of the probable impact of storm surge on the peak water surface elevations in Fish Creek was also conducted (Appendix A). The analysis was based on historic storm surge data, and the timing analysis discussed above. Based on the analysis, it is estimated that storm surge will not significantly impact flood-peak water surface elevations because strong and sustained westerly winds are rare during spring breakup of rivers discharging into the Beaufort Sea.

Since the annual flood-peak discharge will probably occur during spring snowmelt, the possibility of snow-blockage in the Fish Creek channel was considered. At the time of the 2001 spring-peak discharge, the water surface elevations on Fish Creek at River Miles 25.1 and 32.4 were no longer being impacted by the presence of snow and ice in the channel (URS, 2001). However, it should be noted that during the spring of 2001 the peak water-surface elevation at River Mile 25.1 occurred prior to the peak discharge, and was 1.72 feet higher than the water surface elevation during the peak discharge (URS, 2001). At River Mile 32.4 the peak water surface elevation and discharge occurred at the same time (URS, 2001).

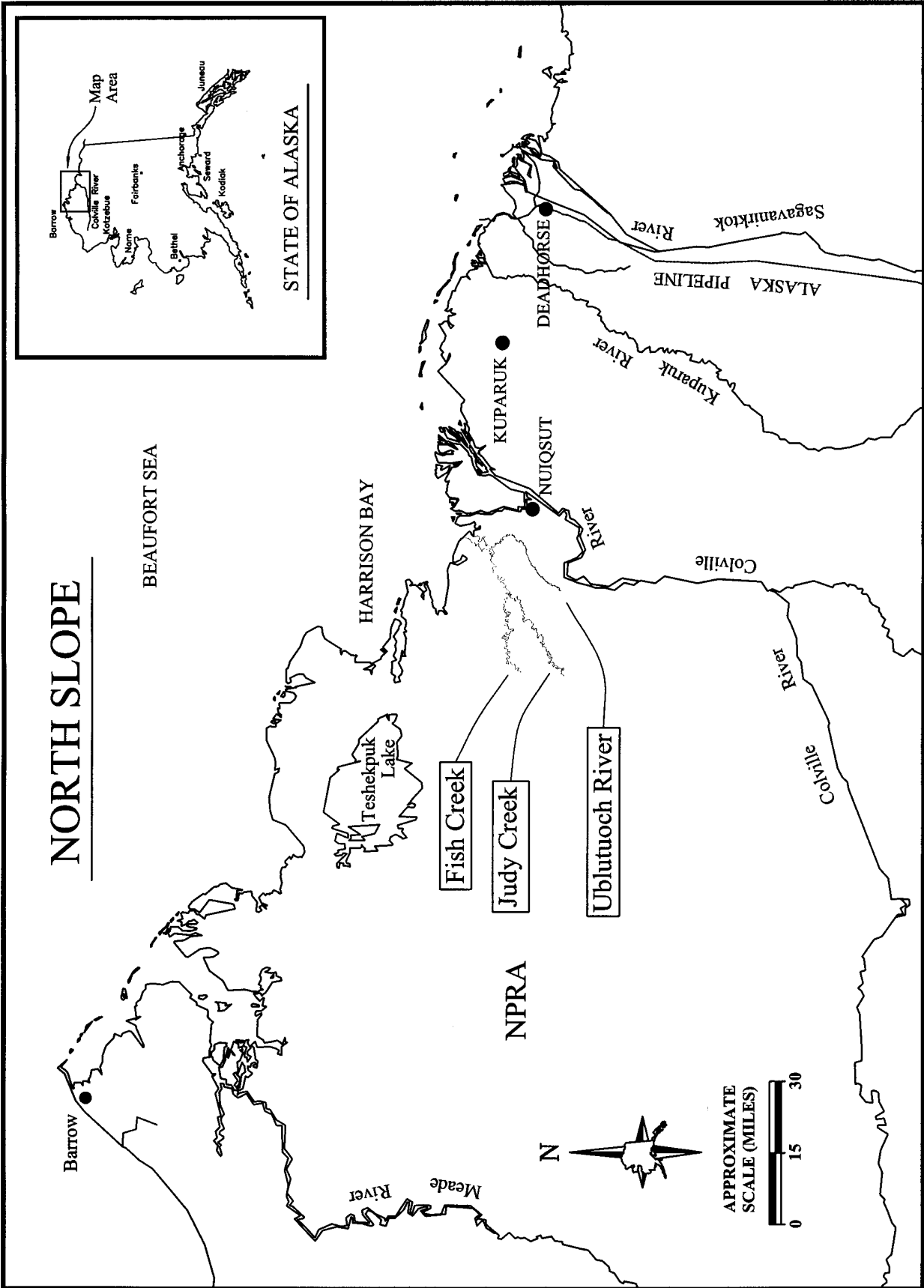
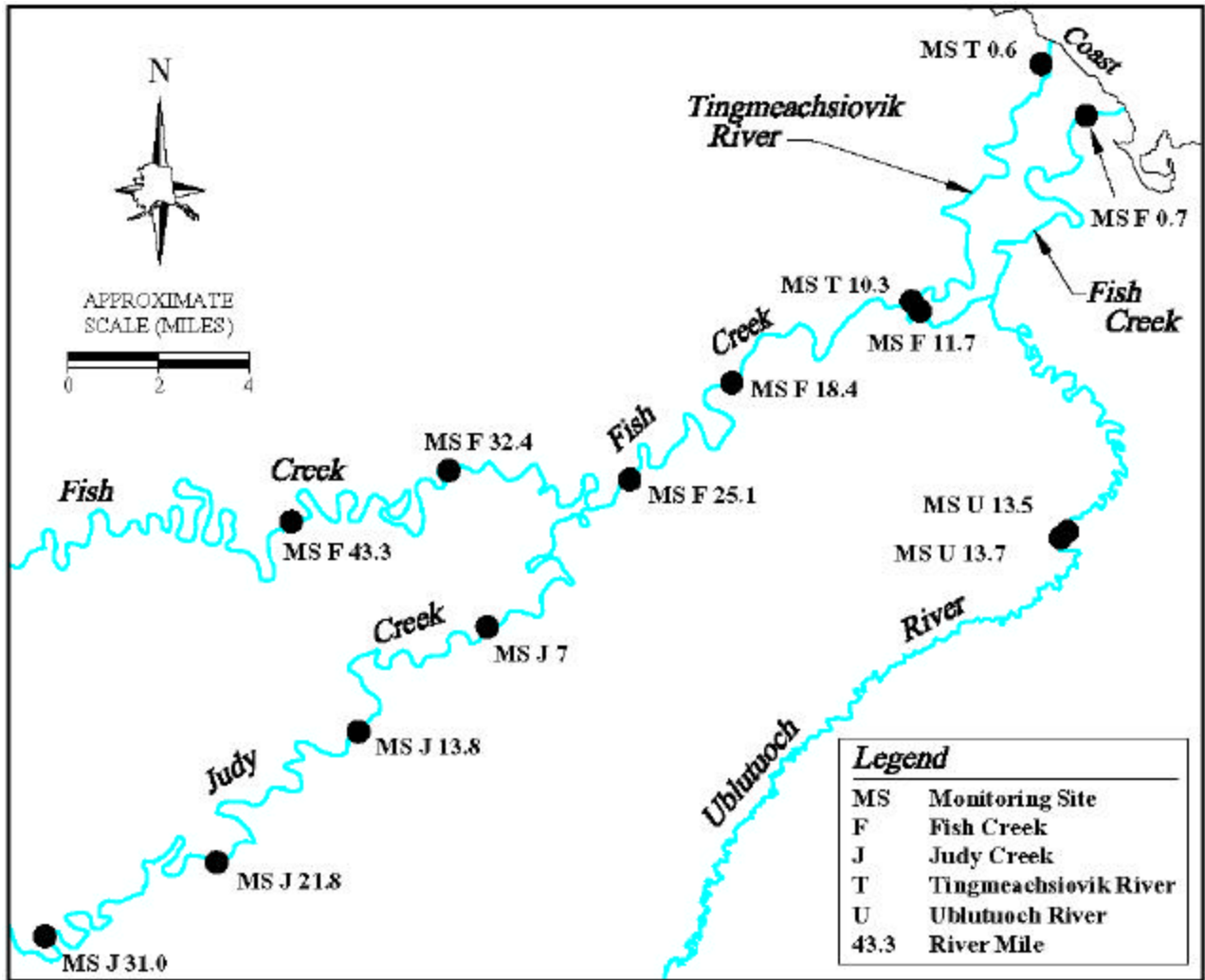


Figure 1: Site Location Map

Figure 2 Monitoring Site Locations



2.3 WATER SURFACE PROFILES

Water surface profiles were developed for the 2-, 10-, 50-, 100- and 200-year flood-peak discharges. The water surface profiles are based on the assumption that the channel is unaffected by snow and ice blockage. A summary of the results is presented in Table 2.2, and an estimate of the area inundated by the 100-year flood is presented in Figure 3. It should be noted that the extent of the inundation is based solely on 6 surveyed cross sections, no other topographic information was used, and the hydraulic computations. The U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) computer program was used to perform the computations, which are described in more detail in Appendices B, C and D.

When designing structures subject to flooding, the potential impact of snow and ice on water surface elevations should be considered. Based on our observations during the 2001 spring breakup (URS, 2001), it is suggested that the impact be addressed in the magnitude of the freeboard that is used in conjunction with the design water surface elevation. During the 2001 spring breakup, the peak water surface elevation at River Mile 25.1 was 1.72 feet higher than the water surface elevation at the peak discharge. At River Mile 32.4 the peak water surface elevation and discharge occurred at the same time.

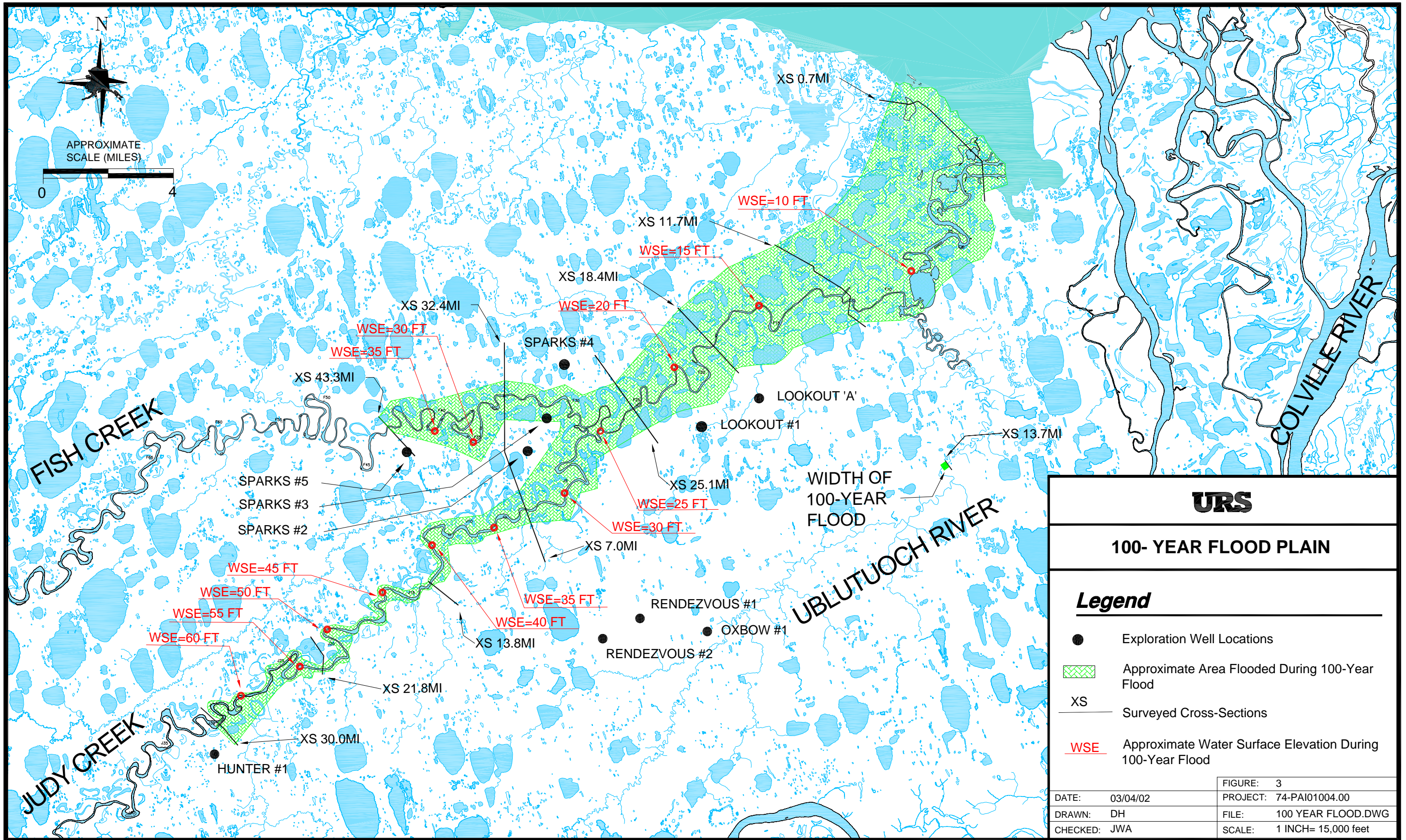
3.0 JUDY CREEK

3.1 SITE DESCRIPTION

Judy Creek is a tributary to Fish Creek. It enters Fish Creek approximately 26 miles upstream from the mouth of Fish Creek. It has a drainage area of approximately 666 square miles, 18 percent of which is covered by lakes. A portion of the Judy Creek headwaters is located in the foothills of the Brooks Range, while the remainder of the watershed is located on the Arctic Coastal Plain. Judy Creek has a relatively low gradient and highly sinuous channel, with an average water surface slope of approximately 0.00025 feet/foot between River Mile 31.0 on Judy Creek and River Mile 25.1 on Fish Creek. The channel banks and bed consist of sand and silt sized material. Undercut stream banks and bank sloughing are common along the outside of meander bends.

Table 2.2 Fish Creek Water Surface Elevations

2-Year Return Period					
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Average Velocity		
			Left Overbank	Channel	Right Overbank
0.7	16884	3.82	0.36	0.38	0.13
11.7	14265	10.29	0.40	1.89	0.19
18.4	13994	14.96	0.31	3.32	0.16
25.1	13577	20.18	0.16	3.84	0.28
32.4	7391	24.99	0.37	1.73	0.36
43.3	7262	33.70	-	2.39	0.26
10-Year Return Period					
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Average Velocity		
			Left Overbank	Channel	Right Overbank
0.7	30993	4.67	0.45	0.48	0.18
11.7	26418	11.38	0.67	1.76	0.32
18.4	25941	16.12	0.61	3.86	0.40
25.1	25209	21.94	0.40	4.37	0.53
32.4	14166	26.81	0.53	1.80	0.46
43.3	13932	36.86	0.54	2.94	0.71
50-Year Return Period					
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Average Velocity		
			Left Overbank	Channel	Right Overbank
0.7	45099	5.36	0.53	0.55	0.25
11.7	38702	12.13	0.81	1.79	0.38
18.4	38003	17.03	0.79	4.16	0.57
25.1	37003	23.00	0.62	4.48	0.77
32.4	21306	28.01	0.69	1.88	0.54
43.3	20969	38.51	0.83	3.17	0.96
100-Year Return Period					
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Average Velocity		
			Left Overbank	Channel	Right Overbank
0.7	51116	5.63	0.55	0.58	0.27
11.7	43995	12.42	0.85	1.81	0.40
18.4	43249	17.37	0.86	4.29	0.60
25.1	42101	23.45	0.67	4.53	0.82
32.4	24499	28.45	0.74	1.95	0.58
43.3	24119	39.09	0.91	3.30	1.05
200-Year Return Period					
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Average Velocity		
			Left Overbank	Channel	Right Overbank
0.7	57545	5.90	0.58	0.61	0.29
11.7	49683	12.69	0.90	1.82	0.42
18.4	48857	17.70	0.92	4.38	0.65
25.1	47587	23.87	0.73	4.61	0.87
32.4	28005	28.88	0.79	2.02	0.62
43.3	27578	39.63	1.01	3.43	1.12



URS

100- YEAR FLOOD PLAIN

Legend

- Exploration Well Locations
- ▨ Approximate Area Flooded During 100-Year Flood
- XS Surveyed Cross-Sections
- WSE Approximate Water Surface Elevation During 100-Year Flood

DATE: 03/04/02	FIGURE: 3
DRAWN: DH	PROJECT: 74-PAI01004.00
CHECKED: JWA	FILE: 100 YEAR FLOOD.DWG
	SCALE: 1 INCH= 15,000 feet

3.2 FLOOD EVENTS

Flood-peak discharge estimates were made at River Miles 7, 13.8, 21.8, and 31.0 along Judy Creek (Figure 2). The estimates were based on regression equations developed from historical data collected on the North Slope, and calibrated with the 2001 flood-peak discharge data collected on Fish Creek, Judy Creek and the Ublutuoch River. The methods used to develop the regression equations are presented in the report titled “2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska” (URS, 2001). The flood-peak discharge estimates for Judy Creek are presented in Table 3.1.

Table 3.1 Flood Peak Discharge On Judy Creek

River Mile	Drainage Area (mile ²)	Flood-Peak Discharge (cfs)				
		2-Year Return Period	10-Year Return Period	50-Year Return Period	100-Year Return Period	200-Year Return Period
7.0	647	6136	11876	17996	20760	23812
13.8	593	5636	10958	16660	19248	22112
21.8	545	5191	10135	15461	17888	20581
31.0	495	4726	9273	14199	16455	18965

A timing analysis was conducted for selected streams draining the Arctic Coastal Plain of the North Slope (URS, 2001). Based on that analysis, it is estimated that large, infrequent flood events on streams that drain primarily the Arctic Coastal Plain are much more likely to occur during the spring snowmelt than at any other time.

An analysis of the probable impact of storm surge on the peak water surface elevations in Judy Creek was also conducted (Appendix A). The analysis was based on historic storm surge data, and the timing analysis discussed above. Based on the analysis, it is estimated that storm surge will not significantly impact flood-peak water surface elevations because strong and sustained westerly winds are rare during spring breakup of rivers discharging into the Beaufort Sea.

Since the annual flood-peak discharge will probably occur during spring snowmelt, the possibility of snow-blockage in the Judy Creek channel was considered. At River Mile 7 the 2001 spring peak water surface elevation and discharge occurred at the same time, and the water surface elevation was estimated to 0.1 feet higher than it would have been during open water conditions (URS, 2001).

3.3 WATER SURFACE PROFILES

Water surface profiles were developed for the 2-, 10-, 50-, 100- and 200-year flood-peak discharges. The water surface profiles are based on the assumption that the channel is unaffected

by snow and ice blockage. A summary of the results is presented in Table 3.2, and an estimate of the area inundated by the 100-year flood is presented in Figure 3. It should be noted that the extent of the inundation is based solely on 4 surveyed cross sections, no other topographic information was used, and the hydraulic computations. The U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) computer program was used to perform the computations, which are described in more detail in Appendices B, C and D.

When designing structures subject to flooding, the potential impact of snow and ice on water surface elevations should be considered. Based on our observations during the 2001 spring breakup (URS, 2001), it is suggested that the impact be addressed in the magnitude of the freeboard that is used in conjunction with the design water surface elevation. At River Mile 7 the 2001 spring peak water surface elevation and discharge occurred at the same time, and the water surface elevation was estimated to be 0.1 feet higher than it would have been during open water conditions (URS, 2001).

Table 3.2 Judy Creek Water Surface Elevations

2-Year Return Period					
			Average Velocity		
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Left Overbank	Channel	Right Overbank
7	6136	27.73	0.18	3.42	0.39
13.8	5636	36.11	0.20	3.64	0.10
21.8	5191	46.80	-	3.95	-
31.0	4726	60.84	-	4.36	-
10-Year Return Period					
			Average Velocity		
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Left Overbank	Channel	Right Overbank
7	11876	30.14	0.70	3.60	0.95
13.8	10958	39.11	0.69	4.60	0.59
21.8	10135	49.49	-	4.94	-
31.0	9273	62.61	-	5.35	-
50-Year Return Period					
			Average Velocity		
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Left Overbank	Channel	Right Overbank
7	17996	31.28	0.79	3.50	1.27
13.8	16660	41.44	0.99	5.45	0.81
21.8	15461	51.62	0.24	5.75	0.28
31.0	14199	64.13	-	5.99	0.45
100-Year Return Period					
			Average Velocity		
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Left Overbank	Channel	Right Overbank
7	20760	31.64	0.85	3.50	1.37
13.8	19248	42.26	0.93	5.80	0.64
21.8	17888	52.46	0.33	6.06	0.37
31.0	16455	64.77	-	6.08	0.53

Table 3.2 Judy Creek Water Surface Elevations (Cont.)

200-Year Return Period					
River Mile	Discharge (cfs)	Water Surface Elevation (feet)	Average Velocity		
			Left Overbank	Channel	Right Overbank
7	23812	31.99	0.91	3.50	1.47
13.8	22112	43.06	1.02	6.14	0.69
21.8	20581	53.33	0.41	6.37	0.47
31.0	18965	65.40	-	6.13	0.62

4.0 UBLUTUOCH RIVER

4.1 SITE DESCRIPTION

The Ublutuoch River is a tributary of Fish Creek. It enters Fish Creek approximately 10 miles upstream from the mouth of the main channel. It has a drainage area of approximately 248 square miles, 15 percent of which is covered by lakes. Both the headwaters and the mouth are located on the Arctic Coastal Plain. The Ublutuoch River has a relatively low gradient and a sinuous channel. The channel is incised within relatively steep upper banks that are vegetated with dense brush. The lower portion of the channel has a relatively flat bench, located approximately 10 to 15 feet below the top of the upper banks. A 2- to 3-foot deep by 15- to 20-foot wide low-water channel is located in the bottom of the otherwise vegetated channel. The low-water channel has a riverbed composed of gravel and sand sized material. Bank undercutting and sloughing were not observed within the monitored section of the channel (URS, 2001).

4.2 FLOOD EVENTS

Flood-peak discharge estimates were made at River Mile 13.7 on the Ublutuoch River (Figure 2). The estimates were based on regression equations developed from historical data collected on the North Slope, and calibrated with the 2001 flood-peak discharge data collected on Fish Creek, Judy Creek, and the Ublutuoch River. The methods used to develop the regression equations are presented in the report titled ‘2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska’ (URS, 2001). The flood-peak discharge estimates for the Ublutuoch River are presented in Table 4.1.

Table 4.1 Flood-Peak Discharge On the Ublutuoch River

River Mile	Drainage Area (mile ²)	Flood-Peak Discharge (cfs)				
		2-Year Return Period	10-Year Return Period	50-Year Return Period	100-Year Return Period	200-Year Return Period
13.7	222	2,163	4,421	6,983	8,204	9,593

A timing analysis was conducted for selected streams draining the Arctic Coastal Plain of the North Slope (URS, 2001). Based on that analysis, it is estimated that large, infrequent flood events on streams that drainage primarily the Arctic Coastal Plain are much more likely to occur during the spring snowmelt than at any other time.

An analysis of the probable impact of storm surge on the peak water surface elevations in the Ublutuoch River was also conducted (Appendix A). The analysis was based on historic storm surge data, and the timing analysis discussed above. Based on the analysis, it is estimated that storm surge will not significantly impact flood-peak water surface elevations because strong and sustained westerly winds are rare during spring breakup of rivers discharging into the Beaufort Sea.

Since the annual flood-peak discharge will probably occur during spring snowmelt, the possibility of snow-blockage in the Ublutuoch River channel was considered. At River Mile 13.7 the 2001 spring peak water surface elevation and discharge occurred at the same time. Although the snow and ice caused the flow cross section to be considerably smaller and higher than it would have been during open-water conditions, the computations presented in the following section of this report suggest that the water surface elevation may have been lower than it would have been during open-water conditions. The reason for this is apparently the decrease in hydraulic roughness associated with the channel formed in the wind blown snow.

4.3 WATER SURFACE ELEVATIONS

Normal depth computations were used to calculate the water surface elevation at River Mile 13.7 during the 2-, 10-, 50-, 100- and 200-year flood-peak discharges. To determine the possible impact of snow and ice on the water surface elevation, two conditions were evaluated: one with the channel partially obstructed by snow and ice (as observed in 2001), and the other with the channel free of snow and ice. A summary of the results is presented in Table 4.2, and an estimate of the area inundated by the 100-year flood is presented in Figure 3. It should be noted that the extent of the inundation is based solely on 1 surveyed cross section, and normal depth computations. The U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) computer program was used to perform the normal depth computations, which are described in more detail in Appendices B, C, and D.

The results of the analysis indicate that when the Ublutuoch River is flowing in a channel carved in the wind blown snow, as occurred during the 2001 spring breakup, the water surface elevation may be about the same as during open-water conditions. The reason for this is apparently the decrease in hydraulic roughness associated with the channel formed in the wind blown snow. Although the open-water channel is considerably deeper, the banks are lined with thick willows. When the channel is partially full of snow, the hydraulic roughness of the snow channel is less than the hydraulic roughness of the willow-lined channel. It should be noted that the energy

APPENDIX A

**POTENTIAL EFFECT OF STORM SURGE ON NPRA RIVER WATER
SURFACE ELEVATIONS**

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
A.1	INTRODUCTION.....	1
A.2	DEFINITIONS AND CONDITIONS.....	1
A.3	STORM SURGE ALONG THE BEAUFORT SEA COAST	1
A.4	SUMMARY	2
A.5	REFERENCES.....	2

A.1 INTRODUCTION

Forecasting the stage and discharge of rivers discharging to the Beaufort Sea is an essential aspect of developing engineering design criteria for bridges and other structures that will be placed near these rivers. Of particular concern is the potential effect of sea level rise (storm surge) that accompanies strong winds associated with storms. Generally, the highest flows in these rivers occur at spring breakup, so the problem is to determine the effect, if any, that a simultaneous storm surge would have on estimates of river stage and discharge, due to sea level rise at the river mouth.

A.2 DEFINITIONS AND CONDITIONS

Storm “surge” is the term usually applied to the rise or fall of sea level that occurs in response to strong winds. Sea level rises when wind stress on the water surface results in the transport of water toward shore; conversely, sea level falls when water is transported away from shore. There are two components of surface water transport that result from wind. One is the onshore/offshore transport, which results from the component of wind stress perpendicular to the shoreline; that is, an onshore wind transports surface water toward shore, while an offshore wind transports surface water away from shore.

Surface water transport is also driven by the wind stress component that is parallel to the shoreline. This is called the Ekman effect (see, e.g. Neumann & Pierson, 1966) and is due to Coriolis acceleration, an earth-rotation effect that causes sea water to be transported to the right of the wind in the northern hemisphere. Consequently, if the wind is directed toward shore or if the shoreline is on the right of the wind, a positive surge results and sea level is temporarily raised. If the wind is directed offshore or if the shoreline is on the left of the wind, then sea level is temporarily lowered. In both cases, the magnitude of sea level change is a function of both wind speed and wind direction.

A.3 STORM SURGE ALONG THE BEAUFORT SEA COAST

The orientation of the Beaufort Sea coast from Point Barrow to Harrison Bay is essentially west-northwest to east-southeast. Winds are mostly aligned with this coastline, with easterlies occurring about twice as frequently as westerlies (Kozo, 1984). Several environmental monitoring programs, conducted from 1981 through 1990 have shown that, while there can be considerable inter-annual variability, the overall directional distribution of winds during the summer months (June to September) is about 60 percent easterlies (NE to ESE), 30 percent westerlies (WSW to NW), and 10 percent calm or transitional periods between the dominating weather patterns.

Along the Beaufort Sea coast of northern Alaska, autumn is the season during which the strongest winds and largest storm surges have historically occurred (Wise et al., 1981). Fall

storms with winds blowing from WNW or NW along the Beaufort coast have produced surges as high as 12 ft at Barrow (October 1970). According to a frequency analysis of more than 20 surge events along the Beaufort coast, the 100-yr surge has a height of more than 10 ft (Wise et al., 1981); however, it is notable that none of the surges included in this analysis occurred earlier than mid-August.

During spring breakup and early summer, strong winds are relatively rare occurrences along the Beaufort coast. An analysis of 17 years (1971 through 1987) of wind speed and direction measurements (11,526 observations) at Deadhorse Airport during the month of June showed that westerlies accounted for less than 15 percent of all observations and less than one percent of those had speeds exceeding 25 knots (Hummer, 1991). If we disregard the fact that it is based on fall storms only, the frequency curve developed by Wise et al. (1981) indicates that the surge to be expected from a 25-knot wind is 6 ft.

There have been several proprietary "hindcast" analyses of storm surge in Beaufort coastal areas for the purpose of developing design criteria for man-made gravel islands and coastal facilities. These have yielded similar results, probably because they have been based on virtually the same population of westerly (fall) storms. For most of these, the 100-year storm surge has been estimated to be about 6 ft.

A.4 SUMMARY

Because strong and sustained westerly winds are rare during spring breakup of rivers discharging into the Beaufort Sea, the probability of a storm surge occurring then is very low. That conclusion notwithstanding, frequency analyses of observed storm surges and hindcast analyses of strongest westerly storms all lead to the estimate of 6 ft as the 100-year storm surge. However, we emphasize that the latter estimate has its origin in surges resulting from storms that occurred only the months of August through October. There are no recorded observations of strong westerly storms during the months of May and June, when the spring breakup occurs.

A.5 REFERENCES

- Hummer, P. 1991. *Meteorology in 1987 Endicott Environmental Monitoring Program, Final Report. Volume 3.* U. S. Army Corps of Engineers Alaska District, Anchorage.
- Kozo, T. L. 1984. *in The Alaskan Beaufort Sea*, Barnes, P. W., Schell, D. M., & Reimnitz, E., Academic Press, Inc. New York, 466 p.
- Neumann, G. and Pierson, W. J. Jr. 1966. *Principles of Physical Oceanography.* Prentice-Hall, Inc. Englewood Cliffs, N. J. 545 p.

Wise, J. L., Comiskey, A.L., and Becker, R. Jr. 1981. Storm Surge Climatology and Forecasting in Alaska. Arctic Environmental Information and Data Center, University of Alaska Anchorage. 26 p. + app.

grade line slope was assumed to be the same during both the snow-impacted and open-water conditions, and was equal to the water surface slope measured during the 2001 spring peak discharge. It is possible that the water surface slope during open-water conditions is actually steeper, in which case the water surface elevation during open water conditions might be less than that during snow-impacted conditions. Based on these computations, it is suggested that both snow-impacted and open-water conditions be considered when selecting the magnitude of the freeboard to be used in conjunction with the design water surface elevation at structures subject to flooding.

Table 4.2 Ublutuoch RM 13.7 Normal Depth Calculation Summary

	2-Year Return Period	10-Year Return Period	50-Year Return Period	100-Year Return Period	200-Year Return Period
Discharge (cfs)	2,163	4,421	6,983	8,204	9,593
Snow and Ice Affected Condition					
Water Surface Elevation (ft BPMSL)	18.10	19.76	20.70	21.08	21.49
Velocity (fps)					
Left Overbank	-	0.63	1.14	1.29	1.40
Channel	4.36	5.24	5.83	6.07	6.30
Right Overbank	-	0.54	0.97	1.10	1.25
Snow and Ice-Free Condition					
Water Surface Elevation (ft BPMSL)	18.87	20.50	21.31	21.52	22.01
Velocity (fps)					
Left Overbank	0.31	0.86	1.38	1.44	1.57
Channel	1.91	2.16	2.64	3.13	3.22
Right Overbank	0.27	0.88	1.20	1.28	1.39

5.0 REFERENCES

URS Corporation. 2001. 2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska. Prepared for Phillips Alaska, Inc., Anchorage Alaska.

APPENDIX B

WATER SURFACE PROFILE COMPUTATIONS

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
B.1	FISH AND JUDY CREEKS	1
B.1.1	CROSS SECTIONS	1
B.1.2	DISCHARGE	1
B.1.3	HYDRAULIC ROUGHNESS	3
B.1.3	BOUNDARY CONDITIONS	4
B.2	UBLUTUOCH RIVER	4
B.2.1	CROSS SECTIONS	4
B.2.1.1	Snow and Ice Affected Cross Section	4
B.2.1.2	Snow and Ice-Free Cross Section	7
B.2.2	HYDRAULIC ROUGHNESS	8
B.2.3	BOUNDARY CONDITIONS	9
B.3	REFERENCES	9

LIST OF TABLES

	<u>Page</u>
Table B.1	Flood-Peak Discharge Estimates on Fish and Judy Creek..... B-2
Table B.2	Floodplain Hydraulic Roughness
Table B.3	Putuligayuk River Flood Peak Timing..... B-6

LIST OF FIGURES

	<u>Page</u>
Figure B.1	Effect of Snow and Ice at Cross Section 13.7
Figure B.2	Representative Snow and Ice Affected Cross Section
Figure B.3	Representative Snow and Ice-Free Cross Section

B.1 FISH AND JUDY CREEKS

Water surface profiles were developed, utilizing the U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) model, for the 2-, 10-, 50-, 100- and 200-year flood peak discharges. The computations assume that the channel is free of snow and ice blockage.

B.1.1 CROSS SECTIONS

Cross sections were surveyed by Lounsbury & Associates on Fish Creek at River Miles 0.7, 11.7, 18.4, 25.1, 32.4, and 43.3, and on Judy Creek at River Miles 7.0, 13.8, 21.8, and 31.0. Due to the cost of obtaining the cross sections, a minimum number of cross sections were surveyed. Initial attempts at modeling Fish Creek and Judy Creek indicated that the change in velocity head was considerably greater than desirable, between cross sections. Thus, to develop water surface profiles that would be as reliable as possible, given the minimal survey data, additional cross sections were interpolated between the surveyed cross sections.

Initially, cross sections were interpolated at River Miles 12.6, 26.09, and 26.85 on Fish Creek, and at River Mile 0.38 on Judy Creek. These four cross sections were established to provide more representative channel and flood plain conditions immediately above and below the confluence of Fish and Judy Creek, and above River Mile 11.7 on Fish Creek where the Tingmeachsiovik River (a distributary of Fish Creek) originates. Because of the special circumstances at these locations, these cross sections were interpolated manually. HEC-RAS was then used to interpolate additional cross sections along Fish Creek at a maximum distance of 5,000 feet between cross sections, and on Judy Creek at a maximum distance of 2,500 feet between cross sections.

No flowing water was observed outside of the main channels during the 2001 spring breakup. Therefore, anywhere the floodplain was below the 2001 spring peak water surface elevation, it was assumed to be ineffective in passing flow, and was treated as such in the HEC-RAS model.

B.1.2 DISCHARGE

Flood-peak discharge estimates were made at River Miles 0.7, 11.7, 18.4, 25.1, 26.09, 26.85, 32.4, and 43.3 on Fish Creek, and at River Miles 0.38, 7.0, 13.8, 21.8, and 31.0 on Judy Creek. The estimates were based on regression equations developed from historical data collected on the North Slope, and calibrated with the 2001 flood peak discharge data collected on Fish Creek, Judy Creek, and the Ublutuoch River. The methods used to develop the regression equations are presented in the report titled "*2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska*" (URS, 2001). The flood-peak discharge estimates for Fish Creek and Judy Creek are presented in Table B.1.

Table B.1 Flood-Peak Discharge Estimates On Fish and Judy Creek

River Mile	Drainage Area (mile ²)	Flood-Peak Discharge (cfs)				
		2-Year Return Period	10-Year Return Period	50-Year Return Period	100-Year Return Period	200-Year Return Period
Fish Creek						
0.7	1,827	16,884	30,993	45,099	51,116	57,545
11.7	1,537	14,265	26,418	38,702	43,995	49,683
18.4	1,507	13,994	25,941	38,033	43,249	48,857
25.1	1,461	13,577	25,209	37,003	42,101	47,587
26.09	1,459	13,559	25,177	36,959	42,051	47,531
26.85	794	7,492	14,350	21,571	24,798	28,339
32.4	783	7,391	14,166	21,306	24,499	28,005
43.3	769	7,262	13,932	20,969	24,119	27,578
Judy Creek						
0.38	666	6,312	12,198	18,463	21,289	24,405
7.0	647	6,136	11,876	17,996	20,760	23,812
13.8	593	5,636	10,958	16,660	19,248	22,112
21.8	545	5,191	10,135	15,461	17,888	20,581
31.0	495	4,726	9,273	14,199	16,455	18,965

The flood peak discharge estimates presented in Table B.1 were calculated using the following equations:

$$Q_2 = 11.15(\text{Drainage Area})^{0.975}$$

$$Q_{10} = 30.02(\text{Drainage Area})^{0.924}$$

$$Q_{50} = 58.55(\text{Drainage Area})^{0.885}$$

$$Q_{100} = 75.40(\text{Drainage Area})^{0.868}$$

$$Q_{200} = 97.17(\text{Drainage Area})^{0.850}$$

where Q_T denotes flood peak discharge in cubic feet per second (cfs), for the T-year event, and *Drainage Area* denotes drainage basin area in square miles. Thus, for each floods modeled in HEC-RAS, the discharge was changed at each of the above referenced cross-sections.

B.1.3 HYDRAULIC ROUGHNESS

In general, the channel has a sandy, mobile riverbed, and vegetated banks. The hydraulic roughness associated with the vegetated banks was estimated based on the type and density of the vegetation noted in the Lounsbury survey data (Appendix E), and the depth of water at the vegetation (Table B.2). The sandy, mobile riverbed was originally assigned values between 0.020 and 0.027. The model was then calibrated to water surface elevations measured on 11 and 13 June 2001. These dates represent the start of open-channel flow conditions on Judy and Fish Creek, respectively. During calibration of the model, the hydraulic roughness of the vegetation was adjusted based on the depth of water at the vegetation. The riverbed roughness values were then adjusted to make the predicted water surface elevation match the measured water surface elevation. At cross sections where more than one roughness value existed within the channel, a composite hydraulic roughness was calculated by HEC-RAS.

The hydraulic roughness in the floodplains was based on the type and density of vegetation noted in the Lounsbury survey data (Appendix E), and the depth of water at the vegetation. A summary of the values of hydraulic roughness used to describe the vegetation is presented in Table B.2.

Table B.2 Floodplain Hydraulic Roughness

Description	Value
Dense Willows, Spring	
Water Depth 0 to 1 Times Willow Height	0.150
Water Depth 1 to 2 Times Willow Height	0.110
Water Depth 2 to 3 Times Willow Height	0.080
Water Depth >3 Times Willow Height	0.055
Sparse Willows, Spring	
Water Depth 0 to 1 Times Willow Height	0.110
Water Depth 1 to 2 Times Willow Height	0.090
Water Depth 2 to 3 Times Willow Height	0.070
Water Depth >3 Times Willow Height	0.050
Grass 6-10 Inches high – Fair Condition	
Velocity x Hydraulic Radius = 1	0.058
Velocity x Hydraulic Radius = 2	0.045
Velocity x Hydraulic Radius = 3	0.040
Velocity x Hydraulic Radius = 4	0.038
Velocity x Hydraulic Radius = 5	0.037
Velocity x Hydraulic Radius = 6	0.036
Velocity x Hydraulic Radius = 7	0.035
Velocity x Hydraulic Radius = 8	0.034
Velocity x Hydraulic Radius = 9	0.033
Velocity x Hydraulic Radius = 10	0.032
Velocity x Hydraulic Radius = 13	0.031
Velocity x Hydraulic Radius = 18	0.030
Velocity x Hydraulic Radius > 20	0.029

B.1.4 BOUNDARY CONDITIONS

A normal depth computation and the water surface slope on 13 June 2001, between Fish Creek River Mile 11.7 and 0.7, was used to establish the downstream boundary condition for the HEC-RAS model. Based on the data collected on 13 June (URS, 2001), the water surface slope used in the model is 0.000075 feet/foot.

B.2 UBLUTUOCH RIVER

Normal depth computations were used to estimate the water surface elevation at River Mile 13.7 for the 2-, 10-, 50-, 100-, and 200-year flood peak discharges. This method was used because insufficient cross sectional data are available to compute water surface profiles. The calculations cover two conditions: the first includes the effect of snow and ice, and the second assumes that the channel is free of snow and ice blockage. The U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) computer program was used to perform the normal depth computations.

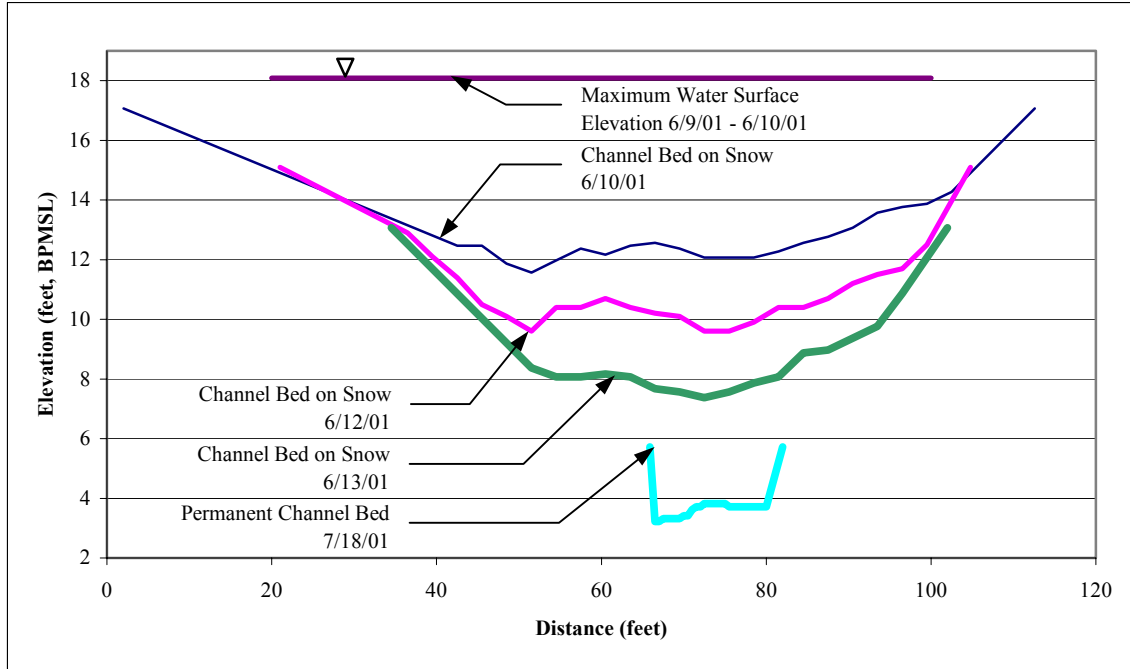
B.2.1 CROSS SECTIONS

Two cross sections were developed at River Mile 13.7. The first reflects the snow and ice affected condition, and the second reflects the snow and ice-free condition.

B.2.1.1 Snow and Ice Affected Cross Section

The 2001 monitoring observations (URS, 2001) were used to estimate the potential snow and ice blockage that may occur during the 10-, 50-, 100- and 200-year flood events. At the beginning of the 2001 breakup, the channel was entirely blocked by snow and ice at River Mile 13.7. From the start of flow until the end of June, the water gradually cut through the snow and ice until it reached the permanent channel bed (Figure B.1). Thus, if a long period of time elapses from the beginning of flow until the time of the peak discharge, it is probable that less snow and ice will be present in the channel when the peak discharge occurs. If flood events larger than the 2-year flood event take longer to reach their peak discharges, we could expect less snow and ice in the channel.

Figure B.1 Effect of Snow and Ice at Cross Section 13.7



In order to estimate the possible snow and ice blockage for flood events larger than the 2-year flood, an analysis of the Putuligayuk River was performed to determine if a relationship exists between the magnitude of the peak discharge and the time required for the peak discharge to occur. The Putuligayuk River was chosen for this analysis since it has basin characteristics similar to the Ublutuoch River. The results of the analysis are shown in Table B.3. Since the results do not show that the elapsed time increases with increasing discharge, the amount of snow and ice that was observed during the 2001 peak discharge was chosen to be representative of all of the flood events for the snow and ice affected condition.

A hydraulically representative cross section was used for the hydraulic computations. It is presented in Figure B.2, and was developed using the 10 June discharge measurement cross-section and the Lounsbury survey data (Appendix E). The discharge measurement observations (URS, 2001) note that there are low areas in the floodplains that do not convey flow. Additionally, no evidence of flow outside the main channel was observed immediately after the 2001 peak water surface elevation had passed. Thus, any portion of the floodplain that has an elevation less than the elevation of the 2001 peak water surface elevation was considered an ineffective flow area in the model (i.e. blocked obstruction).

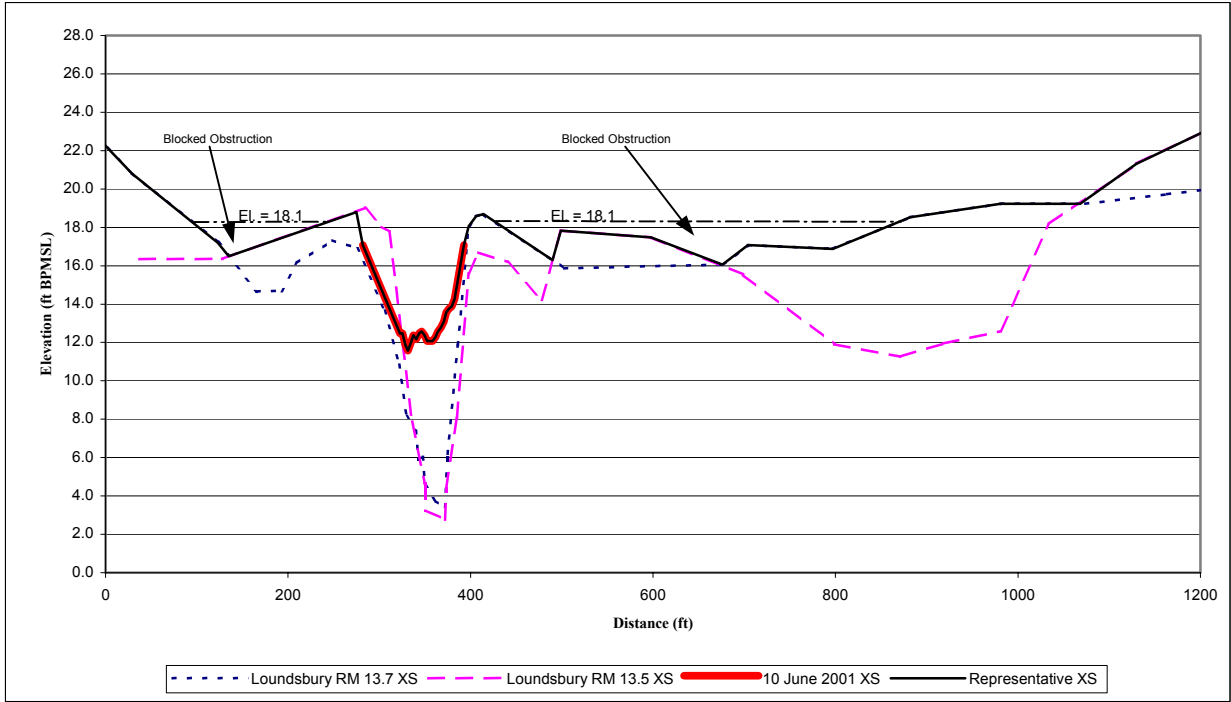
Table B.3 Putuligayuk River Flood Peak Timing

Year	Start of Flow Date	Peak Discharge Date	Days of Flow Until Peak Occurred	Peak Discharge (cfs)
1979	15-May	31-May	16	1100
1984	26-May	10-Jun	15	1640
1977	6-Jun	10-Jun	4	1800
1970	29-May	7-Jun	9	1900
1975	7-Jun	14-Jun	7	2000
1974	29-May	10-Jun	12	2000
1982	31-May	14-Jun	14	2290
1985	21-May	2-Jun	12	2880
1976	6-Jun	17-Jun	11	3130
1983	25-May	5-Jun	11	3130
1973	30-May	9-Jun	10	4000
1972	9-Jun	13-Jun	4	4500
1978	4-Jun	11-Jun	7	4630
1971	27-May	6-Jun	10	4980
1986	30-May	17-Jun	18	5440

Notes:

1. Flow record from USGS Station 15896700, Putuligayuk River Near Deadhorse.
2. The start of flow date was determined from the mean daily discharge record.
3. Peak discharge dates and magnitudes were determined from the maximum annual instantaneous peak discharge record.

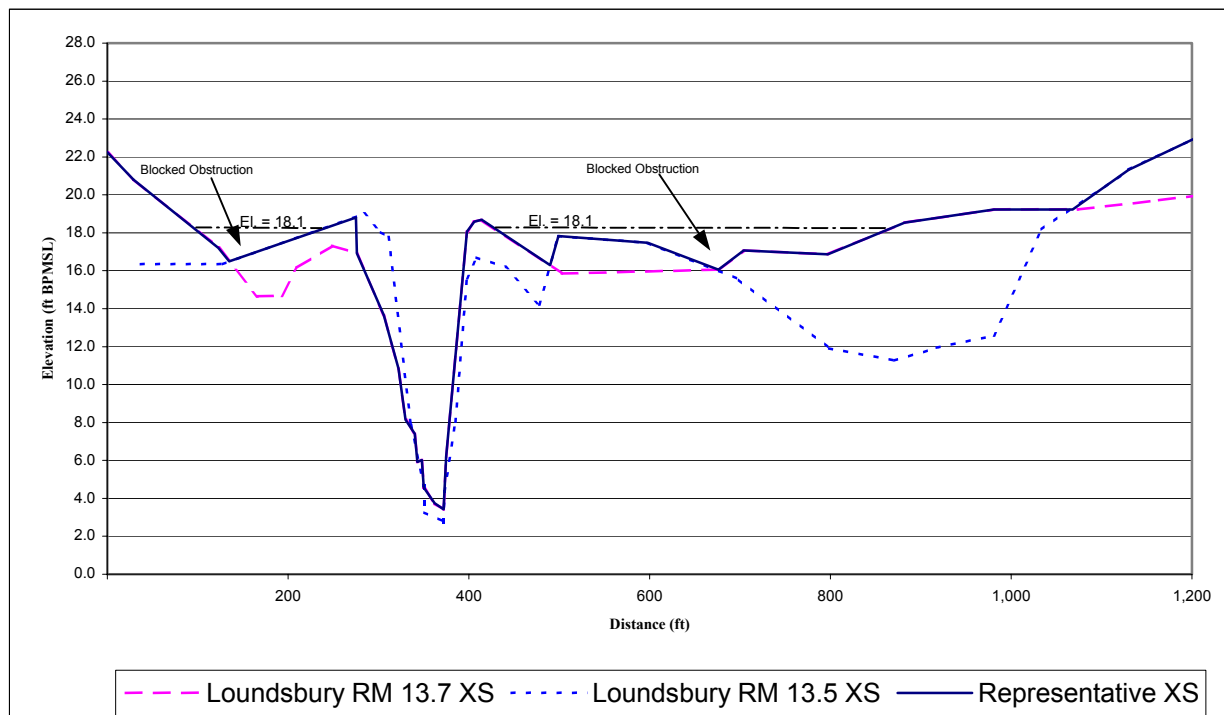
Figure B.2 Representative Snow and Ice Affected Cross Section



B.2.1.2 Snow and Ice-Free Cross Section

While it is most probable that large flood events will occur when the channel is partially blocked with snow and ice, there is a possibility that this may not be the case. Thus, a hydraulically representative cross section was developed using the Loundsbury survey data for the snow and ice-free condition (Figure B.3). Field observations note that there are low areas in the floodplains that do not convey flow. Thus, any portion of the floodplain that has an elevation less than the elevation of the 2001 peak water surface elevation was considered an ineffective flow area in the model (i.e. blocked-obstruction).

Figure B.3 Representative Snow and Ice-Free Cross Section



B.2.2 HYDRAULIC ROUGHNESS

The method of determining the hydraulic roughness for the floodplains was the same for both the snow and ice affected condition and the snow and ice-free condition. The vegetation types noted in the Loundsbury survey data (Appendix E) were assigned to the corresponding portions of the cross section. From this, a composite hydraulic roughness was developed for each of the floodplains by considering the vegetation descriptions and the depth of flow (Table B.2).

For the snow and ice affected condition, the hydraulic roughness of the channel was back-calculated from the 10 June discharge measurement information, and was determined to be about 0.019 (URS, 2001). For the snow and ice-free condition, the channel roughness was developed by first considering the vegetation types noted in the Loundsbury survey data and assigning the corresponding roughness values. Next, a roughness of 0.025 was chosen for the gravel channel bottom. A composite hydraulic roughness was calculated for the channel by HEC-RAS using the wetted perimeter associated with each roughness sub-area.

B.2.3 BOUNDARY CONDITIONS

The water surface slope associated with the 2001 peak discharge was used as the energy grade line slope for the normal depth calculations. This slope, 0.000477 feet/foot, is considered to be the best available estimate for the energy grade line slope at this time.

B.3 REFERENCES

URS Corporation. 2001. 2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska. Prepared for Phillips Alaska, Inc., Anchorage Alaska.

APPENDIX C

WATER SURFACE PROFILE CALIBRATION

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
C.1	FISH AND JUDY CREEKS.....	1
C.1.1	CALIBRATION.....	1
C.1.2	SENSITIVITY ANALYSIS.....	3
C.2	UBLUTUOCH RIVER.....	4
C.3	REFERENCES.....	5

LIST OF TABLES

	<u>Page</u>
Table C.1	11 June 2001 Calibration.....C-2
Table C.2	13 June 2001 Calibration.....C-3
Table C.3	Sensitivity Analysis.....C-4

HEC-RAS CALIBRATION REPORTS

	<u>Page</u>
HEC-RAS Calibration Report, Fish and Judy Creeks, 11 June Data.....	C-6
HEC-RAS Calibration Report, Fish and Judy Creeks, 13 June Data.....	C-26

C.1 FISH AND JUDY CREEKS

C.1.1 CALIBRATION

Based on the results of the 2001 Hydrologic Assessment (URS, 2001), it was determined that Judy and Fish Creek did not reach open channel flow conditions at the same time. Judy Creek reached open channel flow conditions on 11 June 2001, and Fish Creek reached open channel flow conditions on 13 June 2001. Therefore, a HEC-RAS model was developed for each date.

The discharge used in the models was varied along the channels. Specifically, the discharge was changed at River Mile 0.7, 11.7, 18.4, 25.1, 26.09, 26.85, 32.4, and 43.3 on Fish Creek and at River Mile 0.38, 7.0, 13.8, 21.8 and 31.0 on Judy Creek.

On 11 June 2001 the discharge was measured at River Miles 25.1 and 32.4 on Fish Creek. The discharge was computed at River Mile 7.0 on Judy Creek using the following equation:

$$Q=C(A)^{0.975}$$

Where Q is the discharge in cubic feet per second (cfs), C is a constant, and A is the drainage area in square miles. The coefficient 0.975 is based on the regional regression equation developed to estimate the 2-year flood peak discharge (URS, 2001). The constant (C) was computed using the drainage area and the discharge measured at River Mile 25.1, and was calculated to be 4.97. Using the combined drainage area of Fish Creek at River Mile 32.4 and Judy Creek at River Mile 7.0, the combined discharge from these locations was then computed using the above equation, as shown below:

$$Q_{(\text{Fish Cr. RM } 32.4 + \text{ Judy Cr. RM } 7.0)} = 4.97(1430 \text{ mi}^2)^{0.975}$$

Next, it was necessary to estimate the discharge on Fish Creek at River Mile 32.4, at the time the discharge was being measured at River Mile 25.1. The discharge measurement and staff gage readings made at River Mile 32.4 were used to estimate the discharge. Finally, the discharge at River Mile 7.0 on Judy Creek was computed by subtracting the adjusted discharge at River Mile 32.4 on Fish Creek from the combined discharge computed using the above equation.

On 13 June 2001 the discharge was measured at River Mile 25.1 on Fish Creek. The discharge at River Mile 32.4 on Fish Creek and at River Mile 7.0 on Judy Creek was obtained from the hydrographs developed from the report titled “*2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska*” (URS, 2001).

To calculate the discharge at the remaining cross sections, the constant (C) was derived using the measured and computed discharges from three locations discussed above. The following general equations were then used to calculate discharge at the respective locations along Fish and Judy Creek using drainage area.

For 11 June 2001:

Fish Creek above the confluence: $Q_2 = 3.058(\text{Drainage Area})^{0.975}$

Fish Creek below the confluence: $Q_2 = 5.380(\text{Drainage Area})^{0.975}$

Judy Creek: $Q_2 = 6.952(\text{Drainage Area})^{0.975}$

For 13 June 2001:

Fish Creek above the confluence: $Q_2 = 2.992(\text{Drainage Area})^{0.975}$

Fish Creek below the confluence: $Q_2 = 3.834(\text{Drainage Area})^{0.975}$

Judy Creek: $Q_2 = 4.739(\text{Drainage Area})^{0.975}$

Hydraulic roughness values were estimated as discussed in Appendix B. Each of the HEC-RAS models, one for each date, was calibrated by adjusting channel roughness values until the calculated water surface elevations approximated the measured elevations. The measured water surface elevations and those calculated by HEC-RAS are presented in Tables C.1 and C.2.

Table C.1 11 June 2001 Calibration

River Mile	Measured Water Surface Elevation (feet)	HEC-RAS Calculated Water Surface Elevation (feet)	Measured Average Channel Velocity (feet per second)¹	HEC-RAS Calculated Average Channel Velocity (feet per second)
Fish Creek				
0.7	3.68	3.68	-	-
11.7	8.26	8.26	-	-
18.4	12.39	12.38	-	-
25.1	16.97	16.99	2.93	3.30
32.4	21.75	21.76	1.81	1.60
43.3	30.29	30.25	-	-
Judy Creek				
7	25.36	25.40	-	-
13.8	34.17	34.16	-	-
21.8	45.45	45.44	-	-
31	59.39	59.38	-	-
Notes:				
1. The measured average channel velocity is only provided for those cross sections where discharge was measured.				

Table C.2 13 June 2001 Calibration

River Mile	Measured Water Surface Elevation (feet)	HEC-RAS Calculated Water Surface Elevation (feet)	Measured Average Channel Velocity (feet per second)¹	HEC-RAS Calculated Average Channel Velocity (feet per second)
Fish Creek				
0.7	2.87	2.87	-	-
11.7	7.03	7.03	-	-
18.4	11.37	11.39	-	-
25.1	16.18	16.16	2.71	2.75
32.4	20.71	20.70	1.73	1.60
43.3	29.01	28.98	-	-
Judy Creek				
7	24.62	24.61	2.49	2.69
13.8	33.57	33.58	-	-
21.8	- ²	45.66	-	-
31	- ²	60.43	-	-
Notes:				
1. The measured average channel velocity is only provided for those cross sections where discharge was measured				
2. Water surface elevation was not measured on 13 June 2001.				

A combination of the channel hydraulic roughness values used in the 11 and 13 June calibration models were used to predict water surface elevations at the 2-, 10-, 50-, 100- and 200-year flood-peak discharges. In Fish Creek, below the confluence with Judy Creek, averages of the 11 and 13 June calibration model values were used. Above the confluence, the channel roughness values for Fish Creek were taken from the 13 June model. The channel roughness values for Judy Creek were taken from the 11 June model. A list of all of the channel and floodplain roughness values are provided in the HEC-RAS reports included in this appendix.

Floodplain roughness values were calibrated for each of the flood events based on the type and density of the vegetation, and the depth of water. Where more than one roughness value occurred along the floodplain, HEC-RAS computed a weighted value based on wetted perimeter.

C.1.2 SENSITIVITY ANALYSIS

Because both Fish and Judy Creek have sand beds, and because the hydraulic roughness can change significantly with changes in bed form, a sensitivity analysis was conducted. In a sand bed channel, hydraulic roughness can vary between approximately 0.012 and 0.035 as the bed forms change. Bed forms that can be expected in a sand bed river include: ripples, dunes, transition, plane bed, standing waves and antidunes.

In the sensitivity analysis conducted for this project, the hydraulic roughness of the sand bed was varied from a reasonably low value (0.018) to a reasonably high value (0.031) in those portions of the Fish and Judy Creek channels above River Mile 11.7 in Fish Creek. Below River Mile 11.7, the hydraulic roughness was not altered because the roughness values used in the calibration model were thought to be a function of the boundary conditions. Specifically, the values are probably related to the energy slope used in the normal depth computation and the presence of shore-fast ice at the downstream boundary.

The sensitivity analysis was conducted with the 100-year flood model. The computed water surface elevations from the sensitivity analysis and the calibrated model are presented in Table C.3.

Table C.3 Sensitivity Analysis

River Mile	Calibrated 100-Year Flood Water Surface Elevation (feet)	Water Surface Elevation With Sand Bed Roughness of 0.031 (feet)	Water Surface Elevation With Sand Bed Roughness of 0.018 (feet)	Average Channel Velocity Calibrated 100-Year Flood (feet per second)	Average Channel Velocity With Sand Bed Roughness of 0.031 (feet per second)	Average Channel Velocity With Sand Bed Roughness of 0.018 (feet per second)
Fish Creek						
18.4	17.37	17.76	17.18	4.29	2.97	4.76
25.1	23.45	23.89	23.19	4.53	3.33	5.16
32.4	28.45	28.61	27.98	1.95	1.75	2.83
43.3	39.09	39.40	37.93	3.30	2.99	4.30
Judy Creek						
7	31.64	31.93	31.88	3.50	2.92	4.08
13.8	42.26	43.74	40.90	5.80	4.88	6.67
21.8	52.46	55.48	52.18	6.06	4.34	6.25
31	64.77	66.98	65.56	6.08	2.98	4.97

The median difference between the water surface elevations in the calibrated model and the model with a sand bed roughness of 0.018 was 0.38 feet. The average difference was 0.59 feet, and the standard deviation was 0.46 feet. The median difference between the water surface elevations in the calibrated model and the model with a sand bed roughness of 0.031 was 0.42 feet. The average difference was 1.04 feet, and the standard deviation was 1.00 feet.

C.2 UBLUTUOCH RIVER

The channel portion of the snow and ice affected cross section at River Mile 13.7 was calibrated using the spring 2001 peak water surface elevation, water surface slope and discharge.

C.3 REFERENCES

URS Corporation. 2001. 2001 Hydrologic Assessment, Fish Creek, Judy Creek and the Ublutuoch River, North Slope, Alaska. Prepared for Phillips Alaska, Inc., Anchorage Alaska.

HEC-RAS Calibration Report, Fish and Judy Creeks, 11 June Data

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X X XXXXXX XXXX XXXX XX XXXX
X X X X X X X X X X
X X X X X X X X X X
XXXXXXXX XXX XXXX XXXX
X X X X X X X X X X
X X X X X X X X X X
X XXXXXX XXXX X X X XXXX
  
```

PROJECT DATA

Project Title: BW Analysis - 11 & 13 June Calibrated
 Project File : 4March02.prj
 Run Date and Time: 3/4/2002 11:57:03 AM

Project in English units

HEC-RAS Calibration Report, Fish and Judy Creeks, 11 June Data

PLAN DATA

Plan Title: 11 June 2001 Calibration
 Plan File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4March02.pl0

Geometry Title: 11 June J.C. Cal. 2500' & known WSE
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4March02.g05

Flow Title : 11 June 2001 Calibration with known WSE
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4March02.f02

Plan Summary Information:

Number of: Cross Sections = 116 Multiple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.01
 Critical depth calculation tolerance = 0.01
 Maximum number of iterations = 20
 Maximum difference tolerance = 0.3
 Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
 Conveyance Calculation Method: At breaks in n values only
 Friction Slope Method: Average Friction Slope
 Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: 11 June 2001 Calibration with known MSE
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4march02.f02

Flow Data (cfs)

River	Reach	RS	PF 1	Upstream	Downstream
Fish Creek	Upper Fish Creek	43.3	1992		
Fish Creek	Upper Fish Creek	32.4	2027		
Fish Creek	Upper Fish Creek	26.85	2055		
Fish Creek	Lower Fish Creek	26.09	6542		
Fish Creek	Lower Fish Creek	25.1	6552		
Fish Creek	Lower Fish Creek	18.4	6752		
Fish Creek	Lower Fish Creek	11.7	6883		
Fish Creek	Lower Fish Creek	0.7	8147		
Judy Creek	Lower Judy Creek	31.0	2947		
Judy Creek	Lower Judy Creek	21.8	3237		
Judy Creek	Lower Judy Creek	13.8	3514		
Judy Creek	Lower Judy Creek	7.0	3826		
Judy Creek	Lower Judy Creek	0.38	3935		

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Fish Creek	Lower Fish Creek	PF 1		Known WS = 3.68

GEOMETRY DATA

Geometry Title: 11 June J.C. Cal. 2500' & known MSE
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4march02.g05

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Fish Creek	Upper Fish Creek		Fish Junct.
Fish Creek	Lower Fish Creek	Fish Junct.	
Judy Creek	Lower Judy Creek		Fish Junct.

JUNCTION INFORMATION

Name: Fish Junct.
 Description: Confluence of Fish and Judy Creek
 Energy computation Method

Length across Junction	Reach	Reach	Length	Angle
River	Upper Fish Creek to Fish Creek	Lower Fish Creek	3315	
Fish Creek	Lower Judy Creek to Fish Creek	Lower Fish Creek	3694	

Reach	River Sta.	Left	Channel	Right
Upper Fish Creek	43.3	1903.5	4751.08	1745.42
Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171

SUMMARY OF REACH LENGTHS

River: Fish Creek

Reach	River Sta.	Left	Channel	Right
Upper Fish Creek	43.3	1903.5	4751.08	1745.42
Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171

Upper Fish Creek	29.2285*	2464.43	4273.14	2171
Upper Fish Creek	28.4357*	2464.43	4273.14	2171
Upper Fish Creek	27.6428*	2464.43	4273.14	2171
Upper Fish Creek	26.85	0	0	0
Lower Fish Creek	26.09	2826	4769	4679
Lower Fish Creek	25.1	2028.75	4406.38	2370.38
Lower Fish Creek	24.2625*	2028.75	4406.38	2370.38
Lower Fish Creek	23.425*	2028.75	4406.38	2370.38
Lower Fish Creek	22.5875*	2028.75	4406.38	2370.38
Lower Fish Creek	21.75*	2028.75	4406.38	2370.38
Lower Fish Creek	20.9125*	2028.75	4406.38	2370.38
Lower Fish Creek	20.075*	2028.75	4406.38	2370.38
Lower Fish Creek	19.2375*	2028.75	4406.38	2370.38
Lower Fish Creek	18.4	3217.29	4349	2885.43
Lower Fish Creek	17.5714*	3217.29	4349	2885.43
Lower Fish Creek	16.7428*	3217.29	4349	2885.43
Lower Fish Creek	15.9142*	3217.29	4349	2885.43
Lower Fish Creek	15.0857*	3217.29	4349	2885.43
Lower Fish Creek	14.2571*	3217.29	4349	2885.43
Lower Fish Creek	13.4285*	3217.29	4349	2885.43
Lower Fish Creek	12.6	1090	5078	2467
Lower Fish Creek	11.7	2559	4481.46	2515.69
Lower Fish Creek	10.8538*	2559	4481.46	2515.69
Lower Fish Creek	10.0076*	2559	4481.46	2515.69
Lower Fish Creek	9.16153*	2559	4481.46	2515.69
Lower Fish Creek	8.31538*	2559	4481.46	2515.69
Lower Fish Creek	7.46923*	2559	4481.46	2515.69
Lower Fish Creek	6.62307*	2559	4481.46	2515.69
Lower Fish Creek	5.77692*	2559	4481.46	2515.69
Lower Fish Creek	4.93076*	2559	4481.46	2515.69
Lower Fish Creek	4.08461*	2559	4481.46	2515.69
Lower Fish Creek	3.23846*	2559	4481.46	2515.69
Lower Fish Creek	2.39230*	2559	4481.46	2515.69
Lower Fish Creek	1.54615*	2559	4481.46	2515.69
Lower Fish Creek	0.7	0	0	0

River: Judy Creek

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	31.0	1164.9	2386.5	1005.25
Lower Judy Creek	30.54*	1164.9	2386.5	1005.25
Lower Judy Creek	30.08*	1164.9	2386.5	1005.25
Lower Judy Creek	29.62*	1164.9	2386.5	1005.25
Lower Judy Creek	29.16*	1164.9	2386.5	1005.25
Lower Judy Creek	28.7*	1164.9	2386.5	1005.25
Lower Judy Creek	28.24*	1164.9	2386.5	1005.25
Lower Judy Creek	27.78*	1164.9	2386.5	1005.25
Lower Judy Creek	27.32*	1164.9	2386.5	1005.25
Lower Judy Creek	26.86*	1164.9	2386.5	1005.25
Lower Judy Creek	26.4*	1164.9	2386.5	1005.25
Lower Judy Creek	25.94*	1164.9	2386.5	1005.25
Lower Judy Creek	25.48*	1164.9	2386.5	1005.25
Lower Judy Creek	25.02*	1164.9	2386.5	1005.25
Lower Judy Creek	24.56*	1164.9	2386.5	1005.25
Lower Judy Creek	24.1*	1164.9	2386.5	1005.25
Lower Judy Creek	23.64*	1164.9	2386.5	1005.25
Lower Judy Creek	23.18*	1164.9	2386.5	1005.25
Lower Judy Creek	22.72*	1164.9	2386.5	1005.25
Lower Judy Creek	22.26*	1164.9	2386.5	1005.25
Lower Judy Creek	21.8	1459.47	2420.88	1416
Lower Judy Creek	21.3294*	1459.47	2420.88	1416
Lower Judy Creek	20.8588*	1459.47	2420.88	1416
Lower Judy Creek	20.3882*	1459.47	2420.88	1416
Lower Judy Creek	19.9176*	1459.47	2420.88	1416

Lower Judy Creek	19.4470*	1459.47	2420.88	1416
Lower Judy Creek	18.9764*	1459.47	2420.88	1416
Lower Judy Creek	18.5058*	1459.47	2420.88	1416
Lower Judy Creek	18.0352*	1459.47	2420.88	1416
Lower Judy Creek	17.5647*	1459.47	2420.88	1416
Lower Judy Creek	17.0941*	1459.47	2420.88	1416
Lower Judy Creek	16.6235*	1459.47	2420.88	1416
Lower Judy Creek	16.1529*	1459.47	2420.88	1416
Lower Judy Creek	15.6823*	1459.47	2420.88	1416
Lower Judy Creek	15.2117*	1459.47	2420.88	1416
Lower Judy Creek	14.7411*	1459.47	2420.88	1416
Lower Judy Creek	14.2705*	1459.47	2420.88	1416
Lower Judy Creek	13.8	1530.69	2280.69	1205.25
Lower Judy Creek	13.375*	1530.69	2280.69	1205.25
Lower Judy Creek	12.95*	1530.69	2280.69	1205.25
Lower Judy Creek	12.525*	1530.69	2280.69	1205.25
Lower Judy Creek	12.1*	1530.69	2280.69	1205.25
Lower Judy Creek	11.675*	1530.69	2280.69	1205.25
Lower Judy Creek	11.25*	1530.69	2280.69	1205.25
Lower Judy Creek	10.825*	1530.69	2280.69	1205.25
Lower Judy Creek	10.4*	1530.69	2280.69	1205.25
Lower Judy Creek	9.975*	1530.69	2280.69	1205.25
Lower Judy Creek	9.55000*	1530.69	2280.69	1205.25
Lower Judy Creek	9.12500*	1530.69	2280.69	1205.25
Lower Judy Creek	8.70000*	1530.69	2280.69	1205.25
Lower Judy Creek	8.27500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.85000*	1530.69	2280.69	1205.25
Lower Judy Creek	7.42500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.0	1574.27	2316.18	1729.73
Lower Judy Creek	6.39818*	1574.27	2316.18	1729.73
Lower Judy Creek	5.79636*	1574.27	2316.18	1729.73
Lower Judy Creek	5.19454*	1574.27	2316.18	1729.73
Lower Judy Creek	4.59272*	1574.27	2316.18	1729.73
Lower Judy Creek	3.99090*	1574.27	2316.18	1729.73
Lower Judy Creek	3.38909*	1574.27	2316.18	1729.73
Lower Judy Creek	2.78727*	1574.27	2316.18	1729.73
Lower Judy Creek	2.18545*	1574.27	2316.18	1729.73
Lower Judy Creek	1.58363*	1574.27	2316.18	1729.73
Lower Judy Creek	.981819*	1574.28	2316.18	1729.73
Lower Judy Creek	0.38	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
 River: Fish Creek

Reach	River Sta.	Contr.	Expan.
Upper Fish Creek	43.3	.1	.3
Upper Fish Creek	42.3916*	.1	.3
Upper Fish Creek	41.4833*	.1	.3
Upper Fish Creek	40.575*	.1	.3
Upper Fish Creek	39.6666*	.1	.3
Upper Fish Creek	38.7583*	.1	.3
Upper Fish Creek	37.85*	.1	.3
Upper Fish Creek	36.9416*	.1	.3
Upper Fish Creek	36.0333*	.1	.3
Upper Fish Creek	35.125*	.1	.3
Upper Fish Creek	34.2166*	.1	.3
Upper Fish Creek	33.3083*	.1	.3
Upper Fish Creek	32.4	.1	.3
Upper Fish Creek	31.6071*	.1	.3
Upper Fish Creek	30.8142*	.1	.3
Upper Fish Creek	30.0214*	.1	.3
Upper Fish Creek	29.2285*	.1	.3
Upper Fish Creek	28.4357*	.1	.3
Upper Fish Creek	27.6428*	.1	.3
Upper Fish Creek	26.85	.1	.3
Lower Fish Creek	26.09	.1	.3
Lower Fish Creek	25.1	.1	.3
Lower Fish Creek	24.2625*	.1	.3
Lower Fish Creek	23.425*	.1	.3
Lower Fish Creek	22.5875*	.1	.3
Lower Fish Creek	21.75*	.1	.3
Lower Fish Creek	20.9125*	.1	.3
Lower Fish Creek	20.075*	.1	.3
Lower Fish Creek	19.2375*	.1	.3
Lower Fish Creek	18.4	.1	.3
Lower Fish Creek	17.5714*	.1	.3
Lower Fish Creek	16.7428*	.1	.3
Lower Fish Creek	15.9142*	.1	.3
Lower Fish Creek	15.0857*	.1	.3
Lower Fish Creek	14.2571*	.1	.3
Lower Fish Creek	13.4285*	.1	.3
Lower Fish Creek	12.6	.1	.3
Lower Fish Creek	11.7	.1	.3
Lower Fish Creek	10.8538*	.1	.3
Lower Fish Creek	10.0076*	.1	.3
Lower Fish Creek	9.16153*	.1	.3
Lower Fish Creek	8.31538*	.1	.3
Lower Fish Creek	7.46923*	.1	.3
Lower Fish Creek	6.62307*	.1	.3
Lower Fish Creek	5.77692*	.1	.3
Lower Fish Creek	4.93076*	.1	.3
Lower Fish Creek	4.08461*	.1	.3
Lower Fish Creek	3.23846*	.1	.3
Lower Fish Creek	2.39230*	.1	.3
Lower Fish Creek	1.54615*	.1	.3
Lower Fish Creek	0.7	.1	.3

River: Judy Creek

Reach	River Sta.	Contr.	Expan.
Lower Judy Creek	31.0	.1	.3
Lower Judy Creek	30.54*	.1	.3
Lower Judy Creek	30.08*	.1	.3

Lower Judy Creek	29.62*	.1	.3
Lower Judy Creek	29.16*	.1	.3
Lower Judy Creek	28.7*	.1	.3
Lower Judy Creek	28.24*	.1	.3
Lower Judy Creek	27.78*	.1	.3
Lower Judy Creek	27.32*	.1	.3
Lower Judy Creek	26.86*	.1	.3
Lower Judy Creek	26.4*	.1	.3
Lower Judy Creek	25.94*	.1	.3
Lower Judy Creek	25.48*	.1	.3
Lower Judy Creek	25.02*	.1	.3
Lower Judy Creek	24.56*	.1	.3
Lower Judy Creek	24.1*	.1	.3
Lower Judy Creek	23.64*	.1	.3
Lower Judy Creek	23.18*	.1	.3
Lower Judy Creek	22.72*	.1	.3
Lower Judy Creek	22.26*	.1	.3
Lower Judy Creek	21.8	.1	.3
Lower Judy Creek	21.3294*	.1	.3
Lower Judy Creek	20.8588*	.1	.3
Lower Judy Creek	20.3882*	.1	.3
Lower Judy Creek	19.9176*	.1	.3
Lower Judy Creek	19.4470*	.1	.3
Lower Judy Creek	18.9764*	.1	.3
Lower Judy Creek	18.5058*	.1	.3
Lower Judy Creek	18.0352*	.1	.3
Lower Judy Creek	17.5647*	.1	.3
Lower Judy Creek	17.0941*	.1	.3
Lower Judy Creek	16.6235*	.1	.3
Lower Judy Creek	16.1529*	.1	.3
Lower Judy Creek	15.6823*	.1	.3
Lower Judy Creek	15.2117*	.1	.3
Lower Judy Creek	14.7411*	.1	.3
Lower Judy Creek	14.2705*	.1	.3
Lower Judy Creek	13.8	.1	.3
Lower Judy Creek	13.375*	.1	.3
Lower Judy Creek	12.95*	.1	.3
Lower Judy Creek	12.525*	.1	.3
Lower Judy Creek	12.1*	.1	.3
Lower Judy Creek	11.675*	.1	.3
Lower Judy Creek	11.25*	.1	.3
Lower Judy Creek	10.825*	.1	.3
Lower Judy Creek	10.4*	.1	.3
Lower Judy Creek	9.975*	.1	.3
Lower Judy Creek	9.5500*	.1	.3
Lower Judy Creek	9.12500*	.1	.3
Lower Judy Creek	8.70000*	.1	.3
Lower Judy Creek	8.27500*	.1	.3
Lower Judy Creek	7.85000*	.1	.3
Lower Judy Creek	7.42500*	.1	.3
Lower Judy Creek	7.0	.1	.3
Lower Judy Creek	6.59818*	.1	.3
Lower Judy Creek	5.79636*	.1	.3
Lower Judy Creek	5.19454*	.1	.3
Lower Judy Creek	4.59272*	.1	.3
Lower Judy Creek	3.99090*	.1	.3
Lower Judy Creek	3.38909*	.1	.3
Lower Judy Creek	2.78727*	.1	.3
Lower Judy Creek	2.18545*	.1	.3
Lower Judy Creek	1.58363*	.1	.3
Lower Judy Creek	.981819*	.1	.3
Lower Judy Creek	0.38	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total (cfs)	Min Ch.El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Fish Creek	Lower Fish Creek	0.7	8147.00	0.30	3.68	1.31	3.68	0.000022	0.20	41356.98	24116.08	0.20	0.03
Fish Creek	Lower Fish Creek	1.54615*	6883.00	-0.36	3.82		3.82	0.000046	0.26	28312.61	23330.04	0.26	0.04
Fish Creek	Lower Fish Creek	2.39230*	6883.00	-0.74	4.05		4.05	0.000065	0.36	19078.81	15887.74	0.36	0.05
Fish Creek	Lower Fish Creek	3.23846*	6883.00	-1.13	4.32		4.32	0.000064	0.40	13199.42	12972.06	0.40	0.05
Fish Creek	Lower Fish Creek	4.08461*	6883.00	-1.52	4.60		4.60	0.000065	0.47	14638.41	6811.12	0.47	0.06
Fish Creek	Lower Fish Creek	4.93076*	6883.00	-1.90	4.88		4.88	0.000060	0.49	13944.31	5729.58	0.49	0.06
Fish Creek	Lower Fish Creek	5.77692*	6883.00	-2.29	5.14		5.14	0.000059	0.52	13218.08	4520.38	0.52	0.05
Fish Creek	Lower Fish Creek	6.62307*	6883.00	-2.68	5.40		5.40	0.000054	0.56	12364.24	3798.58	0.56	0.05
Fish Creek	Lower Fish Creek	7.46923*	6883.00	-3.07	5.67		5.67	0.000069	0.60	11389.25	3277.09	0.60	0.05
Fish Creek	Lower Fish Creek	8.31538*	6883.00	-3.45	5.96		5.96	0.000063	0.67	10252.06	2766.55	0.67	0.06
Fish Creek	Lower Fish Creek	9.16153*	6883.00	-3.84	6.30		6.30	0.000090	0.77	9000.29	2265.38	0.77	0.07
Fish Creek	Lower Fish Creek	10.0076*	6883.00	-4.23	6.74		6.74	0.000107	0.90	7645.56	1749.53	0.90	0.07
Fish Creek	Lower Fish Creek	10.8538*	6883.00	-4.61	7.30		7.30	0.000143	1.15	5995.70	1190.07	1.15	0.09
Fish Creek	Lower Fish Creek	11.7	6883.00	-5.00	8.26		8.26	0.000293	1.65	4159.20	742.27	1.65	0.12
Fish Creek	Lower Fish Creek	12.6	6752.00	-5.80	9.15		9.15	0.000062	1.90	3545.32	513.00	1.90	0.13
Fish Creek	Lower Fish Creek	13.4285*	6752.00	-5.83	9.45		9.45	0.000079	2.03	3323.97	532.04	2.03	0.14
Fish Creek	Lower Fish Creek	14.2571*	6752.00	-5.86	9.83		9.83	0.000096	2.16	3123.07	526.75	2.16	0.16
Fish Creek	Lower Fish Creek	15.0857*	6752.00	-5.89	10.27		10.27	0.000111	2.28	2965.20	513.47	2.28	0.17
Fish Creek	Lower Fish Creek	15.9142*	6752.00	-5.91	10.75		10.75	0.000115	2.38	2831.98	504.57	2.38	0.18
Fish Creek	Lower Fish Creek	16.7428*	6752.00	-5.94	11.24		11.24	0.000119	2.49	2711.42	498.11	2.49	0.19
Fish Creek	Lower Fish Creek	17.5714*	6752.00	-5.97	11.79		11.79	0.000132	2.58	2616.35	493.55	2.58	0.20
Fish Creek	Lower Fish Creek	18.4	6752.00	-6.00	12.38		12.38	0.000144	2.65	2548.22	480.60	2.65	0.20
Fish Creek	Lower Fish Creek	19.2375*	6552.00	-4.42	12.98		13.08	0.000119	2.52	2601.39	468.95	2.52	0.19
Fish Creek	Lower Fish Creek	20.075*	6552.00	-2.84	13.49		13.59	0.000113	2.53	2585.97	445.48	2.53	0.19
Fish Creek	Lower Fish Creek	20.9125*	6552.00	-1.26	13.98		14.09	0.000111	2.58	2541.64	421.41	2.58	0.19
Fish Creek	Lower Fish Creek	21.75*	6552.00	0.32	14.48		14.59	0.000115	2.66	2466.62	403.94	2.66	0.18
Fish Creek	Lower Fish Creek	22.5875*	6552.00	1.90	14.99		15.11	0.000126	2.77	2367.35	390.12	2.77	0.20
Fish Creek	Lower Fish Creek	23.425*	6552.00	3.48	15.58		15.71	0.000143	2.90	2255.50	370.12	2.90	0.21
Fish Creek	Lower Fish Creek	24.2625*	6552.00	5.06	16.25		16.39	0.000166	3.07	2136.02	370.06	3.07	0.22
Fish Creek	Lower Fish Creek	25.1	6552.00	6.64	16.99		17.16	0.000181	3.30	1986.41	354.70	3.30	0.25
Fish Creek	Lower Fish Creek	26.09	6542.00	7.89	17.91		18.10	0.000212	3.50	1870.96	345.00	3.50	0.26
Fish Creek	Upper Fish Creek	26.85	2055.00	6.88	18.68		18.70	0.000086	1.15	1785.86	313.56	1.15	0.08
Fish Creek	Upper Fish Creek	27.6428*	2055.00	7.84	19.05		19.07	0.000092	1.17	1725.24	308.01	1.17	0.09
Fish Creek	Upper Fish Creek	28.4357*	2027.00	8.80	19.45		19.48	0.000099	1.21	1675.12	304.13	1.21	0.09
Fish Creek	Upper Fish Creek	29.2285*	2027.00	9.76	19.88		19.91	0.000105	1.24	1635.49	297.09	1.24	0.09
Fish Creek	Upper Fish Creek	30.0214*	2027.00	10.72	20.33		20.36	0.000108	1.27	1601.98	289.52	1.27	0.09
Fish Creek	Upper Fish Creek	30.8142*	2027.00	11.68	20.80		20.82	0.000112	1.29	1572.56	281.78	1.29	0.10
Fish Creek	Upper Fish Creek	31.6071*	2027.00	12.64	21.27		21.31	0.000114	1.31	1545.39	273.83	1.31	0.10
Fish Creek	Upper Fish Creek	32.4	2027.00	13.60	21.76		21.79	0.000118	1.33	1519.51	266.38	1.33	0.10
Fish Creek	Upper Fish Creek	33.3083*	1992.00	14.03	22.36		22.39	0.000134	1.32	1506.18	274.78	1.32	0.10
Fish Creek	Upper Fish Creek	34.2166*	1992.00	14.45	23.02		23.05	0.000145	1.32	1509.57	283.96	1.32	0.10
Fish Creek	Upper Fish Creek	35.125*	1992.00	14.88	23.73		23.75	0.000154	1.31	1523.88	293.18	1.31	0.10
Fish Creek	Upper Fish Creek	36.0333*	1992.00	15.30	24.46		24.49	0.000159	1.29	1547.96	302.42	1.29	0.10
Fish Creek	Upper Fish Creek	36.9416*	1992.00	15.73	25.21		25.23	0.000156	1.26	1576.41	311.61	1.26	0.10
Fish Creek	Upper Fish Creek	37.85*	1992.00	16.15	25.95		25.97	0.000153	1.24	1602.21	320.67	1.24	0.10
Fish Creek	Upper Fish Creek	38.7583*	1992.00	16.58	26.68		26.70	0.000154	1.22	1628.62	329.45	1.22	0.10
Fish Creek	Upper Fish Creek	39.6666*	1992.00	17.00	27.41		27.43	0.000151	1.20	1653.72	337.63	1.20	0.10
Fish Creek	Upper Fish Creek	40.575*	1992.00	17.43	28.12		28.15	0.000149	1.19	1675.60	345.93	1.19	0.10
Fish Creek	Upper Fish Creek	41.4833*	1992.00	17.85	28.83		28.85	0.000147	1.18	1694.73	354.23	1.18	0.09
Fish Creek	Upper Fish Creek	42.3916*	1992.00	18.28	29.54		29.56	0.000153	1.16	1713.88	362.78	1.16	0.09
Fish Creek	Upper Fish Creek	43.3	1992.00	18.70	30.25		30.27	0.000149	1.15	1735.46	369.12	1.15	0.09
Fish Creek	Lower Judy Creek	0.38	3935.00	18.70	30.25		30.27	0.000149	1.15	1735.46	369.12	1.15	0.09
Judy Creek	Lower Judy Creek	.981819*	3826.00	8.91	19.15		19.30	0.000157	3.02	1268.52	207.04	3.02	0.21
Judy Creek	Lower Judy Creek	1.58363*	3826.00	9.64	19.62		19.77	0.000214	3.13	1221.82	200.99	3.13	0.22
Judy Creek	Lower Judy Creek	2.18545*	3826.00	10.37	20.12		20.28	0.000228	3.23	1184.52	194.95	3.23	0.23
Judy Creek	Lower Judy Creek	2.78727*	3826.00	11.10	20.65		20.82	0.000241	3.32	1151.91	189.40	3.32	0.24
Judy Creek	Lower Judy Creek	3.38909*	3826.00	11.83	21.21		21.39	0.000252	3.40	1124.49	184.51	3.40	0.24
Judy Creek	Lower Judy Creek	3.99090*	3826.00	12.55	21.77		21.96	0.000241	3.48	1098.08	179.56	3.48	0.25
Judy Creek	Lower Judy Creek	4.59272*	3826.00	13.28	22.33		22.53	0.000254	3.57	1070.93	175.13	3.57	0.25
Judy Creek	Lower Judy Creek	5.19454*	3826.00	14.01	22.92		23.13	0.000267	3.65	1047.85	171.69	3.65	0.26
Judy Creek	Lower Judy Creek	5.79636*	3826.00	14.74	23.59		23.80	0.000312	3.69	1038.22	176.56	3.69	0.27

Judy Creek	6.39818*	3826.00	15.47	24.45	24.64	0.000421	3.56	1073.87	240.96	0.30
Lower Judy Creek	7.0	3826.00	16.20	25.40	25.57	0.000379	3.31	1155.02	251.35	0.27
Judy Creek	7.42500*	3514.00	16.63	26.15	26.27	0.000232	2.81	1249.60	251.88	0.22
Lower Judy Creek	7.85000*	3514.00	17.05	26.66	26.78	0.000213	2.75	1277.88	246.84	0.21
Judy Creek	8.27500*	3514.00	17.48	27.13	27.25	0.000197	2.72	1290.07	240.43	0.21
Lower Judy Creek	8.70000*	3514.00	17.90	27.58	27.70	0.000186	2.72	1291.17	234.45	0.20
Judy Creek	9.12500*	3514.00	18.33	27.99	28.10	0.000170	2.75	1276.82	229.71	0.21
Lower Judy Creek	9.55000*	3514.00	18.75	28.38	28.50	0.000176	2.80	1254.24	225.25	0.21
Judy Creek	9.975*	3514.00	19.18	28.79	28.91	0.000185	2.86	1227.75	221.62	0.21
Lower Judy Creek	10.4*	3514.00	19.60	29.21	29.34	0.000196	2.93	1199.29	218.65	0.22
Judy Creek	10.825*	3514.00	20.03	29.66	29.80	0.000210	3.00	1169.77	216.23	0.23
Lower Judy Creek	11.25*	3514.00	20.45	30.15	30.30	0.000224	3.07	1142.84	214.38	0.23
Judy Creek	11.675*	3514.00	20.88	30.67	30.82	0.000242	3.15	1114.43	212.82	0.24
Lower Judy Creek	12.1*	3514.00	21.30	31.26	31.42	0.000280	3.21	1095.08	212.43	0.25
Judy Creek	12.525*	3514.00	21.73	31.91	32.07	0.000293	3.25	1081.34	213.26	0.25
Lower Judy Creek	12.95*	3514.00	22.15	32.59	32.75	0.000311	3.29	1066.68	214.99	0.26
Judy Creek	13.375*	3514.00	22.58	33.34	33.51	0.000353	3.33	1062.01	219.31	0.26
Lower Judy Creek	13.8	3514.00	23.00	34.16	34.33	0.000365	3.30	1066.29	226.30	0.27
Judy Creek	14.2705*	3237.00	23.93	34.97	35.11	0.000270	2.96	1091.95	231.21	0.24
Lower Judy Creek	14.7411*	3237.00	24.86	35.61	35.75	0.000259	3.00	1078.56	232.19	0.25
Judy Creek	15.2117*	3237.00	25.79	36.22	36.37	0.000250	3.05	1061.16	233.02	0.25
Lower Judy Creek	15.6823*	3237.00	26.72	36.82	36.97	0.000244	3.12	1039.13	233.57	0.26
Judy Creek	16.1529*	3237.00	27.65	37.42	37.58	0.000263	3.18	1016.86	234.31	0.27
Lower Judy Creek	16.6235*	3237.00	28.58	38.06	38.22	0.000276	3.22	1004.43	235.63	0.28
Judy Creek	17.0941*	3237.00	29.51	38.73	38.89	0.000283	3.24	998.99	237.25	0.28
Lower Judy Creek	17.5647*	3237.00	30.44	39.41	39.58	0.000287	3.24	997.88	239.11	0.28
Judy Creek	18.0352*	3237.00	31.36	40.11	40.27	0.000289	3.24	999.32	241.00	0.28
Lower Judy Creek	18.5058*	3237.00	32.29	40.80	40.96	0.000290	3.23	1001.07	242.80	0.28
Judy Creek	18.9764*	3237.00	33.22	41.50	41.66	0.000291	3.23	1002.89	244.61	0.28
Lower Judy Creek	19.4470*	3237.00	34.15	42.20	42.36	0.000290	3.22	1006.80	246.57	0.28
Judy Creek	19.9176*	3237.00	35.08	42.88	43.04	0.000266	3.22	1004.70	248.24	0.28
Lower Judy Creek	20.3882*	3237.00	36.01	43.50	43.67	0.000252	3.27	989.55	249.34	0.29
Judy Creek	20.8588*	3237.00	36.94	44.12	44.30	0.000257	3.32	974.59	250.38	0.30
Lower Judy Creek	21.3294*	3237.00	37.87	44.77	44.95	0.000276	3.35	966.20	251.66	0.30
Judy Creek	21.8	3237.00	38.80	45.44	45.62	0.000282	3.36	962.74	253.09	0.30
Lower Judy Creek	22.26*	2947.00	39.51	46.09	46.24	0.000228	3.04	970.33	253.79	0.27
Judy Creek	22.72*	2947.00	40.22	46.65	46.80	0.000244	3.10	950.07	253.58	0.28
Lower Judy Creek	23.18*	2947.00	40.93	47.24	47.39	0.000257	3.15	935.08	253.51	0.29
Judy Creek	23.64*	2947.00	41.64	47.86	48.02	0.000268	3.19	922.76	253.61	0.30
Lower Judy Creek	24.1*	2947.00	42.35	48.50	48.66	0.000277	3.22	914.14	253.83	0.30
Judy Creek	24.56*	2947.00	43.06	49.17	49.33	0.000286	3.25	906.15	254.10	0.30
Lower Judy Creek	25.02*	2947.00	43.77	49.85	50.02	0.000292	3.27	900.75	254.53	0.31
Judy Creek	25.48*	2947.00	44.48	50.55	50.72	0.000298	3.29	895.54	254.98	0.31
Lower Judy Creek	25.94*	2947.00	45.19	51.26	51.44	0.000304	3.31	889.38	254.34	0.31
Judy Creek	26.4*	2947.00	45.90	51.99	52.17	0.000310	3.33	884.04	253.96	0.31
Lower Judy Creek	26.86*	2947.00	46.61	52.74	52.91	0.000316	3.35	879.28	254.20	0.32
Judy Creek	27.32*	2947.00	47.32	53.49	53.67	0.000323	3.37	874.26	254.72	0.32
Lower Judy Creek	27.78*	2947.00	48.03	54.27	54.45	0.000330	3.39	869.51	255.53	0.32
Judy Creek	28.24*	2947.00	48.74	55.03	55.21	0.000308	3.43	858.46	255.90	0.33
Lower Judy Creek	28.7*	2947.00	49.45	55.75	55.95	0.000298	3.53	834.35	254.78	0.34
Judy Creek	29.16*	2947.00	50.16	56.46	56.67	0.000296	3.58	800.88	251.52	0.36
Lower Judy Creek	29.62*	2947.00	50.87	57.15	57.38	0.000294	3.87	762.42	245.47	0.39
Judy Creek	30.08*	2947.00	51.58	57.86	58.11	0.000320	4.06	726.37	231.38	0.40
Lower Judy Creek	30.54*	2947.00	52.29	58.62	58.89	0.000329	4.20	701.85	216.84	0.41
Judy Creek	31.0	2947.00	53.00	59.38	59.67	0.000328	4.35	677.96	197.75	0.41

Profile Output Table - Standard Table 2

River	Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Fish Creek	Lower Fish Creek	0.7	3.68	3.68	3.68	0.00	0.14	1206.06	6933.46	7.48	24116.08
Fish Creek	Lower Fish Creek	1.54615*	3.82	3.82	3.82	0.00	0.23	1132.46	5747.14	3.40	23330.04
Fish Creek	Lower Fish Creek	2.39230*	4.05	4.05	4.05	0.00	0.27	1028.28	5854.23	0.49	15887.74
Fish Creek	Lower Fish Creek	3.23846*	4.32	4.32	4.32	0.00	0.28	774.70	6108.13	0.17	12972.06
Fish Creek	Lower Fish Creek	4.08461*	4.60	4.60	4.60	0.00	0.28		6882.76	0.24	6811.12
Fish Creek	Lower Fish Creek	4.93076*	4.88	4.88	4.88	0.00	0.27		6882.66	0.34	5729.58
Fish Creek	Lower Fish Creek	5.77692*	5.15	5.15	5.14	0.00	0.28		6882.51	0.49	4540.38
Fish Creek	Lower Fish Creek	6.62307*	5.40	5.40	5.40	0.00	0.25		6882.50	0.50	3798.58
Fish Creek	Lower Fish Creek	7.46923*	5.68	5.68	5.67	0.01	0.28		6882.25	0.75	3277.09
Fish Creek	Lower Fish Creek	8.31538*	5.97	5.97	5.96	0.01	0.30		6882.04	0.96	2766.55
Fish Creek	Lower Fish Creek	9.16153*	6.31	6.31	6.30	0.01	0.34		6881.22	1.78	2265.38
Fish Creek	Lower Fish Creek	10.0076*	6.75	6.75	6.74	0.01	0.44		6878.44	4.56	1749.53
Fish Creek	Lower Fish Creek	10.8538*	7.32	7.32	7.30	0.02	0.56		6883.00		1190.07
Fish Creek	Lower Fish Creek	11.7	8.30	8.30	8.26	0.04	0.98		6883.00		742.27
Fish Creek	Lower Fish Creek	12.6	9.21	9.21	9.15	0.06	0.90		6752.00		513.00
Fish Creek	Lower Fish Creek	13.4285*	9.51	9.51	9.45	0.06	0.31		6752.00		532.04
Fish Creek	Lower Fish Creek	14.2571*	9.90	9.90	9.83	0.07	0.38		6752.00		526.75
Fish Creek	Lower Fish Creek	15.0857*	10.35	10.35	10.27	0.08	0.45		6752.00		468.95
Fish Creek	Lower Fish Creek	15.9142*	10.84	10.84	10.75	0.09	0.49		6752.00		445.48
Fish Creek	Lower Fish Creek	16.7428*	11.34	11.34	11.24	0.10	0.51		6752.00		513.47
Fish Creek	Lower Fish Creek	17.5714*	11.89	11.89	11.79	0.10	0.55		6752.00		504.57
Fish Creek	Lower Fish Creek	18.4	12.48	12.48	12.38	0.11	0.60		6752.00		498.11
Fish Creek	Lower Fish Creek	19.2375*	13.08	13.08	12.98	0.10	0.60		6752.00		493.55
Fish Creek	Lower Fish Creek	20.075*	13.59	13.59	13.49	0.10	0.58		6552.00		490.60
Fish Creek	Lower Fish Creek	20.9125*	14.09	14.09	13.98	0.10	0.51		6552.00		468.95
Fish Creek	Lower Fish Creek	21.75*	14.59	14.59	14.48	0.11	0.49		6552.00		445.48
Fish Creek	Lower Fish Creek	22.5875*	15.11	15.11	14.99	0.12	0.50		6552.00		421.44
Fish Creek	Lower Fish Creek	23.425*	15.71	15.71	15.58	0.13	0.53		6552.00		403.94
Fish Creek	Lower Fish Creek	24.2625*	16.39	16.39	16.25	0.15	0.59		6552.00		390.12
Fish Creek	Lower Fish Creek	25.1	17.16	17.16	16.99	0.17	0.68		6552.00		379.05
Fish Creek	Upper Fish Creek	26.09	18.10	18.10	17.91	0.19	0.76		6552.00		370.06
Fish Creek	Upper Fish Creek	26.85	19.07	19.07	18.68	0.02	0.94		6542.00		354.70
Fish Creek	Upper Fish Creek	27.6428*	19.48	19.48	19.05	0.02	0.58		2055.00		345.00
Fish Creek	Upper Fish Creek	28.4357*	19.91	19.91	19.45	0.02	0.38		2027.00		313.56
Fish Creek	Upper Fish Creek	29.2285*	19.91	19.91	19.88	0.02	0.41		2027.00		308.01
Fish Creek	Upper Fish Creek	30.0214*	20.36	20.36	20.33	0.02	0.44		2027.00		304.13
Fish Creek	Upper Fish Creek	30.8142*	20.82	20.82	20.80	0.03	0.46		2027.00		297.09
Fish Creek	Upper Fish Creek	31.6071*	21.30	21.30	21.27	0.03	0.47		2027.00		289.52
Fish Creek	Upper Fish Creek	32.4	21.79	21.79	21.76	0.03	0.48		2027.00		281.78
Fish Creek	Upper Fish Creek	33.3083*	22.39	22.39	22.36	0.03	0.50		2027.00		273.83
Fish Creek	Upper Fish Creek	34.2166*	23.05	23.05	23.02	0.03	0.60		1992.00		266.38
Fish Creek	Upper Fish Creek	35.125*	23.75	23.75	23.73	0.03	0.66		1992.00		264.78
Fish Creek	Upper Fish Creek	36.0333*	24.49	24.49	24.46	0.03	0.71		1992.00		263.96
Fish Creek	Upper Fish Creek	36.9416*	25.23	25.23	25.21	0.02	0.74		1992.00		293.18
Fish Creek	Upper Fish Creek	37.85*	25.97	25.97	25.95	0.02	0.75		1992.00		289.52
Fish Creek	Upper Fish Creek	38.7583*	26.70	26.70	26.68	0.02	0.73		1992.00		311.61
Fish Creek	Upper Fish Creek	39.6666*	27.43	27.43	27.41	0.02	0.73		1992.00		311.61
Fish Creek	Upper Fish Creek	40.575*	28.15	28.15	28.12	0.02	0.71		1992.00		320.67
Fish Creek	Upper Fish Creek	41.4833*	28.85	28.85	28.83	0.02	0.70		1992.00		329.45
Fish Creek	Upper Fish Creek	42.3916*	29.56	29.56	29.54	0.02	0.71		1992.00		337.63
Fish Creek	Upper Fish Creek	43.3	30.27	30.27	30.25	0.02	0.72		1992.00		345.93
Judy Creek	Lower Judy Creek	0.38	18.85	18.85	18.71	0.14	0.74		3935.00		362.78
Judy Creek	Lower Judy Creek	.981819*	19.30	19.30	19.15	0.14	0.45		3826.00		369.12
Judy Creek	Lower Judy Creek	1.58363*	19.77	19.77	19.62	0.15	0.45		3826.00		369.12
Judy Creek	Lower Judy Creek	2.18545*	20.28	20.28	20.12	0.16	0.48		3826.00		369.12
Judy Creek	Lower Judy Creek	2.78727*	20.82	20.82	20.65	0.17	0.51		3826.00		207.04
Judy Creek	Lower Judy Creek	3.38909*	21.39	21.39	21.21	0.18	0.54		3826.00		200.99
Judy Creek	Lower Judy Creek	3.99090*	21.96	21.96	21.77	0.19	0.57		3826.00		194.95
Judy Creek	Lower Judy Creek	4.59272*	22.53	22.53	22.33	0.20	0.57		3826.00		189.40
Judy Creek	Lower Judy Creek	5.19454*	23.13	23.13	22.92	0.21	0.57		3826.00		184.51
Judy Creek	Lower Judy Creek	5.79636*	23.80	23.80	23.59	0.21	0.60		3826.00		179.56
Judy Creek	Lower Judy Creek					0.21	0.67		3826.00		175.13
Judy Creek	Lower Judy Creek								3826.00		171.69
Judy Creek	Lower Judy Creek								3826.00		176.56

Judy Creek	Lower Judy Creek	6.39818*	24.45	0.20	0.85	0.00	3826.00	240.96
Judy Creek	Lower Judy Creek	7.0	25.40	0.17	0.93	0.00	3826.00	251.35
Judy Creek	Lower Judy Creek	7.42500*	26.15	0.12	0.70	0.00	3514.00	251.88
Judy Creek	Lower Judy Creek	7.85000*	26.78	0.12	0.51	0.00	3514.00	246.84
Judy Creek	Lower Judy Creek	8.27500*	27.25	0.12	0.47	0.00	3514.00	240.43
Judy Creek	Lower Judy Creek	8.70000*	27.70	0.12	0.44	0.00	3514.00	234.45
Judy Creek	Lower Judy Creek	9.12500*	27.99	0.12	0.41	0.00	3514.00	229.71
Judy Creek	Lower Judy Creek	9.55000*	28.50	0.12	0.39	0.00	3514.00	225.25
Judy Creek	Lower Judy Creek	9.975*	28.79	0.13	0.41	0.00	3514.00	221.62
Judy Creek	Lower Judy Creek	10.4*	29.21	0.13	0.43	0.00	3514.00	218.65
Judy Creek	Lower Judy Creek	10.825*	29.80	0.14	0.46	0.00	3514.00	216.23
Judy Creek	Lower Judy Creek	11.25*	30.15	0.15	0.50	0.00	3514.00	214.38
Judy Creek	Lower Judy Creek	11.675*	30.82	0.15	0.53	0.00	3514.00	212.82
Judy Creek	Lower Judy Creek	12.1*	31.26	0.16	0.59	0.00	3514.00	212.43
Judy Creek	Lower Judy Creek	12.525*	31.91	0.16	0.65	0.00	3514.00	213.26
Judy Creek	Lower Judy Creek	12.95*	32.07	0.17	0.69	0.00	3514.00	214.99
Judy Creek	Lower Judy Creek	13.375*	32.59	0.17	0.76	0.00	3514.00	219.31
Judy Creek	Lower Judy Creek	13.8	33.34	0.17	0.82	0.00	3514.00	226.30
Judy Creek	Lower Judy Creek	14.2705*	34.16	0.14	0.77	0.00	3237.00	231.21
Judy Creek	Lower Judy Creek	14.7411*	34.97	0.14	0.64	0.00	3237.00	232.19
Judy Creek	Lower Judy Creek	15.2117*	35.61	0.14	0.68	0.00	3237.00	233.02
Judy Creek	Lower Judy Creek	15.6823*	36.22	0.15	0.60	0.00	3237.00	233.57
Judy Creek	Lower Judy Creek	16.1529*	36.82	0.16	0.61	0.00	3237.00	234.31
Judy Creek	Lower Judy Creek	16.6235*	37.42	0.16	0.65	0.00	3237.00	235.63
Judy Creek	Lower Judy Creek	17.0941*	38.06	0.16	0.68	0.00	3237.00	237.25
Judy Creek	Lower Judy Creek	17.5647*	38.73	0.16	0.69	0.00	3237.00	239.11
Judy Creek	Lower Judy Creek	18.0352*	39.41	0.16	0.70	0.00	3237.00	241.00
Judy Creek	Lower Judy Creek	18.5058*	40.11	0.16	0.70	0.00	3237.00	242.80
Judy Creek	Lower Judy Creek	18.9764*	40.96	0.16	0.70	0.00	3237.00	244.61
Judy Creek	Lower Judy Creek	19.4470*	41.50	0.16	0.70	0.00	3237.00	246.57
Judy Creek	Lower Judy Creek	19.9176*	42.20	0.16	0.67	0.00	3237.00	248.24
Judy Creek	Lower Judy Creek	20.3882*	42.88	0.17	0.63	0.00	3237.00	249.34
Judy Creek	Lower Judy Creek	20.8588*	43.50	0.17	0.63	0.00	3237.00	250.38
Judy Creek	Lower Judy Creek	21.3294*	44.12	0.17	0.63	0.00	3237.00	251.66
Judy Creek	Lower Judy Creek	21.8	44.77	0.17	0.66	0.00	3237.00	253.09
Judy Creek	Lower Judy Creek	22.26*	45.44	0.18	0.68	0.00	2947.00	253.79
Judy Creek	Lower Judy Creek	22.72*	46.09	0.14	0.61	0.00	2947.00	253.58
Judy Creek	Lower Judy Creek	23.18*	46.65	0.15	0.56	0.00	2947.00	253.51
Judy Creek	Lower Judy Creek	23.64*	47.24	0.15	0.60	0.00	2947.00	253.61
Judy Creek	Lower Judy Creek	24.1*	47.86	0.16	0.63	0.00	2947.00	253.83
Judy Creek	Lower Judy Creek	24.56*	48.50	0.16	0.65	0.00	2947.00	254.10
Judy Creek	Lower Judy Creek	25.02*	49.17	0.16	0.67	0.00	2947.00	254.53
Judy Creek	Lower Judy Creek	25.48*	49.85	0.17	0.69	0.00	2947.00	254.98
Judy Creek	Lower Judy Creek	25.94*	50.55	0.17	0.70	0.00	2947.00	254.34
Judy Creek	Lower Judy Creek	26.4*	51.26	0.17	0.72	0.00	2947.00	253.96
Judy Creek	Lower Judy Creek	26.86*	51.99	0.17	0.73	0.00	2947.00	254.20
Judy Creek	Lower Judy Creek	27.32*	52.74	0.17	0.75	0.00	2947.00	254.72
Judy Creek	Lower Judy Creek	27.78*	53.49	0.18	0.76	0.00	2947.00	255.53
Judy Creek	Lower Judy Creek	28.24*	54.27	0.18	0.78	0.00	2947.00	255.90
Judy Creek	Lower Judy Creek	28.7*	55.03	0.18	0.76	0.00	2947.00	254.78
Judy Creek	Lower Judy Creek	29.16*	55.21	0.19	0.72	0.00	2947.00	251.52
Judy Creek	Lower Judy Creek	29.62*	55.95	0.21	0.71	0.00	2947.00	245.47
Judy Creek	Lower Judy Creek	30.08*	56.67	0.23	0.70	0.01	2947.00	231.38
Judy Creek	Lower Judy Creek	30.54*	57.15	0.26	0.73	0.01	2947.00	216.84
Judy Creek	Lower Judy Creek	31.0	57.38	0.27	0.77	0.01	2947.00	197.75
Judy Creek	Lower Judy Creek	31.0	58.62	0.29	0.78	0.01	2947.00	
Judy Creek	Lower Judy Creek	31.0	59.38	0.29	0.78	0.01	2947.00	

Profile Output Table - User Defined Table #1

River	Reach	River Sta	W.S. Elev (ft)	Q Total (cfs)	Q Left (cfs)	Q Channel (cfs)	Q Total (cfs)	Vel Left (ft/s)	Vel Right (ft/s)	Vol Chan (acre-ft)
Fish Creek	Lower Fish Creek	0.7	3.68	8147.00	1206.06	6933.46	8147.00	0.18	0.06	2943.54
Fish Creek	Lower Fish Creek	1.54615*	3.82	6883.00	1132.46	5747.14	6883.00	0.20	0.06	4934.68
Fish Creek	Lower Fish Creek	2.39230*	4.05	6883.00	1028.28	5854.23	6883.00	0.21	0.04	6550.22
Fish Creek	Lower Fish Creek	3.23846*	4.32	6883.00	774.70	6108.13	6883.00	0.19	0.05	8086.50
Fish Creek	Lower Fish Creek	4.08461*	4.60	6883.00		6882.76	6883.00		0.07	9556.20
Fish Creek	Lower Fish Creek	4.93076*	4.88	6883.00		6882.66	6883.00		0.05	12267.90
Fish Creek	Lower Fish Creek	5.77692*	5.14	6883.00		6882.51	6883.00		0.07	10952.72
Fish Creek	Lower Fish Creek	6.62307*	5.40	6883.00		6882.50	6883.00		0.06	13488.92
Fish Creek	Lower Fish Creek	7.46923*	5.67	6883.00		6882.25	6883.00		0.08	14888.92
Fish Creek	Lower Fish Creek	8.31538*	5.96	6883.00		6882.04	6883.00		0.09	14601.14
Fish Creek	Lower Fish Creek	9.16153*	6.30	6883.00		6881.22	6883.00		0.11	15590.11
Fish Creek	Lower Fish Creek	10.0076*	6.74	6883.00		6878.44	6883.00		0.17	16444.15
Fish Creek	Lower Fish Creek	10.8533*	7.30	6883.00		6883.00	6883.00			17144.44
Fish Creek	Lower Fish Creek	11.7	8.26	6883.00		6883.00	6883.00			17666.81
Fish Creek	Lower Fish Creek	12.6	9.15	6752.00		6752.00	6752.00			18115.89
Fish Creek	Lower Fish Creek	13.4285*	9.45	6752.00		6752.00	6752.00			18458.80
Fish Creek	Lower Fish Creek	14.2571*	9.83	6752.00		6752.00	6752.00			18780.63
Fish Creek	Lower Fish Creek	15.0857*	10.27	6752.00		6752.00	6752.00			19084.56
Fish Creek	Lower Fish Creek	15.9142*	10.75	6752.00		6752.00	6752.00			19373.95
Fish Creek	Lower Fish Creek	16.7428*	11.24	6752.00		6752.00	6752.00			19650.67
Fish Creek	Lower Fish Creek	17.5714*	11.79	6752.00		6752.00	6752.00			19916.63
Fish Creek	Lower Fish Creek	18.4	12.38	6752.00		6752.00	6752.00			20174.45
Fish Creek	Lower Fish Creek	19.2375*	12.98	6552.00		6552.00	6552.00			20434.91
Fish Creek	Lower Fish Creek	20.075*	13.49	6552.00		6552.00	6552.00			20697.27
Fish Creek	Lower Fish Creek	20.9125*	13.98	6552.00		6552.00	6552.00			20956.62
Fish Creek	Lower Fish Creek	21.75*	14.48	6552.00		6552.00	6552.00			21209.93
Fish Creek	Lower Fish Creek	22.5875*	14.99	6552.00		6552.00	6552.00			21454.42
Fish Creek	Lower Fish Creek	23.425*	15.58	6552.00		6552.00	6552.00			21688.24
Fish Creek	Lower Fish Creek	24.2625*	16.25	6552.00		6552.00	6552.00			21910.35
Fish Creek	Lower Fish Creek	25.1	16.99	6552.00		6552.00	6552.00			22118.86
Fish Creek	Lower Fish Creek	26.09	17.91	6542.00		6542.00	6542.00			22330.01
Fish Creek	Upper Fish Creek	26.85	18.68	2055.00		2055.00	2055.00			164.33
Fish Creek	Upper Fish Creek	27.6428*	19.05	2027.00		2027.00	2027.00			336.55
Fish Creek	Upper Fish Creek	28.4357*	19.45	2027.00		2027.00	2027.00			503.33
Fish Creek	Upper Fish Creek	29.2285*	19.88	2027.00		2027.00	2027.00			665.71
Fish Creek	Upper Fish Creek	30.0214*	20.33	2027.00		2027.00	2027.00			824.50
Fish Creek	Upper Fish Creek	30.8142*	20.80	2027.00		2027.00	2027.00			980.21
Fish Creek	Upper Fish Creek	31.6071*	21.27	2027.00		2027.00	2027.00			1133.14
Fish Creek	Upper Fish Creek	32.4	21.76	2027.00		2027.00	2027.00			1283.47
Fish Creek	Upper Fish Creek	33.3083*	22.36	1992.00		1992.00	1992.00			1448.48
Fish Creek	Upper Fish Creek	34.2166*	23.02	1992.00		1992.00	1992.00			1612.94
Fish Creek	Upper Fish Creek	35.125*	23.73	1992.00		1992.00	1992.00			1778.37
Fish Creek	Upper Fish Creek	36.0333*	24.46	1992.00		1992.00	1992.00			1945.90
Fish Creek	Upper Fish Creek	36.9416*	25.21	1992.00		1992.00	1992.00			2116.28
Fish Creek	Upper Fish Creek	37.85*	25.95	1992.00		1992.00	1992.00			2289.63
Fish Creek	Upper Fish Creek	38.7583*	26.68	1992.00		1992.00	1992.00			2465.82
Fish Creek	Upper Fish Creek	39.6666*	27.41	1992.00		1992.00	1992.00			2644.82
Fish Creek	Upper Fish Creek	40.575*	28.12	1992.00		1992.00	1992.00			2826.39
Fish Creek	Upper Fish Creek	41.4833*	28.83	1992.00		1992.00	1992.00			3010.19
Fish Creek	Upper Fish Creek	42.3916*	29.54	1992.00		1992.00	1992.00			3196.07
Fish Creek	Upper Fish Creek	43.3	30.25	1992.00		1992.00	1992.00			3384.18
Fish Creek	Lower Judy Creek	0.38	18.71	3935.00		3935.00	3935.00			135.29
Judy Creek	Lower Judy Creek	.981819*	19.15	3826.00		3826.00	3826.00			204.10
Judy Creek	Lower Judy Creek	1.58363*	19.62	3826.00		3826.00	3826.00			270.31
Judy Creek	Lower Judy Creek	2.18545*	20.12	3826.00		3826.00	3826.00			334.29
Judy Creek	Lower Judy Creek	2.78727*	20.65	3826.00		3826.00	3826.00			396.40
Judy Creek	Lower Judy Creek	3.38909*	21.21	3826.00		3826.00	3826.00			456.92
Judy Creek	Lower Judy Creek	3.99090*	21.77	3826.00		3826.00	3826.00			516.01
Judy Creek	Lower Judy Creek	4.59272*	22.33	3826.00		3826.00	3826.00			573.68
Judy Creek	Lower Judy Creek	5.19454*	22.92	3826.00		3826.00	3826.00			630.01
Judy Creek	Lower Judy Creek	5.79636*	23.59	3826.00		3826.00	3826.00			685.47

Judy Creek	6.39818*	24.45	3826.00	3826.00	741.62
Lower Judy Creek	7.0	25.40	3826.00	3826.00	800.88
Lower Judy Creek	7.42500*	26.15	3514.00	3514.00	863.83
Lower Judy Creek	7.85000*	26.66	3514.00	3514.00	923.99
Lower Judy Creek	8.27500*	27.13	3514.00	3514.00	997.22
Lower Judy Creek	8.70000*	27.58	3514.00	3514.00	1064.79
Lower Judy Creek	9.12500*	27.99	3514.00	3514.00	1132.02
Lower Judy Creek	9.55000*	28.38	3514.00	3514.00	1198.28
Lower Judy Creek	9.975*	28.79	3514.00	3514.00	1263.26
Lower Judy Creek	10.4*	29.21	3514.00	3514.00	1326.79
Lower Judy Creek	10.825*	29.66	3514.00	3514.00	1388.81
Lower Judy Creek	11.25*	30.15	3514.00	3514.00	1449.35
Lower Judy Creek	11.675*	30.67	3514.00	3514.00	1508.45
Lower Judy Creek	12.1*	31.26	3514.00	3514.00	1566.29
Lower Judy Creek	12.525*	31.91	3514.00	3514.00	1623.26
Lower Judy Creek	12.95*	32.59	3514.00	3514.00	1679.50
Lower Judy Creek	13.375*	33.34	3514.00	3514.00	1735.22
Lower Judy Creek	13.8	34.16	3514.00	3514.00	1790.94
Lower Judy Creek	14.2705*	34.97	3237.00	3237.00	1850.91
Lower Judy Creek	14.7411*	35.61	3237.00	3237.00	1911.23
Lower Judy Creek	15.2117*	36.22	3237.00	3237.00	1970.68
Lower Judy Creek	15.6823*	36.82	3237.00	3237.00	2029.05
Lower Judy Creek	16.1529*	37.42	3237.00	3237.00	2086.18
Lower Judy Creek	16.6235*	38.06	3237.00	3237.00	2142.34
Lower Judy Creek	17.0941*	38.73	3237.00	3237.00	2198.02
Lower Judy Creek	17.5647*	39.41	3237.00	3237.00	2253.50
Lower Judy Creek	18.0352*	40.11	3237.00	3237.00	2309.00
Lower Judy Creek	18.5058*	40.80	3237.00	3237.00	2364.59
Lower Judy Creek	18.9764*	41.50	3237.00	3237.00	2420.27
Lower Judy Creek	19.4470*	42.20	3237.00	3237.00	2476.12
Lower Judy Creek	19.9176*	42.88	3237.00	3237.00	2532.02
Lower Judy Creek	20.3882*	43.50	3237.00	3237.00	2587.43
Lower Judy Creek	20.8588*	44.12	3237.00	3237.00	2642.01
Lower Judy Creek	21.3294*	44.77	3237.00	3237.00	2695.94
Lower Judy Creek	21.8	45.44	3237.00	3237.00	2749.54
Lower Judy Creek	22.26*	46.09	2947.00	2947.00	2802.50
Lower Judy Creek	22.72*	46.65	2947.00	2947.00	2855.10
Lower Judy Creek	23.18*	47.24	2947.00	2947.00	2906.74
Lower Judy Creek	23.64*	47.86	2947.00	2947.00	2957.63
Lower Judy Creek	24.1*	48.50	2947.00	2947.00	3007.95
Lower Judy Creek	24.56*	49.17	2947.00	2947.00	3057.82
Lower Judy Creek	25.02*	49.85	2947.00	2947.00	3107.31
Lower Judy Creek	25.48*	50.55	2947.00	2947.00	3156.52
Lower Judy Creek	25.94*	51.26	2947.00	2947.00	3205.41
Lower Judy Creek	26.4*	51.99	2947.00	2947.00	3253.99
Lower Judy Creek	26.86*	52.74	2947.00	2947.00	3302.30
Lower Judy Creek	27.32*	53.49	2947.00	2947.00	3350.33
Lower Judy Creek	27.78*	54.27	2947.00	2947.00	3398.10
Lower Judy Creek	28.24*	55.03	2947.00	2947.00	3445.43
Lower Judy Creek	28.7*	55.75	2947.00	2947.00	3491.81
Lower Judy Creek	29.16*	56.46	2947.00	2947.00	3536.60
Lower Judy Creek	29.62*	57.15	2947.00	2947.00	3579.42
Lower Judy Creek	30.08*	57.86	2947.00	2947.00	3620.21
Lower Judy Creek	30.54*	58.62	2947.00	2947.00	3659.33
Lower Judy Creek	31.0	59.38	2947.00	2947.00	3697.13

Profile Output Table - User Defined Table #2

River	Reach	River Sta	W.S. Elev (ft)	Flow Area L (sq ft)	Flow Area R (sq ft)	Flow Area Ch (sq ft)	Hydr Depth L (ft)	Hydr Depth R (ft)	Hydr Depth C (ft)
Fish Creek	Lower Fish Creek	0.7	3.68	6538.54	130.08	34688.36	1.74	0.39	1.73
Fish Creek	Lower Fish Creek	1.54615*	3.82	5723.37	54.96	22534.29	1.28	0.25	1.21
Fish Creek	Lower Fish Creek	2.39230*	4.05	4891.11	13.91	16173.79	1.05	0.07	1.47
Fish Creek	Lower Fish Creek	3.23846*	4.32	4082.81	4.31	15232.29	0.82	0.09	1.92
Fish Creek	Lower Fish Creek	4.08461*	4.60		5.15	14633.27		0.11	2.16
Fish Creek	Lower Fish Creek	4.93076*	4.88		6.57	13937.75		0.14	2.45
Fish Creek	Lower Fish Creek	5.77692*	5.14		7.28	13210.80		0.16	2.94
Fish Creek	Lower Fish Creek	6.62307*	5.40		8.87	12356.37		0.18	3.29
Fish Creek	Lower Fish Creek	7.46923*	5.67		10.78	11380.38		0.20	3.52
Fish Creek	Lower Fish Creek	8.31538*	5.96		15.81	10241.27		0.23	3.77
Fish Creek	Lower Fish Creek	9.16153*	6.30		27.52	8984.48		0.29	4.06
Fish Creek	Lower Fish Creek	10.0076*	6.74			7618.04		0.40	4.53
Fish Creek	Lower Fish Creek	10.8538*	7.30			5995.70		5.04	5.04
Fish Creek	Lower Fish Creek	11.7	8.26			4159.20		5.60	5.60
Fish Creek	Lower Fish Creek	12.6	9.15			3545.32		6.91	6.91
Fish Creek	Lower Fish Creek	13.4285*	9.45			3232.97		6.25	6.25
Fish Creek	Lower Fish Creek	14.2571*	9.83			3123.07		5.93	5.93
Fish Creek	Lower Fish Creek	15.0857*	10.27			2965.20		5.77	5.77
Fish Creek	Lower Fish Creek	15.9142*	10.75			2831.98		5.61	5.61
Fish Creek	Lower Fish Creek	16.7428*	11.24			2711.42		5.44	5.44
Fish Creek	Lower Fish Creek	17.5714*	11.79			2616.35		5.30	5.30
Fish Creek	Lower Fish Creek	18.4	12.38			2548.22		5.19	5.19
Fish Creek	Lower Fish Creek	19.2375*	12.98			2601.39		5.55	5.55
Fish Creek	Lower Fish Creek	20.075*	13.49			2585.97		5.80	5.80
Fish Creek	Lower Fish Creek	20.9125*	13.98			2541.64		6.03	6.03
Fish Creek	Lower Fish Creek	21.75*	14.48			2466.62		6.11	6.11
Fish Creek	Lower Fish Creek	22.5875*	14.99			2367.35		6.07	6.07
Fish Creek	Lower Fish Creek	23.425*	15.58			2255.50		5.95	5.95
Fish Creek	Lower Fish Creek	24.2625*	16.25			2136.02		5.77	5.77
Fish Creek	Lower Fish Creek	25.1	16.99			1986.41		5.60	5.60
Fish Creek	Lower Fish Creek	26.09	17.91			1870.96		5.42	5.42
Fish Creek	Upper Fish Creek	26.85	18.68			1785.86		5.70	5.70
Fish Creek	Upper Fish Creek	27.6428*	19.05			1725.24		5.60	5.60
Fish Creek	Upper Fish Creek	28.4357*	19.45			1675.12		5.51	5.51
Fish Creek	Upper Fish Creek	29.2285*	19.88			1635.49		5.51	5.51
Fish Creek	Upper Fish Creek	30.0214*	20.33			1601.98		5.53	5.53
Fish Creek	Upper Fish Creek	30.8142*	20.80			1572.56		5.58	5.58
Fish Creek	Upper Fish Creek	31.6071*	21.27			1545.39		5.64	5.64
Fish Creek	Upper Fish Creek	32.4	21.76			1519.51		5.70	5.70
Fish Creek	Upper Fish Creek	33.3083*	22.36			1506.18		5.48	5.48
Fish Creek	Upper Fish Creek	34.2166*	23.02			1509.57		5.32	5.32
Fish Creek	Upper Fish Creek	35.125*	23.73			1523.88		5.20	5.20
Fish Creek	Upper Fish Creek	36.0333*	24.46			1547.96		5.12	5.12
Fish Creek	Upper Fish Creek	36.9416*	25.21			1576.41		5.06	5.06
Fish Creek	Upper Fish Creek	37.85*	25.95			1602.21		5.00	5.00
Fish Creek	Upper Fish Creek	38.7583*	26.68			1628.62		4.94	4.94
Fish Creek	Upper Fish Creek	39.6666*	27.41			1653.72		4.90	4.90
Fish Creek	Upper Fish Creek	40.575*	28.12			1675.60		4.84	4.84
Fish Creek	Upper Fish Creek	41.4833*	28.83			1694.73		4.78	4.78
Fish Creek	Upper Fish Creek	42.3916*	29.54			1713.88		4.72	4.72
Fish Creek	Upper Fish Creek	43.3	30.25			1735.46		4.70	4.70
Fish Creek	Lower Judy Creek	0.38	18.71			1319.76		6.20	6.20
Judy Creek	Lower Judy Creek	.981819*	19.15			1268.52		6.13	6.13
Judy Creek	Lower Judy Creek	1.58363*	19.62			1221.82		6.08	6.08
Judy Creek	Lower Judy Creek	2.18545*	20.12			1184.52		6.08	6.08
Judy Creek	Lower Judy Creek	2.78727*	20.65			1151.91		6.09	6.09
Judy Creek	Lower Judy Creek	3.38909*	21.21			1124.49		6.09	6.09
Judy Creek	Lower Judy Creek	3.99090*	21.77			1098.08		6.12	6.12
Judy Creek	Lower Judy Creek	4.59272*	22.33			1070.93		6.11	6.11
Judy Creek	Lower Judy Creek	5.19454*	22.92			1047.85		6.10	6.10
Judy Creek	Lower Judy Creek	5.79636*	23.59			1038.22		5.88	5.88

Judy Creek	Lower Judy Creek	6.39818*	24.45	1073.87	4.46
Judy Creek	Lower Judy Creek	7.0	25.40	1155.02	4.60
Judy Creek	Lower Judy Creek	7.42500*	26.15	1249.60	4.96
Judy Creek	Lower Judy Creek	7.85000*	26.66	1277.88	5.18
Judy Creek	Lower Judy Creek	8.27500*	27.13	1290.07	5.37
Judy Creek	Lower Judy Creek	8.70000*	27.58	1291.17	5.51
Judy Creek	Lower Judy Creek	9.12500*	27.99	1276.82	5.56
Judy Creek	Lower Judy Creek	9.55000*	28.38	1254.24	5.57
Judy Creek	Lower Judy Creek	9.975*	28.79	1227.75	5.54
Judy Creek	Lower Judy Creek	10.4*	29.21	1199.29	5.49
Judy Creek	Lower Judy Creek	10.825*	29.66	1169.77	5.41
Judy Creek	Lower Judy Creek	11.25*	30.15	1142.84	5.33
Judy Creek	Lower Judy Creek	11.675*	30.67	1114.43	5.24
Judy Creek	Lower Judy Creek	12.1*	31.26	1095.08	5.15
Judy Creek	Lower Judy Creek	12.525*	31.91	1081.34	5.07
Judy Creek	Lower Judy Creek	12.95*	32.59	1066.68	4.96
Judy Creek	Lower Judy Creek	13.375*	33.34	1062.01	4.84
Judy Creek	Lower Judy Creek	13.8	34.16	1066.29	4.71
Judy Creek	Lower Judy Creek	14.2705*	34.97	1091.95	4.72
Judy Creek	Lower Judy Creek	14.7411*	35.61	1078.56	4.65
Judy Creek	Lower Judy Creek	15.2117*	36.22	1061.16	4.55
Judy Creek	Lower Judy Creek	15.6823*	36.82	1039.13	4.45
Judy Creek	Lower Judy Creek	16.1529*	37.42	1016.86	4.34
Judy Creek	Lower Judy Creek	16.6235*	38.06	1004.43	4.26
Judy Creek	Lower Judy Creek	17.0941*	38.73	998.99	4.21
Judy Creek	Lower Judy Creek	17.5647*	39.41	997.88	4.17
Judy Creek	Lower Judy Creek	18.0352*	40.11	999.32	4.15
Judy Creek	Lower Judy Creek	18.5058*	40.80	1001.07	4.12
Judy Creek	Lower Judy Creek	18.9764*	41.50	1002.89	4.10
Judy Creek	Lower Judy Creek	19.4470*	42.20	1006.80	4.08
Judy Creek	Lower Judy Creek	19.9176*	42.88	1004.70	4.05
Judy Creek	Lower Judy Creek	20.3882*	43.50	989.55	3.97
Judy Creek	Lower Judy Creek	20.8588*	44.12	974.59	3.89
Judy Creek	Lower Judy Creek	21.3294*	44.77	966.20	3.84
Judy Creek	Lower Judy Creek	21.8	45.44	962.74	3.80
Judy Creek	Lower Judy Creek	22.26*	46.09	970.33	3.82
Judy Creek	Lower Judy Creek	22.72*	46.65	950.07	3.75
Judy Creek	Lower Judy Creek	23.18*	47.24	935.08	3.69
Judy Creek	Lower Judy Creek	23.64*	47.86	922.76	3.64
Judy Creek	Lower Judy Creek	24.1*	48.50	914.14	3.60
Judy Creek	Lower Judy Creek	24.56*	49.17	906.15	3.57
Judy Creek	Lower Judy Creek	25.02*	49.85	900.75	3.54
Judy Creek	Lower Judy Creek	25.48*	50.55	895.54	3.51
Judy Creek	Lower Judy Creek	25.94*	51.26	889.38	3.50
Judy Creek	Lower Judy Creek	26.4*	51.99	884.04	3.48
Judy Creek	Lower Judy Creek	26.86*	52.74	879.28	3.46
Judy Creek	Lower Judy Creek	27.32*	53.49	874.26	3.43
Judy Creek	Lower Judy Creek	27.78*	54.27	869.51	3.40
Judy Creek	Lower Judy Creek	28.24*	55.03	858.46	3.35
Judy Creek	Lower Judy Creek	28.7*	55.75	834.35	3.27
Judy Creek	Lower Judy Creek	29.16*	56.46	800.88	3.18
Judy Creek	Lower Judy Creek	29.62*	57.15	762.42	3.11
Judy Creek	Lower Judy Creek	30.08*	57.86	726.37	3.14
Judy Creek	Lower Judy Creek	30.54*	58.62	701.85	3.24
Judy Creek	Lower Judy Creek	31.0	59.38	677.96	3.43

Profile Output Table - User Defined Table #3

River	Reach	River Sta	W.S. Elev (ft)	Mann Wtd Chnl	Mann Wtd Left	Mann Wtd Right
Fish Creek	Lower Fish Creek	0.7	3.68	0.053	0.055	0.065
Fish Creek	Lower Fish Creek	1.54615*	3.82	0.051	0.060	0.065
Fish Creek	Lower Fish Creek	2.39230*	4.05	0.051	0.060	0.060
Fish Creek	Lower Fish Creek	3.23846*	4.32	0.050	0.055	0.060
Fish Creek	Lower Fish Creek	4.08461*	4.60	0.050		0.060
Fish Creek	Lower Fish Creek	4.93076*	4.88	0.050		0.060
Fish Creek	Lower Fish Creek	5.77692*	5.14	0.049		0.050
Fish Creek	Lower Fish Creek	6.62307*	5.40	0.049		0.055
Fish Creek	Lower Fish Creek	7.46923*	5.67	0.049		0.050
Fish Creek	Lower Fish Creek	8.31538*	5.96	0.049		0.050
Fish Creek	Lower Fish Creek	9.16153*	6.30	0.049		0.055
Fish Creek	Lower Fish Creek	10.0076*	6.74	0.049		0.050
Fish Creek	Lower Fish Creek	10.8538*	7.30	0.050		0.050
Fish Creek	Lower Fish Creek	11.7	8.26	0.050		0.050
Fish Creek	Lower Fish Creek	12.6	9.15	0.022		0.022
Fish Creek	Lower Fish Creek	13.4285*	9.45	0.022		0.022
Fish Creek	Lower Fish Creek	14.2571*	9.83	0.022		0.022
Fish Creek	Lower Fish Creek	15.0857*	10.27	0.022		0.022
Fish Creek	Lower Fish Creek	15.9142*	10.75	0.021		0.021
Fish Creek	Lower Fish Creek	16.7428*	11.24	0.020		0.020
Fish Creek	Lower Fish Creek	17.5714*	11.79	0.020		0.020
Fish Creek	Lower Fish Creek	18.4	12.38	0.020		0.020
Fish Creek	Lower Fish Creek	19.2375*	12.98	0.020		0.020
Fish Creek	Lower Fish Creek	20.075*	13.49	0.020		0.020
Fish Creek	Lower Fish Creek	20.9125*	13.98	0.020		0.020
Fish Creek	Lower Fish Creek	21.75*	14.48	0.020		0.020
Fish Creek	Lower Fish Creek	22.5875*	14.99	0.020		0.020
Fish Creek	Lower Fish Creek	23.425*	15.58	0.020		0.020
Fish Creek	Lower Fish Creek	24.2625*	16.25	0.020		0.020
Fish Creek	Lower Fish Creek	25.1	16.99	0.019		0.019
Fish Creek	Lower Fish Creek	26.09	17.91	0.019		0.019
Fish Creek	Upper Fish Creek	26.85	18.68	0.038		0.038
Fish Creek	Upper Fish Creek	27.6428*	19.05	0.038		0.038
Fish Creek	Upper Fish Creek	28.4357*	19.45	0.038		0.038
Fish Creek	Upper Fish Creek	29.2285*	19.88	0.038		0.038
Fish Creek	Upper Fish Creek	30.0214*	20.33	0.038		0.038
Fish Creek	Upper Fish Creek	30.8142*	20.80	0.038		0.038
Fish Creek	Upper Fish Creek	31.6071*	21.27	0.038		0.038
Fish Creek	Upper Fish Creek	32.4	21.76	0.038		0.038
Fish Creek	Upper Fish Creek	33.3083*	22.36	0.040		0.040
Fish Creek	Upper Fish Creek	34.2166*	23.02	0.041		0.041
Fish Creek	Upper Fish Creek	35.125*	23.73	0.042		0.042
Fish Creek	Upper Fish Creek	36.0333*	24.46	0.043		0.043
Fish Creek	Upper Fish Creek	36.9416*	25.21	0.043		0.043
Fish Creek	Upper Fish Creek	37.85*	25.95	0.043		0.043
Fish Creek	Upper Fish Creek	38.7583*	26.68	0.044		0.044
Fish Creek	Upper Fish Creek	39.6666*	27.41	0.044		0.044
Fish Creek	Upper Fish Creek	40.575*	28.12	0.043		0.043
Fish Creek	Upper Fish Creek	41.4833*	28.83	0.043		0.043
Fish Creek	Upper Fish Creek	42.3916*	29.54	0.044		0.044
Fish Creek	Upper Fish Creek	43.3	30.25	0.044		0.044
Judy Creek	Lower Judy Creek	0.38	18.71	0.023		0.023
Judy Creek	Lower Judy Creek	.981819*	19.15	0.023		0.023
Judy Creek	Lower Judy Creek	1.58363*	19.62	0.023		0.023
Judy Creek	Lower Judy Creek	2.18545*	20.12	0.023		0.023
Judy Creek	Lower Judy Creek	2.78727*	20.65	0.023		0.023
Judy Creek	Lower Judy Creek	3.38909*	21.21	0.023		0.023
Judy Creek	Lower Judy Creek	3.99090*	21.77	0.022		0.022
Judy Creek	Lower Judy Creek	4.59272*	22.33	0.022		0.022
Judy Creek	Lower Judy Creek	5.19454*	22.92	0.022		0.022
Judy Creek	Lower Judy Creek	5.79636*	23.59	0.023		0.023

Judy Creek	Lower Judy Creek	6.39818*	24.45	0.023
Judy Creek	Lower Judy Creek	7.0	25.40	0.024
Judy Creek	Lower Judy Creek	7.42500*	26.15	0.023
Judy Creek	Lower Judy Creek	7.85000*	26.66	0.023
Judy Creek	Lower Judy Creek	8.27500*	27.13	0.023
Judy Creek	Lower Judy Creek	8.70000*	27.58	0.023
Judy Creek	Lower Judy Creek	9.12500*	27.99	0.022
Judy Creek	Lower Judy Creek	9.55000*	28.38	0.022
Judy Creek	Lower Judy Creek	9.975*	28.79	0.022
Judy Creek	Lower Judy Creek	10.4*	29.21	0.022
Judy Creek	Lower Judy Creek	10.825*	29.66	0.022
Judy Creek	Lower Judy Creek	11.25*	30.15	0.022
Judy Creek	Lower Judy Creek	11.675*	30.67	0.022
Judy Creek	Lower Judy Creek	12.1*	31.26	0.023
Judy Creek	Lower Judy Creek	12.525*	31.91	0.023
Judy Creek	Lower Judy Creek	12.95*	32.59	0.023
Judy Creek	Lower Judy Creek	13.375*	33.34	0.024
Judy Creek	Lower Judy Creek	13.8	34.16	0.024
Judy Creek	Lower Judy Creek	14.2705*	34.97	0.023
Judy Creek	Lower Judy Creek	14.7411*	35.61	0.022
Judy Creek	Lower Judy Creek	15.2117*	36.22	0.021
Judy Creek	Lower Judy Creek	15.6823*	36.82	0.020
Judy Creek	Lower Judy Creek	16.1529*	37.42	0.020
Judy Creek	Lower Judy Creek	16.6235*	38.06	0.020
Judy Creek	Lower Judy Creek	17.0941*	38.73	0.020
Judy Creek	Lower Judy Creek	17.5647*	39.41	0.020
Judy Creek	Lower Judy Creek	18.0352*	40.11	0.020
Judy Creek	Lower Judy Creek	18.5058*	40.80	0.020
Judy Creek	Lower Judy Creek	18.9764*	41.50	0.020
Judy Creek	Lower Judy Creek	19.4470*	42.20	0.020
Judy Creek	Lower Judy Creek	19.9176*	42.88	0.019
Judy Creek	Lower Judy Creek	20.3882*	43.50	0.018
Judy Creek	Lower Judy Creek	20.8588*	44.12	0.018
Judy Creek	Lower Judy Creek	21.3294*	44.77	0.018
Judy Creek	Lower Judy Creek	21.8	45.44	0.018
Judy Creek	Lower Judy Creek	22.26*	46.09	0.018
Judy Creek	Lower Judy Creek	22.72*	46.65	0.018
Judy Creek	Lower Judy Creek	23.18*	47.24	0.018
Judy Creek	Lower Judy Creek	23.64*	47.86	0.018
Judy Creek	Lower Judy Creek	24.1*	48.50	0.018
Judy Creek	Lower Judy Creek	24.56*	49.17	0.018
Judy Creek	Lower Judy Creek	25.02*	49.85	0.018
Judy Creek	Lower Judy Creek	25.48*	50.55	0.018
Judy Creek	Lower Judy Creek	25.94*	51.26	0.018
Judy Creek	Lower Judy Creek	26.4*	51.99	0.018
Judy Creek	Lower Judy Creek	26.86*	52.74	0.018
Judy Creek	Lower Judy Creek	27.32*	53.49	0.018
Judy Creek	Lower Judy Creek	27.78*	54.27	0.018
Judy Creek	Lower Judy Creek	28.24*	55.03	0.017
Judy Creek	Lower Judy Creek	28.7*	55.75	0.016
Judy Creek	Lower Judy Creek	29.16*	56.46	0.015
Judy Creek	Lower Judy Creek	29.62*	57.15	0.014
Judy Creek	Lower Judy Creek	30.08*	57.86	0.014
Judy Creek	Lower Judy Creek	30.54*	58.62	0.014
Judy Creek	Lower Judy Creek	31.0	59.38	0.014

Profile Output Table - User Defined Table #4

River	Reach	River Sta	W.S. Elev (ft)	Shear Chan (lb/sq ft)	Shear LOB (lb/sq ft)	Shear ROB (lb/sq ft)	Power Chan (lb/ft s)	Power LOB (lb/ft s)	Power ROB (lb/ft s)
Fish Creek	Lower Fish Creek	0.7	3.68	0.00	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	1.54615*	3.82	0.00	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	2.39230*	4.05	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	3.23846*	4.32	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	4.08461*	4.60	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	4.93076*	4.88	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	5.77692*	5.14	0.01	0.00	0.00	0.01	0.00	0.00
Fish Creek	Lower Fish Creek	6.62307*	5.40	0.01	0.00	0.00	0.01	0.00	0.00
Fish Creek	Lower Fish Creek	7.46923*	5.67	0.02	0.00	0.00	0.01	0.00	0.00
Fish Creek	Lower Fish Creek	8.31538*	5.96	0.01	0.00	0.00	0.01	0.00	0.00
Fish Creek	Lower Fish Creek	9.16153*	6.30	0.02	0.00	0.00	0.02	0.00	0.00
Fish Creek	Lower Fish Creek	10.0076*	6.74	0.03	0.00	0.00	0.03	0.00	0.00
Fish Creek	Lower Fish Creek	10.85338*	7.30	0.04	0.00	0.00	0.05	0.00	0.00
Fish Creek	Lower Fish Creek	11.7	8.26	0.10	0.00	0.00	0.17	0.00	0.00
Fish Creek	Lower Fish Creek	12.6	9.15	0.03	0.00	0.00	0.05	0.00	0.00
Fish Creek	Lower Fish Creek	13.4285*	9.45	0.03	0.00	0.00	0.06	0.00	0.00
Fish Creek	Lower Fish Creek	14.2571*	9.83	0.04	0.00	0.00	0.08	0.00	0.00
Fish Creek	Lower Fish Creek	15.0857*	10.27	0.04	0.00	0.00	0.09	0.00	0.00
Fish Creek	Lower Fish Creek	15.9142*	10.75	0.04	0.00	0.00	0.10	0.00	0.00
Fish Creek	Lower Fish Creek	16.7428*	11.24	0.04	0.00	0.00	0.10	0.00	0.00
Fish Creek	Lower Fish Creek	17.5714*	11.79	0.04	0.00	0.00	0.11	0.00	0.00
Fish Creek	Lower Fish Creek	18.4	12.38	0.05	0.00	0.00	0.12	0.00	0.00
Fish Creek	Lower Fish Creek	19.2375*	12.98	0.04	0.00	0.00	0.10	0.00	0.00
Fish Creek	Lower Fish Creek	20.075*	13.49	0.04	0.00	0.00	0.10	0.00	0.00
Fish Creek	Lower Fish Creek	20.9125*	13.98	0.04	0.00	0.00	0.11	0.00	0.00
Fish Creek	Lower Fish Creek	21.75*	14.48	0.04	0.00	0.00	0.12	0.00	0.00
Fish Creek	Lower Fish Creek	22.5875*	14.99	0.05	0.00	0.00	0.13	0.00	0.00
Fish Creek	Lower Fish Creek	23.425*	15.58	0.05	0.00	0.00	0.15	0.00	0.00
Fish Creek	Lower Fish Creek	24.2625*	16.25	0.06	0.00	0.00	0.18	0.00	0.00
Fish Creek	Lower Fish Creek	25.1	16.99	0.06	0.00	0.00	0.21	0.00	0.00
Fish Creek	Lower Fish Creek	26.09	17.91	0.07	0.00	0.00	0.25	0.00	0.00
Fish Creek	Upper Fish Creek	26.85	18.68	0.03	0.00	0.00	0.03	0.00	0.00
Fish Creek	Upper Fish Creek	27.6428*	19.05	0.03	0.00	0.00	0.04	0.00	0.00
Fish Creek	Upper Fish Creek	28.4357*	19.45	0.03	0.00	0.00	0.04	0.00	0.00
Fish Creek	Upper Fish Creek	29.2285*	19.88	0.04	0.00	0.00	0.04	0.00	0.00
Fish Creek	Upper Fish Creek	30.0214*	20.33	0.04	0.00	0.00	0.05	0.00	0.00
Fish Creek	Upper Fish Creek	30.8142*	20.80	0.04	0.00	0.00	0.05	0.00	0.00
Fish Creek	Upper Fish Creek	31.6071*	21.27	0.04	0.00	0.00	0.05	0.00	0.00
Fish Creek	Upper Fish Creek	32.4	21.76	0.04	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	33.3083*	22.36	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	34.2166*	23.02	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	35.125*	23.73	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	36.0333*	24.46	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	36.9416*	25.21	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	37.85*	25.95	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	38.7583*	26.68	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	39.6666*	27.41	0.05	0.00	0.00	0.06	0.00	0.00
Fish Creek	Upper Fish Creek	40.575*	28.12	0.04	0.00	0.00	0.05	0.00	0.00
Fish Creek	Upper Fish Creek	41.4833*	28.83	0.04	0.00	0.00	0.05	0.00	0.00
Fish Creek	Upper Fish Creek	42.3916*	29.54	0.04	0.00	0.00	0.05	0.00	0.00
Fish Creek	Upper Fish Creek	43.3	30.25	0.04	0.00	0.00	0.05	0.00	0.00
Judy Creek	Lower Judy Creek	0.38	18.71	0.07	0.00	0.00	0.22	0.00	0.00
Judy Creek	Lower Judy Creek	.981819*	19.15	0.07	0.00	0.00	0.22	0.00	0.00
Judy Creek	Lower Judy Creek	1.58363*	19.62	0.08	0.00	0.00	0.25	0.00	0.00
Judy Creek	Lower Judy Creek	2.18545*	20.12	0.09	0.00	0.00	0.28	0.00	0.00
Judy Creek	Lower Judy Creek	2.78727*	20.65	0.09	0.00	0.00	0.30	0.00	0.00
Judy Creek	Lower Judy Creek	3.38909*	21.21	0.10	0.00	0.00	0.32	0.00	0.00
Judy Creek	Lower Judy Creek	3.99090*	21.77	0.09	0.00	0.00	0.32	0.00	0.00
Judy Creek	Lower Judy Creek	4.59272*	22.33	0.10	0.00	0.00	0.34	0.00	0.00
Judy Creek	Lower Judy Creek	5.19454*	22.92	0.10	0.00	0.00	0.37	0.00	0.00
Judy Creek	Lower Judy Creek	5.79636*	23.59	0.11	0.00	0.00	0.42	0.00	0.00

Judy Creek	Lower Judy Creek	6.39818*	24.45	0.12	0.41
Judy Creek	Lower Judy Creek	7.0	25.40	0.11	0.36
Judy Creek	Lower Judy Creek	7.42500*	26.15	0.07	0.20
Judy Creek	Lower Judy Creek	7.85000*	26.66	0.07	0.19
Judy Creek	Lower Judy Creek	8.27500*	27.13	0.07	0.18
Judy Creek	Lower Judy Creek	8.70000*	27.58	0.06	0.17
Judy Creek	Lower Judy Creek	9.12500*	27.99	0.06	0.16
Judy Creek	Lower Judy Creek	9.55000*	28.38	0.06	0.17
Judy Creek	Lower Judy Creek	9.975*	28.79	0.06	0.18
Judy Creek	Lower Judy Creek	10.4*	29.21	0.07	0.20
Judy Creek	Lower Judy Creek	10.825*	29.66	0.07	0.21
Judy Creek	Lower Judy Creek	11.25*	30.15	0.07	0.23
Judy Creek	Lower Judy Creek	11.675*	30.67	0.08	0.25
Judy Creek	Lower Judy Creek	12.1*	31.26	0.09	0.29
Judy Creek	Lower Judy Creek	12.525*	31.91	0.09	0.30
Judy Creek	Lower Judy Creek	12.95*	32.59	0.10	0.31
Judy Creek	Lower Judy Creek	13.375*	33.34	0.11	0.35
Judy Creek	Lower Judy Creek	13.8	34.16	0.11	0.35
Judy Creek	Lower Judy Creek	14.2705*	34.97	0.08	0.23
Judy Creek	Lower Judy Creek	14.7411*	35.61	0.07	0.22
Judy Creek	Lower Judy Creek	15.2117*	36.22	0.07	0.21
Judy Creek	Lower Judy Creek	15.6823*	36.82	0.07	0.21
Judy Creek	Lower Judy Creek	16.1529*	37.42	0.07	0.22
Judy Creek	Lower Judy Creek	16.6235*	38.06	0.07	0.23
Judy Creek	Lower Judy Creek	17.0941*	38.73	0.07	0.24
Judy Creek	Lower Judy Creek	17.5647*	39.41	0.07	0.24
Judy Creek	Lower Judy Creek	18.0352*	40.11	0.07	0.24
Judy Creek	Lower Judy Creek	18.5058*	40.80	0.07	0.24
Judy Creek	Lower Judy Creek	18.9764*	41.50	0.07	0.24
Judy Creek	Lower Judy Creek	19.4470*	42.20	0.07	0.24
Judy Creek	Lower Judy Creek	19.9176*	42.88	0.07	0.21
Judy Creek	Lower Judy Creek	20.3882*	43.50	0.06	0.20
Judy Creek	Lower Judy Creek	20.8588*	44.12	0.06	0.21
Judy Creek	Lower Judy Creek	21.3294*	44.77	0.07	0.22
Judy Creek	Lower Judy Creek	21.8	45.44	0.07	0.22
Judy Creek	Lower Judy Creek	22.26*	46.09	0.05	0.16
Judy Creek	Lower Judy Creek	22.72*	46.65	0.06	0.18
Judy Creek	Lower Judy Creek	23.18*	47.24	0.06	0.19
Judy Creek	Lower Judy Creek	23.64*	47.86	0.06	0.19
Judy Creek	Lower Judy Creek	24.1*	48.50	0.06	0.20
Judy Creek	Lower Judy Creek	24.56*	49.17	0.06	0.21
Judy Creek	Lower Judy Creek	25.02*	49.85	0.06	0.21
Judy Creek	Lower Judy Creek	25.48*	50.55	0.07	0.21
Judy Creek	Lower Judy Creek	25.94*	51.26	0.07	0.22
Judy Creek	Lower Judy Creek	26.4*	51.99	0.07	0.22
Judy Creek	Lower Judy Creek	26.86*	52.74	0.07	0.23
Judy Creek	Lower Judy Creek	27.32*	53.49	0.07	0.23
Judy Creek	Lower Judy Creek	27.78*	54.27	0.07	0.24
Judy Creek	Lower Judy Creek	28.24*	55.03	0.06	0.22
Judy Creek	Lower Judy Creek	28.7*	55.75	0.06	0.21
Judy Creek	Lower Judy Creek	29.16*	56.46	0.06	0.22
Judy Creek	Lower Judy Creek	29.62*	57.15	0.06	0.22
Judy Creek	Lower Judy Creek	30.08*	57.86	0.06	0.25
Judy Creek	Lower Judy Creek	30.54*	58.62	0.07	0.28
Judy Creek	Lower Judy Creek	31.0	59.38	0.07	0.30

HEC-RAS Calibration Report, Fish and Judy Creeks, 13 June Data

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X   X   XXXXXX   XXXX   XXXX   XX   XXXX
X   X   X   X   X   X   X   X   X
X   X   X   X   X   X   X   X   X
XXXXXXX   XXXX   XXX   XXXX   XXXXXX   XXXX
X   X   X   X   X   X   X   X   X
X   X   X   X   X   X   X   X   X
X   X   XXXXXX   XXXX   X   X   X   XXXX
  
```

PROJECT DATA
 Project Title: BW Analysis - 11 & 13 June Calibrated
 Project File : 4March02.prj
 Run Date and Time: 3/4/2002 11:48:02 AM

Project in English units

HEC-RAS Calibration Report, Fish and Judy Creeks, 13 June Data

PLAN DATA

Plan Title: 13 June 2001 Calibration
 Plan File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4March02.p01

Geometry Title: 13 June Calibrated
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4March02.g01
 Flow Title : 13 June 2001 Calibration
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4March02.f01

Plan Summary Information:
 Number of: Cross Sections = 116 Multiple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information
 Water surface calculation tolerance = 0.01
 Critical depth calculation tolerance = 0.01
 Maximum number of iterations = 20
 Maximum difference tolerance = 0.3
 Flow tolerance factor = 0.001

Computation Options
 Critical depth computed only where necessary
 Conveyance Calculation Method: At breaks in n values only
 Friction Slope Method: Average Friction Slope
 Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: 13 June 2001 Calibration
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4march02.f01

Flow Data (cfs)

River	Reach	RS	Calibration
Fish Creek	Upper Fish Creek	43.3	1948
Fish Creek	Upper Fish Creek	32.4	1983
Fish Creek	Upper Fish Creek	26.85	2010
Fish Creek	Lower Fish Creek	26.09	4662
Fish Creek	Lower Fish Creek	25.1	4668
Fish Creek	Lower Fish Creek	18.4	4811
Fish Creek	Lower Fish Creek	12.6	4905
Fish Creek	Lower Fish Creek	11.7	4905
Fish Creek	Lower Fish Creek	0.7	5805
Judy Creek	Lower Judy Creek	31.0	2009
Judy Creek	Lower Judy Creek	21.8	2206
Judy Creek	Lower Judy Creek	13.8	2396
Judy Creek	Lower Judy Creek	7.0	2608
Judy Creek	Lower Judy Creek	0.38	2683

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Fish Creek	Lower Fish Creek	Calibration		Normal S = .000075

GEOMETRY DATA

Geometry Title: 13 June Calibrated
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\4march02.g01

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Fish Creek	Upper Fish Creek		Fish Junct.
Fish Creek	Lower Fish Creek	Fish Junct.	
Judy Creek	Lower Judy Creek		Fish Junct.

JUNCTION INFORMATION

Name: Fish Junct.
 Description: Confluence of Fish and Judy Creek
 Energy computation Method

Length across Junction	Tributary	Reach	Length	Angle
Fish Creek	River	Lower Fish Creek	3915	
Judy Creek	Upper Fish Creek to Fish Creek	Lower Fish Creek	3694	

SUMMARY OF MANNING'S N VALUES

River:Fish Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n13	n14	n15
Upper Fish Creek	43.3	.04	.027	.07	.04	.028	.06	.05	.04	.05	.04	.023	.06	.04	.06	.04
Upper Fish Creek	42.3916*	.04	.027	.07	.05	.04	.05	.04	.06	.05	.07	.023	.06	.04	.06	.04
Upper Fish Creek	41.4833*	.04	.027	.07	.05	.06	.06	.04	.06	.04	.05	.023	.06	.04	.06	.04
Upper Fish Creek	40.575*	.04	.027	.07	.05	.06	.06	.04	.06	.04	.05	.023	.06	.04	.06	.04
Upper Fish Creek	39.6666*	.04	.027	.07	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	38.7583*	.04	.027	.07	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Upper Fish Creek	37.85*	.04	.028	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Upper Fish Creek	36.9416*	.04	.028	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	36.0333*	.04	.028	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	35.125*	.04	.028	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Upper Fish Creek	34.2166*	.04	.028	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	33.3083*	.04	.028	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	32.4	.04	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07
Upper Fish Creek	31.6071*	.04	.07	.028	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	30.8142*	.04	.07	.027	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Upper Fish Creek	30.0214*	.04	.07	.027	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Upper Fish Creek	29.2285*	.04	.07	.027	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	28.4357*	.04	.07	.027	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	27.6428*	.04	.07	.027	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Upper Fish Creek	26.85	.04	.05	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Upper Fish Creek	26.09	.05	.04	.04	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Upper Fish Creek	25.1	.05	.08	.08	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Lower Fish Creek	24.2625*	.05	.08	.023	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	23.425*	.05	.08	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	22.5875*	.05	.09	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	21.75*	.05	.09	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	20.9125*	.05	.1	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	20.075*	.05	.1	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	19.2375*	.05	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	18.4	.05	.06	.04	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	17.5714*	.05	.11	.021	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	16.7428*	.05	.11	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	15.9142*	.05	.11	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	15.0857*	.05	.11	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	14.2571*	.05	.11	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	13.4285*	.05	.11	.022	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	12.6	.06	.04	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	11.7	.06	.04	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	10.8538*	.06	.11	.047	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Lower Fish Creek	10.0076*	.05	.1	.047	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Lower Fish Creek	9.16153*	.05	.09	.047	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Lower Fish Creek	8.31538*	.05	.09	.047	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Lower Fish Creek	7.46923*	.05	.09	.047	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Lower Fish Creek	6.62307*	.05	.08	.047	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Lower Fish Creek	5.77692*	.05	.08	.047	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Lower Fish Creek	4.93076*	.05	.08	.047	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Lower Fish Creek	4.08461*	.055	.07	.047	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Lower Fish Creek	3.23846*	.055	.07	.047	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055
Lower Fish Creek	2.39230*	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	1.54615*	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Lower Fish Creek	0.7	.065	.055	.047	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055	.055

River:Judy Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9
Lower Judy Creek	31.0	.05	.029	.1	.05	.05	.05	.05	.05	.05
Lower Judy Creek	30.54*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	30.08*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	29.62*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	29.16*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	28.7*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	28.24*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	27.78*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	27.32*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	26.86*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	26.4*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	25.94*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	25.48*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	25.02*	.05	.029	.05	.05	.05	.05	.05	.05	.05
Lower Judy Creek	24.56*	.05	.029	.05	.05	.05	.05	.05	.05	.05

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	24.1*	.05	.029	.05
Lower Judy Creek	23.64*	.05	.029	.05
Lower Judy Creek	23.18*	.05	.029	.05
Lower Judy Creek	22.72*	.05	.029	.05
Lower Judy Creek	22.26*	.05	.029	.05
Lower Judy Creek	21.8	.05	.11	.05
Lower Judy Creek	21.3294*	.05	.029	.05
Lower Judy Creek	20.8588*	.05	.029	.05
Lower Judy Creek	20.3882*	.05	.029	.05
Lower Judy Creek	19.9176*	.05	.029	.05
Lower Judy Creek	19.4470*	.05	.029	.05
Lower Judy Creek	18.9764*	.05	.029	.05
Lower Judy Creek	18.5058*	.05	.029	.05
Lower Judy Creek	18.0352*	.05	.029	.05
Lower Judy Creek	17.5647*	.05	.029	.05
Lower Judy Creek	17.0941*	.05	.029	.05
Lower Judy Creek	16.6235*	.05	.029	.05
Lower Judy Creek	16.1529*	.05	.029	.05
Lower Judy Creek	15.6823*	.05	.029	.05
Lower Judy Creek	15.2117*	.05	.029	.05
Lower Judy Creek	14.7411*	.05	.029	.05
Lower Judy Creek	14.2705*	.05	.029	.05
Lower Judy Creek	13.8	.05	.04	.05
Lower Judy Creek	13.375*	.04	.029	.05
Lower Judy Creek	12.95*	.04	.029	.05
Lower Judy Creek	12.525*	.04	.029	.05
Lower Judy Creek	12.1*	.04	.029	.05
Lower Judy Creek	11.675*	.04	.029	.05
Lower Judy Creek	11.25*	.04	.029	.05
Lower Judy Creek	10.825*	.04	.03	.05
Lower Judy Creek	10.4*	.04	.03	.05
Lower Judy Creek	9.975*	.04	.03	.05
Lower Judy Creek	9.5500*	.04	.03	.05
Lower Judy Creek	9.12500*	.04	.03	.05
Lower Judy Creek	8.70000*	.04	.03	.05
Lower Judy Creek	8.27500*	.04	.03	.05
Lower Judy Creek	7.85000*	.04	.03	.05
Lower Judy Creek	7.42500*	.04	.03	.05
Lower Judy Creek	7.0	.04	.05	.04
Lower Judy Creek	6.39818*	.04	.031	.05
Lower Judy Creek	5.79636*	.04	.03	.05
Lower Judy Creek	5.19454*	.04	.03	.05
Lower Judy Creek	4.59272*	.04	.03	.05
Lower Judy Creek	3.99090*	.04	.03	.05
Lower Judy Creek	3.38909*	.04	.03	.05
Lower Judy Creek	2.78727*	.04	.03	.05
Lower Judy Creek	2.18545*	.04	.03	.05
Lower Judy Creek	1.58363*	.04	.03	.05
Lower Judy Creek	.981819*	.04	.03	.05
Lower Judy Creek	0.38	.04	.03	.06

SUMMARY OF REACH LENGTHS

River: Fish Creek

Reach	River Sta.	Left	Channel	Right
Upper Fish Creek	43.3	1903.5	4751.08	1745.42
Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171
Upper Fish Creek	29.2285*	2464.43	4273.14	2171
Upper Fish Creek	28.4357*	2464.43	4273.14	2171

Upper Fish Creek	27.6428*	2464.43	4273.14	2171
Upper Fish Creek	26.85	0	0	0
Lower Fish Creek	26.09	2826	4769	4679
Lower Fish Creek	25.1	2028.75	4406.38	2370.38
Lower Fish Creek	24.2625*	2028.75	4406.38	2370.38
Lower Fish Creek	23.425*	2028.75	4406.38	2370.38
Lower Fish Creek	22.5875*	2028.75	4406.38	2370.38
Lower Fish Creek	21.75*	2028.75	4406.38	2370.38
Lower Fish Creek	20.9125*	2028.75	4406.38	2370.38
Lower Fish Creek	20.075*	2028.75	4406.38	2370.38
Lower Fish Creek	19.2375*	2028.75	4406.38	2370.38
Lower Fish Creek	18.4	3217.29	4349	2885.43
Lower Fish Creek	17.5714*	3217.29	4349	2885.43
Lower Fish Creek	16.7428*	3217.29	4349	2885.43
Lower Fish Creek	15.9142*	3217.29	4349	2885.43
Lower Fish Creek	15.0857*	3217.29	4349	2885.43
Lower Fish Creek	14.2571*	3217.29	4349	2885.43
Lower Fish Creek	13.4285*	3217.29	4349	2885.43
Lower Fish Creek	12.6	1090	5078	2467
Lower Fish Creek	11.7	2559	4481.46	2515.69
Lower Fish Creek	10.8538*	2559	4481.46	2515.69
Lower Fish Creek	10.0076*	2559	4481.46	2515.69
Lower Fish Creek	9.16153*	2559	4481.46	2515.69
Lower Fish Creek	8.31538*	2559	4481.46	2515.69
Lower Fish Creek	7.46923*	2559	4481.46	2515.69
Lower Fish Creek	6.62307*	2559	4481.46	2515.69
Lower Fish Creek	5.77692*	2559	4481.46	2515.69
Lower Fish Creek	4.93076*	2559	4481.46	2515.69
Lower Fish Creek	4.08461*	2559	4481.46	2515.69
Lower Fish Creek	3.23846*	2559	4481.46	2515.69
Lower Fish Creek	2.39230*	2559	4481.46	2515.69
Lower Fish Creek	1.54615*	2559	4481.46	2515.7
Lower Fish Creek	0.7	0	0	0

River: Judy Creek

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	31.0	1164.9	2386.5	1005.25
Lower Judy Creek	30.54*	1164.9	2386.5	1005.25
Lower Judy Creek	30.08*	1164.9	2386.5	1005.25
Lower Judy Creek	29.62*	1164.9	2386.5	1005.25
Lower Judy Creek	29.16*	1164.9	2386.5	1005.25
Lower Judy Creek	28.7*	1164.9	2386.5	1005.25
Lower Judy Creek	28.24*	1164.9	2386.5	1005.25
Lower Judy Creek	27.78*	1164.9	2386.5	1005.25
Lower Judy Creek	27.32*	1164.9	2386.5	1005.25
Lower Judy Creek	26.86*	1164.9	2386.5	1005.25
Lower Judy Creek	26.4*	1164.9	2386.5	1005.25
Lower Judy Creek	25.94*	1164.9	2386.5	1005.25
Lower Judy Creek	25.48*	1164.9	2386.5	1005.25
Lower Judy Creek	25.02*	1164.9	2386.5	1005.25
Lower Judy Creek	24.56*	1164.9	2386.5	1005.25
Lower Judy Creek	24.1*	1164.9	2386.5	1005.25
Lower Judy Creek	23.64*	1164.9	2386.5	1005.25
Lower Judy Creek	23.18*	1164.9	2386.5	1005.25
Lower Judy Creek	22.72*	1164.9	2386.5	1005.25
Lower Judy Creek	22.26*	1164.9	2386.5	1005.25
Lower Judy Creek	21.8	1459.47	2420.88	1416
Lower Judy Creek	21.3294*	1459.47	2420.88	1416
Lower Judy Creek	20.8588*	1459.47	2420.88	1416
Lower Judy Creek	20.3882*	1459.47	2420.88	1416
Lower Judy Creek	19.9176*	1459.47	2420.88	1416
Lower Judy Creek	19.4470*	1459.47	2420.88	1416
Lower Judy Creek	18.9764*	1459.47	2420.88	1416

Lower Judy Creek	18.5058*	1459.47	2420.88	1416
Lower Judy Creek	18.0352*	1459.47	2420.88	1416
Lower Judy Creek	17.5647*	1459.47	2420.88	1416
Lower Judy Creek	17.0941*	1459.47	2420.88	1416
Lower Judy Creek	16.6235*	1459.47	2420.88	1416
Lower Judy Creek	16.1529*	1459.47	2420.88	1416
Lower Judy Creek	15.6823*	1459.47	2420.88	1416
Lower Judy Creek	15.2117*	1459.47	2420.88	1416
Lower Judy Creek	14.7411*	1459.47	2420.88	1416
Lower Judy Creek	14.2705*	1459.47	2420.88	1416
Lower Judy Creek	13.8	1530.69	2280.69	1205.25
Lower Judy Creek	13.375*	1530.69	2280.69	1205.25
Lower Judy Creek	12.95*	1530.69	2280.69	1205.25
Lower Judy Creek	12.525*	1530.69	2280.69	1205.25
Lower Judy Creek	12.1*	1530.69	2280.69	1205.25
Lower Judy Creek	11.675*	1530.69	2280.69	1205.25
Lower Judy Creek	11.25*	1530.69	2280.69	1205.25
Lower Judy Creek	10.825*	1530.69	2280.69	1205.25
Lower Judy Creek	10.4*	1530.69	2280.69	1205.25
Lower Judy Creek	9.975*	1530.69	2280.69	1205.25
Lower Judy Creek	9.5500*	1530.69	2280.69	1205.25
Lower Judy Creek	9.12500*	1530.69	2280.69	1205.25
Lower Judy Creek	8.70000*	1530.69	2280.69	1205.25
Lower Judy Creek	8.27500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.85000*	1530.69	2280.69	1205.25
Lower Judy Creek	7.42500*	1530.69	2280.7	1205.25
Lower Judy Creek	7.0	1574.27	2316.18	1729.73
Lower Judy Creek	6.59818*	1574.27	2316.18	1729.73
Lower Judy Creek	5.79636*	1574.27	2316.18	1729.73
Lower Judy Creek	5.19454*	1574.27	2316.18	1729.73
Lower Judy Creek	4.59272*	1574.27	2316.18	1729.73
Lower Judy Creek	3.99090*	1574.27	2316.18	1729.73
Lower Judy Creek	3.38909*	1574.27	2316.18	1729.73
Lower Judy Creek	2.78727*	1574.27	2316.18	1729.73
Lower Judy Creek	2.18545*	1574.27	2316.18	1729.73
Lower Judy Creek	1.58363*	1574.27	2316.18	1729.73
Lower Judy Creek	.981819*	1574.28	2316.18	1729.73
Lower Judy Creek	0.38	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
 River: Fish Creek

Reach	River Sta.	Contr.	Expan.
Upper Fish Creek	43.3	.1	.3
Upper Fish Creek	42.3916*	.1	.3
Upper Fish Creek	41.4833*	.1	.3
Upper Fish Creek	40.575*	.1	.3
Upper Fish Creek	39.6666*	.1	.3
Upper Fish Creek	38.7583*	.1	.3
Upper Fish Creek	37.85*	.1	.3
Upper Fish Creek	36.9416*	.1	.3
Upper Fish Creek	36.0333*	.1	.3
Upper Fish Creek	35.125*	.1	.3
Upper Fish Creek	34.2166*	.1	.3
Upper Fish Creek	33.3083*	.1	.3
Upper Fish Creek	32.4	.1	.3
Upper Fish Creek	31.6071*	.1	.3
Upper Fish Creek	30.8142*	.1	.3
Upper Fish Creek	30.0214*	.1	.3
Upper Fish Creek	29.2285*	.1	.3
Upper Fish Creek	28.4357*	.1	.3
Upper Fish Creek	27.6428*	.1	.3
Upper Fish Creek	26.85	.1	.3
Lower Fish Creek	26.09	.1	.3
Lower Fish Creek	25.1	.1	.3
Lower Fish Creek	24.2625*	.1	.3
Lower Fish Creek	23.425*	.1	.3
Lower Fish Creek	22.5875*	.1	.3
Lower Fish Creek	21.75*	.1	.3
Lower Fish Creek	20.9125*	.1	.3
Lower Fish Creek	20.075*	.1	.3
Lower Fish Creek	19.2375*	.1	.3
Lower Fish Creek	18.4	.1	.3
Lower Fish Creek	17.5714*	.1	.3
Lower Fish Creek	16.7428*	.1	.3
Lower Fish Creek	15.9142*	.1	.3
Lower Fish Creek	15.0857*	.1	.3
Lower Fish Creek	14.2571*	.1	.3
Lower Fish Creek	13.4285*	.1	.3
Lower Fish Creek	12.6	.1	.3
Lower Fish Creek	11.7	.1	.3
Lower Fish Creek	10.8538*	.1	.3
Lower Fish Creek	10.0076*	.1	.3
Lower Fish Creek	9.16153*	.1	.3
Lower Fish Creek	8.31538*	.1	.3
Lower Fish Creek	7.46923*	.1	.3
Lower Fish Creek	6.62307*	.1	.3
Lower Fish Creek	5.77692*	.1	.3
Lower Fish Creek	4.93076*	.1	.3
Lower Fish Creek	4.08461*	.1	.3
Lower Fish Creek	3.23846*	.1	.3
Lower Fish Creek	2.39230*	.1	.3
Lower Fish Creek	1.54615*	.1	.3
Lower Fish Creek	0.7	.1	.3

River: Judy Creek

Reach	River Sta.	Contr.	Expan.
Lower Judy Creek	31.0	.1	.3
Lower Judy Creek	30.54*	.1	.3
Lower Judy Creek	30.08*	.1	.3

Lower Judy Creek	29.62*	.1	.3
Lower Judy Creek	29.16*	.1	.3
Lower Judy Creek	28.7*	.1	.3
Lower Judy Creek	28.24*	.1	.3
Lower Judy Creek	27.78*	.1	.3
Lower Judy Creek	27.32*	.1	.3
Lower Judy Creek	26.86*	.1	.3
Lower Judy Creek	26.4*	.1	.3
Lower Judy Creek	25.94*	.1	.3
Lower Judy Creek	25.48*	.1	.3
Lower Judy Creek	25.02*	.1	.3
Lower Judy Creek	24.56*	.1	.3
Lower Judy Creek	24.1*	.1	.3
Lower Judy Creek	23.64*	.1	.3
Lower Judy Creek	23.18*	.1	.3
Lower Judy Creek	22.72*	.1	.3
Lower Judy Creek	22.26*	.1	.3
Lower Judy Creek	21.8	.1	.3
Lower Judy Creek	21.3294*	.1	.3
Lower Judy Creek	20.8588*	.1	.3
Lower Judy Creek	20.3882*	.1	.3
Lower Judy Creek	19.9176*	.1	.3
Lower Judy Creek	19.4470*	.1	.3
Lower Judy Creek	18.9764*	.1	.3
Lower Judy Creek	18.5058*	.1	.3
Lower Judy Creek	18.0352*	.1	.3
Lower Judy Creek	17.5647*	.1	.3
Lower Judy Creek	17.0941*	.1	.3
Lower Judy Creek	16.6235*	.1	.3
Lower Judy Creek	16.1529*	.1	.3
Lower Judy Creek	15.6823*	.1	.3
Lower Judy Creek	15.2117*	.1	.3
Lower Judy Creek	14.7411*	.1	.3
Lower Judy Creek	14.2705*	.1	.3
Lower Judy Creek	13.8	.1	.3
Lower Judy Creek	13.375*	.1	.3
Lower Judy Creek	12.95*	.1	.3
Lower Judy Creek	12.525*	.1	.3
Lower Judy Creek	12.1*	.1	.3
Lower Judy Creek	11.675*	.1	.3
Lower Judy Creek	11.25*	.1	.3
Lower Judy Creek	10.825*	.1	.3
Lower Judy Creek	10.4*	.1	.3
Lower Judy Creek	9.975*	.1	.3
Lower Judy Creek	9.5500*	.1	.3
Lower Judy Creek	9.12500*	.1	.3
Lower Judy Creek	8.70000*	.1	.3
Lower Judy Creek	8.27500*	.1	.3
Lower Judy Creek	7.85000*	.1	.3
Lower Judy Creek	7.42500*	.1	.3
Lower Judy Creek	7.0	.1	.3
Lower Judy Creek	6.59818*	.1	.3
Lower Judy Creek	5.79636*	.1	.3
Lower Judy Creek	5.19454*	.1	.3
Lower Judy Creek	4.59272*	.1	.3
Lower Judy Creek	3.99090*	.1	.3
Lower Judy Creek	3.38909*	.1	.3
Lower Judy Creek	2.78727*	.1	.3
Lower Judy Creek	2.18545*	.1	.3
Lower Judy Creek	1.58363*	.1	.3
Lower Judy Creek	.981819*	.1	.3
Lower Judy Creek	0.38	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total (cfs)	Min Ch.El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Fish Creek	Lower Fish Creek	0.7	5805.00	0.30	2.87	1.15	2.87	0.000075	0.27	22163.65	23248.08	0.07	0.05
Fish Creek	Lower Fish Creek	1.54615*	4905.00	-0.36	3.24		3.24	0.000101	0.34	15596.40	18940.31	0.07	0.05
Fish Creek	Lower Fish Creek	2.39230*	4905.00	-0.74	3.60		3.60	0.000067	0.37	14890.44	12231.01	0.05	0.05
Fish Creek	Lower Fish Creek	3.23846*	4905.00	-1.13	3.89		3.89	0.000065	0.38	14073.74	11240.93	0.05	0.05
Fish Creek	Lower Fish Creek	4.08461*	4905.00	-1.52	4.15		4.15	0.000051	0.42	11779.35	5769.99	0.05	0.05
Fish Creek	Lower Fish Creek	4.93076*	4905.00	-1.90	4.37		4.37	0.000046	0.43	11358.38	4793.27	0.05	0.05
Fish Creek	Lower Fish Creek	5.77692*	4905.00	-2.29	4.58		4.58	0.000050	0.45	10811.91	4224.27	0.05	0.05
Fish Creek	Lower Fish Creek	6.62307*	4905.00	-2.68	4.80		4.80	0.000044	0.48	10133.92	3691.73	0.05	0.05
Fish Creek	Lower Fish Creek	7.46923*	4905.00	-3.07	5.03		5.03	0.000059	0.53	9327.61	3094.53	0.05	0.05
Fish Creek	Lower Fish Creek	8.31538*	4905.00	-3.45	5.25		5.25	0.000045	0.59	8376.40	2384.04	0.06	0.06
Fish Creek	Lower Fish Creek	9.16153*	4905.00	-3.84	5.49		5.49	0.000065	0.67	7308.52	1855.46	0.07	0.07
Fish Creek	Lower Fish Creek	10.0076*	4905.00	-4.23	5.82		5.82	0.000083	0.80	6158.01	1433.50	0.07	0.07
Fish Creek	Lower Fish Creek	10.8538*	4905.00	-4.61	6.26		6.26	0.000112	1.02	4811.71	1060.14	0.08	0.08
Fish Creek	Lower Fish Creek	11.7	4905.00	-5.00	7.03		7.03	0.000239	1.49	3291.73	671.55	0.12	0.12
Fish Creek	Lower Fish Creek	12.6	4905.00	-5.80	7.80		7.80	0.000066	1.72	2854.71	514.40	0.13	0.13
Fish Creek	Lower Fish Creek	13.4285*	4811.00	-5.83	8.13		8.13	0.000084	1.83	2629.53	514.28	0.14	0.14
Fish Creek	Lower Fish Creek	14.2571*	4811.00	-5.86	8.52		8.52	0.000101	1.96	2454.12	495.05	0.16	0.16
Fish Creek	Lower Fish Creek	15.0857*	4811.00	-5.89	8.99		8.99	0.000118	2.07	2324.66	486.53	0.17	0.17
Fish Creek	Lower Fish Creek	15.9142*	4811.00	-5.91	9.53		9.53	0.000133	2.15	2232.92	482.54	0.18	0.18
Fish Creek	Lower Fish Creek	16.7428*	4811.00	-5.94	10.14		10.14	0.000146	2.22	2170.72	480.68	0.18	0.18
Fish Creek	Lower Fish Creek	17.5714*	4811.00	-5.97	10.84		10.84	0.000144	2.27	2118.97	479.56	0.19	0.19
Fish Creek	Lower Fish Creek	18.4	4811.00	-6.00	11.47		11.47	0.000142	2.33	2065.67	478.54	0.20	0.20
Fish Creek	Lower Fish Creek	19.2375*	4668.00	-4.42	12.00		12.00	0.000150	2.17	2149.46	450.37	0.18	0.18
Fish Creek	Lower Fish Creek	20.075*	4668.00	-2.84	12.54		12.54	0.000115	2.15	2175.81	422.46	0.17	0.17
Fish Creek	Lower Fish Creek	20.9125*	4668.00	-1.26	13.04		13.04	0.000111	2.17	2152.91	402.18	0.17	0.17
Fish Creek	Lower Fish Creek	21.75*	4668.00	0.32	13.53		13.53	0.000115	2.23	2094.21	385.33	0.17	0.17
Fish Creek	Lower Fish Creek	22.5875*	4668.00	1.90	14.04		14.04	0.000125	2.33	2007.44	369.89	0.18	0.18
Fish Creek	Lower Fish Creek	23.425*	4668.00	3.48	14.63		14.63	0.000141	2.45	1904.11	354.43	0.19	0.19
Fish Creek	Lower Fish Creek	24.2625*	4668.00	5.06	15.32		15.32	0.000176	2.59	1799.53	340.18	0.20	0.20
Fish Creek	Lower Fish Creek	25.1	4668.00	6.64	16.16		16.16	0.000206	2.75	1698.99	330.94	0.21	0.21
Fish Creek	Lower Fish Creek	26.09	4668.00	7.89	17.19		17.19	0.000230	2.86	1627.77	323.41	0.22	0.22
Fish Creek	Upper Fish Creek	26.85	1910.00	6.88	17.88		17.88	0.000067	1.31	1537.95	309.35	0.10	0.10
Fish Creek	Upper Fish Creek	27.6428*	1983.00	7.84	18.18		18.18	0.000076	1.36	1458.83	303.46	0.11	0.11
Fish Creek	Upper Fish Creek	28.4357*	1983.00	8.80	18.52		18.52	0.000086	1.42	1393.11	297.69	0.12	0.12
Fish Creek	Upper Fish Creek	29.2285*	1983.00	9.76	18.90		18.90	0.000095	1.47	1346.04	293.45	0.12	0.12
Fish Creek	Upper Fish Creek	30.0214*	1983.00	10.72	19.31		19.31	0.000101	1.52	1308.61	286.29	0.12	0.12
Fish Creek	Upper Fish Creek	30.8142*	1983.00	11.68	19.75		19.75	0.000106	1.52	1278.36	278.58	0.13	0.13
Fish Creek	Upper Fish Creek	31.6071*	1983.00	12.64	20.21		20.21	0.000116	1.58	1255.95	270.72	0.13	0.13
Fish Creek	Upper Fish Creek	32.4	1983.00	13.60	20.70		20.70	0.000117	1.60	1238.59	262.69	0.13	0.13
Fish Creek	Upper Fish Creek	33.3083*	1948.00	14.03	21.28		21.28	0.000127	1.61	1211.12	271.62	0.13	0.13
Fish Creek	Upper Fish Creek	34.2166*	1948.00	14.45	21.90		21.90	0.000139	1.63	1193.70	260.54	0.14	0.14
Fish Creek	Upper Fish Creek	35.125*	1948.00	14.88	22.58		22.58	0.000147	1.64	1188.58	289.52	0.14	0.14
Fish Creek	Upper Fish Creek	36.0333*	1948.00	15.30	23.28		23.28	0.000151	1.63	1191.86	298.49	0.14	0.14
Fish Creek	Upper Fish Creek	36.9416*	1948.00	15.73	24.00		24.00	0.000153	1.62	1201.36	307.44	0.14	0.14
Fish Creek	Upper Fish Creek	37.85*	1948.00	16.15	24.72		24.72	0.000154	1.61	1211.55	315.36	0.14	0.14
Fish Creek	Upper Fish Creek	38.7583*	1948.00	16.58	25.44		25.44	0.000149	1.59	1222.70	323.40	0.14	0.14
Fish Creek	Upper Fish Creek	39.6666*	1948.00	17.00	26.15		26.15	0.000148	1.57	1231.51	331.32	0.14	0.14
Fish Creek	Upper Fish Creek	40.575*	1948.00	17.43	26.86		26.86	0.000148	1.57	1240.96	339.41	0.14	0.14
Fish Creek	Upper Fish Creek	41.4833*	1948.00	17.85	27.57		27.57	0.000148	1.56	1250.47	347.95	0.14	0.14
Fish Creek	Upper Fish Creek	42.3916*	1948.00	18.28	28.27		28.27	0.000148	1.55	1259.67	356.37	0.14	0.14
Fish Creek	Upper Fish Creek	43.3	1948.00	18.70	28.98		28.98	0.000148	1.54	1269.03	363.76	0.14	0.14
Judy Creek	Lower Judy Creek	0.38	2683.00	8.18	18.05		18.05	0.000209	2.27	1180.14	206.91	0.17	0.17
Judy Creek	Lower Judy Creek	.981819*	2608.00	8.91	18.53		18.53	0.000211	2.28	1141.47	200.01	0.17	0.17
Judy Creek	Lower Judy Creek	1.58363*	2608.00	9.64	19.03		19.03	0.000224	2.36	1105.72	193.31	0.17	0.17
Judy Creek	Lower Judy Creek	2.18545*	2608.00	10.37	19.55		19.55	0.000235	2.43	1075.01	186.87	0.18	0.18
Judy Creek	Lower Judy Creek	2.78727*	2608.00	11.10	20.09		20.09	0.000244	2.49	1048.75	180.65	0.18	0.18
Judy Creek	Lower Judy Creek	3.38909*	2608.00	11.83	20.66		20.66	0.000253	2.54	1026.04	175.14	0.19	0.19
Judy Creek	Lower Judy Creek	3.99090*	2608.00	12.55	21.24		21.24	0.000260	2.59	1005.99	170.18	0.19	0.19
Judy Creek	Lower Judy Creek	4.59272*	2608.00	13.28	21.85		21.85	0.000268	2.64	987.71	165.97	0.19	0.19
Judy Creek	Lower Judy Creek	5.19454*	2608.00	14.01	22.47		22.47	0.000276	2.68	971.63	162.61	0.19	0.19
Judy Creek	Lower Judy Creek	5.79636*	2608.00	14.74	23.11		23.11	0.000286	2.72	957.80	161.06	0.20	0.20

Judy Creek	6.39818*	2608.00	15.47	23.80	23.92	0.000317	2.74	951.54	162.50	0.21
Lower Judy Creek	7.0	2608.00	16.20	24.61	24.73	0.000378	2.69	968.39	193.92	0.20
Judy Creek	7.42500*	2396.00	16.63	25.40	25.48	0.000272	2.25	1066.97	231.52	0.18
Lower Judy Creek	7.85000*	2396.00	17.05	25.98	26.05	0.000231	2.15	1114.88	229.13	0.17
Judy Creek	8.27500*	2396.00	17.48	26.49	26.56	0.000210	2.10	1139.45	225.54	0.16
Lower Judy Creek	8.70000*	2396.00	17.90	26.97	27.03	0.000200	2.08	1150.87	222.58	0.16
Judy Creek	9.12500*	2396.00	18.33	27.43	27.49	0.000196	2.08	1151.09	219.78	0.16
Lower Judy Creek	9.55000*	2396.00	18.75	27.88	27.95	0.000198	2.10	1142.77	217.45	0.16
Judy Creek	9.975*	2396.00	19.18	28.33	28.40	0.000204	2.12	1127.92	215.29	0.16
Lower Judy Creek	10.4*	2396.00	19.60	28.80	28.87	0.000212	2.16	1110.15	213.38	0.17
Judy Creek	10.825*	2396.00	20.03	29.29	29.36	0.000223	2.20	1089.82	211.72	0.17
Lower Judy Creek	11.25*	2396.00	20.45	29.79	29.87	0.000222	2.25	1065.96	210.07	0.18
Judy Creek	11.675*	2396.00	20.88	30.31	30.39	0.000240	2.31	1038.52	208.40	0.18
Lower Judy Creek	12.1*	2396.00	21.30	30.87	30.96	0.000258	2.36	1014.18	207.21	0.19
Judy Creek	12.525*	2396.00	21.73	31.47	31.56	0.000279	2.42	989.87	206.37	0.19
Lower Judy Creek	12.95*	2396.00	22.15	32.13	32.22	0.000298	2.47	970.05	206.34	0.20
Judy Creek	13.375*	2396.00	22.58	32.82	32.92	0.000322	2.52	951.04	207.74	0.21
Lower Judy Creek	13.8	2396.00	23.00	33.58	33.68	0.000346	2.55	939.24	212.06	0.21
Judy Creek	14.2705*	2396.00	23.93	34.37	34.45	0.000288	2.31	956.06	218.84	0.19
Lower Judy Creek	14.7411*	2206.00	24.86	35.07	35.15	0.000294	2.31	956.90	222.65	0.20
Judy Creek	15.2117*	2206.00	25.79	35.78	35.87	0.000296	2.30	960.31	225.93	0.20
Lower Judy Creek	15.6823*	2206.00	26.72	36.50	36.58	0.000297	2.29	964.04	228.74	0.20
Judy Creek	16.1529*	2206.00	27.65	37.21	37.29	0.000297	2.28	967.91	231.42	0.20
Lower Judy Creek	16.6235*	2206.00	28.58	37.92	38.00	0.000297	2.27	972.42	233.89	0.20
Judy Creek	17.0941*	2206.00	29.51	38.63	38.71	0.000296	2.26	977.26	236.14	0.20
Lower Judy Creek	17.5647*	2206.00	30.44	39.35	39.43	0.000294	2.25	982.42	238.37	0.19
Judy Creek	18.0352*	2206.00	31.36	40.07	40.14	0.000292	2.23	988.05	240.49	0.19
Lower Judy Creek	18.5058*	2206.00	32.29	40.77	40.85	0.000289	2.22	994.05	242.50	0.19
Judy Creek	18.9764*	2206.00	33.22	41.48	41.55	0.000289	2.21	997.54	244.40	0.19
Lower Judy Creek	19.4470*	2206.00	34.15	42.18	42.25	0.000288	2.20	1001.33	246.34	0.19
Judy Creek	19.9176*	2206.00	35.08	42.88	42.95	0.000287	2.19	1005.08	248.25	0.19
Lower Judy Creek	20.3882*	2206.00	36.01	43.58	43.66	0.000286	2.19	1009.54	250.09	0.19
Judy Creek	20.8588*	2206.00	36.94	44.27	44.35	0.000285	2.18	1012.27	251.72	0.19
Lower Judy Creek	21.3294*	2206.00	37.87	44.97	45.04	0.000285	2.17	1015.14	253.32	0.19
Judy Creek	21.8	2206.00	38.80	45.66	45.73	0.000285	2.17	1017.79	254.86	0.19
Lower Judy Creek	22.26*	2209.00	39.51	46.29	46.35	0.000234	1.97	1021.34	255.51	0.17
Judy Creek	22.72*	2209.00	40.22	46.87	46.93	0.000247	2.00	1004.57	255.53	0.18
Lower Judy Creek	23.18*	2209.00	40.93	47.46	47.53	0.000258	2.03	991.73	255.66	0.18
Judy Creek	23.64*	2209.00	41.64	48.08	48.15	0.000268	2.05	980.38	255.93	0.18
Lower Judy Creek	24.1*	2209.00	42.35	48.73	48.79	0.000276	2.07	971.97	256.32	0.19
Judy Creek	24.56*	2209.00	43.06	49.39	49.46	0.000284	2.08	963.87	256.76	0.19
Lower Judy Creek	25.02*	2209.00	43.77	50.07	50.14	0.000291	2.10	958.24	257.38	0.19
Judy Creek	25.48*	2209.00	44.48	50.77	50.84	0.000297	2.11	952.86	258.06	0.19
Lower Judy Creek	25.94*	2209.00	45.19	51.49	51.56	0.000305	2.12	946.95	258.76	0.20
Judy Creek	26.4*	2209.00	45.90	52.22	52.29	0.000310	2.13	942.15	259.02	0.20
Lower Judy Creek	26.86*	2209.00	46.61	52.96	53.04	0.000316	2.14	937.93	259.44	0.20
Judy Creek	27.32*	2209.00	47.32	53.72	53.79	0.000322	2.15	933.27	260.25	0.20
Lower Judy Creek	27.78*	2209.00	48.03	54.50	54.57	0.000330	2.16	928.80	261.48	0.20
Judy Creek	28.24*	2209.00	48.74	55.29	55.36	0.000336	2.17	926.05	263.35	0.20
Lower Judy Creek	28.7*	2209.00	49.45	56.10	56.17	0.000343	2.17	924.06	265.89	0.21
Judy Creek	29.16*	2209.00	50.16	56.92	57.00	0.000351	2.18	922.67	269.09	0.21
Lower Judy Creek	29.62*	2209.00	50.87	57.77	57.84	0.000358	2.18	923.25	273.50	0.21
Judy Creek	30.08*	2209.00	51.58	58.63	58.70	0.000366	2.17	925.20	279.85	0.21
Lower Judy Creek	30.54*	2209.00	52.29	59.51	59.59	0.000378	2.16	931.42	290.83	0.21
Judy Creek	31.0	2209.00	53.00	60.43	60.50	0.000394	2.12	946.40	312.40	0.21

Profile Output Table - Standard Table 2

River	Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Fish Creek	Lower Fish Creek	0.7	2.87	2.87	0.00	0.00	0.37	788.25	5016.40	0.34	23248.08
Fish Creek	Lower Fish Creek	1.54615*	3.24	3.24	0.00	0.00	0.36	718.99	4186.01		18940.31
Fish Creek	Lower Fish Creek	2.39230*	3.60	3.60	0.00	0.00	0.29	476.29	4428.71		12231.01
Fish Creek	Lower Fish Creek	3.23846*	3.89	3.89	0.00	0.00	0.26	293.25	4611.75		11240.93
Fish Creek	Lower Fish Creek	4.08461*	4.15	4.15	0.00	0.00	0.22		4905.00		5769.99
Fish Creek	Lower Fish Creek	4.93076*	4.37	4.37	0.00	0.00	0.21		4905.00		4793.77
Fish Creek	Lower Fish Creek	5.77692*	4.59	4.59	0.00	0.00	0.21		4905.00		4224.27
Fish Creek	Lower Fish Creek	6.62307*	4.81	4.81	0.00	0.00	0.23		4905.00		3691.73
Fish Creek	Lower Fish Creek	7.46923*	5.03	5.03	0.00	0.00	0.23		4905.00		3094.53
Fish Creek	Lower Fish Creek	8.31538*	5.26	5.26	0.01	0.01	0.25		4905.00		2384.04
Fish Creek	Lower Fish Creek	9.16153*	5.50	5.49	0.01	0.01	0.33		4905.00		1835.46
Fish Creek	Lower Fish Creek	10.0076*	5.83	5.82	0.01	0.01	0.44		4905.00		1433.50
Fish Creek	Lower Fish Creek	10.8538*	6.28	6.26	0.02	0.02	0.79		4905.00		1060.14
Fish Creek	Lower Fish Creek	11.7	7.07	7.03	0.03	0.03	0.78		4905.00		671.55
Fish Creek	Lower Fish Creek	12.6	7.85	7.80	0.05	0.05	0.78		4905.00		512.40
Fish Creek	Lower Fish Creek	13.4285*	8.18	8.13	0.05	0.05	0.40		4811.00		514.28
Fish Creek	Lower Fish Creek	14.2571*	8.58	8.52	0.06	0.06	0.48		4811.00		495.05
Fish Creek	Lower Fish Creek	15.0857*	9.06	8.99	0.07	0.07	0.55		4811.00		486.53
Fish Creek	Lower Fish Creek	15.9142*	9.61	9.53	0.07	0.07	0.61		4811.00		482.54
Fish Creek	Lower Fish Creek	16.7428*	10.22	10.14	0.08	0.08	0.63		4811.00		480.68
Fish Creek	Lower Fish Creek	17.5714*	10.84	10.76	0.08	0.08	0.62		4811.00		479.56
Fish Creek	Lower Fish Creek	18.4	11.47	11.39	0.08	0.08	0.60		4668.00		478.54
Fish Creek	Lower Fish Creek	19.2375*	12.08	12.00	0.07	0.07	0.54		4668.00		450.37
Fish Creek	Lower Fish Creek	20.075*	12.61	12.54	0.07	0.07	0.50		4668.00		422.46
Fish Creek	Lower Fish Creek	20.9125*	13.11	13.04	0.07	0.07	0.50		4668.00		402.18
Fish Creek	Lower Fish Creek	21.75*	13.61	13.53	0.08	0.08	0.53		4668.00		385.33
Fish Creek	Lower Fish Creek	22.5875*	14.14	14.05	0.08	0.08	0.53		4668.00		369.89
Fish Creek	Lower Fish Creek	23.425*	14.72	14.63	0.09	0.09	0.59		4668.00		354.43
Fish Creek	Lower Fish Creek	24.2625*	15.43	15.32	0.10	0.10	0.70		4668.00		340.18
Fish Creek	Lower Fish Creek	25.1	16.27	16.16	0.12	0.12	0.84		4668.00		330.94
Fish Creek	Lower Fish Creek	26.09	17.32	17.19	0.13	0.13	1.04		4662.00		323.41
Fish Creek	Upper Fish Creek	26.85	17.91	17.88	0.03	0.03	0.58		2010.00		309.35
Fish Creek	Upper Fish Creek	27.6428*	18.21	18.18	0.03	0.03	0.31		1983.00		303.46
Fish Creek	Upper Fish Creek	28.4357*	18.55	18.52	0.03	0.03	0.35		1983.00		297.69
Fish Creek	Upper Fish Creek	29.2285*	18.94	18.90	0.03	0.03	0.39		1983.00		293.45
Fish Creek	Upper Fish Creek	30.0214*	19.35	19.31	0.04	0.04	0.42		1983.00		286.29
Fish Creek	Upper Fish Creek	30.8142*	19.78	19.75	0.04	0.04	0.44		1983.00		278.58
Fish Creek	Upper Fish Creek	31.6071*	20.25	20.21	0.04	0.04	0.47		1983.00		270.72
Fish Creek	Upper Fish Creek	32.4	20.74	20.70	0.04	0.04	0.50		1983.00		262.69
Fish Creek	Upper Fish Creek	33.2083*	21.32	21.28	0.04	0.04	0.58		1948.00		271.62
Fish Creek	Upper Fish Creek	34.0166*	21.95	21.90	0.04	0.04	0.63		1948.00		280.54
Fish Creek	Upper Fish Creek	35.125*	22.62	22.58	0.04	0.04	0.68		1948.00		289.52
Fish Creek	Upper Fish Creek	36.0333*	23.32	23.28	0.04	0.04	0.71		1948.00		298.49
Fish Creek	Upper Fish Creek	36.9416*	24.04	24.00	0.04	0.04	0.72		1948.00		307.44
Fish Creek	Upper Fish Creek	37.85*	24.76	24.72	0.04	0.04	0.73		1948.00		315.36
Fish Creek	Upper Fish Creek	38.7583*	25.48	25.44	0.04	0.04	0.72		1948.00		323.40
Fish Creek	Upper Fish Creek	39.6666*	26.19	26.15	0.04	0.04	0.71		1948.00		331.32
Fish Creek	Upper Fish Creek	40.575*	26.89	26.86	0.04	0.04	0.70		1948.00		339.41
Fish Creek	Upper Fish Creek	41.4833*	27.60	27.57	0.04	0.04	0.70		1948.00		347.95
Fish Creek	Upper Fish Creek	42.3916*	28.31	28.27	0.04	0.04	0.70		1948.00		356.37
Fish Creek	Upper Fish Creek	43.3	29.02	28.98	0.04	0.04	0.70		1948.00		363.76
Judy Creek	Lower Judy Creek	0.38	18.13	18.05	0.08	0.08	0.81		2683.00		206.91
Judy Creek	Lower Judy Creek	.981819*	18.61	18.53	0.08	0.08	0.49		2608.00		200.01
Judy Creek	Lower Judy Creek	1.58363*	19.11	19.03	0.09	0.09	0.50		2608.00		193.31
Judy Creek	Lower Judy Creek	2.18545*	19.64	19.55	0.09	0.09	0.53		2608.00		186.87
Judy Creek	Lower Judy Creek	2.78727*	20.19	20.09	0.10	0.10	0.56		2608.00		180.65
Judy Creek	Lower Judy Creek	3.38909*	20.76	20.66	0.10	0.10	0.58		2608.00		175.14
Judy Creek	Lower Judy Creek	3.99090*	21.35	21.24	0.10	0.10	0.59		2608.00		170.18
Judy Creek	Lower Judy Creek	4.59272*	21.95	21.85	0.11	0.11	0.61		2608.00		165.97
Judy Creek	Lower Judy Creek	5.19454*	22.58	22.47	0.11	0.11	0.63		2608.00		162.61
Judy Creek	Lower Judy Creek	5.79636*	23.22	23.11	0.12	0.12	0.65		2608.00		161.06

Judy Creek	Lower Judy Creek	6.39818*	23.80	0.12	0.70	0.00	2608.00	162.50
Judy Creek	Lower Judy Creek	7.0	24.61	0.11	0.80	0.00	2608.00	193.92
Judy Creek	Lower Judy Creek	7.42500*	25.40	0.08	0.74	0.00	2396.00	231.52
Judy Creek	Lower Judy Creek	7.85000*	25.98	0.07	0.57	0.00	2396.00	229.13
Judy Creek	Lower Judy Creek	8.27500*	26.05	0.07	0.50	0.00	2396.00	225.54
Judy Creek	Lower Judy Creek	8.70000*	26.56	0.07	0.47	0.00	2396.00	222.58
Judy Creek	Lower Judy Creek	9.12500*	26.97	0.07	0.45	0.00	2396.00	219.78
Judy Creek	Lower Judy Creek	9.55000*	27.43	0.07	0.45	0.00	2396.00	217.45
Judy Creek	Lower Judy Creek	9.975*	27.88	0.07	0.46	0.00	2396.00	215.29
Judy Creek	Lower Judy Creek	10.4*	28.33	0.07	0.47	0.00	2396.00	213.38
Judy Creek	Lower Judy Creek	10.825*	28.80	0.07	0.50	0.00	2396.00	211.72
Judy Creek	Lower Judy Creek	11.25*	29.29	0.08	0.51	0.00	2396.00	210.07
Judy Creek	Lower Judy Creek	11.675*	29.79	0.08	0.53	0.00	2396.00	208.40
Judy Creek	Lower Judy Creek	12.1*	30.31	0.08	0.57	0.00	2396.00	207.21
Judy Creek	Lower Judy Creek	12.525*	30.87	0.09	0.61	0.00	2396.00	206.37
Judy Creek	Lower Judy Creek	12.95*	31.47	0.09	0.66	0.00	2396.00	206.34
Judy Creek	Lower Judy Creek	13.375*	32.13	0.09	0.71	0.00	2396.00	207.74
Judy Creek	Lower Judy Creek	13.8	32.82	0.10	0.76	0.00	2396.00	212.06
Judy Creek	Lower Judy Creek	14.2705*	33.58	0.10	0.77	0.00	2396.00	218.84
Judy Creek	Lower Judy Creek	14.7411*	34.45	0.08	0.70	0.00	2206.00	222.65
Judy Creek	Lower Judy Creek	15.2117*	35.15	0.08	0.71	0.00	2206.00	222.93
Judy Creek	Lower Judy Creek	15.6823*	35.78	0.08	0.72	0.00	2206.00	228.74
Judy Creek	Lower Judy Creek	16.1529*	36.50	0.08	0.72	0.00	2206.00	231.42
Judy Creek	Lower Judy Creek	16.6235*	37.21	0.08	0.72	0.00	2206.00	233.89
Judy Creek	Lower Judy Creek	17.0941*	37.92	0.08	0.72	0.00	2206.00	236.14
Judy Creek	Lower Judy Creek	17.5647*	38.63	0.08	0.71	0.00	2206.00	238.37
Judy Creek	Lower Judy Creek	18.0352*	39.35	0.08	0.71	0.00	2206.00	240.49
Judy Creek	Lower Judy Creek	18.5058*	40.14	0.08	0.70	0.00	2206.00	242.50
Judy Creek	Lower Judy Creek	18.9764*	40.85	0.08	0.70	0.00	2206.00	244.40
Judy Creek	Lower Judy Creek	19.4470*	41.55	0.08	0.70	0.00	2206.00	246.34
Judy Creek	Lower Judy Creek	19.9176*	42.25	0.07	0.70	0.00	2206.00	248.25
Judy Creek	Lower Judy Creek	20.3882*	42.95	0.07	0.69	0.00	2206.00	250.09
Judy Creek	Lower Judy Creek	20.8588*	43.66	0.07	0.69	0.00	2206.00	251.72
Judy Creek	Lower Judy Creek	21.3294*	44.35	0.07	0.69	0.00	2206.00	253.32
Judy Creek	Lower Judy Creek	21.8	45.04	0.07	0.69	0.00	2206.00	254.86
Judy Creek	Lower Judy Creek	22.26*	45.73	0.06	0.62	0.00	2009.00	255.51
Judy Creek	Lower Judy Creek	22.72*	46.35	0.06	0.57	0.00	2009.00	255.53
Judy Creek	Lower Judy Creek	23.18*	46.93	0.06	0.60	0.00	2009.00	255.66
Judy Creek	Lower Judy Creek	23.64*	47.46	0.06	0.63	0.00	2009.00	255.93
Judy Creek	Lower Judy Creek	24.1*	48.08	0.07	0.65	0.00	2009.00	256.32
Judy Creek	Lower Judy Creek	24.56*	48.79	0.07	0.67	0.00	2009.00	256.76
Judy Creek	Lower Judy Creek	25.02*	49.46	0.07	0.69	0.00	2009.00	257.38
Judy Creek	Lower Judy Creek	25.48*	50.14	0.07	0.70	0.00	2009.00	258.06
Judy Creek	Lower Judy Creek	25.94*	50.77	0.07	0.72	0.00	2009.00	258.76
Judy Creek	Lower Judy Creek	26.4*	51.49	0.07	0.73	0.00	2009.00	259.02
Judy Creek	Lower Judy Creek	26.86*	52.22	0.07	0.75	0.00	2009.00	259.44
Judy Creek	Lower Judy Creek	27.32*	52.96	0.07	0.76	0.00	2009.00	260.25
Judy Creek	Lower Judy Creek	27.78*	53.72	0.07	0.78	0.00	2009.00	261.48
Judy Creek	Lower Judy Creek	28.24*	54.50	0.07	0.79	0.00	2009.00	263.35
Judy Creek	Lower Judy Creek	28.7*	55.29	0.07	0.81	0.00	2009.00	265.89
Judy Creek	Lower Judy Creek	29.16*	56.10	0.07	0.83	0.00	2009.00	269.09
Judy Creek	Lower Judy Creek	29.62*	56.92	0.07	0.85	0.00	2009.00	273.50
Judy Creek	Lower Judy Creek	30.08*	57.77	0.07	0.86	0.00	2009.00	279.85
Judy Creek	Lower Judy Creek	30.54*	58.63	0.07	0.89	0.00	2009.00	290.83
Judy Creek	Lower Judy Creek	31.0	59.51	0.07	0.92	0.00	2009.00	312.40
Judy Creek	Lower Judy Creek	31.0	60.43	0.07	0.92	0.00	2009.00	

Profile Output Table - User Defined Table #1

River	Reach	River Sta	W.S. Elev (ft)	Q Total (cfs)	Q Left (cfs)	Q Channel (cfs)	Q Total (cfs)	Vel Left (ft/s)	Vel Right (ft/s)	Vol Chan (acre-ft)
Fish Creek	Lower Fish Creek	0.7	2.87	5805.00	788.25	5016.40	5805.00	0.23	0.05	1596.39
Fish Creek	Lower Fish Creek	1.54615*	3.24	4905.00	718.99	4186.01	4905.00	0.22		2850.80
Fish Creek	Lower Fish Creek	2.39230*	3.60	4905.00	476.29	4428.71	4905.00	0.17		4085.37
Fish Creek	Lower Fish Creek	3.23846*	3.89	4905.00	293.25	4611.75	4905.00	0.14		5308.25
Fish Creek	Lower Fish Creek	4.08461*	4.15	4905.00		4905.00	4905.00			6498.45
Fish Creek	Lower Fish Creek	4.93076*	4.37	4905.00		4905.00	4905.00			7638.89
Fish Creek	Lower Fish Creek	5.77692*	4.58	4905.00		4905.00	4905.00			8716.35
Fish Creek	Lower Fish Creek	6.62307*	4.80	4905.00		4905.00	4905.00			9717.45
Fish Creek	Lower Fish Creek	7.46923*	5.03	4905.00		4905.00	4905.00			10628.15
Fish Creek	Lower Fish Creek	8.31538*	5.25	4905.00		4905.00	4905.00			11434.98
Fish Creek	Lower Fish Creek	9.16153*	5.49	4905.00		4905.00	4905.00			12127.70
Fish Creek	Lower Fish Creek	10.0076*	5.82	4905.00		4905.00	4905.00			12691.98
Fish Creek	Lower Fish Creek	10.85338*	6.26	4905.00		4905.00	4905.00			13108.82
Fish Creek	Lower Fish Creek	11.7	7.03	4905.00		4905.00	4905.00			13467.08
Fish Creek	Lower Fish Creek	12.6	7.80	4905.00		4905.00	4905.00			13740.86
Fish Creek	Lower Fish Creek	13.4285*	8.13	4811.00		4811.00	4811.00			13994.63
Fish Creek	Lower Fish Creek	14.2571*	8.52	4811.00		4811.00	4811.00			14233.18
Fish Creek	Lower Fish Creek	15.0857*	8.99	4811.00		4811.00	4811.00			14460.70
Fish Creek	Lower Fish Creek	15.9142*	9.53	4811.00		4811.00	4811.00			14680.52
Fish Creek	Lower Fish Creek	16.7428*	10.14	4811.00		4811.00	4811.00			14894.66
Fish Creek	Lower Fish Creek	17.5714*	10.76	4811.00		4811.00	4811.00			15103.56
Fish Creek	Lower Fish Creek	18.4	11.39	4811.00		4811.00	4811.00			15316.75
Fish Creek	Lower Fish Creek	19.2375*	12.00	4668.00		4668.00	4668.00			15535.52
Fish Creek	Lower Fish Creek	20.075*	12.54	4668.00		4668.00	4668.00			15754.46
Fish Creek	Lower Fish Creek	20.9125*	13.04	4668.00		4668.00	4668.00			15969.27
Fish Creek	Lower Fish Creek	21.75*	13.53	4668.00		4668.00	4668.00			16176.72
Fish Creek	Lower Fish Creek	22.5875*	14.05	4668.00		4668.00	4668.00			16374.56
Fish Creek	Lower Fish Creek	23.425*	14.63	4668.00		4668.00	4668.00			16561.88
Fish Creek	Lower Fish Creek	24.2625*	15.32	4668.00		4668.00	4668.00			16738.83
Fish Creek	Lower Fish Creek	25.1	16.16	4668.00		4668.00	4668.00			16920.94
Fish Creek	Lower Fish Creek	26.09	17.19	4662.00		4662.00	4662.00			142.26
Fish Creek	Upper Fish Creek	26.85	17.88	2010.00		2010.00	2010.00			289.25
Fish Creek	Upper Fish Creek	27.6428*	18.18	1983.00		1983.00	1983.00			429.14
Fish Creek	Upper Fish Creek	28.4357*	18.52	1983.00		1983.00	1983.00			563.49
Fish Creek	Upper Fish Creek	29.2285*	18.90	1983.00		1983.00	1983.00			693.70
Fish Creek	Upper Fish Creek	30.0214*	19.31	1983.00		1983.00	1983.00			820.58
Fish Creek	Upper Fish Creek	30.8142*	19.75	1983.00		1983.00	1983.00			944.89
Fish Creek	Upper Fish Creek	31.6071*	20.21	1983.00		1983.00	1983.00			1067.24
Fish Creek	Upper Fish Creek	32.4	20.70	1983.00		1983.00	1983.00			1200.84
Fish Creek	Upper Fish Creek	33.3083*	21.28	1948.00		1948.00	1948.00			1331.98
Fish Creek	Upper Fish Creek	34.2166*	21.90	1948.00		1948.00	1948.00			1461.90
Fish Creek	Upper Fish Creek	35.125*	22.58	1948.00		1948.00	1948.00			1591.72
Fish Creek	Upper Fish Creek	36.0333*	23.28	1948.00		1948.00	1948.00			1722.23
Fish Creek	Upper Fish Creek	36.9416*	24.00	1948.00		1948.00	1948.00			1853.82
Fish Creek	Upper Fish Creek	37.85*	24.72	1948.00		1948.00	1948.00			1986.57
Fish Creek	Upper Fish Creek	38.7583*	25.44	1948.00		1948.00	1948.00			2120.41
Fish Creek	Upper Fish Creek	39.6666*	26.15	1948.00		1948.00	1948.00			2255.25
Fish Creek	Upper Fish Creek	40.575*	26.86	1948.00		1948.00	1948.00			2391.12
Fish Creek	Upper Fish Creek	41.4833*	27.57	1948.00		1948.00	1948.00			2528.01
Fish Creek	Upper Fish Creek	42.3916*	28.27	1948.00		1948.00	1948.00			2665.91
Fish Creek	Upper Fish Creek	43.3	28.98	1948.00		1948.00	1948.00			119.06
Fish Creek	Lower Judy Creek	0.38	18.05	2683.00		2683.00	2683.00			180.78
Fish Creek	Lower Judy Creek	.981819*	18.53	2608.00		2608.00	2608.00			240.53
Fish Creek	Lower Judy Creek	1.58363*	19.03	2608.00		2608.00	2608.00			298.50
Fish Creek	Lower Judy Creek	2.18545*	19.55	2608.00		2608.00	2608.00			354.97
Fish Creek	Lower Judy Creek	2.78727*	20.09	2608.00		2608.00	2608.00			410.13
Fish Creek	Lower Judy Creek	3.38909*	20.66	2608.00		2608.00	2608.00			464.15
Fish Creek	Lower Judy Creek	3.99090*	21.24	2608.00		2608.00	2608.00			517.15
Fish Creek	Lower Judy Creek	4.59272*	21.85	2608.00		2608.00	2608.00			569.25
Fish Creek	Lower Judy Creek	5.19454*	22.47	2608.00		2608.00	2608.00			620.54
Fish Creek	Lower Judy Creek	5.79636*	23.11	2608.00		2608.00	2608.00			

Judy Creek	Lower Judy Creek	6.39818*	23.80	2608.00	2608.00	2608.00	671.30
Judy Creek	Lower Judy Creek	7.0	24.61	2608.00	2608.00	2608.00	722.35
Judy Creek	Lower Judy Creek	7.42500*	25.40	2396.00	2396.00	2396.00	775.63
Judy Creek	Lower Judy Creek	7.85000*	25.98	2396.00	2396.00	2396.00	832.75
Judy Creek	Lower Judy Creek	8.27500*	26.49	2396.00	2396.00	2396.00	891.76
Judy Creek	Lower Judy Creek	8.70000*	26.97	2396.00	2396.00	2396.00	951.72
Judy Creek	Lower Judy Creek	9.12500*	27.43	2396.00	2396.00	2396.00	1011.98
Judy Creek	Lower Judy Creek	9.55000*	27.88	2396.00	2396.00	2396.00	1072.03
Judy Creek	Lower Judy Creek	9.975*	28.33	2396.00	2396.00	2396.00	1131.48
Judy Creek	Lower Judy Creek	10.4*	28.80	2396.00	2396.00	2396.00	1190.07
Judy Creek	Lower Judy Creek	10.825*	29.29	2396.00	2396.00	2396.00	1247.66
Judy Creek	Lower Judy Creek	11.25*	29.79	2396.00	2396.00	2396.00	1304.10
Judy Creek	Lower Judy Creek	11.675*	30.31	2396.00	2396.00	2396.00	1359.19
Judy Creek	Lower Judy Creek	12.1*	30.87	2396.00	2396.00	2396.00	1412.93
Judy Creek	Lower Judy Creek	12.525*	31.47	2396.00	2396.00	2396.00	1465.39
Judy Creek	Lower Judy Creek	12.95*	32.13	2396.00	2396.00	2396.00	1516.70
Judy Creek	Lower Judy Creek	13.375*	32.82	2396.00	2396.00	2396.00	1566.99
Judy Creek	Lower Judy Creek	13.8	33.58	2396.00	2396.00	2396.00	1616.47
Judy Creek	Lower Judy Creek	14.2705*	34.37	2206.00	2206.00	2206.00	1669.14
Judy Creek	Lower Judy Creek	14.7411*	35.07	2206.00	2206.00	2206.00	1722.30
Judy Creek	Lower Judy Creek	15.2117*	35.78	2206.00	2206.00	2206.00	1775.57
Judy Creek	Lower Judy Creek	15.6823*	36.50	2206.00	2206.00	2206.00	1829.05
Judy Creek	Lower Judy Creek	16.1529*	37.21	2206.00	2206.00	2206.00	1882.73
Judy Creek	Lower Judy Creek	16.6235*	37.92	2206.00	2206.00	2206.00	1936.65
Judy Creek	Lower Judy Creek	17.0941*	38.63	2206.00	2206.00	2206.00	1990.83
Judy Creek	Lower Judy Creek	17.5647*	39.35	2206.00	2206.00	2206.00	2045.28
Judy Creek	Lower Judy Creek	18.0352*	40.06	2206.00	2206.00	2206.00	2100.04
Judy Creek	Lower Judy Creek	18.5058*	40.77	2206.00	2206.00	2206.00	2155.12
Judy Creek	Lower Judy Creek	18.9764*	41.48	2206.00	2206.00	2206.00	2210.46
Judy Creek	Lower Judy Creek	19.4470*	42.18	2206.00	2206.00	2206.00	2266.00
Judy Creek	Lower Judy Creek	19.9176*	42.88	2206.00	2206.00	2206.00	2321.76
Judy Creek	Lower Judy Creek	20.3882*	43.58	2206.00	2206.00	2206.00	2377.74
Judy Creek	Lower Judy Creek	20.8588*	44.27	2206.00	2206.00	2206.00	2433.92
Judy Creek	Lower Judy Creek	21.3294*	44.97	2206.00	2206.00	2206.00	2490.26
Judy Creek	Lower Judy Creek	21.8	45.66	2206.00	2206.00	2206.00	2546.75
Judy Creek	Lower Judy Creek	22.26*	46.29	2009.00	2009.00	2009.00	2602.61
Judy Creek	Lower Judy Creek	22.72*	46.87	2009.00	2009.00	2009.00	2658.10
Judy Creek	Lower Judy Creek	23.18*	47.46	2009.00	2009.00	2009.00	2712.79
Judy Creek	Lower Judy Creek	23.64*	48.08	2009.00	2009.00	2009.00	2766.81
Judy Creek	Lower Judy Creek	24.1*	48.73	2009.00	2009.00	2009.00	2820.29
Judy Creek	Lower Judy Creek	24.56*	49.39	2009.00	2009.00	2009.00	2873.32
Judy Creek	Lower Judy Creek	25.02*	50.07	2009.00	2009.00	2009.00	2925.97
Judy Creek	Lower Judy Creek	25.48*	50.77	2009.00	2009.00	2009.00	2978.33
Judy Creek	Lower Judy Creek	25.94*	51.49	2009.00	2009.00	2009.00	3030.37
Judy Creek	Lower Judy Creek	26.4*	52.22	2009.00	2009.00	2009.00	3082.12
Judy Creek	Lower Judy Creek	26.86*	52.96	2009.00	2009.00	2009.00	3133.62
Judy Creek	Lower Judy Creek	27.32*	53.72	2009.00	2009.00	2009.00	3184.88
Judy Creek	Lower Judy Creek	27.78*	54.50	2009.00	2009.00	2009.00	3235.88
Judy Creek	Lower Judy Creek	28.24*	55.29	2009.00	2009.00	2009.00	3286.70
Judy Creek	Lower Judy Creek	28.7*	56.10	2009.00	2009.00	2009.00	3337.38
Judy Creek	Lower Judy Creek	29.16*	56.92	2009.00	2009.00	2009.00	3387.96
Judy Creek	Lower Judy Creek	29.62*	57.77	2009.00	2009.00	2009.00	3438.53
Judy Creek	Lower Judy Creek	30.08*	58.63	2009.00	2009.00	2009.00	3489.16
Judy Creek	Lower Judy Creek	30.54*	59.51	2009.00	2009.00	2009.00	3540.02
Judy Creek	Lower Judy Creek	31.0	60.43	2009.00	2009.00	2009.00	3591.46

Profile Output Table - User Defined Table #2

River	Reach	River Sta	W.S. Elev (ft)	Flow Area L (sq ft)	Flow Area R (sq ft)	Flow Area Ch (sq ft)	Hydr Depth L (ft)	Hydr Depth R (ft)	Hydr Depth C (ft)
Fish Creek	Lower Fish Creek	0.7	2.87	3502.31	6.55	18654.79	0.93	0.14	0.96
Fish Creek	Lower Fish Creek	1.54615*	3.24	3217.21		12379.20	0.82		0.82
Fish Creek	Lower Fish Creek	2.39230*	3.60	2883.83		12006.62	0.71		1.47
Fish Creek	Lower Fish Creek	3.23846*	3.89	2080.24		11993.51	0.50		1.69
Fish Creek	Lower Fish Creek	4.08461*	4.15			11779.35			2.04
Fish Creek	Lower Fish Creek	4.93076*	4.37			11358.38			2.37
Fish Creek	Lower Fish Creek	5.77692*	4.58			10811.91			2.56
Fish Creek	Lower Fish Creek	6.62307*	4.80			10133.92			2.75
Fish Creek	Lower Fish Creek	7.46923*	5.03			9327.61			3.01
Fish Creek	Lower Fish Creek	8.31538*	5.25			8376.40			3.51
Fish Creek	Lower Fish Creek	9.16153*	5.49			7308.52			3.98
Fish Creek	Lower Fish Creek	10.0076*	5.82			6158.01			4.30
Fish Creek	Lower Fish Creek	10.8538*	6.26			4811.71			4.54
Fish Creek	Lower Fish Creek	11.7	7.03			3291.73			4.90
Fish Creek	Lower Fish Creek	12.6	7.80			2854.71			5.57
Fish Creek	Lower Fish Creek	13.4285*	8.13			2629.53			5.11
Fish Creek	Lower Fish Creek	14.2571*	8.52			2454.12			4.96
Fish Creek	Lower Fish Creek	15.0857*	8.99			2324.66			4.78
Fish Creek	Lower Fish Creek	15.9142*	9.53			2232.92			4.63
Fish Creek	Lower Fish Creek	16.7428*	10.14			2170.72			4.52
Fish Creek	Lower Fish Creek	17.5714*	10.76			2118.97			4.42
Fish Creek	Lower Fish Creek	18.4	11.39			2065.67			4.32
Fish Creek	Lower Fish Creek	19.2375*	12.00			2149.46			4.77
Fish Creek	Lower Fish Creek	20.075*	12.54			2175.81			5.15
Fish Creek	Lower Fish Creek	20.9125*	13.04			2152.91			5.35
Fish Creek	Lower Fish Creek	21.75*	13.53			2094.21			5.43
Fish Creek	Lower Fish Creek	22.5875*	14.05			2007.44			5.43
Fish Creek	Lower Fish Creek	23.425*	14.63			1904.11			5.37
Fish Creek	Lower Fish Creek	24.2625*	15.32			1799.53			5.29
Fish Creek	Lower Fish Creek	25.1	16.16			1698.99			5.13
Fish Creek	Lower Fish Creek	26.09	17.19			1627.77			5.03
Fish Creek	Upper Fish Creek	26.85	17.88			1537.95			4.97
Fish Creek	Upper Fish Creek	27.6428*	18.18			1458.83			4.81
Fish Creek	Upper Fish Creek	28.4357*	18.52			1393.11			4.68
Fish Creek	Upper Fish Creek	29.2285*	18.90			1346.04			4.59
Fish Creek	Upper Fish Creek	30.0214*	19.31			1308.61			4.57
Fish Creek	Upper Fish Creek	30.8142*	19.75			1278.36			4.59
Fish Creek	Upper Fish Creek	31.6071*	20.21			1255.95			4.64
Fish Creek	Upper Fish Creek	32.4	20.70			1238.59			4.72
Fish Creek	Upper Fish Creek	33.3083*	21.28			1211.12			4.46
Fish Creek	Upper Fish Creek	34.2166*	21.90			1193.70			4.25
Fish Creek	Upper Fish Creek	35.125*	22.58			1188.58			4.11
Fish Creek	Upper Fish Creek	36.0333*	23.28			1191.86			3.99
Fish Creek	Upper Fish Creek	36.9416*	24.00			1201.36			3.91
Fish Creek	Upper Fish Creek	37.85*	24.72			1211.55			3.84
Fish Creek	Upper Fish Creek	38.7583*	25.44			1222.70			3.78
Fish Creek	Upper Fish Creek	39.6666*	26.15			1231.51			3.72
Fish Creek	Upper Fish Creek	40.575*	26.86			1240.96			3.66
Fish Creek	Upper Fish Creek	41.4833*	27.57			1250.47			3.59
Fish Creek	Upper Fish Creek	42.3916*	28.27			1259.67			3.53
Fish Creek	Upper Fish Creek	43.3	28.98			1269.03			3.49
Judy Creek	Lower Judy Creek	0.38	18.05			1180.14			5.70
Judy Creek	Lower Judy Creek	.981819*	18.53			1141.47			5.71
Judy Creek	Lower Judy Creek	1.58363*	19.03			1105.72			5.72
Judy Creek	Lower Judy Creek	2.18545*	19.55			1075.01			5.75
Judy Creek	Lower Judy Creek	2.78727*	20.09			1048.75			5.81
Judy Creek	Lower Judy Creek	3.38909*	20.66			1026.04			5.86
Judy Creek	Lower Judy Creek	3.99090*	21.24			1005.99			5.91
Judy Creek	Lower Judy Creek	4.59272*	21.85			987.71			5.95
Judy Creek	Lower Judy Creek	5.19454*	22.47			971.63			5.98
Judy Creek	Lower Judy Creek	5.79636*	23.11			957.80			5.95

Judy Creek	Lower Judy Creek	6.39818*	23.80	951.54	5.86
Judy Creek	Lower Judy Creek	7.0	24.61	968.39	4.99
Judy Creek	Lower Judy Creek	7.42500*	25.40	1066.97	4.61
Judy Creek	Lower Judy Creek	7.85000*	25.98	1114.88	4.87
Judy Creek	Lower Judy Creek	8.27500*	26.49	1139.45	5.05
Judy Creek	Lower Judy Creek	8.70000*	26.97	1150.87	5.17
Judy Creek	Lower Judy Creek	9.12500*	27.43	1151.09	5.24
Judy Creek	Lower Judy Creek	9.55000*	27.88	1142.77	5.26
Judy Creek	Lower Judy Creek	9.975*	28.33	1127.92	5.24
Judy Creek	Lower Judy Creek	10.4*	28.80	1110.15	5.20
Judy Creek	Lower Judy Creek	10.825*	29.29	1089.82	5.15
Judy Creek	Lower Judy Creek	11.25*	29.79	1065.96	5.07
Judy Creek	Lower Judy Creek	11.675*	30.31	1038.52	4.98
Judy Creek	Lower Judy Creek	12.1*	30.87	1014.18	4.89
Judy Creek	Lower Judy Creek	12.525*	31.47	989.87	4.80
Judy Creek	Lower Judy Creek	12.95*	32.13	970.05	4.70
Judy Creek	Lower Judy Creek	13.375*	32.82	951.04	4.58
Judy Creek	Lower Judy Creek	13.8	33.58	939.24	4.43
Judy Creek	Lower Judy Creek	14.2705*	34.37	956.06	4.37
Judy Creek	Lower Judy Creek	14.7411*	35.07	956.90	4.30
Judy Creek	Lower Judy Creek	15.2117*	35.78	960.31	4.25
Judy Creek	Lower Judy Creek	15.6823*	36.50	964.04	4.21
Judy Creek	Lower Judy Creek	16.1529*	37.21	967.91	4.18
Judy Creek	Lower Judy Creek	16.6235*	37.92	972.42	4.16
Judy Creek	Lower Judy Creek	17.0941*	38.63	977.26	4.14
Judy Creek	Lower Judy Creek	17.5647*	39.35	982.42	4.12
Judy Creek	Lower Judy Creek	18.0352*	40.06	988.05	4.11
Judy Creek	Lower Judy Creek	18.5058*	40.77	994.05	4.11
Judy Creek	Lower Judy Creek	18.9764*	41.48	997.54	4.10
Judy Creek	Lower Judy Creek	19.4470*	42.18	1001.33	4.08
Judy Creek	Lower Judy Creek	19.9176*	42.88	1005.08	4.06
Judy Creek	Lower Judy Creek	20.3882*	43.58	1009.54	4.05
Judy Creek	Lower Judy Creek	20.8588*	44.27	1012.27	4.04
Judy Creek	Lower Judy Creek	21.3294*	44.97	1015.14	4.02
Judy Creek	Lower Judy Creek	21.8	45.66	1017.79	4.01
Judy Creek	Lower Judy Creek	22.26*	46.29	1021.34	3.99
Judy Creek	Lower Judy Creek	22.72*	46.87	1004.57	4.00
Judy Creek	Lower Judy Creek	23.18*	47.46	991.73	3.93
Judy Creek	Lower Judy Creek	23.64*	48.08	980.38	3.88
Judy Creek	Lower Judy Creek	24.1*	48.73	971.97	3.83
Judy Creek	Lower Judy Creek	24.56*	49.39	963.87	3.79
Judy Creek	Lower Judy Creek	25.02*	50.07	958.24	3.75
Judy Creek	Lower Judy Creek	25.48*	50.77	952.86	3.72
Judy Creek	Lower Judy Creek	25.94*	51.49	946.95	3.69
Judy Creek	Lower Judy Creek	26.4*	52.22	942.15	3.66
Judy Creek	Lower Judy Creek	26.86*	52.96	937.93	3.64
Judy Creek	Lower Judy Creek	27.32*	53.72	933.27	3.62
Judy Creek	Lower Judy Creek	27.78*	54.50	928.80	3.59
Judy Creek	Lower Judy Creek	28.24*	55.29	926.05	3.55
Judy Creek	Lower Judy Creek	28.7*	56.10	924.06	3.52
Judy Creek	Lower Judy Creek	29.16*	56.92	922.67	3.48
Judy Creek	Lower Judy Creek	29.62*	57.77	923.25	3.43
Judy Creek	Lower Judy Creek	30.08*	58.63	925.20	3.38
Judy Creek	Lower Judy Creek	30.54*	59.51	931.42	3.31
Judy Creek	Lower Judy Creek	31.0	60.43	946.40	3.20
Judy Creek	Lower Judy Creek	31.0	60.43	946.40	3.03

Profile Output Table - User Defined Table #3

River	Reach	River Sta	W.S. Elev (ft)	Mann Wtd Chnl	Mann Wtd Left	Mann Wtd Right
Fish Creek	Lower Fish Creek	0.7	2.87	0.052	0.055	0.065
Fish Creek	Lower Fish Creek	1.54615*	3.24	0.049	0.060	
Fish Creek	Lower Fish Creek	2.39230*	3.60	0.049	0.060	
Fish Creek	Lower Fish Creek	3.23846*	3.89	0.048	0.055	
Fish Creek	Lower Fish Creek	4.08461*	4.15	0.048		
Fish Creek	Lower Fish Creek	4.93076*	4.37	0.048		
Fish Creek	Lower Fish Creek	5.77692*	4.58	0.047		
Fish Creek	Lower Fish Creek	6.62307*	4.80	0.047		
Fish Creek	Lower Fish Creek	7.46923*	5.03	0.047		
Fish Creek	Lower Fish Creek	8.31538*	5.25	0.047		
Fish Creek	Lower Fish Creek	9.16153*	5.49	0.047		
Fish Creek	Lower Fish Creek	10.0076*	5.82	0.047		
Fish Creek	Lower Fish Creek	10.8538*	6.26	0.047		
Fish Creek	Lower Fish Creek	11.7	7.03	0.047		
Fish Creek	Lower Fish Creek	12.6	7.80	0.022		
Fish Creek	Lower Fish Creek	13.4285*	8.13	0.022		
Fish Creek	Lower Fish Creek	14.2571*	8.52	0.022		
Fish Creek	Lower Fish Creek	15.0857*	8.99	0.022		
Fish Creek	Lower Fish Creek	15.9142*	9.53	0.022		
Fish Creek	Lower Fish Creek	16.7428*	10.14	0.022		
Fish Creek	Lower Fish Creek	17.5714*	10.76	0.021		
Fish Creek	Lower Fish Creek	18.4	11.39	0.020		
Fish Creek	Lower Fish Creek	19.2375*	12.00	0.022		
Fish Creek	Lower Fish Creek	20.075*	12.54	0.022		
Fish Creek	Lower Fish Creek	20.9125*	13.04	0.022		
Fish Creek	Lower Fish Creek	21.75*	13.53	0.022		
Fish Creek	Lower Fish Creek	22.5875*	14.05	0.022		
Fish Creek	Lower Fish Creek	23.425*	14.63	0.022		
Fish Creek	Lower Fish Creek	24.2625*	15.32	0.023		
Fish Creek	Lower Fish Creek	25.1	16.16	0.023		
Fish Creek	Lower Fish Creek	26.09	17.19	0.023		
Fish Creek	Upper Fish Creek	26.85	17.88	0.027		
Fish Creek	Upper Fish Creek	27.6428*	18.18	0.027		
Fish Creek	Upper Fish Creek	28.4357*	18.52	0.027		
Fish Creek	Upper Fish Creek	29.2285*	18.90	0.027		
Fish Creek	Upper Fish Creek	30.0214*	19.31	0.027		
Fish Creek	Upper Fish Creek	30.8142*	19.75	0.027		
Fish Creek	Upper Fish Creek	31.6071*	20.21	0.028		
Fish Creek	Upper Fish Creek	32.4	20.70	0.028		
Fish Creek	Upper Fish Creek	33.3083*	21.28	0.028		
Fish Creek	Upper Fish Creek	34.2166*	21.90	0.028		
Fish Creek	Upper Fish Creek	35.125*	22.58	0.028		
Fish Creek	Upper Fish Creek	36.0333*	23.28	0.028		
Fish Creek	Upper Fish Creek	36.9416*	24.00	0.028		
Fish Creek	Upper Fish Creek	37.85*	24.72	0.028		
Fish Creek	Upper Fish Creek	38.7583*	25.44	0.028		
Fish Creek	Upper Fish Creek	39.6666*	26.15	0.027		
Fish Creek	Upper Fish Creek	40.575*	26.86	0.027		
Fish Creek	Upper Fish Creek	41.4833*	27.57	0.027		
Fish Creek	Upper Fish Creek	42.3916*	28.27	0.027		
Fish Creek	Upper Fish Creek	43.3	28.98	0.027		
Judy Creek	Lower Judy Creek	0.38	18.05	0.030		
Judy Creek	Lower Judy Creek	.981819*	18.53	0.030		
Judy Creek	Lower Judy Creek	1.58363*	19.03	0.030		
Judy Creek	Lower Judy Creek	2.18545*	19.55	0.030		
Judy Creek	Lower Judy Creek	2.78727*	20.09	0.030		
Judy Creek	Lower Judy Creek	3.38909*	20.66	0.030		
Judy Creek	Lower Judy Creek	3.99090*	21.24	0.030		
Judy Creek	Lower Judy Creek	4.59272*	21.85	0.030		
Judy Creek	Lower Judy Creek	5.19454*	22.47	0.030		
Judy Creek	Lower Judy Creek	5.79636*	23.11	0.030		

Judy Creek	Lower Judy Creek	6.39818*	23.80	0.031
Judy Creek	Lower Judy Creek	7.0	24.61	0.031
Judy Creek	Lower Judy Creek	7.42500*	25.40	0.030
Judy Creek	Lower Judy Creek	7.85000*	25.98	0.030
Judy Creek	Lower Judy Creek	8.27500*	26.49	0.030
Judy Creek	Lower Judy Creek	8.70000*	26.97	0.030
Judy Creek	Lower Judy Creek	9.12500*	27.43	0.030
Judy Creek	Lower Judy Creek	9.55000*	27.88	0.030
Judy Creek	Lower Judy Creek	9.975*	28.33	0.030
Judy Creek	Lower Judy Creek	10.4*	28.80	0.030
Judy Creek	Lower Judy Creek	10.825*	29.29	0.030
Judy Creek	Lower Judy Creek	11.25*	29.79	0.029
Judy Creek	Lower Judy Creek	11.675*	30.31	0.029
Judy Creek	Lower Judy Creek	12.1*	30.87	0.029
Judy Creek	Lower Judy Creek	12.525*	31.47	0.029
Judy Creek	Lower Judy Creek	12.95*	32.13	0.029
Judy Creek	Lower Judy Creek	13.375*	32.82	0.029
Judy Creek	Lower Judy Creek	13.8	33.58	0.029
Judy Creek	Lower Judy Creek	14.2705*	34.37	0.029
Judy Creek	Lower Judy Creek	14.7411*	35.07	0.029
Judy Creek	Lower Judy Creek	15.2117*	35.78	0.029
Judy Creek	Lower Judy Creek	15.6823*	36.50	0.029
Judy Creek	Lower Judy Creek	16.1529*	37.21	0.029
Judy Creek	Lower Judy Creek	16.6235*	37.92	0.029
Judy Creek	Lower Judy Creek	17.0941*	38.63	0.029
Judy Creek	Lower Judy Creek	17.5647*	39.35	0.029
Judy Creek	Lower Judy Creek	18.0352*	40.06	0.029
Judy Creek	Lower Judy Creek	18.5058*	40.77	0.029
Judy Creek	Lower Judy Creek	18.9764*	41.48	0.029
Judy Creek	Lower Judy Creek	19.4470*	42.18	0.029
Judy Creek	Lower Judy Creek	19.9176*	42.88	0.029
Judy Creek	Lower Judy Creek	20.3882*	43.58	0.029
Judy Creek	Lower Judy Creek	20.8588*	44.27	0.029
Judy Creek	Lower Judy Creek	21.3294*	44.97	0.029
Judy Creek	Lower Judy Creek	21.8	45.66	0.029
Judy Creek	Lower Judy Creek	22.26*	46.29	0.029
Judy Creek	Lower Judy Creek	22.72*	46.87	0.029
Judy Creek	Lower Judy Creek	23.18*	47.46	0.029
Judy Creek	Lower Judy Creek	23.64*	48.08	0.029
Judy Creek	Lower Judy Creek	24.1*	48.73	0.029
Judy Creek	Lower Judy Creek	24.56*	49.39	0.029
Judy Creek	Lower Judy Creek	25.02*	50.07	0.029
Judy Creek	Lower Judy Creek	25.48*	50.77	0.029
Judy Creek	Lower Judy Creek	25.94*	51.49	0.029
Judy Creek	Lower Judy Creek	26.4*	52.22	0.029
Judy Creek	Lower Judy Creek	26.86*	52.96	0.029
Judy Creek	Lower Judy Creek	27.32*	53.72	0.029
Judy Creek	Lower Judy Creek	27.78*	54.50	0.029
Judy Creek	Lower Judy Creek	28.24*	55.29	0.029
Judy Creek	Lower Judy Creek	28.7*	56.10	0.029
Judy Creek	Lower Judy Creek	29.16*	56.92	0.029
Judy Creek	Lower Judy Creek	29.62*	57.77	0.029
Judy Creek	Lower Judy Creek	30.08*	58.63	0.029
Judy Creek	Lower Judy Creek	30.54*	59.51	0.029
Judy Creek	Lower Judy Creek	31.0	60.43	0.029

Profile Output Table - User Defined Table #4

River	Reach	River Sta	W.S. Elev (ft)	Shear Chan (lb/sq ft)	Shear LOB (lb/sq ft)	Shear ROB (lb/sq ft)	Power Chan (lb/ft s)	Power LOB (lb/ft s)	Power ROB (lb/ft s)
Fish Creek	Lower Fish Creek	0.7	2.87	0.00	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	1.54615*	3.24	0.01	0.01	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	2.39230*	3.60	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	3.23846*	3.89	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	4.08461*	4.15	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	4.93076*	4.37	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	5.77692*	4.58	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	6.62307*	4.80	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	7.46923*	5.03	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	8.31538*	5.25	0.01	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	9.16153*	5.49	0.02	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	10.0076*	5.82	0.02	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	10.8538*	6.26	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	11.7	7.03	0.07	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	12.6	7.80	0.02	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	13.4285*	8.13	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	14.2571*	8.52	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	15.0857*	8.99	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	15.9142*	9.53	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	16.7428*	10.14	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	17.5714*	10.76	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	18.4	11.39	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	19.2375*	12.00	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	20.075*	12.54	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	20.9125*	13.04	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	21.75*	13.53	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	22.5875*	14.05	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	23.425*	14.63	0.05	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	24.2625*	15.32	0.06	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	25.1	16.16	0.07	0.00	0.00	0.00	0.00	0.00
Fish Creek	Lower Fish Creek	26.09	17.19	0.07	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	26.85	17.88	0.02	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	27.6428*	18.18	0.02	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	28.4357*	18.52	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	29.2285*	18.90	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	30.0214*	19.31	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	30.8142*	19.75	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	31.6071*	20.21	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	32.4	20.70	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	33.3083*	21.28	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	34.2166*	21.90	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	35.125*	22.58	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	36.0333*	23.28	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	36.9416*	24.00	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	37.85*	24.72	0.04	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	38.7583*	25.44	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	39.6666*	26.15	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	40.575*	26.86	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	41.4833*	27.57	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	42.3916*	28.27	0.03	0.00	0.00	0.00	0.00	0.00
Fish Creek	Upper Fish Creek	43.3	28.98	0.03	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	0.38	18.05	0.07	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	.981819*	18.53	0.07	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	1.58363*	19.03	0.08	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	2.18545*	19.55	0.08	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	2.78727*	20.09	0.09	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	3.38909*	20.66	0.09	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	3.99090*	21.24	0.09	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	4.59272*	21.85	0.10	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	5.19454*	22.47	0.10	0.00	0.00	0.00	0.00	0.00
Judy Creek	Lower Judy Creek	5.79636*	23.11	0.10	0.00	0.00	0.00	0.00	0.00

Judy Creek	Lower Judy Creek	6.39818*	23.80	0.11	0.31
Judy Creek	Lower Judy Creek	7.0	24.61	0.12	0.31
Judy Creek	Lower Judy Creek	7.42500*	25.40	0.08	0.17
Judy Creek	Lower Judy Creek	7.85000*	25.98	0.07	0.15
Judy Creek	Lower Judy Creek	8.27500*	26.49	0.07	0.14
Judy Creek	Lower Judy Creek	8.70000*	26.97	0.06	0.13
Judy Creek	Lower Judy Creek	9.12500*	27.43	0.06	0.13
Judy Creek	Lower Judy Creek	9.55000*	27.88	0.06	0.14
Judy Creek	Lower Judy Creek	9.975*	28.33	0.07	0.14
Judy Creek	Lower Judy Creek	10.4*	28.80	0.07	0.15
Judy Creek	Lower Judy Creek	10.825*	29.29	0.07	0.16
Judy Creek	Lower Judy Creek	11.25*	29.79	0.07	0.16
Judy Creek	Lower Judy Creek	11.675*	30.31	0.07	0.17
Judy Creek	Lower Judy Creek	12.1*	30.87	0.08	0.19
Judy Creek	Lower Judy Creek	12.525*	31.47	0.08	0.20
Judy Creek	Lower Judy Creek	12.95*	32.13	0.09	0.21
Judy Creek	Lower Judy Creek	13.375*	32.82	0.09	0.23
Judy Creek	Lower Judy Creek	13.8	33.58	0.09	0.24
Judy Creek	Lower Judy Creek	14.2705*	34.37	0.08	0.18
Judy Creek	Lower Judy Creek	14.7411*	35.07	0.08	0.18
Judy Creek	Lower Judy Creek	15.2117*	35.78	0.08	0.18
Judy Creek	Lower Judy Creek	15.6823*	36.50	0.08	0.18
Judy Creek	Lower Judy Creek	16.1529*	37.21	0.08	0.18
Judy Creek	Lower Judy Creek	16.6235*	37.92	0.08	0.17
Judy Creek	Lower Judy Creek	17.0941*	38.63	0.08	0.17
Judy Creek	Lower Judy Creek	17.5647*	39.35	0.07	0.17
Judy Creek	Lower Judy Creek	18.0352*	40.06	0.07	0.17
Judy Creek	Lower Judy Creek	18.5058*	40.77	0.07	0.16
Judy Creek	Lower Judy Creek	18.9764*	41.48	0.07	0.16
Judy Creek	Lower Judy Creek	19.4470*	42.18	0.07	0.16
Judy Creek	Lower Judy Creek	19.9176*	42.88	0.07	0.16
Judy Creek	Lower Judy Creek	20.3882*	43.58	0.07	0.16
Judy Creek	Lower Judy Creek	20.8588*	44.27	0.07	0.16
Judy Creek	Lower Judy Creek	21.3294*	44.97	0.07	0.15
Judy Creek	Lower Judy Creek	21.8	45.66	0.07	0.15
Judy Creek	Lower Judy Creek	22.26*	46.29	0.06	0.11
Judy Creek	Lower Judy Creek	22.72*	46.87	0.06	0.12
Judy Creek	Lower Judy Creek	23.18*	47.46	0.06	0.13
Judy Creek	Lower Judy Creek	23.64*	48.08	0.06	0.13
Judy Creek	Lower Judy Creek	24.1*	48.73	0.07	0.13
Judy Creek	Lower Judy Creek	24.56*	49.39	0.07	0.14
Judy Creek	Lower Judy Creek	25.02*	50.07	0.07	0.14
Judy Creek	Lower Judy Creek	25.48*	50.77	0.07	0.14
Judy Creek	Lower Judy Creek	25.94*	51.49	0.07	0.15
Judy Creek	Lower Judy Creek	26.4*	52.22	0.07	0.15
Judy Creek	Lower Judy Creek	26.86*	52.96	0.07	0.15
Judy Creek	Lower Judy Creek	27.32*	53.72	0.07	0.16
Judy Creek	Lower Judy Creek	27.78*	54.50	0.07	0.16
Judy Creek	Lower Judy Creek	28.24*	55.29	0.07	0.16
Judy Creek	Lower Judy Creek	28.7*	56.10	0.07	0.16
Judy Creek	Lower Judy Creek	29.16*	56.92	0.07	0.16
Judy Creek	Lower Judy Creek	29.62*	57.77	0.08	0.16
Judy Creek	Lower Judy Creek	30.08*	58.63	0.08	0.16
Judy Creek	Lower Judy Creek	30.54*	59.51	0.08	0.16
Judy Creek	Lower Judy Creek	31.0	60.43	0.07	0.16

APPENDIX D
HEC-RAS REPORTS

LIST OF TABLES

	<u>Page</u>
Table D.1	HEC-RAS Run, Fish and Judy Creeks, 2-Year Flood D-1
Table D.2	HEC-RAS Run, Fish and Judy Creeks, 10-Year Flood D-22
Table D.3	HEC-RAS Run, Fish and Judy Creeks, 50-Year Flood D-42
Table D.4	HEC-RAS Run, Fish and Judy Creeks, 100-Year Flood D-62
Table D.5	HEC-RAS Run, Fish and Judy Creeks, 200-Year Flood D-203
Table D.6	HEC-RAS Run, Ublutuoch River, 2-Year Flood with Snow & Ice..... D-223
Table D.7	HEC-RAS Run, Ublutuoch River, 10-Year Flood with Snow & Ice..... D-229
Table D.8	HEC-RAS Run, Ublutuoch River, 50-Year Flood with Snow & Ice..... D-234
Table D.9	HEC-RAS Run, Ublutuoch River, 100-Year Flood with Snow & Ice..... D-239
Table D.10	HEC-RAS Run, Ublutuoch River, 200-Year Flood with Snow & Ice..... D-244
Table D.11	HEC-RAS Run, Ublutuoch River, 2-Year Flood without Snow & Ice D-249
Table D.12	HEC-RAS Run, Ublutuoch River, 10-Year Flood without Snow & Ice D-254
Table D.13	HEC-RAS Run, Ublutuoch River, 50-Year Flood without Snow & Ice D-259
Table D.14	HEC-RAS Run, Ublutuoch River, 100-Year Flood without Snow & Ice D-264
Table D.15	HEC-RAS Run, Ublutuoch River, 200-Year Flood without Snow & Ice D-269

LIST OF FIGURES

	<u>Page</u>
Figure D.1	Fish Creek Cross-Section at River Mile 0.7 D-274
Figure D.2	Fish Creek Cross-Section at River Mile 11.7 D-275
Figure D.3	Fish Creek Cross-Section at River Mile 18.4..... D-276
Figure D.4	Fish Creek Cross-Section at River Mile 25.1 D-277
Figure D.5	Fish Creek Cross-Section at River Mile 32.4..... D-278
Figure D.6	Fish Creek Cross-Section at River Mile 43.3..... D-279
Figure D.7	Judy Creek Cross-Section at River Mile 7.0 D-280

LIST OF FIGURES (Cont.)

	<u>Page</u>
Figure D.8	Judy Creek Cross-Section at River Mile 13.8..... D-281
Figure D.9	Judy Creek Cross-Section at River Mile 21.8..... D-282
Figure D.10	Judy Creek Cross-Section at River Mile 31.0..... D-283
Figure D.11	Ublutuoeh River Cross-Section at River Mile 13.7, 2-Year, No Ice D-284
Figure D.12	Ublutuoeh River Cross-Section at River Mile 13.7, 10-Year, No Ice D-285
Figure D.13	Ublutuoeh River Cross-Section at River Mile 13.7, 50-Year, No Ice D-286
Figure D.14	Ublutuoeh River Cross-Section at River Mile 13.7, 100-Year, No Ice D-287
Figure D.15	Ublutuoeh River Cross-Section at River Mile 13.7, 200-Year, No Ice D-288
Figure D.16	Ublutuoeh River Cross-Section at River Mile 13.7, 2-Year, with Ice D-289
Figure D.17	Ublutuoeh River Cross-Section at River Mile 13.7, 10-Year, with Ice D-290
Figure D.18	Ublutuoeh River Cross-Section at River Mile 13.7, 50-Year, with Ice D-291
Figure D.19	Ublutuoeh River Cross-Section at River Mile 13.7, 100-Year, with Ice D-292
Figure D.20	Ublutuoeh River Cross-Section at River Mile 13.7, 200-Year, with Ice D-293

HEC-RAS Run, Fish and Judy Creeks, 2-Year Flood

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X   X XXXXXX   XXXX   XXXX   XX   XXXX
X   X X       X   X   X   X   X   X
X   X X       X   X   X   X   X   X
XXXXXXXX XXXX   X   XXX XXXX   XXXXXX   XXXX
X   X X       X   X   X   X   X   X
X   X X       X   X   X   X   X   X
X   X XXXXXX   XXXX   X   X   X   X   XXXXX
  
```

2-YEAR FLOOD, FISH AND JUDY CREEKS

PROJECT DATA

Project Title: 2001 Back Water Analysis
 Project File : 26feb02.prj
 Run Date and Time: 2/27/2002 2:17:59 PM

Project in English units

PLAN DATA

Plan Title: 2-Year Flood Plan
 Plan File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.p16

Geometry Title: 2-year Flood Geometry
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g10

Flow Title : 2-year Flood Flow Data
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f04

Plan Summary Information:

Number of:	Cross Sections = 116	Multitple Openings = 0
	Culverts = 0	Inline Weirs = 0
	Bridges = 0	

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculaton tolerance =	0.01
Maximum number of interations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Friction Slope
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: 2-year Flood Flow Data
 Flow File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f04

Flow Data (cfs)

River	Reach	RS	2-Year Flood
Fish Creek	Upper Fish Creek	43.3	7262
Fish Creek	Upper Fish Creek	32.4	7391
Fish Creek	Upper Fish Creek	26.85	7492
Fish Creek	Lower Fish Creek	26.09	13559
Fish Creek	Lower Fish Creek	25.1	13577
Fish Creek	Lower Fish Creek	18.4	13994
Fish Creek	Lower Fish Creek	12.6	14265
Fish Creek	Lower Fish Creek	11.7	14265
Fish Creek	Lower Fish Creek	0.7	16884
Judy Creek	Lower Judy Creek	31.0	4726
Judy Creek	Lower Judy Creek	21.8	5191
Judy Creek	Lower Judy Creek	13.8	5636
Judy Creek	Lower Judy Creek	7.0	6136
Judy Creek	Lower Judy Creek	0.38	6312

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Fish Creek	Lower Fish Creek	2-Year Flood		Normal S = .000075

GEOMETRY DATA

Geometry Title: 2-year Flood Geometry
 Geometry File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g10

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Fish Creek	Upper Fish Creek		Fish Junct.
Fish Creek	Lower Fish Creek	Fish Junct.	
Judy Creek	Lower Judy Creek		Fish Junct.

JUNCTION INFORMATION

Name: Fish Junct.
 Description: Confluence of Fish and Judy Creek
 Energy computation Method

Length across Junction		Tributary	Reach	Length	Angle
River	Reach	River			
Fish Creek	Upper Fish Creek to Fish Creek	Fish Creek	Lower Fish Creek	3915	
Judy Creek	Lower Judy Creek to Fish Creek	Fish Creek	Lower Fish Creek	3694	

SUMMARY OF MANNING'S N VALUES

River:Fish Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n13	n14	n15
Upper Fish Creek	43.3	.04	.027	.07	.04											
Upper Fish Creek	42.3916*	.04	.027	.07	.042											
Upper Fish Creek	41.4833*	.041	.027	.07	.042											
Upper Fish Creek	40.575*	.041	.027	.07	.043											
Upper Fish Creek	39.6666*	.041	.027	.07	.043											
Upper Fish Creek	38.7583*	.041	.027	.07	.044											
Upper Fish Creek	37.85*	.042	.028	.045												
Upper Fish Creek	36.9416*	.042	.028	.045												
Upper Fish Creek	36.0333*	.042	.028	.046												
Upper Fish Creek	35.125*	.042	.028	.046												
Upper Fish Creek	34.2166*	.042	.028	.047												
Upper Fish Creek	33.3083*	.043	.028	.047												
Upper Fish Creek	32.4	.04	.1	.07	.028	.06	.05	.04	.05	.04						
Upper Fish Creek	31.6071*	.045	.07	.028	.051											
Upper Fish Creek	30.8142*	.047	.07	.027	.054											
Upper Fish Creek	30.0214*	.05	.07	.027	.057											
Upper Fish Creek	29.2285*	.052	.07	.027	.06											
Upper Fish Creek	28.4357*	.054	.07	.027	.063											
Upper Fish Creek	27.6428*	.056	.07	.027	.066											
Upper Fish Creek	26.85	.058	.04	.027	.069											
Lower Fish Creek	26.09	.06	.07	.021	.072											
Lower Fish Creek	25.1	.05	.04	.05	.04	.05	.04	.09	.04	.05	.07	.021	.09	.04	.06	.04
Lower Fish Creek	24.2625*	.061	.08	.022	.074											
Lower Fish Creek	23.425*	.06	.08	.021	.073											
Lower Fish Creek	22.5875*	.059	.08	.021	.071											
Lower Fish Creek	21.75*	.057	.09	.021	.07											
Lower Fish Creek	20.9125*	.055	.1	.021	.068											
Lower Fish Creek	20.075*	.054	.1	.021	.066											
Lower Fish Creek	19.2375*	.053	.1	.021	.065											
Lower Fish Creek	18.4	.05	.06	.04	.05	.11	.02	.11	.05	.11	.07	.05				
Lower Fish Creek	17.5714*	.051	.11	.021	.065											
Lower Fish Creek	16.7428*	.051	.11	.021	.066											
Lower Fish Creek	15.9142*	.051	.11	.022	.068											
Lower Fish Creek	15.0857*	.051	.11	.022	.069											
Lower Fish Creek	14.2571*	.05	.11	.022	.071											
Lower Fish Creek	13.4285*	.05	.11	.022	.073											
Lower Fish Creek	12.6	.05	.11	.022	.11	.074										
Lower Fish Creek	11.7	.06	.04	.09	.04	.05	.11	.047	.07	.05	.047	.11	.09	.06	.04	
Lower Fish Creek	10.8538*	.06	.11	.047	.055	.047	.055									
Lower Fish Creek	10.0076*	.05	.1	.047	.05	.047	.05									
Lower Fish Creek	9.16153*	.05	.1	.047	.05	.047	.055									
Lower Fish Creek	8.31538*	.05	.09	.047	.05	.047	.05									
Lower Fish Creek	7.46923*	.05	.09	.047	.05	.047	.05									
Lower Fish Creek	6.62307*	.05	.08	.047	.05	.047	.055									
Lower Fish Creek	5.77692*	.05	.08	.047	.05	.047	.05									
Lower Fish Creek	4.93076*	.055	.08	.047	.055	.047	.06									
Lower Fish Creek	4.08461*	.055	.07	.047	.055	.047	.06									
Lower Fish Creek	3.23846*	.055	.07	.047	.055	.047	.06									
Lower Fish Creek	2.39230*	.06	.06	.047	.055	.047	.06									
Lower Fish Creek	1.54615*	.06	.06	.047	.055	.047	.065									
Lower Fish Creek	0.7	.065	.055	.047	.055	.047	.055	.047	.055	.047	.065					

River:Judy Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9
Lower Judy Creek	31.0	.05	.014	.1	.05					
Lower Judy Creek	30.54*	.05	.014	.05						
Lower Judy Creek	30.08*	.05	.014	.05						
Lower Judy Creek	29.62*	.05	.014	.05						
Lower Judy Creek	29.16*	.05	.015	.05						

Lower Judy Creek	28.7*	.05	.016	.05						
Lower Judy Creek	28.24*	.05	.017	.05						
Lower Judy Creek	27.78*	.05	.018	.05						
Lower Judy Creek	27.32*	.05	.018	.05						
Lower Judy Creek	26.86*	.05	.018	.05						
Lower Judy Creek	26.4*	.05	.018	.05						
Lower Judy Creek	25.94*	.05	.018	.05						
Lower Judy Creek	25.48*	.05	.018	.05						
Lower Judy Creek	25.02*	.05	.018	.05						
Lower Judy Creek	24.56*	.05	.018	.05						
Lower Judy Creek	24.1*	.05	.018	.05						
Lower Judy Creek	23.64*	.05	.018	.05						
Lower Judy Creek	23.18*	.05	.018	.05						
Lower Judy Creek	22.72*	.05	.018	.05						
Lower Judy Creek	22.26*	.05	.018	.05						
Lower Judy Creek	21.8	.05	.11	.018	.1	.05				
Lower Judy Creek	21.3294*	.05	.018	.05						
Lower Judy Creek	20.8588*	.05	.018	.05						
Lower Judy Creek	20.3882*	.05	.018	.05						
Lower Judy Creek	19.9176*	.05	.019	.05						
Lower Judy Creek	19.4470*	.05	.02	.05						
Lower Judy Creek	18.9764*	.05	.02	.05						
Lower Judy Creek	18.5058*	.05	.02	.05						
Lower Judy Creek	18.0352*	.05	.02	.05						
Lower Judy Creek	17.5647*	.05	.02	.05						
Lower Judy Creek	17.0941*	.05	.02	.05						
Lower Judy Creek	16.6235*	.05	.02	.05						
Lower Judy Creek	16.1529*	.05	.02	.05						
Lower Judy Creek	15.6823*	.05	.02	.05						
Lower Judy Creek	15.2117*	.05	.021	.05						
Lower Judy Creek	14.7411*	.05	.022	.05						
Lower Judy Creek	14.2705*	.05	.023	.05						
Lower Judy Creek	13.8	.05	.04	.05	.06	.024	.06	.04		
Lower Judy Creek	13.375*	.04	.024	.05						
Lower Judy Creek	12.95*	.04	.023	.05						
Lower Judy Creek	12.525*	.04	.023	.05						
Lower Judy Creek	12.1*	.04	.023	.05						
Lower Judy Creek	11.675*	.04	.022	.05						
Lower Judy Creek	11.25*	.04	.022	.05						
Lower Judy Creek	10.825*	.04	.022	.05						
Lower Judy Creek	10.4*	.04	.022	.05						
Lower Judy Creek	9.975*	.04	.022	.05						
Lower Judy Creek	9.5500*	.04	.022	.05						
Lower Judy Creek	9.12500*	.04	.022	.05						
Lower Judy Creek	8.70000*	.04	.023	.05						
Lower Judy Creek	8.27500*	.04	.023	.05						
Lower Judy Creek	7.85000*	.04	.023	.05						
Lower Judy Creek	7.42500*	.04	.023	.05						
Lower Judy Creek	7.0	.04	.05	.04	.05	.11	.024	.11	.05	.04
Lower Judy Creek	6.39818*	.04	.023	.05						
Lower Judy Creek	5.79636*	.04	.023	.05						
Lower Judy Creek	5.19454*	.04	.022	.05						
Lower Judy Creek	4.59272*	.04	.022	.05						
Lower Judy Creek	3.99090*	.04	.022	.05						
Lower Judy Creek	3.38909*	.04	.023	.05						
Lower Judy Creek	2.78727*	.04	.023	.05						
Lower Judy Creek	2.18545*	.04	.023	.03	.05					
Lower Judy Creek	1.58363*	.04	.023	.05						
Lower Judy Creek	.981819*	.04	.023	.05						
Lower Judy Creek	0.38	.04	.023	.06	.04					

SUMMARY OF REACH LENGTHS

River: Fish Creek

Reach	River Sta.	Left	Channel	Right
Upper Fish Creek	43.3	1903.5	4751.08	1745.42

Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171
Upper Fish Creek	29.2285*	2464.43	4273.14	2171
Upper Fish Creek	28.4357*	2464.43	4273.14	2171
Upper Fish Creek	27.6428*	2464.43	4273.14	2171
Upper Fish Creek	26.85	0	0	0
Lower Fish Creek	26.09	3700	4769	4680
Lower Fish Creek	25.1	2028.75	4406.38	2370.38
Lower Fish Creek	24.2625*	2028.75	4406.38	2370.38
Lower Fish Creek	23.425*	2028.75	4406.38	2370.38
Lower Fish Creek	22.5875*	2028.75	4406.38	2370.38
Lower Fish Creek	21.75*	2028.75	4406.38	2370.38
Lower Fish Creek	20.9125*	2028.75	4406.38	2370.38
Lower Fish Creek	20.075*	2028.75	4406.38	2370.38
Lower Fish Creek	19.2375*	2028.75	4406.38	2370.38
Lower Fish Creek	18.4	3217.29	4349	2885.43
Lower Fish Creek	17.5714*	3217.29	4349	2885.43
Lower Fish Creek	16.7428*	3217.29	4349	2885.43
Lower Fish Creek	15.9142*	3217.29	4349	2885.43
Lower Fish Creek	15.0857*	3217.29	4349	2885.43
Lower Fish Creek	14.2571*	3217.29	4349	2885.43
Lower Fish Creek	13.4285*	3217.29	4349	2885.43
Lower Fish Creek	12.6	1090	5078	2467
Lower Fish Creek	11.7	2559	4481.46	2515.69
Lower Fish Creek	10.8538*	2559	4481.46	2515.69
Lower Fish Creek	10.0076*	2559	4481.46	2515.69
Lower Fish Creek	9.16153*	2559	4481.46	2515.69
Lower Fish Creek	8.31538*	2559	4481.46	2515.69
Lower Fish Creek	7.46923*	2559	4481.46	2515.69
Lower Fish Creek	6.62307*	2559	4481.46	2515.69
Lower Fish Creek	5.77692*	2559	4481.46	2515.69
Lower Fish Creek	4.93076*	2559	4481.46	2515.69
Lower Fish Creek	4.08461*	2559	4481.46	2515.69
Lower Fish Creek	3.23846*	2559	4481.46	2515.69
Lower Fish Creek	2.39230*	2559	4481.46	2515.69
Lower Fish Creek	1.54615*	2559	4481.46	2515.7
Lower Fish Creek	0.7	0	0	0

River: Judy Creek

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	31.0	1164.9	2386.5	1005.25
Lower Judy Creek	30.54*	1164.9	2386.5	1005.25
Lower Judy Creek	30.08*	1164.9	2386.5	1005.25

Lower Judy Creek	29.62*	1164.9	2386.5	1005.25
Lower Judy Creek	29.16*	1164.9	2386.5	1005.25
Lower Judy Creek	28.7*	1164.9	2386.5	1005.25
Lower Judy Creek	28.24*	1164.9	2386.5	1005.25
Lower Judy Creek	27.78*	1164.9	2386.5	1005.25
Lower Judy Creek	27.32*	1164.9	2386.5	1005.25
Lower Judy Creek	26.86*	1164.9	2386.5	1005.25
Lower Judy Creek	26.4*	1164.9	2386.5	1005.25
Lower Judy Creek	25.94*	1164.9	2386.5	1005.25
Lower Judy Creek	25.48*	1164.9	2386.5	1005.25
Lower Judy Creek	25.02*	1164.9	2386.5	1005.25
Lower Judy Creek	24.56*	1164.9	2386.5	1005.25
Lower Judy Creek	24.1*	1164.9	2386.5	1005.25
Lower Judy Creek	23.64*	1164.9	2386.5	1005.25
Lower Judy Creek	23.18*	1164.9	2386.5	1005.25
Lower Judy Creek	22.72*	1164.9	2386.5	1005.25
Lower Judy Creek	22.26*	1164.9	2386.5	1005.25
Lower Judy Creek	21.8	1459.47	2420.88	1416
Lower Judy Creek	21.3294*	1459.47	2420.88	1416
Lower Judy Creek	20.8588*	1459.47	2420.88	1416
Lower Judy Creek	20.3882*	1459.47	2420.88	1416
Lower Judy Creek	19.9176*	1459.47	2420.88	1416
Lower Judy Creek	19.4470*	1459.47	2420.88	1416
Lower Judy Creek	18.9764*	1459.47	2420.88	1416
Lower Judy Creek	18.5058*	1459.47	2420.88	1416
Lower Judy Creek	18.0352*	1459.47	2420.88	1416
Lower Judy Creek	17.5647*	1459.47	2420.88	1416
Lower Judy Creek	17.0941*	1459.47	2420.88	1416
Lower Judy Creek	16.6235*	1459.47	2420.88	1416
Lower Judy Creek	16.1529*	1459.47	2420.88	1416
Lower Judy Creek	15.6823*	1459.47	2420.88	1416
Lower Judy Creek	15.2117*	1459.47	2420.88	1416
Lower Judy Creek	14.7411*	1459.47	2420.88	1416
Lower Judy Creek	14.2705*	1459.47	2420.89	1416
Lower Judy Creek	13.8	1530.69	2280.69	1205.25
Lower Judy Creek	13.375*	1530.69	2280.69	1205.25
Lower Judy Creek	12.95*	1530.69	2280.69	1205.25
Lower Judy Creek	12.525*	1530.69	2280.69	1205.25
Lower Judy Creek	12.1*	1530.69	2280.69	1205.25
Lower Judy Creek	11.675*	1530.69	2280.69	1205.25
Lower Judy Creek	11.25*	1530.69	2280.69	1205.25
Lower Judy Creek	10.825*	1530.69	2280.69	1205.25
Lower Judy Creek	10.4*	1530.69	2280.69	1205.25
Lower Judy Creek	9.975*	1530.69	2280.69	1205.25
Lower Judy Creek	9.55000*	1530.69	2280.69	1205.25
Lower Judy Creek	9.12500*	1530.69	2280.69	1205.25
Lower Judy Creek	8.70000*	1530.69	2280.69	1205.25
Lower Judy Creek	8.27500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.85000*	1530.69	2280.69	1205.25
Lower Judy Creek	7.42500*	1530.69	2280.7	1205.25
Lower Judy Creek	7.0	1574.27	2316.18	1729.73
Lower Judy Creek	6.39818*	1574.27	2316.18	1729.73
Lower Judy Creek	5.79636*	1574.27	2316.18	1729.73
Lower Judy Creek	5.19454*	1574.27	2316.18	1729.73
Lower Judy Creek	4.59272*	1574.27	2316.18	1729.73
Lower Judy Creek	3.99090*	1574.27	2316.18	1729.73
Lower Judy Creek	3.38909*	1574.27	2316.18	1729.73
Lower Judy Creek	2.78727*	1574.27	2316.18	1729.73
Lower Judy Creek	2.18545*	1574.27	2316.18	1729.73

Lower Judy Creek	1.58363*	1574.27	2316.18	1729.73
Lower Judy Creek	.981819*	1574.28	2316.18	1729.73
Lower Judy Creek	0.38	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Fish Creek

Reach	River Sta.	Contr.	Expan.
Upper Fish Creek	43.3	.1	.3
Upper Fish Creek	42.3916*	.1	.3
Upper Fish Creek	41.4833*	.1	.3
Upper Fish Creek	40.575*	.1	.3
Upper Fish Creek	39.6666*	.1	.3
Upper Fish Creek	38.7583*	.1	.3
Upper Fish Creek	37.85*	.1	.3
Upper Fish Creek	36.9416*	.1	.3
Upper Fish Creek	36.0333*	.1	.3
Upper Fish Creek	35.125*	.1	.3
Upper Fish Creek	34.2166*	.1	.3
Upper Fish Creek	33.3083*	.1	.3
Upper Fish Creek	32.4	.1	.3
Upper Fish Creek	31.6071*	.1	.3
Upper Fish Creek	30.8142*	.1	.3
Upper Fish Creek	30.0214*	.1	.3
Upper Fish Creek	29.2285*	.1	.3
Upper Fish Creek	28.4357*	.1	.3
Upper Fish Creek	27.6428*	.1	.3
Upper Fish Creek	26.85	.1	.3
Lower Fish Creek	26.09	.1	.3
Lower Fish Creek	25.1	.1	.3
Lower Fish Creek	24.2625*	.1	.3
Lower Fish Creek	23.425*	.1	.3
Lower Fish Creek	22.5875*	.1	.3
Lower Fish Creek	21.75*	.1	.3
Lower Fish Creek	20.9125*	.1	.3
Lower Fish Creek	20.075*	.1	.3
Lower Fish Creek	19.2375*	.1	.3
Lower Fish Creek	18.4	.1	.3
Lower Fish Creek	17.5714*	.1	.3
Lower Fish Creek	16.7428*	.1	.3
Lower Fish Creek	15.9142*	.1	.3
Lower Fish Creek	15.0857*	.1	.3
Lower Fish Creek	14.2571*	.1	.3
Lower Fish Creek	13.4285*	.1	.3
Lower Fish Creek	12.6	.1	.3
Lower Fish Creek	11.7	.1	.3
Lower Fish Creek	10.8538*	.1	.3
Lower Fish Creek	10.0076*	.1	.3
Lower Fish Creek	9.16153*	.1	.3
Lower Fish Creek	8.31538*	.1	.3
Lower Fish Creek	7.46923*	.1	.3
Lower Fish Creek	6.62307*	.1	.3
Lower Fish Creek	5.77692*	.1	.3
Lower Fish Creek	4.93076*	.1	.3
Lower Fish Creek	4.08461*	.1	.3
Lower Fish Creek	3.23846*	.1	.3
Lower Fish Creek	2.39230*	.1	.3
Lower Fish Creek	1.54615*	.1	.3
Lower Fish Creek	0.7	.1	.3

River: Judy Creek

Reach	River Sta.	Contr.	Expan.
Lower Judy Creek	31.0	.1	.3
Lower Judy Creek	30.54*	.1	.3
Lower Judy Creek	30.08*	.1	.3
Lower Judy Creek	29.62*	.1	.3
Lower Judy Creek	29.16*	.1	.3
Lower Judy Creek	28.7*	.1	.3
Lower Judy Creek	28.24*	.1	.3
Lower Judy Creek	27.78*	.1	.3
Lower Judy Creek	27.32*	.1	.3
Lower Judy Creek	26.86*	.1	.3
Lower Judy Creek	26.4*	.1	.3
Lower Judy Creek	25.94*	.1	.3
Lower Judy Creek	25.48*	.1	.3
Lower Judy Creek	25.02*	.1	.3
Lower Judy Creek	24.56*	.1	.3
Lower Judy Creek	24.1*	.1	.3
Lower Judy Creek	23.64*	.1	.3
Lower Judy Creek	23.18*	.1	.3
Lower Judy Creek	22.72*	.1	.3
Lower Judy Creek	22.26*	.1	.3
Lower Judy Creek	21.8	.1	.3
Lower Judy Creek	21.3294*	.1	.3
Lower Judy Creek	20.8588*	.1	.3
Lower Judy Creek	20.3882*	.1	.3
Lower Judy Creek	19.9176*	.1	.3
Lower Judy Creek	19.4470*	.1	.3
Lower Judy Creek	18.9764*	.1	.3
Lower Judy Creek	18.5058*	.1	.3
Lower Judy Creek	18.0352*	.1	.3
Lower Judy Creek	17.5647*	.1	.3
Lower Judy Creek	17.0941*	.1	.3
Lower Judy Creek	16.6235*	.1	.3
Lower Judy Creek	16.1529*	.1	.3
Lower Judy Creek	15.6823*	.1	.3
Lower Judy Creek	15.2117*	.1	.3
Lower Judy Creek	14.7411*	.1	.3
Lower Judy Creek	14.2705*	.1	.3
Lower Judy Creek	13.8	.1	.3
Lower Judy Creek	13.375*	.1	.3
Lower Judy Creek	12.95*	.1	.3
Lower Judy Creek	12.525*	.1	.3
Lower Judy Creek	12.1*	.1	.3
Lower Judy Creek	11.675*	.1	.3
Lower Judy Creek	11.25*	.1	.3
Lower Judy Creek	10.825*	.1	.3
Lower Judy Creek	10.4*	.1	.3
Lower Judy Creek	9.975*	.1	.3
Lower Judy Creek	9.55000*	.1	.3
Lower Judy Creek	9.12500*	.1	.3
Lower Judy Creek	8.70000*	.1	.3
Lower Judy Creek	8.27500*	.1	.3
Lower Judy Creek	7.85000*	.1	.3
Lower Judy Creek	7.42500*	.1	.3
Lower Judy Creek	7.0	.1	.3
Lower Judy Creek	6.39818*	.1	.3
Lower Judy Creek	5.79636*	.1	.3

Lower Judy Creek	5.19454*	.1	.3
Lower Judy Creek	4.59272*	.1	.3
Lower Judy Creek	3.99090*	.1	.3
Lower Judy Creek	3.38909*	.1	.3
Lower Judy Creek	2.78727*	.1	.3
Lower Judy Creek	2.18545*	.1	.3
Lower Judy Creek	1.58363*	.1	.3
Lower Judy Creek	.981819*	.1	.3
Lower Judy Creek	0.38	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Fish Creek	Lower	Fish Creek 0.7	16884.00		0.30	3.82	1.86	3.82	0.000075	0.38	44770.97	24120.12	0.05
Fish Creek	Lower	Fish Creek 1.54615*	14265.00		-0.36	4.18		4.18	0.000092	0.41	36712.63	23529.71	0.06
Fish Creek	Lower	Fish Creek 2.39230*	14265.00		-0.74	4.59		4.60	0.000110	0.51	30863.47	19742.22	0.07
Fish Creek	Lower	Fish Creek 3.23846*	14265.00		-1.13	5.01		5.01	0.000095	0.55	29297.12	16124.63	0.07
Fish Creek	Lower	Fish Creek 4.08461*	14265.00		-1.52	5.44		5.45	0.000109	0.68	21130.11	8436.27	0.07
Fish Creek	Lower	Fish Creek 4.93076*	14265.00		-1.90	5.89		5.90	0.000095	0.69	20737.67	7442.85	0.07
Fish Creek	Lower	Fish Creek 5.77692*	14265.00		-2.29	6.29		6.30	0.000083	0.73	19688.40	6553.63	0.07
Fish Creek	Lower	Fish Creek 6.62307*	14265.00		-2.68	6.66		6.67	0.000082	0.79	18317.34	5625.49	0.07
Fish Creek	Lower	Fish Creek 7.46923*	14265.00		-3.07	7.05		7.06	0.000094	0.86	16816.71	4889.17	0.08
Fish Creek	Lower	Fish Creek 8.31538*	14265.00		-3.45	7.46		7.48	0.000096	0.96	15168.79	4184.06	0.08
Fish Creek	Lower	Fish Creek 9.16153*	14265.00		-3.84	7.97		7.99	0.000133	1.09	13273.07	3140.70	0.09
Fish Creek	Lower	Fish Creek 10.0076*	14265.00		-4.23	8.58		8.61	0.000142	1.28	11390.45	2500.99	0.10
Fish Creek	Lower	Fish Creek 10.8538*	14265.00		-4.61	9.33		9.37	0.000197	1.61	10373.68	13148.73	0.12
Fish Creek	Lower	Fish Creek 11.7	14265.00		-5.00	10.29		10.34	0.000251	1.89	14095.89	13518.18	0.14
Fish Creek	Lower	Fish Creek 12.6	14265.00		-5.80	10.96		11.04	0.000078	2.44	17395.17	13299.63	0.15
Fish Creek	Lower	Fish Creek 13.4285*	13994.00		-5.83	11.34		11.43	0.000111	2.70	13311.90	12145.94	0.17
Fish Creek	Lower	Fish Creek 14.2571*	13994.00		-5.86	11.82		11.94	0.000127	2.93	10849.63	10022.77	0.19
Fish Creek	Lower	Fish Creek 15.0857*	13994.00		-5.89	12.37		12.50	0.000139	3.04	10204.76	9423.16	0.20
Fish Creek	Lower	Fish Creek 15.9142*	13994.00		-5.91	12.97		13.10	0.000149	3.11	9766.53	9035.82	0.20
Fish Creek	Lower	Fish Creek 16.7428*	13994.00		-5.94	13.58		13.72	0.000145	3.19	9238.45	7745.92	0.21
Fish Creek	Lower	Fish Creek 17.5714*	13994.00		-5.97	14.19		14.34	0.000150	3.25	9049.98	8010.77	0.21
Fish Creek	Lower	Fish Creek 18.4	13994.00		-6.00	14.81		14.96	0.000143	3.32	9003.03	8228.69	0.22
Fish Creek	Lower	Fish Creek 19.2375*	13577.00		-4.42	15.42		15.57	0.000145	3.28	8146.48	6485.46	0.21
Fish Creek	Lower	Fish Creek 20.075*	13577.00		-2.84	16.03		16.21	0.000153	3.47	5843.27	3240.84	0.22
Fish Creek	Lower	Fish Creek 20.9125*	13577.00		-1.26	16.67		16.85	0.000149	3.49	5880.93	3287.50	0.22
Fish Creek	Lower	Fish Creek 21.75*	13577.00		0.32	17.31		17.50	0.000150	3.55	5956.63	4057.67	0.22
Fish Creek	Lower	Fish Creek 22.5875*	13577.00		1.90	17.96		18.15	0.000154	3.62	6467.50	5199.76	0.22
Fish Creek	Lower	Fish Creek 23.425*	13577.00		3.48	18.62		18.82	0.000160	3.71	7050.05	5917.59	0.22
Fish Creek	Lower	Fish Creek 24.2625*	13577.00		5.06	19.35		19.55	0.000180	3.73	7797.90	5542.85	0.23
Fish Creek	Lower	Fish Creek 25.1	13577.00		6.64	20.18		20.39	0.000218	3.84	8523.97	5778.84	0.24
Fish Creek	Lower	Fish Creek 26.09	13559.00		7.89	21.17		21.40	0.000206	4.06	7051.47	5280.65	0.25
Fish Creek	Upper	Fish Creek 26.85	7492.00		6.88	21.97		22.07	0.000132	2.63	2854.41	407.14	0.16
Fish Creek	Upper	Fish Creek 27.6428*	7391.00		7.84	22.53		22.64	0.000133	2.61	2867.98	431.91	0.16
Fish Creek	Upper	Fish Creek 28.4357*	7391.00		8.80	23.10		23.21	0.000134	2.62	2990.42	1195.11	0.15
Fish Creek	Upper	Fish Creek 29.2285*	7391.00		9.76	23.66		23.75	0.000123	2.51	4703.79	3549.13	0.15
Fish Creek	Upper	Fish Creek 30.0214*	7391.00		10.72	24.12		24.19	0.000092	2.28	6815.81	4121.34	0.13
Fish Creek	Upper	Fish Creek 30.8142*	7391.00		11.68	24.48		24.52	0.000077	2.02	8665.88	4434.22	0.12
Fish Creek	Upper	Fish Creek 31.6071*	7391.00		12.64	24.76		24.79	0.000068	1.77	10245.31	4679.08	0.10
Fish Creek	Upper	Fish Creek 32.4	7391.00		13.60	24.99		25.02	0.000066	1.73	11400.12	4892.05	0.10
Fish Creek	Upper	Fish Creek 33.3083*	7262.00		14.03	25.31		25.37	0.000117	2.32	6808.77	4025.22	0.14
Fish Creek	Upper	Fish Creek 34.2166*	7262.00		14.45	25.89		26.00	0.000177	2.79	4117.86	2622.63	0.17
Fish Creek	Upper	Fish Creek 35.125*	7262.00		14.88	26.71		26.84	0.000188	2.88	3230.23	1635.21	0.18
Fish Creek	Upper	Fish Creek 36.0333*	7262.00		15.30	27.57		27.69	0.000184	2.86	2854.04	1205.06	0.18
Fish Creek	Upper	Fish Creek 36.9416*	7262.00		15.73	28.42		28.54	0.000173	2.79	2754.19	837.98	0.17
Fish Creek	Upper	Fish Creek 37.85*	7262.00		16.15	29.22		29.34	0.000164	2.71	2730.88	567.41	0.17
Fish Creek	Upper	Fish Creek 38.7583*	7262.00		16.58	30.02		30.13	0.000168	2.64	2778.31	471.83	0.16
Fish Creek	Upper	Fish Creek 39.6666*	7262.00		17.00	30.81		30.91	0.000160	2.57	2831.54	423.25	0.16
Fish Creek	Upper	Fish Creek 40.575*	7262.00		17.43	31.57		31.66	0.000154	2.51	2893.49	364.10	0.16
Fish Creek	Upper	Fish Creek 41.4833*	7262.00		17.85	32.30		32.39	0.000149	2.46	2953.66	390.30	0.15
Fish Creek	Upper	Fish Creek 42.3916*	7262.00		18.28	33.01		33.10	0.000144	2.42	3015.90	431.70	0.15
Fish Creek	Upper	Fish Creek 43.3	7262.00		18.70	33.70		33.78	0.000142	2.39	3076.78	479.38	0.15
Judy Creek	Lower	Judy Creek 0.38	6312.00		8.18	21.95		22.09	0.000161	2.95	2143.19	311.55	0.20
Judy Creek	Lower	Judy Creek .981819*	6136.00		8.91	22.33		22.47	0.000169	2.98	2065.85	347.22	0.20
Judy Creek	Lower	Judy Creek 1.58363*	6136.00		9.64	22.73		22.88	0.000188	3.08	2000.50	355.25	0.21

Judy Creek	Lower	Judy Creek	2.18545*	6136.00	10.37	23.32	23.46	0.000320	3.11	2010.94	436.42	0.21
Judy Creek	Lower	Judy Creek	2.78727*	6136.00	11.10	23.90	24.05	0.000192	3.13	2035.79	495.70	0.21
Judy Creek	Lower	Judy Creek	3.38909*	6136.00	11.83	24.36	24.52	0.000207	3.21	2002.96	492.30	0.22
Judy Creek	Lower	Judy Creek	3.99090*	6136.00	12.55	24.82	24.99	0.000203	3.29	1975.85	491.80	0.23
Judy Creek	Lower	Judy Creek	4.59272*	6136.00	13.28	25.30	25.47	0.000216	3.37	1956.98	495.21	0.24
Judy Creek	Lower	Judy Creek	5.19454*	6136.00	14.01	25.80	25.98	0.000227	3.43	1952.40	503.16	0.24
Judy Creek	Lower	Judy Creek	5.79636*	6136.00	14.74	26.35	26.53	0.000253	3.45	1978.25	521.33	0.24
Judy Creek	Lower	Judy Creek	6.39818*	6136.00	15.47	26.93	27.12	0.000263	3.53	1831.99	476.25	0.25
Judy Creek	Lower	Judy Creek	7.0	6136.00	16.20	27.73	27.91	0.000415	3.42	1947.96	631.38	0.24
Judy Creek	Lower	Judy Creek	7.42500*	5636.00	16.63	28.44	28.57	0.000168	2.97	2145.14	550.33	0.20
Judy Creek	Lower	Judy Creek	7.85000*	5636.00	17.05	28.82	28.96	0.000174	3.03	1981.56	405.38	0.20
Judy Creek	Lower	Judy Creek	8.27500*	5636.00	17.48	29.21	29.35	0.000178	3.07	1890.59	337.69	0.21
Judy Creek	Lower	Judy Creek	8.70000*	5636.00	17.90	29.61	29.76	0.000183	3.11	1826.55	304.14	0.21
Judy Creek	Lower	Judy Creek	9.12500*	5636.00	18.33	30.02	30.17	0.000173	3.16	1784.29	267.06	0.21
Judy Creek	Lower	Judy Creek	9.55000*	5636.00	18.75	30.42	30.58	0.000181	3.21	1753.32	261.77	0.22
Judy Creek	Lower	Judy Creek	9.975*	5636.00	19.18	30.83	31.00	0.000191	3.28	1719.65	259.22	0.22
Judy Creek	Lower	Judy Creek	10.4*	5636.00	19.60	31.27	31.44	0.000201	3.34	1685.36	256.94	0.23
Judy Creek	Lower	Judy Creek	10.825*	5636.00	20.03	31.73	31.91	0.000213	3.41	1651.19	254.96	0.24
Judy Creek	Lower	Judy Creek	11.25*	5636.00	20.45	32.22	32.40	0.000226	3.48	1618.26	253.39	0.24
Judy Creek	Lower	Judy Creek	11.675*	5636.00	20.88	32.74	32.94	0.000238	3.55	1588.22	250.66	0.25
Judy Creek	Lower	Judy Creek	12.1*	5636.00	21.30	33.32	33.52	0.000271	3.60	1565.84	249.41	0.25
Judy Creek	Lower	Judy Creek	12.525*	5636.00	21.73	33.94	34.15	0.000283	3.63	1550.82	251.50	0.26
Judy Creek	Lower	Judy Creek	12.95*	5636.00	22.15	34.59	34.80	0.000299	3.67	1536.10	255.39	0.26
Judy Creek	Lower	Judy Creek	13.375*	5636.00	22.58	35.32	35.53	0.000340	3.67	1536.90	264.56	0.27
Judy Creek	Lower	Judy Creek	13.8	5636.00	23.00	36.11	36.31	0.000344	3.64	1549.21	273.91	0.27
Judy Creek	Lower	Judy Creek	14.2705*	5191.00	23.93	36.88	37.05	0.000257	3.31	1571.15	274.50	0.24
Judy Creek	Lower	Judy Creek	14.7411*	5191.00	24.86	37.48	37.66	0.000244	3.36	1547.19	270.76	0.25
Judy Creek	Lower	Judy Creek	15.2117*	5191.00	25.79	38.06	38.24	0.000235	3.42	1519.03	268.67	0.25
Judy Creek	Lower	Judy Creek	15.6823*	5191.00	26.72	38.62	38.81	0.000226	3.49	1485.33	265.19	0.26
Judy Creek	Lower	Judy Creek	16.1529*	5191.00	27.65	39.18	39.38	0.000240	3.57	1452.23	262.36	0.27
Judy Creek	Lower	Judy Creek	16.6235*	5191.00	28.58	39.76	39.97	0.000252	3.64	1426.15	260.75	0.27
Judy Creek	Lower	Judy Creek	17.0941*	5191.00	29.51	40.37	40.59	0.000263	3.69	1407.63	260.05	0.28
Judy Creek	Lower	Judy Creek	17.5647*	5191.00	30.44	41.01	41.22	0.000270	3.72	1395.59	259.95	0.28
Judy Creek	Lower	Judy Creek	18.0352*	5191.00	31.36	41.66	41.88	0.000275	3.74	1388.44	260.20	0.29
Judy Creek	Lower	Judy Creek	18.5058*	5191.00	32.29	42.33	42.55	0.000278	3.75	1384.69	260.73	0.29
Judy Creek	Lower	Judy Creek	18.9764*	5191.00	33.22	43.00	43.22	0.000280	3.75	1383.03	261.40	0.29
Judy Creek	Lower	Judy Creek	19.4470*	5191.00	34.15	43.67	43.89	0.000282	3.76	1381.53	262.11	0.29
Judy Creek	Lower	Judy Creek	19.9176*	5191.00	35.08	44.33	44.55	0.000259	3.77	1375.90	262.68	0.29
Judy Creek	Lower	Judy Creek	20.3882*	5191.00	36.01	44.93	45.16	0.000244	3.83	1356.57	262.82	0.30
Judy Creek	Lower	Judy Creek	20.8588*	5191.00	36.94	45.54	45.77	0.000256	3.88	1337.40	263.04	0.30
Judy Creek	Lower	Judy Creek	21.3294*	5191.00	37.87	46.16	46.40	0.000266	3.92	1323.08	263.50	0.31
Judy Creek	Lower	Judy Creek	21.8	5191.00	38.80	46.80	47.05	0.000273	3.95	1314.00	264.19	0.31
Judy Creek	Lower	Judy Creek	22.26*	4726.00	39.51	47.45	47.64	0.000223	3.58	1321.19	265.42	0.28
Judy Creek	Lower	Judy Creek	22.72*	4726.00	40.22	47.99	48.20	0.000237	3.64	1297.03	265.75	0.29
Judy Creek	Lower	Judy Creek	23.18*	4726.00	40.93	48.56	48.77	0.000250	3.70	1277.33	266.21	0.30
Judy Creek	Lower	Judy Creek	23.64*	4726.00	41.64	49.15	49.37	0.000262	3.75	1260.37	266.93	0.30
Judy Creek	Lower	Judy Creek	24.1*	4726.00	42.35	49.78	50.00	0.000272	3.79	1247.80	267.88	0.31
Judy Creek	Lower	Judy Creek	24.56*	4726.00	43.06	50.43	50.66	0.000281	3.82	1236.78	269.01	0.31
Judy Creek	Lower	Judy Creek	25.02*	4726.00	43.77	51.10	51.33	0.000289	3.84	1229.46	270.43	0.32
Judy Creek	Lower	Judy Creek	25.48*	4726.00	44.48	51.79	52.03	0.000296	3.86	1223.30	272.13	0.32
Judy Creek	Lower	Judy Creek	25.94*	4726.00	45.19	52.50	52.74	0.000304	3.88	1217.20	274.04	0.32
Judy Creek	Lower	Judy Creek	26.4*	4726.00	45.90	53.23	53.47	0.000311	3.90	1213.19	276.42	0.33
Judy Creek	Lower	Judy Creek	26.86*	4726.00	46.61	53.98	54.21	0.000317	3.90	1210.82	279.30	0.33
Judy Creek	Lower	Judy Creek	27.32*	4726.00	47.32	54.74	54.97	0.000324	3.91	1208.75	282.63	0.33
Judy Creek	Lower	Judy Creek	27.78*	4726.00	48.03	55.51	55.75	0.000331	3.91	1207.52	286.67	0.34
Judy Creek	Lower	Judy Creek	28.24*	4726.00	48.74	56.28	56.52	0.000308	3.94	1200.14	291.09	0.34
Judy Creek	Lower	Judy Creek	28.7*	4726.00	49.45	56.99	57.24	0.000298	4.02	1174.99	294.69	0.35
Judy Creek	Lower	Judy Creek	29.16*	4726.00	50.16	57.69	57.96	0.000293	4.14	1140.62	297.96	0.37
Judy Creek	Lower	Judy Creek	29.62*	4726.00	50.87	58.38	58.67	0.000293	4.30	1099.77	301.28	0.40

Judy Creek	Lower Judy Creek	30.08*	4726.00	51.58	59.11	59.41	0.000334	4.44	1065.30	306.86	0.42
Judy Creek	Lower Judy Creek	30.54*	4726.00	52.29	59.93	60.24	0.000362	4.46	1060.41	322.13	0.43
Judy Creek	Lower Judy Creek	31.0	4726.00	53.00	60.84	61.14	0.000387	4.36	1083.91	357.15	0.44

Profile Output Table - Standard Table 2

River	Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Fish Creek	Lower	Fish Creek	0.7	3.82	3.82	0.00		2511.42	14349.71	22.87	24120.12
Fish Creek	Lower	Fish Creek	1.54615*	4.18	4.18	0.00	0.35	2409.21	11834.45	21.34	23529.71
Fish Creek	Lower	Fish Creek	2.39230*	4.60	4.59	0.00	0.42	2548.35	11688.05	28.59	19742.22
Fish Creek	Lower	Fish Creek	3.23846*	5.01	5.01	0.00	0.42	2553.46	11683.79	27.75	16124.63
Fish Creek	Lower	Fish Creek	4.08461*	5.45	5.44	0.01	0.44		14231.11	33.89	8436.27
Fish Creek	Lower	Fish Creek	4.93076*	5.90	5.89	0.01	0.46		14226.52	38.48	7442.85
Fish Creek	Lower	Fish Creek	5.77692*	6.30	6.29	0.01	0.40		14218.20	46.80	6553.63
Fish Creek	Lower	Fish Creek	6.62307*	6.67	6.66	0.01	0.37		14216.92	48.08	5625.49
Fish Creek	Lower	Fish Creek	7.46923*	7.06	7.05	0.01	0.39		14191.52	73.48	4889.17
Fish Creek	Lower	Fish Creek	8.31538*	7.48	7.46	0.01	0.42		14163.91	101.09	4184.06
Fish Creek	Lower	Fish Creek	9.16153*	7.99	7.97	0.02	0.51		14184.15	80.85	3140.70
Fish Creek	Lower	Fish Creek	10.0076*	8.61	8.58	0.03	0.62		14134.18	130.82	2500.99
Fish Creek	Lower	Fish Creek	10.8538*	9.37	9.33	0.04	0.76	133.51	14113.46	18.04	13148.73
Fish Creek	Lower	Fish Creek	11.7	10.34	10.29	0.04	0.96	2922.24	11159.35	183.41	13518.18
Fish Creek	Lower	Fish Creek	12.6	11.04	10.96	0.07	0.69	3012.75	10990.97	261.28	13299.63
Fish Creek	Lower	Fish Creek	13.4285*	11.43	11.34	0.09	0.39	2071.03	11712.85	210.12	12145.94
Fish Creek	Lower	Fish Creek	14.2571*	11.94	11.82	0.12	0.50	1537.83	12278.38	177.79	10022.77
Fish Creek	Lower	Fish Creek	15.0857*	12.50	12.37	0.13	0.56	1426.33	12400.71	166.96	9423.16
Fish Creek	Lower	Fish Creek	15.9142*	13.10	12.97	0.13	0.61	1436.75	12427.79	129.45	9035.82
Fish Creek	Lower	Fish Creek	16.7428*	13.72	13.58	0.14	0.62	1375.69	12493.81	124.50	7745.92
Fish Creek	Lower	Fish Creek	17.5714*	14.34	14.19	0.15	0.62	1372.82	12475.12	146.06	8010.77
Fish Creek	Lower	Fish Creek	18.4	14.96	14.81	0.15	0.62	1341.34	12510.81	141.84	8228.69
Fish Creek	Lower	Fish Creek	19.2375*	15.57	15.42	0.15	0.60	1037.98	12387.77	151.25	6485.46
Fish Creek	Lower	Fish Creek	20.075*	16.21	16.03	0.18	0.63	404.83	13022.39	149.78	3240.84
Fish Creek	Lower	Fish Creek	20.9125*	16.85	16.67	0.18	0.65	407.84	13020.39	148.77	3287.50
Fish Creek	Lower	Fish Creek	21.75*	17.50	17.31	0.19	0.64	408.95	13016.38	151.66	4057.67
Fish Creek	Lower	Fish Creek	22.5875*	18.15	17.96	0.19	0.65	398.66	12953.36	224.98	5199.76
Fish Creek	Lower	Fish Creek	23.425*	18.82	18.62	0.20	0.67	269.28	12807.92	499.80	5917.59
Fish Creek	Lower	Fish Creek	24.2625*	19.55	19.35	0.20	0.72	220.41	12389.85	966.74	5542.85
Fish Creek	Lower	Fish Creek	25.1	20.39	20.18	0.21	0.84	154.63	12203.94	1218.43	5778.84
Fish Creek	Lower	Fish Creek	26.09	21.40	21.17	0.24	1.01	109.72	12465.14	984.14	5280.65
Fish Creek	Upper	Fish Creek	26.85	22.07	21.97	0.11	0.66	0.45	7491.55		407.14
Fish Creek	Upper	Fish Creek	27.6428*	22.64	22.53	0.11	0.57	6.26	7384.74	0.01	431.91
Fish Creek	Upper	Fish Creek	28.4357*	23.21	23.10	0.11	0.57	29.05	7360.11	1.84	1195.11
Fish Creek	Upper	Fish Creek	29.2285*	23.75	23.66	0.09	0.54	324.72	6968.30	97.98	3549.13
Fish Creek	Upper	Fish Creek	30.0214*	24.19	24.12	0.07	0.44	839.45	6204.97	346.58	4121.34
Fish Creek	Upper	Fish Creek	30.8142*	24.52	24.48	0.05	0.33	1386.68	5311.84	692.48	4434.22
Fish Creek	Upper	Fish Creek	31.6071*	24.79	24.76	0.03	0.26	1814.43	4453.51	1123.06	4679.08
Fish Creek	Upper	Fish Creek	32.4	25.02	24.99	0.03	0.23	1655.38	4135.59	1600.03	4892.05
Fish Creek	Upper	Fish Creek	33.3083*	25.37	25.31	0.06	0.34	1230.12	5399.00	632.88	4025.22
Fish Creek	Upper	Fish Creek	34.2166*	26.00	25.89	0.11	0.62	594.42	6529.63	137.95	2622.63
Fish Creek	Upper	Fish Creek	35.125*	26.84	26.71	0.12	0.83	227.08	6958.71	76.21	1635.21
Fish Creek	Upper	Fish Creek	36.0333*	27.69	27.57	0.13	0.87	58.18	7160.19	43.63	1205.06
Fish Creek	Upper	Fish Creek	36.9416*	28.54	28.42	0.12	0.84	11.21	7223.99	26.80	837.98
Fish Creek	Upper	Fish Creek	37.85*	29.34	29.22	0.11	0.80	0.00	7249.79	12.21	567.41
Fish Creek	Upper	Fish Creek	38.7583*	30.13	30.02	0.11	0.79		7257.17	4.83	471.83
Fish Creek	Upper	Fish Creek	39.6666*	30.91	30.81	0.10	0.78		7261.35	0.65	423.25
Fish Creek	Upper	Fish Creek	40.575*	31.66	31.57	0.10	0.74		7261.94	0.06	364.10
Fish Creek	Upper	Fish Creek	41.4833*	32.39	32.30	0.09	0.72		7261.75	0.25	390.30
Fish Creek	Upper	Fish Creek	42.3916*	33.10	33.01	0.09	0.70		7259.18	2.82	431.70
Fish Creek	Upper	Fish Creek	43.3	33.78	33.70	0.09	0.68		7251.35	10.65	479.38
Judy Creek	Lower	Judy Creek	0.38	22.09	21.95	0.13	0.68		6312.00		311.55
Judy Creek	Lower	Judy Creek	.981819*	22.47	22.33	0.14	0.38		6135.69	0.31	347.22
Judy Creek	Lower	Judy Creek	1.58363*	22.88	22.73	0.15	0.41		6134.17	1.84	355.25

Judy Creek	Lower	Judy Creek	2.18545*	23.46	23.32	0.15	0.59	0.00	6127.26	8.74	436.42	
Judy Creek	Lower	Judy Creek	2.78727*	24.05	23.90	0.15	0.59	0.00	6118.33	17.67	495.70	
Judy Creek	Lower	Judy Creek	3.38909*	24.52	24.36	0.16	0.46	0.00	6108.89	27.11	492.30	
Judy Creek	Lower	Judy Creek	3.99090*	24.99	24.82	0.17	0.47	0.00	6098.73	37.27	491.80	
Judy Creek	Lower	Judy Creek	4.59272*	25.47	25.30	0.17	0.48	0.00	6083.20	52.80	495.21	
Judy Creek	Lower	Judy Creek	5.19454*	25.98	25.80	0.18	0.51	0.00	6062.83	73.17	503.16	
Judy Creek	Lower	Judy Creek	5.79636*	26.53	26.35	0.18	0.55	0.00	6028.92	107.08	521.33	
Judy Creek	Lower	Judy Creek	6.39818*	27.12	26.93	0.19	0.60	0.00	6104.80	31.20	476.25	
Judy Creek	Lower	Judy Creek	7.0	27.91	27.73	0.18	0.78	0.00	1.20	6069.72	65.08	631.38
Judy Creek	Lower	Judy Creek	7.42500*	28.57	28.44	0.13	0.66	0.00	0.10	5517.67	118.24	550.33
Judy Creek	Lower	Judy Creek	7.85000*	28.96	28.82	0.14	0.39	0.00	5581.19	54.81	405.38	
Judy Creek	Lower	Judy Creek	8.27500*	29.35	29.21	0.15	0.40	0.00	5612.49	23.51	337.69	
Judy Creek	Lower	Judy Creek	8.70000*	29.76	29.61	0.15	0.41	0.00	5631.65	4.35	304.14	
Judy Creek	Lower	Judy Creek	9.12500*	30.17	30.02	0.15	0.41	0.00	5636.00	0.00	267.06	
Judy Creek	Lower	Judy Creek	9.55000*	30.58	30.42	0.16	0.40	0.00	5636.00		261.77	
Judy Creek	Lower	Judy Creek	9.975*	31.00	30.83	0.17	0.42	0.00	5636.00		259.22	
Judy Creek	Lower	Judy Creek	10.4*	31.44	31.27	0.17	0.45	0.00	5636.00		256.94	
Judy Creek	Lower	Judy Creek	10.825*	31.91	31.73	0.18	0.47	0.00	5636.00		254.96	
Judy Creek	Lower	Judy Creek	11.25*	32.40	32.22	0.19	0.50	0.00	5636.00		253.39	
Judy Creek	Lower	Judy Creek	11.675*	32.94	32.74	0.20	0.53	0.00	5636.00		250.66	
Judy Creek	Lower	Judy Creek	12.1*	33.52	33.32	0.20	0.58	0.00	5636.00		249.41	
Judy Creek	Lower	Judy Creek	12.525*	34.15	33.94	0.21	0.63	0.00	5636.00		251.50	
Judy Creek	Lower	Judy Creek	12.95*	34.80	34.59	0.21	0.66	0.00	5636.00		255.39	
Judy Creek	Lower	Judy Creek	13.375*	35.53	35.32	0.21	0.73	0.00	0.00	5636.00		264.56
Judy Creek	Lower	Judy Creek	13.8	36.31	36.11	0.21	0.78	0.00	0.13	5635.86	0.01	273.91
Judy Creek	Lower	Judy Creek	14.2705*	37.05	36.88	0.17	0.73	0.00	0.11	5190.89	0.00	274.50
Judy Creek	Lower	Judy Creek	14.7411*	37.66	37.48	0.17	0.61	0.00	0.02	5190.98		270.76
Judy Creek	Lower	Judy Creek	15.2117*	38.24	38.06	0.18	0.58	0.00	0.00	5191.00		268.67
Judy Creek	Lower	Judy Creek	15.6823*	38.81	38.62	0.19	0.56	0.00	5191.00		265.19	
Judy Creek	Lower	Judy Creek	16.1529*	39.38	39.18	0.20	0.56	0.00	5191.00		262.36	
Judy Creek	Lower	Judy Creek	16.6235*	39.97	39.76	0.21	0.60	0.00	5191.00		260.75	
Judy Creek	Lower	Judy Creek	17.0941*	40.59	40.37	0.21	0.62	0.00	5191.00		260.05	
Judy Creek	Lower	Judy Creek	17.5647*	41.22	41.01	0.21	0.64	0.00	5191.00		259.95	
Judy Creek	Lower	Judy Creek	18.0352*	41.88	41.66	0.22	0.66	0.00	5191.00		260.20	
Judy Creek	Lower	Judy Creek	18.5058*	42.55	42.33	0.22	0.67	0.00	5191.00		260.73	
Judy Creek	Lower	Judy Creek	18.9764*	43.22	43.00	0.22	0.68	0.00	5191.00		261.40	
Judy Creek	Lower	Judy Creek	19.4470*	43.89	43.67	0.22	0.68	0.00	5191.00		262.11	
Judy Creek	Lower	Judy Creek	19.9176*	44.55	44.33	0.22	0.65	0.00	5191.00		262.68	
Judy Creek	Lower	Judy Creek	20.3882*	45.16	44.93	0.23	0.61	0.00	5191.00		262.82	
Judy Creek	Lower	Judy Creek	20.8588*	45.77	45.54	0.23	0.60	0.00	5191.00		263.04	
Judy Creek	Lower	Judy Creek	21.3294*	46.40	46.16	0.24	0.63	0.00	5191.00		263.50	
Judy Creek	Lower	Judy Creek	21.8	47.05	46.80	0.24	0.65	0.00	5191.00		264.19	
Judy Creek	Lower	Judy Creek	22.26*	47.64	47.45	0.20	0.59	0.00	4726.00		265.42	
Judy Creek	Lower	Judy Creek	22.72*	48.20	47.99	0.21	0.55	0.00	4726.00		265.75	
Judy Creek	Lower	Judy Creek	23.18*	48.77	48.56	0.21	0.58	0.00	4726.00		266.21	
Judy Creek	Lower	Judy Creek	23.64*	49.37	49.15	0.22	0.61	0.00	4726.00		266.93	
Judy Creek	Lower	Judy Creek	24.1*	50.00	49.78	0.22	0.64	0.00	4726.00		267.88	
Judy Creek	Lower	Judy Creek	24.56*	50.66	50.43	0.23	0.66	0.00	4726.00		269.01	
Judy Creek	Lower	Judy Creek	25.02*	51.33	51.10	0.23	0.68	0.00	4726.00		270.43	
Judy Creek	Lower	Judy Creek	25.48*	52.03	51.79	0.23	0.70	0.00	4726.00		272.13	
Judy Creek	Lower	Judy Creek	25.94*	52.74	52.50	0.23	0.72	0.00	4726.00		274.04	
Judy Creek	Lower	Judy Creek	26.4*	53.47	53.23	0.24	0.73	0.00	4726.00		276.42	
Judy Creek	Lower	Judy Creek	26.86*	54.21	53.98	0.24	0.75	0.00	4726.00		279.30	
Judy Creek	Lower	Judy Creek	27.32*	54.97	54.74	0.24	0.76	0.00	4726.00		282.63	
Judy Creek	Lower	Judy Creek	27.78*	55.75	55.51	0.24	0.78	0.00	4726.00		286.67	
Judy Creek	Lower	Judy Creek	28.24*	56.52	56.28	0.24	0.76	0.00	4726.00		291.09	
Judy Creek	Lower	Judy Creek	28.7*	57.24	56.99	0.25	0.72	0.00	4726.00		294.69	
Judy Creek	Lower	Judy Creek	29.16*	57.96	57.69	0.27	0.71	0.00	4726.00		297.96	
Judy Creek	Lower	Judy Creek	29.62*	58.67	58.38	0.29	0.70	0.01	4726.00		301.28	

Judy Creek	Lower Judy Creek	30.08*	59.41	59.11	0.31	0.75	0.01	4726.00	306.86
Judy Creek	Lower Judy Creek	30.54*	60.24	59.93	0.31	0.83	0.00	4726.00	322.13
Judy Creek	Lower Judy Creek	31.0	61.14	60.84	0.30	0.89	0.00	4726.00	357.15

Profile Output Table - User Defined Table #1

River	Reach	River Sta	W.S. Elev (ft)	Q Total (cfs)	Q Left (cfs)	Q Channel (cfs)	Q Total (cfs)	Vel Left (ft/s)	Vel Right (ft/s)	Vol Chan (acre-ft)
Fish Creek	Lower	Fish Creek 0.7	3.82	16884.00	2511.42	14349.71	16884.00	0.36	0.13	
Fish Creek	Lower	Fish Creek 1.54615*	4.18	14265.00	2409.21	11834.45	14265.00	0.33	0.13	3432.67
Fish Creek	Lower	Fish Creek 2.39230*	4.59	14265.00	2548.35	11688.05	14265.00	0.34	0.17	6124.31
Fish Creek	Lower	Fish Creek 3.23846*	5.01	14265.00	2553.46	11683.79	14265.00	0.33	0.15	8414.94
Fish Creek	Lower	Fish Creek 4.08461*	5.44	14265.00		14231.11	14265.00		0.17	10593.19
Fish Creek	Lower	Fish Creek 4.93076*	5.89	14265.00		14226.52	14265.00		0.17	12724.79
Fish Creek	Lower	Fish Creek 5.77692*	6.29	14265.00		14218.20	14265.00		0.19	14779.88
Fish Creek	Lower	Fish Creek 6.62307*	6.66	14265.00		14216.92	14265.00		0.18	16708.38
Fish Creek	Lower	Fish Creek 7.46923*	7.05	14265.00		14191.52	14265.00		0.23	18485.10
Fish Creek	Lower	Fish Creek 8.31538*	7.46	14265.00		14163.91	14265.00		0.25	20093.28
Fish Creek	Lower	Fish Creek 9.16153*	7.97	14265.00		14184.15	14265.00		0.33	21523.24
Fish Creek	Lower	Fish Creek 10.0076*	8.58	14265.00		14134.18	14265.00		0.42	22763.32
Fish Creek	Lower	Fish Creek 10.8538*	9.33	14265.00	133.51	14113.46	14265.00	0.09	0.10	23784.30
Fish Creek	Lower	Fish Creek 11.7	10.29	14265.00	2922.24	11159.35	14265.00	0.40	0.19	24539.58
Fish Creek	Lower	Fish Creek 12.6	10.96	14265.00	3012.75	10990.97	14265.00	0.27	0.17	25146.99
Fish Creek	Lower	Fish Creek 13.4285*	11.34	13994.00	2071.03	11712.85	13994.00	0.27	0.18	25588.77
Fish Creek	Lower	Fish Creek 14.2571*	11.82	13994.00	1537.83	12278.38	13994.00	0.27	0.18	26014.84
Fish Creek	Lower	Fish Creek 15.0857*	12.37	13994.00	1426.33	12400.71	13994.00	0.27	0.19	26427.87
Fish Creek	Lower	Fish Creek 15.9142*	12.97	13994.00	1436.75	12427.79	13994.00	0.29	0.17	26830.85
Fish Creek	Lower	Fish Creek 16.7428*	13.58	13994.00	1375.69	12493.81	13994.00	0.29	0.22	27225.37
Fish Creek	Lower	Fish Creek 17.5714*	14.19	13994.00	1372.82	12475.12	13994.00	0.30	0.22	27612.41
Fish Creek	Lower	Fish Creek 18.4	14.81	13994.00	1341.34	12510.81	13994.00	0.31	0.16	27992.53
Fish Creek	Lower	Fish Creek 19.2375*	15.42	13577.00	1037.98	12387.77	13577.00	0.28	0.23	28374.24
Fish Creek	Lower	Fish Creek 20.075*	16.03	13577.00	404.83	13022.39	13577.00	0.28	0.23	28755.20
Fish Creek	Lower	Fish Creek 20.9125*	16.67	13577.00	407.84	13020.39	13577.00	0.28	0.22	29133.85
Fish Creek	Lower	Fish Creek 21.75*	17.31	13577.00	408.95	13016.38	13577.00	0.27	0.20	29507.87
Fish Creek	Lower	Fish Creek 22.5875*	17.96	13577.00	398.66	12953.36	13577.00	0.26	0.17	29874.12
Fish Creek	Lower	Fish Creek 23.425*	18.62	13577.00	269.28	12807.92	13577.00	0.23	0.21	30229.70
Fish Creek	Lower	Fish Creek 24.2625*	19.35	13577.00	220.41	12389.85	13577.00	0.25	0.27	30572.66
Fish Creek	Lower	Fish Creek 25.1	20.18	13577.00	154.63	12203.94	13577.00	0.16	0.28	30901.48
Fish Creek	Lower	Fish Creek 26.09	21.17	13559.00	109.72	12465.14	13559.00	0.20	0.29	31243.38
Fish Creek	Upper	Fish Creek 26.85	21.97	7492.00	0.45	7491.55	7492.00	0.06		265.90
Fish Creek	Upper	Fish Creek 27.6428*	22.53	7391.00	6.26	7384.74	7391.00	0.16	0.04	544.27
Fish Creek	Upper	Fish Creek 28.4357*	23.10	7391.00	29.05	7360.11	7391.00	0.18	0.08	820.66
Fish Creek	Upper	Fish Creek 29.2285*	23.66	7391.00	324.72	6968.30	7391.00	0.24	0.17	1094.68
Fish Creek	Upper	Fish Creek 30.0214*	24.12	7391.00	839.45	6204.97	7391.00	0.32	0.23	1364.44
Fish Creek	Upper	Fish Creek 30.8142*	24.48	7391.00	1386.68	5311.84	7391.00	0.39	0.28	1626.66
Fish Creek	Upper	Fish Creek 31.6071*	24.76	7391.00	1814.43	4453.51	7391.00	0.43	0.32	1878.85
Fish Creek	Upper	Fish Creek 32.4	24.99	7391.00	1655.38	4135.59	7391.00	0.37	0.36	2119.52
Fish Creek	Upper	Fish Creek 33.3083*	25.31	7262.00	1230.12	5399.00	7262.00	0.47	0.34	2376.93
Fish Creek	Upper	Fish Creek 34.2166*	25.89	7262.00	594.42	6529.63	7262.00	0.46	0.28	2631.38
Fish Creek	Upper	Fish Creek 35.125*	26.71	7262.00	227.08	6958.71	7262.00	0.42	0.27	2890.43
Fish Creek	Upper	Fish Creek 36.0333*	27.57	7262.00	58.18	7160.19	7262.00	0.36	0.23	3158.50
Fish Creek	Upper	Fish Creek 36.9416*	28.42	7262.00	11.21	7223.99	7262.00	0.26	0.23	3436.40
Fish Creek	Upper	Fish Creek 37.85*	29.22	7262.00	0.00	7249.79	7262.00	0.02	0.21	3723.52
Fish Creek	Upper	Fish Creek 38.7583*	30.02	7262.00		7257.17	7262.00		0.17	4019.14
Fish Creek	Upper	Fish Creek 39.6666*	30.81	7262.00		7261.35	7262.00		0.11	4323.15
Fish Creek	Upper	Fish Creek 40.575*	31.57	7262.00		7261.94	7262.00		0.11	4635.01
Fish Creek	Upper	Fish Creek 41.4833*	32.30	7262.00		7261.75	7262.00		0.10	4953.72
Fish Creek	Upper	Fish Creek 42.3916*	33.01	7262.00		7259.18	7262.00		0.19	5278.31
Fish Creek	Upper	Fish Creek 43.3	33.70	7262.00		7251.35	7262.00		0.26	5607.50
Judy Creek	Lower	Judy Creek 0.38	21.95	6312.00		6312.00	6312.00			221.04
Judy Creek	Lower	Judy Creek .981819*	22.33	6136.00		6135.69	6136.00		0.08	332.84
Judy Creek	Lower	Judy Creek 1.58363*	22.73	6136.00		6134.17	6136.00		0.15	440.53

Judy Creek	Lower	Judy Creek	2.18545*	23.32	6136.00		6127.26	6136.00		0.23	545.84
Judy Creek	Lower	Judy Creek	2.78727*	23.90	6136.00		6118.33	6136.00		0.22	650.30
Judy Creek	Lower	Judy Creek	3.38909*	24.36	6136.00		6108.89	6136.00		0.27	752.91
Judy Creek	Lower	Judy Creek	3.99090*	24.82	6136.00		6098.73	6136.00		0.30	852.76
Judy Creek	Lower	Judy Creek	4.59272*	25.30	6136.00		6083.20	6136.00		0.35	950.06
Judy Creek	Lower	Judy Creek	5.19454*	25.80	6136.00		6062.83	6136.00		0.40	1045.09
Judy Creek	Lower	Judy Creek	5.79636*	26.35	6136.00		6028.92	6136.00		0.46	1138.51
Judy Creek	Lower	Judy Creek	6.39818*	26.93	6136.00		6104.80	6136.00		0.31	1230.93
Judy Creek	Lower	Judy Creek	7.0	27.73	6136.00	1.20	6069.72	6136.00	0.18	0.39	1324.16
Judy Creek	Lower	Judy Creek	7.42500*	28.44	5636.00	0.10	5517.67	5636.00	0.08	0.41	1419.31
Judy Creek	Lower	Judy Creek	7.85000*	28.82	5636.00		5581.19	5636.00		0.40	1516.24
Judy Creek	Lower	Judy Creek	8.27500*	29.21	5636.00		5612.49	5636.00		0.37	1612.37
Judy Creek	Lower	Judy Creek	8.70000*	29.61	5636.00		5631.65	5636.00		0.24	1707.57
Judy Creek	Lower	Judy Creek	9.12500*	30.02	5636.00		5636.00	5636.00		0.04	1801.63
Judy Creek	Lower	Judy Creek	9.55000*	30.42	5636.00		5636.00	5636.00			1894.24
Judy Creek	Lower	Judy Creek	9.975*	30.83	5636.00		5636.00	5636.00			1985.15
Judy Creek	Lower	Judy Creek	10.4*	31.27	5636.00		5636.00	5636.00			2074.29
Judy Creek	Lower	Judy Creek	10.825*	31.73	5636.00		5636.00	5636.00			2161.64
Judy Creek	Lower	Judy Creek	11.25*	32.22	5636.00		5636.00	5636.00			2247.23
Judy Creek	Lower	Judy Creek	11.675*	32.74	5636.00		5636.00	5636.00			2331.17
Judy Creek	Lower	Judy Creek	12.1*	33.32	5636.00		5636.00	5636.00			2413.74
Judy Creek	Lower	Judy Creek	12.525*	33.94	5636.00		5636.00	5636.00			2495.33
Judy Creek	Lower	Judy Creek	12.95*	34.59	5636.00		5636.00	5636.00			2576.14
Judy Creek	Lower	Judy Creek	13.375*	35.32	5636.00	0.00	5636.00	5636.00	0.10		2656.59
Judy Creek	Lower	Judy Creek	13.8	36.11	5636.00	0.13	5635.86	5636.00	0.20	0.10	2737.36
Judy Creek	Lower	Judy Creek	14.2705*	36.88	5191.00	0.11	5190.89	5191.00	0.19	0.05	2824.03
Judy Creek	Lower	Judy Creek	14.7411*	37.48	5191.00	0.02	5190.98	5191.00	0.13		2910.66
Judy Creek	Lower	Judy Creek	15.2117*	38.06	5191.00	0.00	5191.00	5191.00	0.03		2995.86
Judy Creek	Lower	Judy Creek	15.6823*	38.62	5191.00		5191.00	5191.00			3079.35
Judy Creek	Lower	Judy Creek	16.1529*	39.18	5191.00		5191.00	5191.00			3160.97
Judy Creek	Lower	Judy Creek	16.6235*	39.76	5191.00		5191.00	5191.00			3240.96
Judy Creek	Lower	Judy Creek	17.0941*	40.37	5191.00		5191.00	5191.00			3319.70
Judy Creek	Lower	Judy Creek	17.5647*	41.01	5191.00		5191.00	5191.00			3397.60
Judy Creek	Lower	Judy Creek	18.0352*	41.66	5191.00		5191.00	5191.00			3474.96
Judy Creek	Lower	Judy Creek	18.5058*	42.33	5191.00		5191.00	5191.00			3552.02
Judy Creek	Lower	Judy Creek	18.9764*	43.00	5191.00		5191.00	5191.00			3628.93
Judy Creek	Lower	Judy Creek	19.4470*	43.67	5191.00		5191.00	5191.00			3705.75
Judy Creek	Lower	Judy Creek	19.9176*	44.33	5191.00		5191.00	5191.00			3782.37
Judy Creek	Lower	Judy Creek	20.3882*	44.93	5191.00		5191.00	5191.00			3858.30
Judy Creek	Lower	Judy Creek	20.8588*	45.54	5191.00		5191.00	5191.00			3933.16
Judy Creek	Lower	Judy Creek	21.3294*	46.16	5191.00		5191.00	5191.00			4007.09
Judy Creek	Lower	Judy Creek	21.8	46.80	5191.00		5191.00	5191.00			4080.37
Judy Creek	Lower	Judy Creek	22.26*	47.45	4726.00		4726.00	4726.00			4152.56
Judy Creek	Lower	Judy Creek	22.72*	47.99	4726.00		4726.00	4726.00			4224.28
Judy Creek	Lower	Judy Creek	23.18*	48.56	4726.00		4726.00	4726.00			4294.80
Judy Creek	Lower	Judy Creek	23.64*	49.15	4726.00		4726.00	4726.00			4364.31
Judy Creek	Lower	Judy Creek	24.1*	49.78	4726.00		4726.00	4726.00			4433.02
Judy Creek	Lower	Judy Creek	24.56*	50.43	4726.00		4726.00	4726.00			4501.08
Judy Creek	Lower	Judy Creek	25.02*	51.10	4726.00		4726.00	4726.00			4568.64
Judy Creek	Lower	Judy Creek	25.48*	51.79	4726.00		4726.00	4726.00			4635.83
Judy Creek	Lower	Judy Creek	25.94*	52.50	4726.00		4726.00	4726.00			4702.68
Judy Creek	Lower	Judy Creek	26.4*	53.23	4726.00		4726.00	4726.00			4769.26
Judy Creek	Lower	Judy Creek	26.86*	53.98	4726.00		4726.00	4726.00			4835.66
Judy Creek	Lower	Judy Creek	27.32*	54.74	4726.00		4726.00	4726.00			4901.94
Judy Creek	Lower	Judy Creek	27.78*	55.51	4726.00		4726.00	4726.00			4968.13
Judy Creek	Lower	Judy Creek	28.24*	56.28	4726.00		4726.00	4726.00			5034.08
Judy Creek	Lower	Judy Creek	28.7*	56.99	4726.00		4726.00	4726.00			5099.15
Judy Creek	Lower	Judy Creek	29.16*	57.69	4726.00		4726.00	4726.00			5162.58
Judy Creek	Lower	Judy Creek	29.62*	58.38	4726.00		4726.00	4726.00			5223.95

Judy Creek	Lower Judy Creek	30.08*	59.11	4726.00	4726.00	4726.00	5283.26
Judy Creek	Lower Judy Creek	30.54*	59.93	4726.00	4726.00	4726.00	5341.49
Judy Creek	Lower Judy Creek	31.0	60.84	4726.00	4726.00	4726.00	5400.23

Profile Output Table - User Defined Table #2

River	Reach	River Sta	W.S. Elev (ft)	Flow Area L (sq ft)	Flow Area R (sq ft)	Flow Area Ch (sq ft)	Hydr Depth L (ft)	Hydr Depth R (ft)	Hydr Depth C (ft)
Fish Creek	Lower	Fish Creek 0.7	3.82	7071.58	177.94	37521.45	1.88	0.52	1.87
Fish Creek	Lower	Fish Creek 1.54615*	4.18	7338.85	163.85	29209.93	1.62	0.46	1.57
Fish Creek	Lower	Fish Creek 2.39230*	4.59	7576.30	171.32	23115.85	1.47	0.48	1.62
Fish Creek	Lower	Fish Creek 3.23846*	5.01	7702.50	180.43	21414.19	1.39	0.49	2.10
Fish Creek	Lower	Fish Creek 4.08461*	5.44		198.91	20931.20		0.52	2.60
Fish Creek	Lower	Fish Creek 4.93076*	5.89		230.39	20507.28		0.56	2.92
Fish Creek	Lower	Fish Creek 5.77692*	6.29		244.55	19443.85		0.57	3.17
Fish Creek	Lower	Fish Creek 6.62307*	6.66		271.02	18046.32		0.57	3.50
Fish Creek	Lower	Fish Creek 7.46923*	7.05		323.41	16493.31		0.67	3.74
Fish Creek	Lower	Fish Creek 8.31538*	7.46		398.94	14769.85		0.79	4.01
Fish Creek	Lower	Fish Creek 9.16153*	7.97		244.33	13028.75		1.09	4.47
Fish Creek	Lower	Fish Creek 10.0076*	8.58		311.81	11078.64		1.29	4.90
Fish Creek	Lower	Fish Creek 10.8538*	9.33	1427.04	177.44	8769.20	0.14	0.14	5.32
Fish Creek	Lower	Fish Creek 11.7	10.29	7217.29	965.10	5913.51	0.66	0.64	5.84
Fish Creek	Lower	Fish Creek 12.6	10.96	11347.76	1539.94	4507.47	1.01	0.98	8.19
Fish Creek	Lower	Fish Creek 13.4285*	11.34	7803.22	1166.28	4342.40	0.77	0.77	7.95
Fish Creek	Lower	Fish Creek 14.2571*	11.82	5687.66	969.24	4192.73	0.71	0.68	7.70
Fish Creek	Lower	Fish Creek 15.0857*	12.37	5245.22	878.45	4081.10	0.71	0.61	7.53
Fish Creek	Lower	Fish Creek 15.9142*	12.97	5009.13	765.91	3991.50	0.73	0.48	7.42
Fish Creek	Lower	Fish Creek 16.7428*	13.58	4763.15	563.63	3911.68	0.74	0.70	7.35
Fish Creek	Lower	Fish Creek 17.5714*	14.19	4548.52	659.94	3841.51	0.76	0.43	7.35
Fish Creek	Lower	Fish Creek 18.4	14.81	4348.63	881.36	3773.04	0.79	0.39	7.30
Fish Creek	Lower	Fish Creek 19.2375*	15.42	3722.34	650.14	3774.00	0.72	0.78	7.65
Fish Creek	Lower	Fish Creek 20.075*	16.03	1437.29	648.00	3757.99	0.75	0.75	7.95
Fish Creek	Lower	Fish Creek 20.9125*	16.67	1482.30	670.16	3728.47	0.76	0.75	8.19
Fish Creek	Lower	Fish Creek 21.75*	17.31	1527.84	762.32	3666.47	0.77	0.47	8.34
Fish Creek	Lower	Fish Creek 22.5875*	17.96	1539.09	1353.68	3574.73	0.75	0.49	8.44
Fish Creek	Lower	Fish Creek 23.425*	18.62	1160.66	2433.81	3455.58	0.56	0.71	8.47
Fish Creek	Lower	Fish Creek 24.2625*	19.35	891.98	3580.79	3325.13	0.56	1.00	8.42
Fish Creek	Lower	Fish Creek 25.1	20.18	955.98	4391.97	3176.02	0.54	1.21	8.27
Fish Creek	Lower	Fish Creek 26.09	21.17	545.39	3436.17	3069.91	0.42	0.95	8.08
Fish Creek	Upper	Fish Creek 26.85	21.97	7.33		2847.08	0.10		8.60
Fish Creek	Upper	Fish Creek 27.6428*	22.53	39.45	0.18	2828.34	0.37	0.07	8.73
Fish Creek	Upper	Fish Creek 28.4357*	23.10	159.73	24.04	2806.65	0.24	0.12	8.90
Fish Creek	Upper	Fish Creek 29.2285*	23.66	1349.00	574.79	2780.00	0.66	0.48	9.06
Fish Creek	Upper	Fish Creek 30.0214*	24.12	2619.17	1476.88	2719.76	1.19	0.91	9.13
Fish Creek	Upper	Fish Creek 30.8142*	24.48	3590.21	2449.30	2626.37	1.64	1.26	9.03
Fish Creek	Upper	Fish Creek 31.6071*	24.76	4257.91	3472.25	2515.16	1.96	1.56	8.89
Fish Creek	Upper	Fish Creek 32.4	24.99	4529.55	4478.96	2391.62	2.12	1.80	8.80
Fish Creek	Upper	Fish Creek 33.3083*	25.31	2625.13	1855.07	2328.57	1.40	0.99	8.26
Fish Creek	Upper	Fish Creek 34.2166*	25.89	1287.34	493.32	2337.19	0.97	0.49	8.00
Fish Creek	Upper	Fish Creek 35.125*	26.71	536.68	280.51	2413.04	0.72	0.48	8.00
Fish Creek	Upper	Fish Creek 36.0333*	27.57	163.36	188.16	2502.52	0.40	0.39	8.04
Fish Creek	Upper	Fish Creek 36.9416*	28.42	43.63	117.29	2593.28	0.41	0.29	8.08
Fish Creek	Upper	Fish Creek 37.85*	29.22	0.05	59.27	2671.56	0.01	0.26	8.08
Fish Creek	Upper	Fish Creek 38.7583*	30.02		29.17	2749.14		0.22	8.07
Fish Creek	Upper	Fish Creek 39.6666*	30.81		6.00	2825.54		0.08	8.07
Fish Creek	Upper	Fish Creek 40.575*	31.57		0.53	2892.97		0.13	8.03
Fish Creek	Upper	Fish Creek 41.4833*	32.30		2.42	2951.24		0.12	7.98
Fish Creek	Upper	Fish Creek 42.3916*	33.01		15.24	3000.67		0.29	7.92
Fish Creek	Upper	Fish Creek 43.3	33.70		41.15	3035.63		0.45	7.84
Judy Creek	Lower	Judy Creek 0.38	21.95			2143.19			6.88
Judy Creek	Lower	Judy Creek .981819*	22.33		3.83	2062.03		0.10	6.71
Judy Creek	Lower	Judy Creek 1.58363*	22.73		12.02	1988.48		0.23	6.56

Judy Creek	Lower	Judy Creek	2.18545*	23.32		38.33	1972.61		0.28	6.57
Judy Creek	Lower	Judy Creek	2.78727*	23.90		79.16	1956.62		0.40	6.58
Judy Creek	Lower	Judy Creek	3.38909*	24.36		100.16	1902.80		0.50	6.48
Judy Creek	Lower	Judy Creek	3.99090*	24.82		122.78	1853.07		0.61	6.39
Judy Creek	Lower	Judy Creek	4.59272*	25.30		150.49	1806.49		0.72	6.31
Judy Creek	Lower	Judy Creek	5.19454*	25.80		184.20	1768.20		0.84	6.25
Judy Creek	Lower	Judy Creek	5.79636*	26.35		232.55	1745.70		0.96	6.24
Judy Creek	Lower	Judy Creek	6.39818*	26.93		101.46	1730.53		0.51	6.25
Judy Creek	Lower	Judy Creek	7.0	27.73	6.63	165.34	1775.99	0.16	0.52	6.45
Judy Creek	Lower	Judy Creek	7.42500*	28.44	1.29	285.31	1858.54	0.06	1.12	6.77
Judy Creek	Lower	Judy Creek	7.85000*	28.82		137.40	1844.16		1.03	6.78
Judy Creek	Lower	Judy Creek	8.27500*	29.21		62.77	1827.82		0.92	6.79
Judy Creek	Lower	Judy Creek	8.70000*	29.61		17.76	1808.80		0.48	6.78
Judy Creek	Lower	Judy Creek	9.12500*	30.02		0.09	1784.20		0.03	6.75
Judy Creek	Lower	Judy Creek	9.55000*	30.42			1753.32			6.70
Judy Creek	Lower	Judy Creek	9.975*	30.83			1719.65			6.63
Judy Creek	Lower	Judy Creek	10.4*	31.27			1685.36			6.56
Judy Creek	Lower	Judy Creek	10.825*	31.73			1651.19			6.48
Judy Creek	Lower	Judy Creek	11.25*	32.22			1618.26			6.39
Judy Creek	Lower	Judy Creek	11.675*	32.74			1588.22			6.34
Judy Creek	Lower	Judy Creek	12.1*	33.32			1565.84			6.28
Judy Creek	Lower	Judy Creek	12.525*	33.94			1550.82			6.17
Judy Creek	Lower	Judy Creek	12.95*	34.59			1536.10			6.01
Judy Creek	Lower	Judy Creek	13.375*	35.32	0.02		1536.87	0.06		5.82
Judy Creek	Lower	Judy Creek	13.8	36.11	0.67	0.08	1548.47	0.30	0.10	5.71
Judy Creek	Lower	Judy Creek	14.2705*	36.88	0.55	0.01	1570.60	0.27	0.04	5.77
Judy Creek	Lower	Judy Creek	14.7411*	37.48	0.18		1547.01	0.15		5.74
Judy Creek	Lower	Judy Creek	15.2117*	38.06	0.00		1519.02	0.02		5.66
Judy Creek	Lower	Judy Creek	15.6823*	38.62			1485.33			5.60
Judy Creek	Lower	Judy Creek	16.1529*	39.18			1452.23			5.54
Judy Creek	Lower	Judy Creek	16.6235*	39.76			1426.15			5.47
Judy Creek	Lower	Judy Creek	17.0941*	40.37			1407.63			5.41
Judy Creek	Lower	Judy Creek	17.5647*	41.01			1395.59			5.37
Judy Creek	Lower	Judy Creek	18.0352*	41.66			1388.44			5.34
Judy Creek	Lower	Judy Creek	18.5058*	42.33			1384.69			5.31
Judy Creek	Lower	Judy Creek	18.9764*	43.00			1383.03			5.29
Judy Creek	Lower	Judy Creek	19.4470*	43.67			1381.53			5.27
Judy Creek	Lower	Judy Creek	19.9176*	44.33			1375.90			5.24
Judy Creek	Lower	Judy Creek	20.3882*	44.93			1356.57			5.16
Judy Creek	Lower	Judy Creek	20.8588*	45.54			1337.40			5.08
Judy Creek	Lower	Judy Creek	21.3294*	46.16			1323.08			5.02
Judy Creek	Lower	Judy Creek	21.8	46.80			1314.00			4.97
Judy Creek	Lower	Judy Creek	22.26*	47.45			1321.19			4.98
Judy Creek	Lower	Judy Creek	22.72*	47.99			1297.03			4.88
Judy Creek	Lower	Judy Creek	23.18*	48.56			1277.33			4.80
Judy Creek	Lower	Judy Creek	23.64*	49.15			1260.37			4.72
Judy Creek	Lower	Judy Creek	24.1*	49.78			1247.80			4.66
Judy Creek	Lower	Judy Creek	24.56*	50.43			1236.78			4.60
Judy Creek	Lower	Judy Creek	25.02*	51.10			1229.46			4.55
Judy Creek	Lower	Judy Creek	25.48*	51.79			1223.30			4.50
Judy Creek	Lower	Judy Creek	25.94*	52.50			1217.20			4.44
Judy Creek	Lower	Judy Creek	26.4*	53.23			1213.19			4.39
Judy Creek	Lower	Judy Creek	26.86*	53.98			1210.82			4.34
Judy Creek	Lower	Judy Creek	27.32*	54.74			1208.75			4.28
Judy Creek	Lower	Judy Creek	27.78*	55.51			1207.52			4.21
Judy Creek	Lower	Judy Creek	28.24*	56.28			1200.14			4.12
Judy Creek	Lower	Judy Creek	28.7*	56.99			1174.99			3.99
Judy Creek	Lower	Judy Creek	29.16*	57.69			1140.62			3.83
Judy Creek	Lower	Judy Creek	29.62*	58.38			1099.77			3.65

Judy Creek	Lower Judy Creek	30.08*	59.11	1065.30	3.47
Judy Creek	Lower Judy Creek	30.54*	59.93	1060.41	3.29
Judy Creek	Lower Judy Creek	31.0	60.84	1083.91	3.03

Profile Output Table - User Defined Table #3

River	Reach	River Sta	W.S. Elev (ft)	Mann Wtd Chnl	Mann Wtd Left	Mann Wtd Right
Fish Creek	Lower Fish Creek	0.7	3.82	0.053	0.055	0.065
Fish Creek	Lower Fish Creek	1.54615*	4.18	0.051	0.060	0.065
Fish Creek	Lower Fish Creek	2.39230*	4.59	0.050	0.060	0.060
Fish Creek	Lower Fish Creek	3.23846*	5.01	0.049	0.055	0.060
Fish Creek	Lower Fish Creek	4.08461*	5.44	0.049		0.060
Fish Creek	Lower Fish Creek	4.93076*	5.89	0.049		0.060
Fish Creek	Lower Fish Creek	5.77692*	6.29	0.047		0.050
Fish Creek	Lower Fish Creek	6.62307*	6.66	0.047		0.055
Fish Creek	Lower Fish Creek	7.46923*	7.05	0.047		0.050
Fish Creek	Lower Fish Creek	8.31538*	7.46	0.047		0.050
Fish Creek	Lower Fish Creek	9.16153*	7.97	0.047		0.055
Fish Creek	Lower Fish Creek	10.0076*	8.58	0.047		0.050
Fish Creek	Lower Fish Creek	10.8538*	9.33	0.047	0.060	0.055
Fish Creek	Lower Fish Creek	11.7	10.29	0.047	0.044	0.092
Fish Creek	Lower Fish Creek	12.6	10.96	0.022	0.050	0.077
Fish Creek	Lower Fish Creek	13.4285*	11.34	0.023	0.050	0.073
Fish Creek	Lower Fish Creek	14.2571*	11.82	0.022	0.050	0.071
Fish Creek	Lower Fish Creek	15.0857*	12.37	0.022	0.051	0.069
Fish Creek	Lower Fish Creek	15.9142*	12.97	0.022	0.051	0.068
Fish Creek	Lower Fish Creek	16.7428*	13.58	0.021	0.051	0.066
Fish Creek	Lower Fish Creek	17.5714*	14.19	0.021	0.051	0.065
Fish Creek	Lower Fish Creek	18.4	14.81	0.020	0.050	0.079
Fish Creek	Lower Fish Creek	19.2375*	15.42	0.021	0.053	0.065
Fish Creek	Lower Fish Creek	20.075*	16.03	0.021	0.054	0.066
Fish Creek	Lower Fish Creek	20.9125*	16.67	0.021	0.055	0.068
Fish Creek	Lower Fish Creek	21.75*	17.31	0.021	0.057	0.070
Fish Creek	Lower Fish Creek	22.5875*	17.96	0.021	0.059	0.071
Fish Creek	Lower Fish Creek	23.425*	18.62	0.021	0.060	0.073
Fish Creek	Lower Fish Creek	24.2625*	19.35	0.022	0.061	0.074
Fish Creek	Lower Fish Creek	25.1	20.18	0.023	0.090	0.090
Fish Creek	Lower Fish Creek	26.09	21.17	0.021	0.060	0.072
Fish Creek	Upper Fish Creek	26.85	21.97	0.027	0.058	
Fish Creek	Upper Fish Creek	27.6428*	22.53	0.028	0.056	0.066
Fish Creek	Upper Fish Creek	28.4357*	23.10	0.028	0.054	0.063
Fish Creek	Upper Fish Creek	29.2285*	23.66	0.028	0.052	0.060
Fish Creek	Upper Fish Creek	30.0214*	24.12	0.027	0.050	0.057
Fish Creek	Upper Fish Creek	30.8142*	24.48	0.028	0.047	0.054
Fish Creek	Upper Fish Creek	31.6071*	24.76	0.029	0.045	0.051
Fish Creek	Upper Fish Creek	32.4	24.99	0.029	0.055	0.050
Fish Creek	Upper Fish Creek	33.3083*	25.31	0.028	0.043	0.047
Fish Creek	Upper Fish Creek	34.2166*	25.89	0.028	0.042	0.047
Fish Creek	Upper Fish Creek	35.125*	26.71	0.028	0.042	0.046
Fish Creek	Upper Fish Creek	36.0333*	27.57	0.028	0.042	0.046
Fish Creek	Upper Fish Creek	36.9416*	28.42	0.028	0.042	0.045
Fish Creek	Upper Fish Creek	37.85*	29.22	0.028	0.042	0.045
Fish Creek	Upper Fish Creek	38.7583*	30.02	0.029		0.044
Fish Creek	Upper Fish Creek	39.6666*	30.81	0.029		0.043
Fish Creek	Upper Fish Creek	40.575*	31.57	0.029		0.043
Fish Creek	Upper Fish Creek	41.4833*	32.30	0.029		0.042
Fish Creek	Upper Fish Creek	42.3916*	33.01	0.029		0.042
Fish Creek	Upper Fish Creek	43.3	33.70	0.029		0.040
Judy Creek	Lower Judy Creek	0.38	21.95	0.023		
Judy Creek	Lower Judy Creek	.981819*	22.33	0.023		0.050
Judy Creek	Lower Judy Creek	1.58363*	22.73	0.023		0.050

Judy Creek	Lower	Judy Creek	2.18545*	23.32	0.030		0.050
Judy Creek	Lower	Judy Creek	2.78727*	23.90	0.023		0.050
Judy Creek	Lower	Judy Creek	3.38909*	24.36	0.023		0.050
Judy Creek	Lower	Judy Creek	3.99090*	24.82	0.022		0.050
Judy Creek	Lower	Judy Creek	4.59272*	25.30	0.022		0.050
Judy Creek	Lower	Judy Creek	5.19454*	25.80	0.022		0.050
Judy Creek	Lower	Judy Creek	5.79636*	26.35	0.023		0.050
Judy Creek	Lower	Judy Creek	6.39818*	26.93	0.023		0.050
Judy Creek	Lower	Judy Creek	7.0	27.73	0.030	0.050	0.050
Judy Creek	Lower	Judy Creek	7.42500*	28.44	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	7.85000*	28.82	0.023		0.050
Judy Creek	Lower	Judy Creek	8.27500*	29.21	0.023		0.050
Judy Creek	Lower	Judy Creek	8.70000*	29.61	0.023		0.050
Judy Creek	Lower	Judy Creek	9.12500*	30.02	0.022		0.050
Judy Creek	Lower	Judy Creek	9.55000*	30.42	0.022		
Judy Creek	Lower	Judy Creek	9.975*	30.83	0.022		
Judy Creek	Lower	Judy Creek	10.4*	31.27	0.022		
Judy Creek	Lower	Judy Creek	10.825*	31.73	0.022		
Judy Creek	Lower	Judy Creek	11.25*	32.22	0.022		
Judy Creek	Lower	Judy Creek	11.675*	32.74	0.022		
Judy Creek	Lower	Judy Creek	12.1*	33.32	0.023		
Judy Creek	Lower	Judy Creek	12.525*	33.94	0.023		
Judy Creek	Lower	Judy Creek	12.95*	34.59	0.023		
Judy Creek	Lower	Judy Creek	13.375*	35.32	0.024	0.040	
Judy Creek	Lower	Judy Creek	13.8	36.11	0.024	0.060	0.060
Judy Creek	Lower	Judy Creek	14.2705*	36.88	0.023	0.050	0.050
Judy Creek	Lower	Judy Creek	14.7411*	37.48	0.022	0.050	
Judy Creek	Lower	Judy Creek	15.2117*	38.06	0.021	0.000	
Judy Creek	Lower	Judy Creek	15.6823*	38.62	0.020		
Judy Creek	Lower	Judy Creek	16.1529*	39.18	0.020		
Judy Creek	Lower	Judy Creek	16.6235*	39.76	0.020		
Judy Creek	Lower	Judy Creek	17.0941*	40.37	0.020		
Judy Creek	Lower	Judy Creek	17.5647*	41.01	0.020		
Judy Creek	Lower	Judy Creek	18.0352*	41.66	0.020		
Judy Creek	Lower	Judy Creek	18.5058*	42.33	0.020		
Judy Creek	Lower	Judy Creek	18.9764*	43.00	0.020		
Judy Creek	Lower	Judy Creek	19.4470*	43.67	0.020		
Judy Creek	Lower	Judy Creek	19.9176*	44.33	0.019		
Judy Creek	Lower	Judy Creek	20.3882*	44.93	0.018		
Judy Creek	Lower	Judy Creek	20.8588*	45.54	0.018		
Judy Creek	Lower	Judy Creek	21.3294*	46.16	0.018		
Judy Creek	Lower	Judy Creek	21.8	46.80	0.018		
Judy Creek	Lower	Judy Creek	22.26*	47.45	0.018		
Judy Creek	Lower	Judy Creek	22.72*	47.99	0.018		
Judy Creek	Lower	Judy Creek	23.18*	48.56	0.018		
Judy Creek	Lower	Judy Creek	23.64*	49.15	0.018		
Judy Creek	Lower	Judy Creek	24.1*	49.78	0.018		
Judy Creek	Lower	Judy Creek	24.56*	50.43	0.018		
Judy Creek	Lower	Judy Creek	25.02*	51.10	0.018		
Judy Creek	Lower	Judy Creek	25.48*	51.79	0.018		
Judy Creek	Lower	Judy Creek	25.94*	52.50	0.018		
Judy Creek	Lower	Judy Creek	26.4*	53.23	0.018		
Judy Creek	Lower	Judy Creek	26.86*	53.98	0.018		
Judy Creek	Lower	Judy Creek	27.32*	54.74	0.018		
Judy Creek	Lower	Judy Creek	27.78*	55.51	0.018		
Judy Creek	Lower	Judy Creek	28.24*	56.28	0.017		
Judy Creek	Lower	Judy Creek	28.7*	56.99	0.016		
Judy Creek	Lower	Judy Creek	29.16*	57.69	0.015		
Judy Creek	Lower	Judy Creek	29.62*	58.38	0.014		

Judy Creek	Lower Judy Creek	30.08*	59.11	0.014
Judy Creek	Lower Judy Creek	30.54*	59.93	0.014
Judy Creek	Lower Judy Creek	31.0	60.84	0.014

Profile Output Table - User Defined Table #4

River	Reach	River Sta	W.S. Elev (ft)	Shear Chan (lb/sq ft)	Shear LOB (lb/sq ft)	Shear ROB (lb/sq ft)	Power Chan (lb/ft s)	Power LOB (lb/ft s)	Power ROB (lb/ft s)
Fish Creek	Lower	Fish Creek	0.7	3.82	0.01	0.01	0.00	0.00	0.00
Fish Creek	Lower	Fish Creek	1.54615*	4.18	0.01	0.01	0.00	0.00	0.00
Fish Creek	Lower	Fish Creek	2.39230*	4.59	0.01	0.01	0.00	0.01	0.00
Fish Creek	Lower	Fish Creek	3.23846*	5.01	0.01	0.01	0.00	0.01	0.00
Fish Creek	Lower	Fish Creek	4.08461*	5.44	0.02		0.00	0.01	0.00
Fish Creek	Lower	Fish Creek	4.93076*	5.89	0.02		0.00	0.01	0.00
Fish Creek	Lower	Fish Creek	5.77692*	6.29	0.02		0.00	0.01	0.00
Fish Creek	Lower	Fish Creek	6.62307*	6.66	0.02		0.00	0.01	0.00
Fish Creek	Lower	Fish Creek	7.46923*	7.05	0.02		0.00	0.02	0.00
Fish Creek	Lower	Fish Creek	8.31538*	7.46	0.02		0.00	0.02	0.00
Fish Creek	Lower	Fish Creek	9.16153*	7.97	0.04		0.01	0.04	0.00
Fish Creek	Lower	Fish Creek	10.0076*	8.58	0.04		0.01	0.06	0.00
Fish Creek	Lower	Fish Creek	10.8538*	9.33	0.07	0.00	0.00	0.10	0.00
Fish Creek	Lower	Fish Creek	11.7	10.29	0.09	0.01	0.01	0.17	0.00
Fish Creek	Lower	Fish Creek	12.6	10.96	0.04	0.00	0.00	0.10	0.00
Fish Creek	Lower	Fish Creek	13.4285*	11.34	0.05	0.01	0.01	0.15	0.00
Fish Creek	Lower	Fish Creek	14.2571*	11.82	0.06	0.01	0.01	0.18	0.00
Fish Creek	Lower	Fish Creek	15.0857*	12.37	0.06	0.01	0.01	0.20	0.00
Fish Creek	Lower	Fish Creek	15.9142*	12.97	0.07	0.01	0.00	0.21	0.00
Fish Creek	Lower	Fish Creek	16.7428*	13.58	0.07	0.01	0.01	0.21	0.00
Fish Creek	Lower	Fish Creek	17.5714*	14.19	0.07	0.01	0.00	0.22	0.00
Fish Creek	Lower	Fish Creek	18.4	14.81	0.06	0.01	0.00	0.21	0.00
Fish Creek	Lower	Fish Creek	19.2375*	15.42	0.07	0.01	0.01	0.22	0.00
Fish Creek	Lower	Fish Creek	20.075*	16.03	0.08	0.01	0.01	0.26	0.00
Fish Creek	Lower	Fish Creek	20.9125*	16.67	0.08	0.01	0.01	0.26	0.00
Fish Creek	Lower	Fish Creek	21.75*	17.31	0.08	0.01	0.00	0.28	0.00
Fish Creek	Lower	Fish Creek	22.5875*	17.96	0.08	0.01	0.00	0.29	0.00
Fish Creek	Lower	Fish Creek	23.425*	18.62	0.08	0.01	0.01	0.31	0.00
Fish Creek	Lower	Fish Creek	24.2625*	19.35	0.09	0.01	0.01	0.35	0.00
Fish Creek	Lower	Fish Creek	25.1	20.18	0.11	0.01	0.02	0.43	0.00
Fish Creek	Lower	Fish Creek	26.09	21.17	0.10	0.01	0.01	0.42	0.00
Fish Creek	Upper	Fish Creek	26.85	21.97	0.07	0.00		0.18	0.00
Fish Creek	Upper	Fish Creek	27.6428*	22.53	0.07	0.00	0.00	0.19	0.00
Fish Creek	Upper	Fish Creek	28.4357*	23.10	0.07	0.00	0.00	0.19	0.00
Fish Creek	Upper	Fish Creek	29.2285*	23.66	0.07	0.01	0.00	0.17	0.00
Fish Creek	Upper	Fish Creek	30.0214*	24.12	0.05	0.01	0.01	0.12	0.00
Fish Creek	Upper	Fish Creek	30.8142*	24.48	0.04	0.01	0.01	0.09	0.00
Fish Creek	Upper	Fish Creek	31.6071*	24.76	0.04	0.01	0.01	0.07	0.00
Fish Creek	Upper	Fish Creek	32.4	24.99	0.04	0.01	0.01	0.06	0.00
Fish Creek	Upper	Fish Creek	33.3083*	25.31	0.06	0.01	0.01	0.14	0.00
Fish Creek	Upper	Fish Creek	34.2166*	25.89	0.09	0.01	0.01	0.24	0.00
Fish Creek	Upper	Fish Creek	35.125*	26.71	0.09	0.01	0.01	0.27	0.00
Fish Creek	Upper	Fish Creek	36.0333*	27.57	0.09	0.00	0.00	0.26	0.00
Fish Creek	Upper	Fish Creek	36.9416*	28.42	0.09	0.00	0.00	0.24	0.00
Fish Creek	Upper	Fish Creek	37.85*	29.22	0.08	0.00	0.00	0.22	0.00
Fish Creek	Upper	Fish Creek	38.7583*	30.02	0.08		0.00	0.22	0.00
Fish Creek	Upper	Fish Creek	39.6666*	30.81	0.08		0.00	0.20	0.00
Fish Creek	Upper	Fish Creek	40.575*	31.57	0.08		0.00	0.19	0.00
Fish Creek	Upper	Fish Creek	41.4833*	32.30	0.07		0.00	0.18	0.00
Fish Creek	Upper	Fish Creek	42.3916*	33.01	0.07		0.00	0.17	0.00
Fish Creek	Upper	Fish Creek	43.3	33.70	0.07		0.00	0.16	0.00
Judy Creek	Lower	Judy Creek	0.38	21.95	0.07			0.20	
Judy Creek	Lower	Judy Creek	.981819*	22.33	0.07		0.00	0.21	0.00
Judy Creek	Lower	Judy Creek	1.58363*	22.73	0.08		0.00	0.24	0.00

Judy Creek	Lower	Judy Creek	2.18545*	23.32	0.13		0.01	0.40	0.00
Judy Creek	Lower	Judy Creek	2.78727*	23.90	0.08		0.00	0.24	0.00
Judy Creek	Lower	Judy Creek	3.38909*	24.36	0.08		0.01	0.27	0.00
Judy Creek	Lower	Judy Creek	3.99090*	24.82	0.08		0.01	0.26	0.00
Judy Creek	Lower	Judy Creek	4.59272*	25.30	0.08		0.01	0.28	0.00
Judy Creek	Lower	Judy Creek	5.19454*	25.80	0.09		0.01	0.30	0.00
Judy Creek	Lower	Judy Creek	5.79636*	26.35	0.10		0.02	0.34	0.01
Judy Creek	Lower	Judy Creek	6.39818*	26.93	0.10		0.01	0.36	0.00
Judy Creek	Lower	Judy Creek	7.0	27.73	0.16	0.00	0.01	0.56	0.00
Judy Creek	Lower	Judy Creek	7.42500*	28.44	0.07	0.00	0.01	0.21	0.00
Judy Creek	Lower	Judy Creek	7.85000*	28.82	0.07		0.01	0.22	0.00
Judy Creek	Lower	Judy Creek	8.27500*	29.21	0.07		0.01	0.23	0.00
Judy Creek	Lower	Judy Creek	8.70000*	29.61	0.08		0.01	0.24	0.00
Judy Creek	Lower	Judy Creek	9.12500*	30.02	0.07		0.00	0.23	0.00
Judy Creek	Lower	Judy Creek	9.55000*	30.42	0.08			0.24	
Judy Creek	Lower	Judy Creek	9.975*	30.83	0.08			0.26	
Judy Creek	Lower	Judy Creek	10.4*	31.27	0.08			0.27	
Judy Creek	Lower	Judy Creek	10.825*	31.73	0.09			0.29	
Judy Creek	Lower	Judy Creek	11.25*	32.22	0.09			0.31	
Judy Creek	Lower	Judy Creek	11.675*	32.74	0.09			0.33	
Judy Creek	Lower	Judy Creek	12.1*	33.32	0.11			0.38	
Judy Creek	Lower	Judy Creek	12.525*	33.94	0.11			0.39	
Judy Creek	Lower	Judy Creek	12.95*	34.59	0.11			0.41	
Judy Creek	Lower	Judy Creek	13.375*	35.32	0.12	0.00		0.45	0.00
Judy Creek	Lower	Judy Creek	13.8	36.11	0.12	0.01	0.00	0.44	0.00
Judy Creek	Lower	Judy Creek	14.2705*	36.88	0.09	0.00	0.00	0.30	0.00
Judy Creek	Lower	Judy Creek	14.7411*	37.48	0.09	0.00		0.29	0.00
Judy Creek	Lower	Judy Creek	15.2117*	38.06	0.08			0.28	
Judy Creek	Lower	Judy Creek	15.6823*	38.62	0.08			0.27	
Judy Creek	Lower	Judy Creek	16.1529*	39.18	0.08			0.29	
Judy Creek	Lower	Judy Creek	16.6235*	39.76	0.09			0.31	
Judy Creek	Lower	Judy Creek	17.0941*	40.37	0.09			0.32	
Judy Creek	Lower	Judy Creek	17.5647*	41.01	0.09			0.33	
Judy Creek	Lower	Judy Creek	18.0352*	41.66	0.09			0.34	
Judy Creek	Lower	Judy Creek	18.5058*	42.33	0.09			0.34	
Judy Creek	Lower	Judy Creek	18.9764*	43.00	0.09			0.34	
Judy Creek	Lower	Judy Creek	19.4470*	43.67	0.09			0.35	
Judy Creek	Lower	Judy Creek	19.9176*	44.33	0.08			0.32	
Judy Creek	Lower	Judy Creek	20.3882*	44.93	0.08			0.30	
Judy Creek	Lower	Judy Creek	20.8588*	45.54	0.08			0.31	
Judy Creek	Lower	Judy Creek	21.3294*	46.16	0.08			0.32	
Judy Creek	Lower	Judy Creek	21.8	46.80	0.08			0.33	
Judy Creek	Lower	Judy Creek	22.26*	47.45	0.07			0.25	
Judy Creek	Lower	Judy Creek	22.72*	47.99	0.07			0.26	
Judy Creek	Lower	Judy Creek	23.18*	48.56	0.07			0.28	
Judy Creek	Lower	Judy Creek	23.64*	49.15	0.08			0.29	
Judy Creek	Lower	Judy Creek	24.1*	49.78	0.08			0.30	
Judy Creek	Lower	Judy Creek	24.56*	50.43	0.08			0.31	
Judy Creek	Lower	Judy Creek	25.02*	51.10	0.08			0.31	
Judy Creek	Lower	Judy Creek	25.48*	51.79	0.08			0.32	
Judy Creek	Lower	Judy Creek	25.94*	52.50	0.08			0.33	
Judy Creek	Lower	Judy Creek	26.4*	53.23	0.08			0.33	
Judy Creek	Lower	Judy Creek	26.86*	53.98	0.09			0.33	
Judy Creek	Lower	Judy Creek	27.32*	54.74	0.09			0.34	
Judy Creek	Lower	Judy Creek	27.78*	55.51	0.09			0.34	
Judy Creek	Lower	Judy Creek	28.24*	56.28	0.08			0.31	
Judy Creek	Lower	Judy Creek	28.7*	56.99	0.07			0.30	
Judy Creek	Lower	Judy Creek	29.16*	57.69	0.07			0.29	
Judy Creek	Lower	Judy Creek	29.62*	58.38	0.07			0.29	

Judy Creek	Lower Judy Creek	30.08*	59.11	0.07	0.32
Judy Creek	Lower Judy Creek	30.54*	59.93	0.07	0.33
Judy Creek	Lower Judy Creek	31.0	60.84	0.07	0.32

HEC-RAS Run, Fish and Judy Creeks, 10-Year Flood

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X   X XXXXXX   XXXX   XXXX   XX   XXXX
X   X X       X   X   X   X   X X   X
X   X X       X   X   X   X   X X   X
XXXXXXXX XXXX   X   XXX XXXX   XXXXXX   XXXX
X   X X       X   X   X   X   X X   X
X   X X       X   X   X   X   X X   X
X   X XXXXXX   XXXX   X   X   X   X   XXXXX
  
```

10-YEAR FLOOD, FISH AND JUDY CREEKS

PROJECT DATA

Project Title: 2001 Back Water Analysis
 Project File : 26feb02.prj
 Run Date and Time: 2/27/2002 2:24:20 PM

Project in English units

PLAN DATA

Plan Title: 10-Year Flood Plan
 Plan File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.p15

Geometry Title: 10-Year Flood Geometry
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g09

Flow Title : 10-year Flood Flow Data
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f05

Plan Summary Information:

Number of: Cross Sections =	116	Multitple Openings =	0
Culverts =	0	Inline Weirs =	0
Bridges =	0		

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculaton tolerance =	0.01
Maximum number of interations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary	
Conveyance Calculation Method:	At breaks in n values only
Friction Slope Method:	Average Friction Slope
Computational Flow Regime:	Subcritical Flow

FLOW DATA

Flow Title: 10-year Flood Flow Data
 Flow File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f05

Flow Data (cfs)

River	Reach	RS	10-Year Flood
Fish Creek	Upper Fish Creek	43.3	13932
Fish Creek	Upper Fish Creek	32.4	14166
Fish Creek	Upper Fish Creek	26.85	14350
Fish Creek	Lower Fish Creek	26.09	25177
Fish Creek	Lower Fish Creek	25.1	25209
Fish Creek	Lower Fish Creek	18.4	25941
Fish Creek	Lower Fish Creek	12.6	26418
Fish Creek	Lower Fish Creek	11.7	26418
Fish Creek	Lower Fish Creek	0.7	30993
Judy Creek	Lower Judy Creek	31.0	9273
Judy Creek	Lower Judy Creek	21.8	10135
Judy Creek	Lower Judy Creek	13.8	10958
Judy Creek	Lower Judy Creek	7.0	11876
Judy Creek	Lower Judy Creek	0.38	12198

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Fish Creek	Lower Fish Creek	10-Year Flood		Normal S = .000075

GEOMETRY DATA

Geometry Title: 10-Year Flood Geometry
 Geometry File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g09

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Fish Creek	Upper Fish Creek		Fish Junct.
Fish Creek	Lower Fish Creek	Fish Junct.	
Judy Creek	Lower Judy Creek		Fish Junct.

JUNCTION INFORMATION

Name: Fish Junct.
 Description: Confluence of Fish and Judy Creek
 Energy computation Method

Length across Junction		Tributary	Reach	Length	Angle
River	Reach	River			
Fish Creek	Upper Fish Creek to Fish Creek	Fish Creek	Lower Fish Creek	3915	
Judy Creek	Lower Judy Creek to Fish Creek	Fish Creek	Lower Fish Creek	3694	

SUMMARY OF MANNING'S N VALUES

River:Fish Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n13	n14	n15
Upper Fish Creek	43.3	.04	.027	.07	.04											
Upper Fish Creek	42.3916*	.04	.027	.07	.042											
Upper Fish Creek	41.4833*	.041	.027	.07	.042											
Upper Fish Creek	40.575*	.041	.027	.07	.043											
Upper Fish Creek	39.6666*	.041	.027	.07	.043											
Upper Fish Creek	38.7583*	.041	.027	.07	.044											
Upper Fish Creek	37.85*	.042	.028	.045												
Upper Fish Creek	36.9416*	.042	.028	.045												
Upper Fish Creek	36.0333*	.042	.028	.046												
Upper Fish Creek	35.125*	.042	.028	.046												
Upper Fish Creek	34.2166*	.042	.028	.047												
Upper Fish Creek	33.3083*	.043	.028	.047												
Upper Fish Creek	32.4	.04	.08	.06	.028	.05	.04	.05	.04							
Upper Fish Creek	31.6071*	.045	.07	.028	.051											
Upper Fish Creek	30.8142*	.047	.07	.027	.054											
Upper Fish Creek	30.0214*	.05	.07	.027	.057											
Upper Fish Creek	29.2285*	.052	.07	.027	.06											
Upper Fish Creek	28.4357*	.054	.07	.027	.063											
Upper Fish Creek	27.6428*	.056	.07	.027	.066											
Upper Fish Creek	26.85	.058	.04	.027	.069											
Lower Fish Creek	26.09	.06	.07	.021	.072											
Lower Fish Creek	25.1	.05	.04	.05	.04	.05	.04	.09	.04	.05	.07	.021	.09	.04	.06	.04
Lower Fish Creek	24.2625*	.061	.08	.022	.074											
Lower Fish Creek	23.425*	.06	.08	.021	.073											
Lower Fish Creek	22.5875*	.059	.08	.021	.071											
Lower Fish Creek	21.75*	.057	.09	.021	.07											
Lower Fish Creek	20.9125*	.055	.1	.021	.068											
Lower Fish Creek	20.075*	.054	.1	.021	.066											
Lower Fish Creek	19.2375*	.053	.1	.021	.065											
Lower Fish Creek	18.4	.05	.06	.04	.05	.11	.02	.11	.05	.11	.07	.05				
Lower Fish Creek	17.5714*	.051	.11	.021	.065											
Lower Fish Creek	16.7428*	.051	.11	.021	.066											
Lower Fish Creek	15.9142*	.051	.11	.022	.068											
Lower Fish Creek	15.0857*	.051	.11	.022	.069											
Lower Fish Creek	14.2571*	.05	.11	.022	.071											
Lower Fish Creek	13.4285*	.05	.11	.022	.073											
Lower Fish Creek	12.6	.05	.11	.022	.11											
Lower Fish Creek	11.7	.06	.04	.09	.04	.05	.11	.047	.07	.05	.047	.11	.09	.06	.04	
Lower Fish Creek	10.8538*	.06	.11	.047	.055	.047	.055									
Lower Fish Creek	10.0076*	.05	.1	.047	.05	.047	.05									
Lower Fish Creek	9.16153*	.05	.1	.047	.05	.047	.055									
Lower Fish Creek	8.31538*	.05	.09	.047	.05	.047	.05									
Lower Fish Creek	7.46923*	.05	.09	.047	.05	.047	.05									
Lower Fish Creek	6.62307*	.05	.08	.047	.05	.047	.055									
Lower Fish Creek	5.77692*	.05	.08	.047	.05	.047	.05									
Lower Fish Creek	4.93076*	.055	.08	.047	.055	.047	.06									
Lower Fish Creek	4.08461*	.055	.07	.047	.055	.047	.06									
Lower Fish Creek	3.23846*	.055	.07	.047	.055	.047	.06									
Lower Fish Creek	2.39230*	.06	.06	.047	.055	.047	.06									
Lower Fish Creek	1.54615*	.06	.06	.047	.055	.047	.065									
Lower Fish Creek	0.7	.065	.055	.047	.055	.047	.055	.047	.055	.047	.065					

River:Judy Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9
Lower Judy Creek	31.0	.05	.014	.1	.05					
Lower Judy Creek	30.54*	.05	.014	.05						
Lower Judy Creek	30.08*	.05	.014	.05						
Lower Judy Creek	29.62*	.05	.014	.05						
Lower Judy Creek	29.16*	.05	.015	.05						

Lower Judy Creek	28.7*	.05	.016	.05						
Lower Judy Creek	28.24*	.05	.017	.05						
Lower Judy Creek	27.78*	.05	.018	.05						
Lower Judy Creek	27.32*	.05	.018	.05						
Lower Judy Creek	26.86*	.05	.018	.05						
Lower Judy Creek	26.4*	.05	.018	.05						
Lower Judy Creek	25.94*	.05	.018	.05						
Lower Judy Creek	25.48*	.05	.018	.05						
Lower Judy Creek	25.02*	.05	.018	.05						
Lower Judy Creek	24.56*	.05	.018	.05						
Lower Judy Creek	24.1*	.05	.018	.05						
Lower Judy Creek	23.64*	.05	.018	.05						
Lower Judy Creek	23.18*	.05	.018	.05						
Lower Judy Creek	22.72*	.05	.018	.05						
Lower Judy Creek	22.26*	.05	.018	.05						
Lower Judy Creek	21.8	.05	.11	.018	.1	.05				
Lower Judy Creek	21.3294*	.05	.018	.05						
Lower Judy Creek	20.8588*	.05	.018	.05						
Lower Judy Creek	20.3882*	.05	.018	.05						
Lower Judy Creek	19.9176*	.05	.019	.05						
Lower Judy Creek	19.4470*	.05	.02	.05						
Lower Judy Creek	18.9764*	.05	.02	.05						
Lower Judy Creek	18.5058*	.05	.02	.05						
Lower Judy Creek	18.0352*	.05	.02	.05						
Lower Judy Creek	17.5647*	.05	.02	.05						
Lower Judy Creek	17.0941*	.05	.02	.05						
Lower Judy Creek	16.6235*	.05	.02	.05						
Lower Judy Creek	16.1529*	.05	.02	.05						
Lower Judy Creek	15.6823*	.05	.02	.05						
Lower Judy Creek	15.2117*	.05	.021	.05						
Lower Judy Creek	14.7411*	.05	.022	.05						
Lower Judy Creek	14.2705*	.05	.023	.05						
Lower Judy Creek	13.8	.05	.04	.05	.06	.024	.06	.04		
Lower Judy Creek	13.375*	.04	.024	.05						
Lower Judy Creek	12.95*	.04	.023	.05						
Lower Judy Creek	12.525*	.04	.023	.05						
Lower Judy Creek	12.1*	.04	.023	.05						
Lower Judy Creek	11.675*	.04	.022	.05						
Lower Judy Creek	11.25*	.04	.022	.05						
Lower Judy Creek	10.825*	.04	.022	.05						
Lower Judy Creek	10.4*	.04	.022	.05						
Lower Judy Creek	9.975*	.04	.022	.05						
Lower Judy Creek	9.5500*	.04	.022	.05						
Lower Judy Creek	9.12500*	.04	.022	.05						
Lower Judy Creek	8.70000*	.04	.023	.05						
Lower Judy Creek	8.27500*	.04	.023	.05						
Lower Judy Creek	7.85000*	.04	.023	.05						
Lower Judy Creek	7.42500*	.04	.023	.05						
Lower Judy Creek	7.0	.04	.05	.04	.05	.11	.024	.11	.05	.04
Lower Judy Creek	6.39818*	.04	.023	.05						
Lower Judy Creek	5.79636*	.04	.023	.05						
Lower Judy Creek	5.19454*	.04	.022	.05						
Lower Judy Creek	4.59272*	.04	.022	.05						
Lower Judy Creek	3.99090*	.04	.022	.05						
Lower Judy Creek	3.38909*	.04	.023	.05						
Lower Judy Creek	2.78727*	.04	.023	.05						
Lower Judy Creek	2.18545*	.04	.023	.03	.05					
Lower Judy Creek	1.58363*	.04	.023	.05						
Lower Judy Creek	.981819*	.04	.023	.05						
Lower Judy Creek	0.38	.04	.023	.06	.04					

SUMMARY OF REACH LENGTHS

River: Fish Creek

Reach	River Sta.	Left	Channel	Right
-------	------------	------	---------	-------

Upper Fish Creek	43.3	1903.5	4751.08	1745.42
Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171
Upper Fish Creek	29.2285*	2464.43	4273.14	2171
Upper Fish Creek	28.4357*	2464.43	4273.14	2171
Upper Fish Creek	27.6428*	2464.43	4273.14	2171
Upper Fish Creek	26.85	0	0	0
Lower Fish Creek	26.09	3700	4769	4680
Lower Fish Creek	25.1	2028.75	4406.38	2370.38
Lower Fish Creek	24.2625*	2028.75	4406.38	2370.38
Lower Fish Creek	23.425*	2028.75	4406.38	2370.38
Lower Fish Creek	22.5875*	2028.75	4406.38	2370.38
Lower Fish Creek	21.75*	2028.75	4406.38	2370.38
Lower Fish Creek	20.9125*	2028.75	4406.38	2370.38
Lower Fish Creek	20.075*	2028.75	4406.38	2370.38
Lower Fish Creek	19.2375*	2028.75	4406.38	2370.38
Lower Fish Creek	18.4	3217.29	4349	2885.43
Lower Fish Creek	17.5714*	3217.29	4349	2885.43
Lower Fish Creek	16.7428*	3217.29	4349	2885.43
Lower Fish Creek	15.9142*	3217.29	4349	2885.43
Lower Fish Creek	15.0857*	3217.29	4349	2885.43
Lower Fish Creek	14.2571*	3217.29	4349	2885.43
Lower Fish Creek	13.4285*	3217.29	4349	2885.43
Lower Fish Creek	12.6	1090	5078	2467
Lower Fish Creek	11.7	2559	4481.46	2515.69
Lower Fish Creek	10.8538*	2559	4481.46	2515.69
Lower Fish Creek	10.0076*	2559	4481.46	2515.69
Lower Fish Creek	9.16153*	2559	4481.46	2515.69
Lower Fish Creek	8.31538*	2559	4481.46	2515.69
Lower Fish Creek	7.46923*	2559	4481.46	2515.69
Lower Fish Creek	6.62307*	2559	4481.46	2515.69
Lower Fish Creek	5.77692*	2559	4481.46	2515.69
Lower Fish Creek	4.93076*	2559	4481.46	2515.69
Lower Fish Creek	4.08461*	2559	4481.46	2515.69
Lower Fish Creek	3.23846*	2559	4481.46	2515.69
Lower Fish Creek	2.39230*	2559	4481.46	2515.69
Lower Fish Creek	1.54615*	2559	4481.46	2515.7
Lower Fish Creek	0.7	0	0	0

River: Judy Creek

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	31.0	1164.9	2386.5	1005.25
Lower Judy Creek	30.54*	1164.9	2386.5	1005.25

Lower Judy Creek	30.08*	1164.9	2386.5	1005.25
Lower Judy Creek	29.62*	1164.9	2386.5	1005.25
Lower Judy Creek	29.16*	1164.9	2386.5	1005.25
Lower Judy Creek	28.7*	1164.9	2386.5	1005.25
Lower Judy Creek	28.24*	1164.9	2386.5	1005.25
Lower Judy Creek	27.78*	1164.9	2386.5	1005.25
Lower Judy Creek	27.32*	1164.9	2386.5	1005.25
Lower Judy Creek	26.86*	1164.9	2386.5	1005.25
Lower Judy Creek	26.4*	1164.9	2386.5	1005.25
Lower Judy Creek	25.94*	1164.9	2386.5	1005.25
Lower Judy Creek	25.48*	1164.9	2386.5	1005.25
Lower Judy Creek	25.02*	1164.9	2386.5	1005.25
Lower Judy Creek	24.56*	1164.9	2386.5	1005.25
Lower Judy Creek	24.1*	1164.9	2386.5	1005.25
Lower Judy Creek	23.64*	1164.9	2386.5	1005.25
Lower Judy Creek	23.18*	1164.9	2386.5	1005.25
Lower Judy Creek	22.72*	1164.9	2386.5	1005.25
Lower Judy Creek	22.26*	1164.9	2386.5	1005.25
Lower Judy Creek	21.8	1459.47	2420.88	1416
Lower Judy Creek	21.3294*	1459.47	2420.88	1416
Lower Judy Creek	20.8588*	1459.47	2420.88	1416
Lower Judy Creek	20.3882*	1459.47	2420.88	1416
Lower Judy Creek	19.9176*	1459.47	2420.88	1416
Lower Judy Creek	19.4470*	1459.47	2420.88	1416
Lower Judy Creek	18.9764*	1459.47	2420.88	1416
Lower Judy Creek	18.5058*	1459.47	2420.88	1416
Lower Judy Creek	18.0352*	1459.47	2420.88	1416
Lower Judy Creek	17.5647*	1459.47	2420.88	1416
Lower Judy Creek	17.0941*	1459.47	2420.88	1416
Lower Judy Creek	16.6235*	1459.47	2420.88	1416
Lower Judy Creek	16.1529*	1459.47	2420.88	1416
Lower Judy Creek	15.6823*	1459.47	2420.88	1416
Lower Judy Creek	15.2117*	1459.47	2420.88	1416
Lower Judy Creek	14.7411*	1459.47	2420.88	1416
Lower Judy Creek	14.2705*	1459.47	2420.89	1416
Lower Judy Creek	13.8	1530.69	2280.69	1205.25
Lower Judy Creek	13.375*	1530.69	2280.69	1205.25
Lower Judy Creek	12.95*	1530.69	2280.69	1205.25
Lower Judy Creek	12.525*	1530.69	2280.69	1205.25
Lower Judy Creek	12.1*	1530.69	2280.69	1205.25
Lower Judy Creek	11.675*	1530.69	2280.69	1205.25
Lower Judy Creek	11.25*	1530.69	2280.69	1205.25
Lower Judy Creek	10.825*	1530.69	2280.69	1205.25
Lower Judy Creek	10.4*	1530.69	2280.69	1205.25
Lower Judy Creek	9.975*	1530.69	2280.69	1205.25
Lower Judy Creek	9.55000*	1530.69	2280.69	1205.25
Lower Judy Creek	9.12500*	1530.69	2280.69	1205.25
Lower Judy Creek	8.70000*	1530.69	2280.69	1205.25
Lower Judy Creek	8.27500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.85000*	1530.69	2280.69	1205.25
Lower Judy Creek	7.42500*	1530.69	2280.7	1205.25
Lower Judy Creek	7.0	1574.27	2316.18	1729.73
Lower Judy Creek	6.39818*	1574.27	2316.18	1729.73
Lower Judy Creek	5.79636*	1574.27	2316.18	1729.73
Lower Judy Creek	5.19454*	1574.27	2316.18	1729.73
Lower Judy Creek	4.59272*	1574.27	2316.18	1729.73
Lower Judy Creek	3.99090*	1574.27	2316.18	1729.73
Lower Judy Creek	3.38909*	1574.27	2316.18	1729.73
Lower Judy Creek	2.78727*	1574.27	2316.18	1729.73

Lower Judy Creek	2.18545*	1574.27	2316.18	1729.73
Lower Judy Creek	1.58363*	1574.27	2316.18	1729.73
Lower Judy Creek	.981819*	1574.28	2316.18	1729.73
Lower Judy Creek	0.38	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Fish Creek

Reach	River Sta.	Contr.	Expan.
Upper Fish Creek	43.3	.1	.3
Upper Fish Creek	42.3916*	.1	.3
Upper Fish Creek	41.4833*	.1	.3
Upper Fish Creek	40.575*	.1	.3
Upper Fish Creek	39.6666*	.1	.3
Upper Fish Creek	38.7583*	.1	.3
Upper Fish Creek	37.85*	.1	.3
Upper Fish Creek	36.9416*	.1	.3
Upper Fish Creek	36.0333*	.1	.3
Upper Fish Creek	35.125*	.1	.3
Upper Fish Creek	34.2166*	.1	.3
Upper Fish Creek	33.3083*	.1	.3
Upper Fish Creek	32.4	.1	.3
Upper Fish Creek	31.6071*	.1	.3
Upper Fish Creek	30.8142*	.1	.3
Upper Fish Creek	30.0214*	.1	.3
Upper Fish Creek	29.2285*	.1	.3
Upper Fish Creek	28.4357*	.1	.3
Upper Fish Creek	27.6428*	.1	.3
Upper Fish Creek	26.85	.1	.3
Lower Fish Creek	26.09	.1	.3
Lower Fish Creek	25.1	.1	.3
Lower Fish Creek	24.2625*	.1	.3
Lower Fish Creek	23.425*	.1	.3
Lower Fish Creek	22.5875*	.1	.3
Lower Fish Creek	21.75*	.1	.3
Lower Fish Creek	20.9125*	.1	.3
Lower Fish Creek	20.075*	.1	.3
Lower Fish Creek	19.2375*	.1	.3
Lower Fish Creek	18.4	.1	.3
Lower Fish Creek	17.5714*	.1	.3
Lower Fish Creek	16.7428*	.1	.3
Lower Fish Creek	15.9142*	.1	.3
Lower Fish Creek	15.0857*	.1	.3
Lower Fish Creek	14.2571*	.1	.3
Lower Fish Creek	13.4285*	.1	.3
Lower Fish Creek	12.6	.1	.3
Lower Fish Creek	11.7	.1	.3
Lower Fish Creek	10.8538*	.1	.3
Lower Fish Creek	10.0076*	.1	.3
Lower Fish Creek	9.16153*	.1	.3
Lower Fish Creek	8.31538*	.1	.3
Lower Fish Creek	7.46923*	.1	.3
Lower Fish Creek	6.62307*	.1	.3
Lower Fish Creek	5.77692*	.1	.3
Lower Fish Creek	4.93076*	.1	.3
Lower Fish Creek	4.08461*	.1	.3
Lower Fish Creek	3.23846*	.1	.3
Lower Fish Creek	2.39230*	.1	.3
Lower Fish Creek	1.54615*	.1	.3
Lower Fish Creek	0.7	.1	.3

River: Judy Creek

Reach	River Sta.	Contr.	Expan.
Lower Judy Creek	31.0	.1	.3
Lower Judy Creek	30.54*	.1	.3
Lower Judy Creek	30.08*	.1	.3
Lower Judy Creek	29.62*	.1	.3
Lower Judy Creek	29.16*	.1	.3
Lower Judy Creek	28.7*	.1	.3
Lower Judy Creek	28.24*	.1	.3
Lower Judy Creek	27.78*	.1	.3
Lower Judy Creek	27.32*	.1	.3
Lower Judy Creek	26.86*	.1	.3
Lower Judy Creek	26.4*	.1	.3
Lower Judy Creek	25.94*	.1	.3
Lower Judy Creek	25.48*	.1	.3
Lower Judy Creek	25.02*	.1	.3
Lower Judy Creek	24.56*	.1	.3
Lower Judy Creek	24.1*	.1	.3
Lower Judy Creek	23.64*	.1	.3
Lower Judy Creek	23.18*	.1	.3
Lower Judy Creek	22.72*	.1	.3
Lower Judy Creek	22.26*	.1	.3
Lower Judy Creek	21.8	.1	.3
Lower Judy Creek	21.3294*	.1	.3
Lower Judy Creek	20.8588*	.1	.3
Lower Judy Creek	20.3882*	.1	.3
Lower Judy Creek	19.9176*	.1	.3
Lower Judy Creek	19.4470*	.1	.3
Lower Judy Creek	18.9764*	.1	.3
Lower Judy Creek	18.5058*	.1	.3
Lower Judy Creek	18.0352*	.1	.3
Lower Judy Creek	17.5647*	.1	.3
Lower Judy Creek	17.0941*	.1	.3
Lower Judy Creek	16.6235*	.1	.3
Lower Judy Creek	16.1529*	.1	.3
Lower Judy Creek	15.6823*	.1	.3
Lower Judy Creek	15.2117*	.1	.3
Lower Judy Creek	14.7411*	.1	.3
Lower Judy Creek	14.2705*	.1	.3
Lower Judy Creek	13.8	.1	.3
Lower Judy Creek	13.375*	.1	.3
Lower Judy Creek	12.95*	.1	.3
Lower Judy Creek	12.525*	.1	.3
Lower Judy Creek	12.1*	.1	.3
Lower Judy Creek	11.675*	.1	.3
Lower Judy Creek	11.25*	.1	.3
Lower Judy Creek	10.825*	.1	.3
Lower Judy Creek	10.4*	.1	.3
Lower Judy Creek	9.975*	.1	.3
Lower Judy Creek	9.55000*	.1	.3
Lower Judy Creek	9.12500*	.1	.3
Lower Judy Creek	8.70000*	.1	.3
Lower Judy Creek	8.27500*	.1	.3
Lower Judy Creek	7.85000*	.1	.3
Lower Judy Creek	7.42500*	.1	.3
Lower Judy Creek	7.0	.1	.3
Lower Judy Creek	6.39818*	.1	.3

Lower Judy Creek	5.79636*	.1	.3
Lower Judy Creek	5.19454*	.1	.3
Lower Judy Creek	4.59272*	.1	.3
Lower Judy Creek	3.99090*	.1	.3
Lower Judy Creek	3.38909*	.1	.3
Lower Judy Creek	2.78727*	.1	.3
Lower Judy Creek	2.18545*	.1	.3
Lower Judy Creek	1.58363*	.1	.3
Lower Judy Creek	.981819*	.1	.3
Lower Judy Creek	0.38	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Fish Creek	Lower	Fish Creek 0.7	30993.00		0.30	4.67	2.11	4.67	0.000075	0.48	65798.59	25186.35	0.05
Fish Creek	Lower	Fish Creek 1.54615*	26418.00		-0.36	5.00		5.01	0.000085	0.49	56412.54	24370.84	0.06
Fish Creek	Lower	Fish Creek 2.39230*	26418.00		-0.74	5.41		5.41	0.000116	0.57	48919.11	23675.14	0.07
Fish Creek	Lower	Fish Creek 3.23846*	26418.00		-1.13	5.86		5.87	0.000111	0.65	44556.05	19381.29	0.07
Fish Creek	Lower	Fish Creek 4.08461*	26418.00		-1.52	6.40		6.41	0.000149	0.85	34564.28	17800.76	0.09
Fish Creek	Lower	Fish Creek 4.93076*	26418.00		-1.90	6.99		7.00	0.000124	0.85	35499.93	16865.93	0.08
Fish Creek	Lower	Fish Creek 5.77692*	26418.00		-2.29	7.48		7.49	0.000101	0.89	34785.34	16227.59	0.08
Fish Creek	Lower	Fish Creek 6.62307*	26418.00		-2.68	7.92		7.94	0.000102	0.97	33202.19	15745.54	0.08
Fish Creek	Lower	Fish Creek 7.46923*	26418.00		-3.07	8.38		8.40	0.000111	1.04	31627.18	15112.01	0.09
Fish Creek	Lower	Fish Creek 8.31538*	26418.00		-3.45	8.86		8.88	0.000116	1.15	30159.91	14853.92	0.09
Fish Creek	Lower	Fish Creek 9.16153*	26418.00		-3.84	9.39		9.42	0.000143	1.27	29016.02	14450.30	0.10
Fish Creek	Lower	Fish Creek 10.0076*	26418.00		-4.23	9.99		10.01	0.000150	1.42	28625.41	14458.61	0.11
Fish Creek	Lower	Fish Creek 10.8538*	26418.00		-4.61	10.66		10.69	0.000191	1.69	28715.80	14440.82	0.12
Fish Creek	Lower	Fish Creek 11.7	26418.00		-5.00	11.38		11.41	0.000196	1.76	29342.46	14457.58	0.12
Fish Creek	Lower	Fish Creek 12.6	26418.00		-5.80	11.84		11.92	0.000112	3.09	29325.93	14005.18	0.18
Fish Creek	Lower	Fish Creek 13.4285*	25941.00		-5.83	12.33		12.42	0.000147	3.18	26639.80	15010.32	0.19
Fish Creek	Lower	Fish Creek 14.2571*	25941.00		-5.86	12.92		13.03	0.000163	3.42	24177.17	13933.69	0.20
Fish Creek	Lower	Fish Creek 15.0857*	25941.00		-5.89	13.54		13.67	0.000165	3.51	23180.16	12307.79	0.21
Fish Creek	Lower	Fish Creek 15.9142*	25941.00		-5.91	14.19		14.32	0.000165	3.56	22648.73	11370.12	0.22
Fish Creek	Lower	Fish Creek 16.7428*	25941.00		-5.94	14.82		14.96	0.000162	3.70	21746.68	10646.32	0.22
Fish Creek	Lower	Fish Creek 17.5714*	25941.00		-5.97	15.47		15.62	0.000170	3.77	20928.35	10101.68	0.23
Fish Creek	Lower	Fish Creek 18.4	25941.00		-6.00	16.12		16.27	0.000161	3.86	20197.33	9039.71	0.23
Fish Creek	Lower	Fish Creek 19.2375*	25209.00		-4.42	16.73		16.92	0.000181	4.03	17434.27	7760.46	0.24
Fish Creek	Lower	Fish Creek 20.075*	25209.00		-2.84	17.46		17.75	0.000235	4.72	11850.26	6654.89	0.27
Fish Creek	Lower	Fish Creek 20.9125*	25209.00		-1.26	18.37		18.61	0.000194	4.46	13940.24	5549.78	0.25
Fish Creek	Lower	Fish Creek 21.75*	25209.00		0.32	19.11		19.34	0.000177	4.34	15743.11	5999.52	0.24
Fish Creek	Lower	Fish Creek 22.5875*	25209.00		1.90	19.82		20.02	0.000175	4.17	17544.04	6199.67	0.23
Fish Creek	Lower	Fish Creek 23.425*	25209.00		3.48	20.48		20.67	0.000169	4.21	18647.34	6383.67	0.23
Fish Creek	Lower	Fish Creek 24.2625*	25209.00		5.06	21.14		21.33	0.000187	4.24	19334.31	7210.25	0.24
Fish Creek	Lower	Fish Creek 25.1	25209.00		6.64	21.94		22.14	0.000248	4.37	20942.41	7712.51	0.25
Fish Creek	Lower	Fish Creek 26.09	25177.00		7.89	22.97		23.18	0.000199	4.50	19225.21	7655.62	0.26
Fish Creek	Upper	Fish Creek 26.85	14350.00		6.88	23.80		24.03	0.000230	3.92	6550.61	6235.98	0.22
Fish Creek	Upper	Fish Creek 27.6428*	14166.00		7.84	24.72		24.87	0.000180	3.42	8689.73	4387.68	0.18
Fish Creek	Upper	Fish Creek 28.4357*	14166.00		8.80	25.38		25.48	0.000130	2.92	11880.39	4672.71	0.15
Fish Creek	Upper	Fish Creek 29.2285*	14166.00		9.76	25.84		25.90	0.000102	2.54	14437.13	4925.95	0.13
Fish Creek	Upper	Fish Creek 30.0214*	14166.00		10.72	26.17		26.22	0.000079	2.29	16567.97	5191.85	0.12
Fish Creek	Upper	Fish Creek 30.8142*	14166.00		11.68	26.43		26.46	0.000065	2.03	18385.55	5427.05	0.11
Fish Creek	Upper	Fish Creek 31.6071*	14166.00		12.64	26.63		26.65	0.000056	1.81	19920.01	5577.84	0.10
Fish Creek	Upper	Fish Creek 32.4	14166.00		13.60	26.81		26.83	0.000054	1.80	21104.34	5741.64	0.10
Fish Creek	Upper	Fish Creek 33.3083*	13932.00		14.03	27.01		27.06	0.000097	2.39	14577.48	5057.96	0.13
Fish Creek	Upper	Fish Creek 34.2166*	13932.00		14.45	27.46		27.57	0.000185	3.22	9828.63	4268.23	0.18
Fish Creek	Upper	Fish Creek 35.125*	13932.00		14.88	28.26		28.43	0.000249	3.73	7394.22	3563.23	0.21
Fish Creek	Upper	Fish Creek 36.0333*	13932.00		15.30	29.31		29.51	0.000259	3.86	6387.06	2921.66	0.22
Fish Creek	Upper	Fish Creek 36.9416*	13932.00		15.73	30.40		30.60	0.000242	3.80	5861.26	2555.99	0.21
Fish Creek	Upper	Fish Creek 37.85*	13932.00		16.15	31.43		31.63	0.000225	3.72	5421.68	2324.37	0.21
Fish Creek	Upper	Fish Creek 38.7583*	13932.00		16.58	32.45		32.63	0.000222	3.59	5183.57	1796.93	0.20
Fish Creek	Upper	Fish Creek 39.6666*	13932.00		17.00	33.42		33.59	0.000202	3.46	5145.73	1370.84	0.19
Fish Creek	Upper	Fish Creek 40.575*	13932.00		17.43	34.32		34.48	0.000187	3.35	5164.06	1139.98	0.18
Fish Creek	Upper	Fish Creek 41.4833*	13932.00		17.85	35.15		35.31	0.000176	3.25	5203.82	987.94	0.18
Fish Creek	Upper	Fish Creek 42.3916*	13932.00		18.28	35.95		36.09	0.000168	3.18	5246.71	951.55	0.17
Fish Creek	Upper	Fish Creek 43.3	13932.00		18.70	36.68		36.80	0.000145	2.94	6823.62	2112.13	0.16
Judy Creek	Lower	Judy Creek 0.38	12198.00		8.18	23.71		23.81	0.000137	3.09	11559.44	6173.17	0.19
Judy Creek	Lower	Judy Creek .981819*	11876.00		8.91	24.03		24.23	0.000223	3.88	7026.30	5859.53	0.24
Judy Creek	Lower	Judy Creek 1.58363*	11876.00		9.64	24.54		24.76	0.000246	4.05	5636.38	3573.07	0.25

Judy Creek	Lower	Judy Creek	2.18545*	11876.00	10.37	25.25	25.43	0.000356	3.81	5832.65	3608.69	0.23
Judy Creek	Lower	Judy Creek	2.78727*	11876.00	11.10	25.88	26.09	0.000230	3.97	5876.26	3516.04	0.24
Judy Creek	Lower	Judy Creek	3.38909*	11876.00	11.83	26.40	26.62	0.000247	4.10	5523.91	3505.50	0.25
Judy Creek	Lower	Judy Creek	3.99090*	11876.00	12.55	26.93	27.17	0.000243	4.24	5217.08	3504.54	0.26
Judy Creek	Lower	Judy Creek	4.59272*	11876.00	13.28	27.47	27.73	0.000254	4.33	4975.35	3247.35	0.27
Judy Creek	Lower	Judy Creek	5.19454*	11876.00	14.01	28.04	28.29	0.000253	4.32	4931.06	2636.43	0.27
Judy Creek	Lower	Judy Creek	5.79636*	11876.00	14.74	28.62	28.87	0.000271	4.28	5001.67	2626.87	0.26
Judy Creek	Lower	Judy Creek	6.39818*	11876.00	15.47	29.23	29.48	0.000279	4.34	4856.32	2535.21	0.27
Judy Creek	Lower	Judy Creek	7.0	11876.00	16.20	30.14	30.30	0.000451	3.60	5882.56	2829.43	0.22
Judy Creek	Lower	Judy Creek	7.42500*	10958.00	16.63	30.79	30.98	0.000195	3.79	4665.10	1967.32	0.23
Judy Creek	Lower	Judy Creek	7.85000*	10958.00	17.05	31.21	31.44	0.000218	4.01	3869.67	1201.31	0.24
Judy Creek	Lower	Judy Creek	8.27500*	10958.00	17.48	31.70	31.95	0.000231	4.14	3432.43	1080.21	0.25
Judy Creek	Lower	Judy Creek	8.70000*	10958.00	17.90	32.20	32.47	0.000239	4.23	3089.12	953.59	0.25
Judy Creek	Lower	Judy Creek	9.12500*	10958.00	18.33	32.71	32.99	0.000224	4.29	2815.69	749.13	0.25
Judy Creek	Lower	Judy Creek	9.55000*	10958.00	18.75	33.21	33.50	0.000227	4.33	2643.94	505.44	0.26
Judy Creek	Lower	Judy Creek	9.975*	10958.00	19.18	33.73	34.02	0.000230	4.36	2555.97	401.43	0.26
Judy Creek	Lower	Judy Creek	10.4*	10958.00	19.60	34.25	34.55	0.000234	4.38	2508.38	322.43	0.26
Judy Creek	Lower	Judy Creek	10.825*	10958.00	20.03	34.78	35.09	0.000238	4.41	2491.59	309.77	0.26
Judy Creek	Lower	Judy Creek	11.25*	10958.00	20.45	35.33	35.63	0.000244	4.44	2480.54	336.07	0.27
Judy Creek	Lower	Judy Creek	11.675*	10958.00	20.88	35.88	36.20	0.000251	4.48	2472.05	343.27	0.27
Judy Creek	Lower	Judy Creek	12.1*	10958.00	21.30	36.48	36.80	0.000277	4.50	2473.50	343.87	0.27
Judy Creek	Lower	Judy Creek	12.525*	10958.00	21.73	37.11	37.42	0.000278	4.52	2477.15	343.93	0.27
Judy Creek	Lower	Judy Creek	12.95*	10958.00	22.15	37.74	38.06	0.000282	4.55	2477.29	343.38	0.27
Judy Creek	Lower	Judy Creek	13.375*	10958.00	22.58	38.41	38.73	0.000309	4.57	2483.63	342.55	0.27
Judy Creek	Lower	Judy Creek	13.8	10958.00	23.00	39.11	39.43	0.000314	4.60	2491.78	341.42	0.27
Judy Creek	Lower	Judy Creek	14.2705*	10135.00	23.93	39.82	40.10	0.000244	4.24	2497.42	341.18	0.25
Judy Creek	Lower	Judy Creek	14.7411*	10135.00	24.86	40.39	40.68	0.000234	4.30	2452.17	340.01	0.26
Judy Creek	Lower	Judy Creek	15.2117*	10135.00	25.79	40.95	41.24	0.000226	4.36	2403.06	338.72	0.27
Judy Creek	Lower	Judy Creek	15.6823*	10135.00	26.72	41.48	41.79	0.000218	4.45	2347.65	337.26	0.27
Judy Creek	Lower	Judy Creek	16.1529*	10135.00	27.65	42.02	42.34	0.000233	4.53	2293.01	335.71	0.28
Judy Creek	Lower	Judy Creek	16.6235*	10135.00	28.58	42.58	42.91	0.000246	4.60	2248.10	334.27	0.29
Judy Creek	Lower	Judy Creek	17.0941*	10135.00	29.51	43.18	43.52	0.000256	4.64	2217.53	333.08	0.29
Judy Creek	Lower	Judy Creek	17.5647*	10135.00	30.44	43.80	44.14	0.000264	4.68	2192.74	331.92	0.30
Judy Creek	Lower	Judy Creek	18.0352*	10135.00	31.36	44.44	44.78	0.000270	4.71	2174.93	330.04	0.30
Judy Creek	Lower	Judy Creek	18.5058*	10135.00	32.29	45.09	45.44	0.000275	4.72	2162.65	327.80	0.30
Judy Creek	Lower	Judy Creek	18.9764*	10135.00	33.22	45.76	46.10	0.000278	4.73	2154.56	323.83	0.30
Judy Creek	Lower	Judy Creek	19.4470*	10135.00	34.15	46.43	46.78	0.000279	4.73	2149.73	315.69	0.30
Judy Creek	Lower	Judy Creek	19.9176*	10135.00	35.08	47.08	47.43	0.000255	4.75	2139.67	307.50	0.31
Judy Creek	Lower	Judy Creek	20.3882*	10135.00	36.01	47.67	48.03	0.000239	4.80	2113.29	299.15	0.31
Judy Creek	Lower	Judy Creek	20.8588*	10135.00	36.94	48.26	48.63	0.000248	4.85	2088.70	289.48	0.32
Judy Creek	Lower	Judy Creek	21.3294*	10135.00	37.87	48.87	49.24	0.000257	4.90	2068.43	287.09	0.32
Judy Creek	Lower	Judy Creek	21.8	10135.00	38.80	49.49	49.86	0.000263	4.94	2052.92	286.56	0.33
Judy Creek	Lower	Judy Creek	22.26*	9273.00	39.51	50.12	50.44	0.000218	4.49	2063.17	288.83	0.30
Judy Creek	Lower	Judy Creek	22.72*	9273.00	40.22	50.65	50.97	0.000228	4.55	2036.79	290.25	0.30
Judy Creek	Lower	Judy Creek	23.18*	9273.00	40.93	51.20	51.53	0.000239	4.61	2013.43	291.89	0.31
Judy Creek	Lower	Judy Creek	23.64*	9273.00	41.64	51.76	52.10	0.000249	4.65	1992.07	293.89	0.32
Judy Creek	Lower	Judy Creek	24.1*	9273.00	42.35	52.36	52.70	0.000259	4.70	1975.05	296.30	0.32
Judy Creek	Lower	Judy Creek	24.56*	9273.00	43.06	52.98	53.32	0.000269	4.73	1960.11	299.12	0.33
Judy Creek	Lower	Judy Creek	25.02*	9273.00	43.77	53.62	53.97	0.000278	4.76	1950.08	302.44	0.33
Judy Creek	Lower	Judy Creek	25.48*	9273.00	44.48	54.28	54.64	0.000286	4.77	1943.06	306.46	0.33
Judy Creek	Lower	Judy Creek	25.94*	9273.00	45.19	54.97	55.32	0.000294	4.79	1937.78	311.15	0.34
Judy Creek	Lower	Judy Creek	26.4*	9273.00	45.90	55.67	56.03	0.000302	4.79	1936.87	316.83	0.34
Judy Creek	Lower	Judy Creek	26.86*	9273.00	46.61	56.39	56.75	0.000309	4.78	1940.08	323.64	0.34
Judy Creek	Lower	Judy Creek	27.32*	9273.00	47.32	57.13	57.49	0.000314	4.77	1945.53	332.07	0.35
Judy Creek	Lower	Judy Creek	27.78*	9273.00	48.03	57.89	58.24	0.000317	4.75	1952.56	341.59	0.35
Judy Creek	Lower	Judy Creek	28.24*	9273.00	48.74	58.61	58.97	0.000289	4.76	1952.21	350.95	0.35
Judy Creek	Lower	Judy Creek	28.7*	9273.00	49.45	59.28	59.64	0.000273	4.83	1926.22	358.78	0.36
Judy Creek	Lower	Judy Creek	29.16*	9273.00	50.16	59.92	60.29	0.000263	4.93	1887.57	366.30	0.37
Judy Creek	Lower	Judy Creek	29.62*	9273.00	50.87	60.53	60.93	0.000256	5.08	1837.03	373.43	0.39

Judy Creek	Lower Judy Creek	30.08*	9273.00	51.58	61.15	61.58	0.000288	5.23	1787.27	380.97	0.41
Judy Creek	Lower Judy Creek	30.54*	9273.00	52.29	61.86	62.30	0.000310	5.31	1763.94	390.38	0.43
Judy Creek	Lower Judy Creek	31.0	9273.00	53.00	62.61	63.05	0.000324	5.35	1805.66	601.94	0.43

Profile Output Table - Standard Table 2

River	Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Fish Creek	Lower	Fish Creek 0.7		4.67	4.67	0.00		4668.42	26144.09	180.49	25186.35
Fish Creek	Lower	Fish Creek 1.54615*		5.01	5.00	0.00	0.33	4586.34	21679.12	152.54	24370.84
Fish Creek	Lower	Fish Creek 2.39230*		5.41	5.41	0.00	0.41	5387.86	20841.85	188.28	23675.14
Fish Creek	Lower	Fish Creek 3.23846*		5.87	5.86	0.01	0.46	5954.14	20267.17	196.69	19381.29
Fish Creek	Lower	Fish Creek 4.08461*		6.41	6.40	0.01	0.55	906.83	25228.27	282.89	17800.76
Fish Creek	Lower	Fish Creek 4.93076*		7.00	6.99	0.01	0.60	1328.06	24742.49	347.45	16865.93
Fish Creek	Lower	Fish Creek 5.77692*		7.49	7.48	0.01	0.49	1617.38	24358.19	442.43	16227.59
Fish Creek	Lower	Fish Creek 6.62307*		7.94	7.92	0.01	0.44	1782.48	24198.35	437.17	15745.54
Fish Creek	Lower	Fish Creek 7.46923*		8.40	8.38	0.02	0.46	2140.77	23733.56	543.67	15112.01
Fish Creek	Lower	Fish Creek 8.31538*		8.88	8.86	0.02	0.48	2536.41	23200.53	681.06	14853.92
Fish Creek	Lower	Fish Creek 9.16153*		9.42	9.39	0.02	0.55	3608.81	22201.74	607.45	14450.30
Fish Creek	Lower	Fish Creek 10.0076*		10.01	9.99	0.02	0.60	4956.82	20547.67	913.51	14458.61
Fish Creek	Lower	Fish Creek 10.8538*		10.69	10.66	0.03	0.68	6719.49	18730.29	968.22	14440.82
Fish Creek	Lower	Fish Creek 11.7		11.41	11.38	0.03	0.71	13142.34	12424.00	851.66	14457.58
Fish Creek	Lower	Fish Creek 12.6		11.92	11.84	0.09	0.50	10089.55	15441.49	886.96	14005.18
Fish Creek	Lower	Fish Creek 13.4285*		12.42	12.33	0.10	0.50	9368.33	15522.52	1050.15	15010.32
Fish Creek	Lower	Fish Creek 14.2571*		13.03	12.92	0.12	0.60	8380.54	16401.17	1159.29	13933.69
Fish Creek	Lower	Fish Creek 15.0857*		13.67	13.54	0.12	0.64	8052.59	16570.37	1318.04	12307.79
Fish Creek	Lower	Fish Creek 15.9142*		14.32	14.19	0.13	0.65	7925.10	16567.03	1448.86	11370.12
Fish Creek	Lower	Fish Creek 16.7428*		14.96	14.82	0.14	0.64	7557.82	16956.40	1426.78	10646.32
Fish Creek	Lower	Fish Creek 17.5714*		15.62	15.47	0.15	0.65	7416.23	17062.45	1462.32	10101.68
Fish Creek	Lower	Fish Creek 18.4		16.27	16.12	0.15	0.65	7137.11	17188.51	1615.38	9039.71
Fish Creek	Lower	Fish Creek 19.2375*		16.92	16.73	0.18	0.63	6506.83	17869.87	832.30	7760.46
Fish Creek	Lower	Fish Creek 20.075*		17.75	17.46	0.29	0.81	3027.52	20982.68	1198.80	6654.89
Fish Creek	Lower	Fish Creek 20.9125*		18.61	18.37	0.25	0.85	3346.52	20096.96	1765.52	5549.78
Fish Creek	Lower	Fish Creek 21.75*		19.34	19.11	0.23	0.73	3418.27	19380.35	2410.38	5999.52
Fish Creek	Lower	Fish Creek 22.5875*		20.02	19.82	0.20	0.68	3471.27	18273.55	3464.18	6199.67
Fish Creek	Lower	Fish Creek 23.425*		20.67	20.48	0.20	0.65	3003.08	17787.78	4418.14	6383.67
Fish Creek	Lower	Fish Creek 24.2625*		21.33	21.14	0.19	0.67	2588.87	17172.24	5447.90	7210.25
Fish Creek	Lower	Fish Creek 25.1		22.14	21.94	0.20	0.81	2518.09	16898.76	5792.15	7712.51
Fish Creek	Lower	Fish Creek 26.09		23.18	22.97	0.21	1.04	2548.54	16927.34	5701.12	7655.62
Fish Creek	Upper	Fish Creek 26.85		24.03	23.80	0.23	0.84	486.26	13570.21	293.53	6235.98
Fish Creek	Upper	Fish Creek 27.6428*		24.87	24.72	0.16	0.84	1504.54	12104.46	557.00	4387.68
Fish Creek	Upper	Fish Creek 28.4357*		25.48	25.38	0.10	0.60	2684.62	10292.24	1189.14	4672.71
Fish Creek	Upper	Fish Creek 29.2285*		25.90	25.84	0.06	0.42	3574.31	8757.98	1833.72	4925.95
Fish Creek	Upper	Fish Creek 30.0214*		26.22	26.17	0.05	0.31	4127.46	7641.81	2396.73	5191.85
Fish Creek	Upper	Fish Creek 30.8142*		26.46	26.43	0.03	0.24	4664.73	6489.13	3012.14	5427.05
Fish Creek	Upper	Fish Creek 31.6071*		26.65	26.63	0.02	0.19	4956.59	5515.48	3693.94	5577.84
Fish Creek	Upper	Fish Creek 32.4		26.83	26.81	0.02	0.17	4513.01	5179.77	4473.22	5741.64
Fish Creek	Upper	Fish Creek 33.3083*		27.06	27.01	0.05	0.23	4155.52	6724.36	3052.12	5057.96
Fish Creek	Upper	Fish Creek 34.2166*		27.57	27.46	0.11	0.49	3090.00	9004.11	1837.89	4268.23
Fish Creek	Upper	Fish Creek 35.125*		28.43	28.26	0.17	0.85	2025.07	10748.25	1158.68	3563.23
Fish Creek	Upper	Fish Creek 36.0333*		29.51	29.31	0.20	1.07	1277.48	11766.77	887.75	2921.66
Fish Creek	Upper	Fish Creek 36.9416*		30.60	30.40	0.20	1.09	714.12	12280.75	937.13	2555.99
Fish Creek	Upper	Fish Creek 37.85*		31.63	31.43	0.20	1.04	358.06	12672.25	901.69	2324.37
Fish Creek	Upper	Fish Creek 38.7583*		32.63	32.45	0.19	1.01	147.16	12864.09	920.75	1796.93
Fish Creek	Upper	Fish Creek 39.6666*		33.59	33.42	0.17	0.96	41.64	12974.09	916.27	1370.84
Fish Creek	Upper	Fish Creek 40.575*		34.48	34.32	0.16	0.89	7.86	13024.07	900.06	1139.98
Fish Creek	Upper	Fish Creek 41.4833*		35.31	35.15	0.15	0.83	0.01	13052.72	879.27	987.94
Fish Creek	Upper	Fish Creek 42.3916*		36.09	35.95	0.15	0.79		13108.89	823.11	951.55
Fish Creek	Upper	Fish Creek 43.3		36.80	36.68	0.12	0.70	853.28	12346.77	731.95	2112.13
Judy Creek	Lower	Judy Creek 0.38		23.81	23.71	0.10	0.62	1222.81	8354.98	2620.21	6173.17
Judy Creek	Lower	Judy Creek .981819*		24.23	24.03	0.20	0.39	566.56	10063.33	1246.11	5859.53
Judy Creek	Lower	Judy Creek 1.58363*		24.76	24.54	0.22	0.52	399.35	10323.68	1152.97	3573.07

Judy Creek	Lower	Judy Creek	2.18545*	25.43	25.25	0.19	0.67	0.00	501.78	9762.06	1612.16	3608.69
Judy Creek	Lower	Judy Creek	2.78727*	26.09	25.88	0.21	0.65	0.01	373.91	10144.89	1357.20	3516.04
Judy Creek	Lower	Judy Creek	3.38909*	26.62	26.40	0.23	0.53	0.01	272.95	10315.51	1287.54	3505.50
Judy Creek	Lower	Judy Creek	3.99090*	27.17	26.93	0.25	0.55	0.01	196.55	10503.28	1176.17	3504.54
Judy Creek	Lower	Judy Creek	4.59272*	27.73	27.47	0.26	0.56	0.00	176.75	10572.02	1127.23	3247.35
Judy Creek	Lower	Judy Creek	5.19454*	28.29	28.04	0.26	0.57	0.00	202.39	10438.89	1234.72	2636.43
Judy Creek	Lower	Judy Creek	5.79636*	28.87	28.62	0.25	0.59	0.00	257.22	10263.83	1354.94	2626.87
Judy Creek	Lower	Judy Creek	6.39818*	29.48	29.23	0.26	0.61	0.00	413.37	10349.76	1112.86	2535.21
Judy Creek	Lower	Judy Creek	7.0	30.30	30.14	0.15	0.80	0.01	664.23	8855.76	2356.01	2829.43
Judy Creek	Lower	Judy Creek	7.42500*	30.98	30.79	0.20	0.68	0.01	471.63	9554.93	931.44	1967.32
Judy Creek	Lower	Judy Creek	7.85000*	31.44	31.21	0.23	0.45	0.01	269.61	10082.72	605.67	1201.31
Judy Creek	Lower	Judy Creek	8.27500*	31.95	31.70	0.25	0.50	0.01	141.40	10440.79	375.82	1080.21
Judy Creek	Lower	Judy Creek	8.70000*	32.47	32.20	0.27	0.53	0.01	64.19	10691.52	202.28	953.59
Judy Creek	Lower	Judy Creek	9.12500*	32.99	32.71	0.28	0.52	0.00	26.44	10846.88	84.68	749.13
Judy Creek	Lower	Judy Creek	9.55000*	33.50	33.21	0.29	0.51	0.00	8.65	10915.76	33.59	505.44
Judy Creek	Lower	Judy Creek	9.975*	34.02	33.73	0.29	0.52	0.00	1.81	10945.09	11.10	401.43
Judy Creek	Lower	Judy Creek	10.4*	34.55	34.25	0.30	0.53	0.00	1.38	10955.82	0.80	322.43
Judy Creek	Lower	Judy Creek	10.825*	35.09	34.78	0.30	0.54	0.00	2.76	10955.24		309.77
Judy Creek	Lower	Judy Creek	11.25*	35.63	35.33	0.31	0.55	0.00	4.35	10953.65		336.07
Judy Creek	Lower	Judy Creek	11.675*	36.20	35.88	0.31	0.56	0.00	10.28	10947.72		343.27
Judy Creek	Lower	Judy Creek	12.1*	36.80	36.48	0.31	0.60	0.00	21.66	10936.17	0.17	343.87
Judy Creek	Lower	Judy Creek	12.525*	37.42	37.11	0.32	0.63	0.00	36.63	10920.22	1.15	343.93
Judy Creek	Lower	Judy Creek	12.95*	38.06	37.74	0.32	0.64	0.00	54.95	10899.77	3.28	343.38
Judy Creek	Lower	Judy Creek	13.375*	38.73	38.41	0.32	0.67	0.00	82.87	10868.00	7.13	342.55
Judy Creek	Lower	Judy Creek	13.8	39.43	39.11	0.33	0.71	0.00	77.53	10870.01	10.46	341.42
Judy Creek	Lower	Judy Creek	14.2705*	40.10	39.82	0.28	0.67	0.01	76.45	10049.04	9.51	341.18
Judy Creek	Lower	Judy Creek	14.7411*	40.68	40.39	0.28	0.58	0.00	61.69	10066.42	6.88	340.01
Judy Creek	Lower	Judy Creek	15.2117*	41.24	40.95	0.29	0.56	0.00	48.39	10081.88	4.72	338.72
Judy Creek	Lower	Judy Creek	15.6823*	41.79	41.48	0.31	0.54	0.00	35.73	10096.29	2.98	337.26
Judy Creek	Lower	Judy Creek	16.1529*	42.34	42.02	0.32	0.55	0.00	26.60	10106.60	1.80	335.71
Judy Creek	Lower	Judy Creek	16.6235*	42.91	42.58	0.33	0.58	0.00	19.03	10114.97	1.00	334.27
Judy Creek	Lower	Judy Creek	17.0941*	43.52	43.18	0.33	0.61	0.00	13.81	10120.67	0.51	333.08
Judy Creek	Lower	Judy Creek	17.5647*	44.14	43.80	0.34	0.63	0.00	9.50	10125.28	0.21	331.92
Judy Creek	Lower	Judy Creek	18.0352*	44.78	44.44	0.34	0.65	0.00	6.49	10128.44	0.06	330.04
Judy Creek	Lower	Judy Creek	18.5058*	45.44	45.09	0.35	0.66	0.00	4.24	10130.76	0.01	327.80
Judy Creek	Lower	Judy Creek	18.9764*	46.10	45.76	0.35	0.67	0.00	2.89	10132.11		323.83
Judy Creek	Lower	Judy Creek	19.4470*	46.78	46.43	0.35	0.67	0.00	1.85	10133.15		315.69
Judy Creek	Lower	Judy Creek	19.9176*	47.43	47.08	0.35	0.65	0.00	0.91	10134.09		307.50
Judy Creek	Lower	Judy Creek	20.3882*	48.03	47.67	0.36	0.60	0.00	0.22	10134.78		299.15
Judy Creek	Lower	Judy Creek	20.8588*	48.63	48.26	0.37	0.59	0.00	0.02	10134.98		289.48
Judy Creek	Lower	Judy Creek	21.3294*	49.24	48.87	0.37	0.61	0.00		10135.00		287.09
Judy Creek	Lower	Judy Creek	21.8	49.86	49.49	0.38	0.63	0.00		10135.00		286.56
Judy Creek	Lower	Judy Creek	22.26*	50.44	50.12	0.31	0.57	0.01		9273.00		288.83
Judy Creek	Lower	Judy Creek	22.72*	50.97	50.65	0.32	0.53	0.00		9273.00		290.25
Judy Creek	Lower	Judy Creek	23.18*	51.53	51.20	0.33	0.56	0.00		9273.00		291.89
Judy Creek	Lower	Judy Creek	23.64*	52.10	51.76	0.34	0.58	0.00		9273.00		293.89
Judy Creek	Lower	Judy Creek	24.1*	52.70	52.36	0.34	0.61	0.00		9273.00		296.30
Judy Creek	Lower	Judy Creek	24.56*	53.32	52.98	0.35	0.63	0.00		9273.00		299.12
Judy Creek	Lower	Judy Creek	25.02*	53.97	53.62	0.35	0.65	0.00		9273.00		302.44
Judy Creek	Lower	Judy Creek	25.48*	54.64	54.28	0.35	0.67	0.00		9273.00		306.46
Judy Creek	Lower	Judy Creek	25.94*	55.32	54.97	0.36	0.69	0.00		9273.00		311.15
Judy Creek	Lower	Judy Creek	26.4*	56.03	55.67	0.36	0.71	0.00		9273.00		316.83
Judy Creek	Lower	Judy Creek	26.86*	56.75	56.39	0.35	0.73	0.00		9273.00		323.64
Judy Creek	Lower	Judy Creek	27.32*	57.49	57.13	0.35	0.74	0.00		9272.99	0.01	332.07
Judy Creek	Lower	Judy Creek	27.78*	58.24	57.89	0.35	0.75	0.00		9272.77	0.23	341.59
Judy Creek	Lower	Judy Creek	28.24*	58.97	58.61	0.35	0.72	0.00		9272.12	0.88	350.95
Judy Creek	Lower	Judy Creek	28.7*	59.64	59.28	0.36	0.67	0.00		9271.34	1.66	358.78
Judy Creek	Lower	Judy Creek	29.16*	60.29	59.92	0.38	0.64	0.00		9270.35	2.65	366.30
Judy Creek	Lower	Judy Creek	29.62*	60.93	60.53	0.40	0.62	0.01		9269.29	3.71	373.43

Judy Creek	Lower Judy Creek	30.08*	61.58	61.15	0.42	0.65	0.01	9267.56	5.44	380.97
Judy Creek	Lower Judy Creek	30.54*	62.30	61.86	0.44	0.71	0.00	9264.28	8.72	390.38
Judy Creek	Lower Judy Creek	31.0	63.05	62.61	0.44	0.76	0.00	9255.74	17.26	601.94

Profile Output Table - User Defined Table #1

River	Reach	River Sta	W.S. Elev (ft)	Q Total (cfs)	Q Left (cfs)	Q Channel (cfs)	Q Total (cfs)	Vel Left (ft/s)	Vel Right (ft/s)	Vol Chan (acre-ft)
Fish Creek	Lower	Fish Creek 0.7	4.67	30993.00	4668.42	26144.09	30993.00	0.45	0.18	
Fish Creek	Lower	Fish Creek 1.54615*	5.00	26418.00	4586.34	21679.12	26418.00	0.41	0.19	5095.30
Fish Creek	Lower	Fish Creek 2.39230*	5.41	26418.00	5387.86	20841.85	26418.00	0.46	0.24	9254.08
Fish Creek	Lower	Fish Creek 3.23846*	5.86	26418.00	5954.14	20267.17	26418.00	0.47	0.24	12723.25
Fish Creek	Lower	Fish Creek 4.08461*	6.40	26418.00	906.83	25228.27	26418.00	0.24	0.30	15855.08
Fish Creek	Lower	Fish Creek 4.93076*	6.99	26418.00	1328.06	24742.49	26418.00	0.25	0.29	18877.00
Fish Creek	Lower	Fish Creek 5.77692*	7.48	26418.00	1617.38	24358.19	26418.00	0.26	0.33	21769.31
Fish Creek	Lower	Fish Creek 6.62307*	7.92	26418.00	1782.48	24198.35	26418.00	0.26	0.32	24459.75
Fish Creek	Lower	Fish Creek 7.46923*	8.38	26418.00	2140.77	23733.56	26418.00	0.29	0.39	26918.49
Fish Creek	Lower	Fish Creek 8.31538*	8.86	26418.00	2536.41	23200.53	26418.00	0.30	0.43	29126.75
Fish Creek	Lower	Fish Creek 9.16153*	9.39	26418.00	3608.81	22201.74	26418.00	0.36	0.39	31065.93
Fish Creek	Lower	Fish Creek 10.0076*	9.99	26418.00	4956.82	20547.67	26418.00	0.41	0.47	32711.97
Fish Creek	Lower	Fish Creek 10.8538*	10.66	26418.00	6719.49	18730.29	26418.00	0.43	0.46	34028.07
Fish Creek	Lower	Fish Creek 11.7	11.38	26418.00	13142.34	12424.00	26418.00	0.67	0.32	34961.66
Fish Creek	Lower	Fish Creek 12.6	11.84	26418.00	10089.55	15441.49	26418.00	0.47	0.30	35664.17
Fish Creek	Lower	Fish Creek 13.4285*	12.33	25941.00	9368.33	15522.52	25941.00	0.51	0.31	36157.16
Fish Creek	Lower	Fish Creek 14.2571*	12.92	25941.00	8380.54	16401.17	25941.00	0.53	0.32	36640.25
Fish Creek	Lower	Fish Creek 15.0857*	13.54	25941.00	8052.59	16570.37	25941.00	0.56	0.33	37115.12
Fish Creek	Lower	Fish Creek 15.9142*	14.19	25941.00	7925.10	16567.03	25941.00	0.58	0.34	37583.22
Fish Creek	Lower	Fish Creek 16.7428*	14.82	25941.00	7557.82	16956.40	25941.00	0.58	0.34	38044.52
Fish Creek	Lower	Fish Creek 17.5714*	15.47	25941.00	7416.23	17062.45	25941.00	0.60	0.36	38499.03
Fish Creek	Lower	Fish Creek 18.4	16.12	25941.00	7137.11	17188.51	25941.00	0.61	0.40	38947.15
Fish Creek	Lower	Fish Creek 19.2375*	16.73	25209.00	6506.83	17869.87	25209.00	0.60	0.40	39396.68
Fish Creek	Lower	Fish Creek 20.075*	17.46	25209.00	3027.52	20982.68	25209.00	0.66	0.43	39845.54
Fish Creek	Lower	Fish Creek 20.9125*	18.37	25209.00	3346.52	20096.96	25209.00	0.67	0.40	40298.36
Fish Creek	Lower	Fish Creek 21.75*	19.11	25209.00	3418.27	19380.35	25209.00	0.64	0.41	40752.46
Fish Creek	Lower	Fish Creek 22.5875*	19.82	25209.00	3471.27	18273.55	25209.00	0.61	0.46	41199.88
Fish Creek	Lower	Fish Creek 23.425*	20.48	25209.00	3003.08	17787.78	25209.00	0.56	0.49	41635.02
Fish Creek	Lower	Fish Creek 24.2625*	21.14	25209.00	2588.87	17172.24	25209.00	0.49	0.54	42053.38
Fish Creek	Lower	Fish Creek 25.1	21.94	25209.00	2518.09	16898.76	25209.00	0.40	0.53	42453.39
Fish Creek	Lower	Fish Creek 26.09	22.97	25177.00	2548.54	16927.34	25177.00	0.47	0.57	42870.98
Fish Creek	Upper	Fish Creek 26.85	23.80	14350.00	486.26	13570.21	14350.00	0.28	0.22	324.63
Fish Creek	Upper	Fish Creek 27.6428*	24.72	14166.00	1504.54	12104.46	14166.00	0.43	0.34	667.85
Fish Creek	Upper	Fish Creek 28.4357*	25.38	14166.00	2684.62	10292.24	14166.00	0.51	0.39	1014.55
Fish Creek	Upper	Fish Creek 29.2285*	25.84	14166.00	3574.31	8757.98	14166.00	0.54	0.41	1357.01
Fish Creek	Upper	Fish Creek 30.0214*	26.17	14166.00	4127.46	7641.81	14166.00	0.55	0.42	1689.97
Fish Creek	Upper	Fish Creek 30.8142*	26.43	14166.00	4664.73	6489.13	14166.00	0.57	0.43	2010.45
Fish Creek	Upper	Fish Creek 31.6071*	26.63	14166.00	4956.59	5515.48	14166.00	0.58	0.44	2316.71
Fish Creek	Upper	Fish Creek 32.4	26.81	14166.00	4513.01	5179.77	14166.00	0.53	0.46	2607.61
Fish Creek	Upper	Fish Creek 33.3083*	27.01	13932.00	4155.52	6724.36	13932.00	0.69	0.53	2918.16
Fish Creek	Upper	Fish Creek 34.2166*	27.46	13932.00	3090.00	9004.11	13932.00	0.78	0.60	3223.78
Fish Creek	Upper	Fish Creek 35.125*	28.26	13932.00	2025.07	10748.25	13932.00	0.75	0.64	3533.38
Fish Creek	Upper	Fish Creek 36.0333*	29.31	13932.00	1277.48	11766.77	13932.00	0.65	0.64	3856.70
Fish Creek	Upper	Fish Creek 36.9416*	30.40	13932.00	714.12	12280.75	13932.00	0.53	0.73	4199.06
Fish Creek	Upper	Fish Creek 37.85*	31.43	13932.00	358.06	12672.25	13932.00	0.46	0.73	4561.09
Fish Creek	Upper	Fish Creek 38.7583*	32.45	13932.00	147.16	12864.09	13932.00	0.41	0.74	4942.18
Fish Creek	Upper	Fish Creek 39.6666*	33.42	13932.00	41.64	12974.09	13932.00	0.30	0.73	5341.74
Fish Creek	Upper	Fish Creek 40.575*	34.32	13932.00	7.86	13024.07	13932.00	0.22	0.73	5758.10
Fish Creek	Upper	Fish Creek 41.4833*	35.15	13932.00	0.01	13052.72	13932.00	0.07	0.74	6189.07
Fish Creek	Upper	Fish Creek 42.3916*	35.95	13932.00		13108.89	13932.00		0.73	6632.82
Fish Creek	Upper	Fish Creek 43.3	36.68	13932.00	853.28	12346.77	13932.00	0.54	0.71	7087.02
Judy Creek	Lower	Judy Creek 0.38	23.71	12198.00	1222.81	8354.98	12198.00	0.49	0.41	274.22
Judy Creek	Lower	Judy Creek .981819*	24.03	11876.00	566.56	10663.33	11876.00	0.45	0.39	415.04
Judy Creek	Lower	Judy Creek 1.58363*	24.54	11876.00	399.35	10323.68	11876.00	0.42	0.54	551.77

Judy Creek	Lower	Judy Creek	2.18545*	25.25	11876.00	501.78	9762.06	11876.00	0.53	0.69	687.68
Judy Creek	Lower	Judy Creek	2.78727*	25.88	11876.00	373.91	10144.89	11876.00	0.41	0.57	823.85
Judy Creek	Lower	Judy Creek	3.38909*	26.40	11876.00	272.95	10315.51	11876.00	0.37	0.56	958.70
Judy Creek	Lower	Judy Creek	3.99090*	26.93	11876.00	196.55	10503.28	11876.00	0.35	0.54	1091.43
Judy Creek	Lower	Judy Creek	4.59272*	27.47	11876.00	176.75	10572.02	11876.00	0.41	0.54	1222.28
Judy Creek	Lower	Judy Creek	5.19454*	28.04	11876.00	202.39	10438.89	11876.00	0.46	0.60	1351.53
Judy Creek	Lower	Judy Creek	5.79636*	28.62	11876.00	257.22	10263.83	11876.00	0.51	0.65	1479.56
Judy Creek	Lower	Judy Creek	6.39818*	29.23	11876.00	413.37	10349.76	11876.00	0.68	0.60	1606.67
Judy Creek	Lower	Judy Creek	7.0	30.14	11876.00	664.23	8855.76	11876.00	0.70	0.95	1735.36
Judy Creek	Lower	Judy Creek	7.42500*	30.79	10958.00	471.63	9554.93	10958.00	0.63	0.67	1865.72
Judy Creek	Lower	Judy Creek	7.85000*	31.21	10958.00	269.61	10082.72	10958.00	0.55	0.70	1997.59
Judy Creek	Lower	Judy Creek	8.27500*	31.70	10958.00	141.40	10440.79	10958.00	0.46	0.62	2129.44
Judy Creek	Lower	Judy Creek	8.70000*	32.20	10958.00	64.19	10691.52	10958.00	0.36	0.52	2261.57
Judy Creek	Lower	Judy Creek	9.12500*	32.71	10958.00	26.44	10846.88	10958.00	0.32	0.41	2393.87
Judy Creek	Lower	Judy Creek	9.55000*	33.21	10958.00	8.65	10915.76	10958.00	0.26	0.37	2526.02
Judy Creek	Lower	Judy Creek	9.975*	33.73	10958.00	1.81	10945.09	10958.00	0.18	0.32	2657.77
Judy Creek	Lower	Judy Creek	10.4*	34.25	10958.00	1.38	10955.82	10958.00	0.30	0.16	2788.94
Judy Creek	Lower	Judy Creek	10.825*	34.78	10958.00	2.76	10955.24	10958.00	0.32		2919.35
Judy Creek	Lower	Judy Creek	11.25*	35.33	10958.00	4.35	10953.65	10958.00	0.27		3048.86
Judy Creek	Lower	Judy Creek	11.675*	35.88	10958.00	10.28	10947.72	10958.00	0.36		3177.34
Judy Creek	Lower	Judy Creek	12.1*	36.48	10958.00	21.66	10936.17	10958.00	0.50	0.21	3304.90
Judy Creek	Lower	Judy Creek	12.525*	37.11	10958.00	36.63	10920.22	10958.00	0.62	0.34	3431.70
Judy Creek	Lower	Judy Creek	12.95*	37.74	10958.00	54.95	10899.77	10958.00	0.73	0.46	3557.59
Judy Creek	Lower	Judy Creek	13.375*	38.41	10958.00	82.87	10868.00	10958.00	0.88	0.59	3682.53
Judy Creek	Lower	Judy Creek	13.8	39.11	10958.00	77.53	10870.01	10958.00	0.69	0.59	3806.57
Judy Creek	Lower	Judy Creek	14.2705*	39.82	10135.00	76.45	10049.04	10135.00	0.70	0.60	3938.09
Judy Creek	Lower	Judy Creek	14.7411*	40.39	10135.00	61.69	10066.42	10135.00	0.64	0.54	4069.13
Judy Creek	Lower	Judy Creek	15.2117*	40.95	10135.00	48.39	10081.88	10135.00	0.58	0.48	4198.43
Judy Creek	Lower	Judy Creek	15.6823*	41.48	10135.00	35.73	10096.29	10135.00	0.51	0.43	4325.73
Judy Creek	Lower	Judy Creek	16.1529*	42.02	10135.00	26.60	10106.60	10135.00	0.47	0.38	4450.87
Judy Creek	Lower	Judy Creek	16.6235*	42.58	10135.00	19.03	10114.97	10135.00	0.42	0.34	4574.03
Judy Creek	Lower	Judy Creek	17.0941*	43.18	10135.00	13.81	10120.67	10135.00	0.38	0.29	4695.74
Judy Creek	Lower	Judy Creek	17.5647*	43.80	10135.00	9.50	10125.28	10135.00	0.34	0.24	4816.42
Judy Creek	Lower	Judy Creek	18.0352*	44.44	10135.00	6.49	10128.44	10135.00	0.30	0.17	4936.36
Judy Creek	Lower	Judy Creek	18.5058*	45.09	10135.00	4.24	10130.76	10135.00	0.26	0.10	5055.80
Judy Creek	Lower	Judy Creek	18.9764*	45.76	10135.00	2.89	10132.11	10135.00	0.24		5174.98
Judy Creek	Lower	Judy Creek	19.4470*	46.43	10135.00	1.85	10133.15	10135.00	0.22		5294.02
Judy Creek	Lower	Judy Creek	19.9176*	47.08	10135.00	0.91	10134.09	10135.00	0.18		5412.84
Judy Creek	Lower	Judy Creek	20.3882*	47.67	10135.00	0.22	10134.78	10135.00	0.12		5530.83
Judy Creek	Lower	Judy Creek	20.8588*	48.26	10135.00	0.02	10134.98	10135.00	0.08		5647.54
Judy Creek	Lower	Judy Creek	21.3294*	48.87	10135.00		10135.00	10135.00			5763.05
Judy Creek	Lower	Judy Creek	21.8	49.49	10135.00		10135.00	10135.00			5877.57
Judy Creek	Lower	Judy Creek	22.26*	50.12	9273.00		9273.00	9273.00			5990.33
Judy Creek	Lower	Judy Creek	22.72*	50.65	9273.00		9273.00	9273.00			6102.64
Judy Creek	Lower	Judy Creek	23.18*	51.20	9273.00		9273.00	9273.00			6213.59
Judy Creek	Lower	Judy Creek	23.64*	51.76	9273.00		9273.00	9273.00			6323.31
Judy Creek	Lower	Judy Creek	24.1*	52.36	9273.00		9273.00	9273.00			6431.98
Judy Creek	Lower	Judy Creek	24.56*	52.98	9273.00		9273.00	9273.00			6539.78
Judy Creek	Lower	Judy Creek	25.02*	53.62	9273.00		9273.00	9273.00			6646.89
Judy Creek	Lower	Judy Creek	25.48*	54.28	9273.00		9273.00	9273.00			6753.54
Judy Creek	Lower	Judy Creek	25.94*	54.97	9273.00		9273.00	9273.00			6859.85
Judy Creek	Lower	Judy Creek	26.4*	55.67	9273.00		9273.00	9273.00			6965.98
Judy Creek	Lower	Judy Creek	26.86*	56.39	9273.00		9273.00	9273.00			7072.19
Judy Creek	Lower	Judy Creek	27.32*	57.13	9273.00		9272.99	9273.00		0.08	7178.62
Judy Creek	Lower	Judy Creek	27.78*	57.89	9273.00		9272.77	9273.00		0.17	7285.36
Judy Creek	Lower	Judy Creek	28.24*	58.61	9273.00		9272.12	9273.00		0.23	7392.19
Judy Creek	Lower	Judy Creek	28.7*	59.28	9273.00		9271.34	9273.00		0.27	7498.16
Judy Creek	Lower	Judy Creek	29.16*	59.92	9273.00		9270.35	9273.00		0.29	7602.21
Judy Creek	Lower	Judy Creek	29.62*	60.53	9273.00		9269.29	9273.00		0.32	7703.67

Judy Creek	Lower Judy Creek	30.08*	61.15	9273.00	9267.56	9273.00	0.36	7802.22
Judy Creek	Lower Judy Creek	30.54*	61.86	9273.00	9264.28	9273.00	0.42	7898.52
Judy Creek	Lower Judy Creek	31.0	62.61	9273.00	9255.74	9273.00	0.23	7993.63

Profile Output Table - User Defined Table #2

River	Reach	River Sta	W.S. Elev (ft)	Flow Area L (sq ft)	Flow Area R (sq ft)	Flow Area Ch (sq ft)	Hydr Depth L (ft)	Hydr Depth R (ft)	Hydr Depth C (ft)
Fish Creek	Lower	Fish Creek 0.7	4.67	10269.80	1009.16	54519.63	2.73	0.72	2.72
Fish Creek	Lower	Fish Creek 1.54615*	5.00	11076.00	803.13	44533.41	2.44	0.68	2.39
Fish Creek	Lower	Fish Creek 2.39230*	5.41	11829.74	775.56	36313.81	2.24	0.69	2.10
Fish Creek	Lower	Fish Creek 3.23846*	5.86	12621.51	807.39	31127.14	2.13	0.72	2.52
Fish Creek	Lower	Fish Creek 4.08461*	6.40	3857.99	950.50	29755.79	0.59	0.80	2.95
Fish Creek	Lower	Fish Creek 4.93076*	6.99	5316.75	1192.41	28990.77	0.76	0.88	3.42
Fish Creek	Lower	Fish Creek 5.77692*	7.48	6220.44	1328.89	27236.01	0.81	0.94	3.81
Fish Creek	Lower	Fish Creek 6.62307*	7.92	6767.70	1368.24	25066.24	0.82	0.96	4.16
Fish Creek	Lower	Fish Creek 7.46923*	8.38	7494.93	1400.32	22731.93	0.87	0.95	4.57
Fish Creek	Lower	Fish Creek 8.31538*	8.86	8372.19	1590.88	20196.84	0.91	1.05	4.89
Fish Creek	Lower	Fish Creek 9.16153*	9.39	9960.30	1554.77	17500.95	1.02	1.17	5.25
Fish Creek	Lower	Fish Creek 10.0076*	9.99	12168.41	1958.73	14498.27	1.17	1.32	5.65
Fish Creek	Lower	Fish Creek 10.8538*	10.66	15515.61	2113.36	11086.83	1.40	1.36	6.07
Fish Creek	Lower	Fish Creek 11.7	11.38	19587.82	2692.39	7062.25	1.67	1.65	6.46
Fish Creek	Lower	Fish Creek 12.6	11.84	21393.42	2942.23	4990.28	1.81	1.79	8.95
Fish Creek	Lower	Fish Creek 13.4285*	12.33	18349.88	3404.54	4885.39	1.64	1.04	8.84
Fish Creek	Lower	Fish Creek 14.2571*	12.92	15732.67	3652.55	4791.95	1.58	1.07	8.70
Fish Creek	Lower	Fish Creek 15.0857*	13.54	14415.25	4044.07	4720.85	1.74	1.16	8.58
Fish Creek	Lower	Fish Creek 15.9142*	14.19	13708.28	4284.23	4656.21	1.85	1.25	8.49
Fish Creek	Lower	Fish Creek 16.7428*	14.82	12992.56	4169.55	4584.57	1.93	1.24	8.40
Fish Creek	Lower	Fish Creek 17.5714*	15.47	12397.76	4010.39	4520.20	1.98	1.22	8.38
Fish Creek	Lower	Fish Creek 18.4	16.12	11733.01	4007.64	4456.69	2.06	1.43	8.40
Fish Creek	Lower	Fish Creek 19.2375*	16.73	10896.42	2106.78	4431.07	1.99	1.18	8.82
Fish Creek	Lower	Fish Creek 20.075*	17.46	4598.15	2808.46	4443.65	1.22	1.17	9.22
Fish Creek	Lower	Fish Creek 20.9125*	18.37	4998.21	4432.83	4509.21	2.38	1.49	9.70
Fish Creek	Lower	Fish Creek 21.75*	19.11	5375.90	5898.19	4469.02	2.48	1.74	9.96
Fish Creek	Lower	Fish Creek 22.5875*	19.82	5645.33	7521.67	4377.04	2.50	2.14	10.08
Fish Creek	Lower	Fish Creek 23.425*	20.48	5405.31	9015.87	4226.17	2.27	2.52	10.05
Fish Creek	Lower	Fish Creek 24.2625*	21.14	5235.27	10053.62	4045.43	1.65	2.77	9.93
Fish Creek	Lower	Fish Creek 25.1	21.94	6233.54	10845.53	3863.35	1.71	2.95	9.78
Fish Creek	Lower	Fish Creek 26.09	22.97	5431.33	10028.69	3765.19	1.51	2.73	9.65
Fish Creek	Upper	Fish Creek 26.85	23.80	1760.99	1330.77	3458.85	0.50	0.55	10.33
Fish Creek	Upper	Fish Creek 27.6428*	24.72	3488.79	1662.26	3538.68	1.32	1.17	10.82
Fish Creek	Upper	Fish Creek 28.4357*	25.38	5304.34	3046.40	3529.66	2.05	1.73	11.08
Fish Creek	Upper	Fish Creek 29.2285*	25.84	6565.25	4419.43	3452.45	2.60	2.11	11.11
Fish Creek	Upper	Fish Creek 30.0214*	26.17	7482.39	5749.86	3335.72	3.04	2.37	10.99
Fish Creek	Upper	Fish Creek 30.8142*	26.43	8132.87	7054.41	3198.27	3.37	2.60	10.83
Fish Creek	Upper	Fish Creek 31.6071*	26.63	8522.65	8351.63	3045.73	3.63	2.83	10.74
Fish Creek	Upper	Fish Creek 32.4	26.81	8577.22	9642.07	2885.05	3.75	3.03	10.61
Fish Creek	Upper	Fish Creek 33.3083*	27.01	6042.59	5725.40	2809.49	2.87	2.14	9.96
Fish Creek	Upper	Fish Creek 34.2166*	27.46	3953.80	3080.16	2794.67	2.07	1.49	9.56
Fish Creek	Upper	Fish Creek 35.125*	28.26	2695.61	1816.35	2882.27	1.56	1.18	9.52
Fish Creek	Upper	Fish Creek 36.0333*	29.31	1951.07	1389.53	3046.46	1.23	1.35	9.74
Fish Creek	Upper	Fish Creek 36.9416*	30.40	1354.32	1275.59	3231.35	0.94	1.62	10.00
Fish Creek	Upper	Fish Creek 37.85*	31.43	774.90	1239.65	3407.14	0.62	1.66	10.22
Fish Creek	Upper	Fish Creek 38.7583*	32.45	355.78	1246.79	3581.00	0.50	1.67	10.42
Fish Creek	Upper	Fish Creek 39.6666*	33.42	137.10	1263.05	3745.58	0.45	1.78	10.58
Fish Creek	Upper	Fish Creek 40.575*	34.32	35.00	1239.94	3889.12	0.30	1.88	10.68
Fish Creek	Upper	Fish Creek 41.4833*	35.15	0.10	1190.04	4013.68	0.06	1.95	10.72
Fish Creek	Upper	Fish Creek 42.3916*	35.95		1123.42	4123.29		1.98	10.73
Fish Creek	Upper	Fish Creek 43.3	36.68	1580.52	1037.90	4205.20	1.32	1.98	10.67
Judy Creek	Lower	Judy Creek 0.38	23.71	2494.84	6362.64	2701.96	1.20	1.69	8.34
Judy Creek	Lower	Judy Creek .981819*	24.03	1271.63	3159.68	2595.00	0.72	0.84	8.13
Judy Creek	Lower	Judy Creek 1.58363*	24.54	944.99	2143.63	2547.76	0.62	1.24	8.08

Judy Creek	Lower	Judy Creek	2.18545*	25.25	944.45	2323.71	2564.50	0.59	1.38	8.19
Judy Creek	Lower	Judy Creek	2.78727*	25.88	921.23	2397.86	2557.17	0.61	1.41	8.24
Judy Creek	Lower	Judy Creek	3.38909*	26.40	729.47	2279.38	2515.06	0.49	1.33	8.20
Judy Creek	Lower	Judy Creek	3.99090*	26.93	560.85	2178.67	2477.55	0.38	1.26	8.17
Judy Creek	Lower	Judy Creek	4.59272*	27.47	426.28	2105.03	2444.04	0.36	1.20	8.15
Judy Creek	Lower	Judy Creek	5.19454*	28.04	438.48	2075.02	2417.56	0.69	1.22	8.15
Judy Creek	Lower	Judy Creek	5.79636*	28.62	508.90	2094.50	2398.27	0.75	1.27	8.17
Judy Creek	Lower	Judy Creek	6.39818*	29.23	605.04	1868.60	2382.68	0.96	1.16	8.21
Judy Creek	Lower	Judy Creek	7.0	30.14	952.83	2471.91	2457.82	1.16	1.44	8.50
Judy Creek	Lower	Judy Creek	7.42500*	30.79	745.51	1397.96	2521.62	1.34	1.24	8.72
Judy Creek	Lower	Judy Creek	7.85000*	31.21	489.01	864.86	2515.79	1.01	2.02	8.73
Judy Creek	Lower	Judy Creek	8.27500*	31.70	307.62	604.14	2520.66	0.73	1.62	8.76
Judy Creek	Lower	Judy Creek	8.70000*	32.20	176.22	386.25	2526.66	0.50	1.22	8.81
Judy Creek	Lower	Judy Creek	9.12500*	32.71	81.60	207.00	2527.09	0.36	0.88	8.84
Judy Creek	Lower	Judy Creek	9.55000*	33.21	32.93	89.91	2521.10	0.32	0.76	8.84
Judy Creek	Lower	Judy Creek	9.975*	33.73	9.80	34.64	2511.53	0.17	0.60	8.83
Judy Creek	Lower	Judy Creek	10.4*	34.25	4.62	4.90	2498.86	0.29	0.22	8.81
Judy Creek	Lower	Judy Creek	10.825*	34.78	8.73		2482.85	0.33		8.76
Judy Creek	Lower	Judy Creek	11.25*	35.33	16.26		2464.28	0.31		8.70
Judy Creek	Lower	Judy Creek	11.675*	35.88	28.62		2443.43	0.48		8.62
Judy Creek	Lower	Judy Creek	12.1*	36.48	43.47	0.81	2429.21	0.73	0.28	8.64
Judy Creek	Lower	Judy Creek	12.525*	37.11	59.45	3.34	2414.37	1.00	0.59	8.67
Judy Creek	Lower	Judy Creek	12.95*	37.74	75.49	7.12	2394.69	1.27	0.91	8.68
Judy Creek	Lower	Judy Creek	13.375*	38.41	93.90	12.02	2377.71	1.58	1.25	8.69
Judy Creek	Lower	Judy Creek	13.8	39.11	113.18	17.88	2360.72	1.91	1.60	8.71
Judy Creek	Lower	Judy Creek	14.2705*	39.82	109.17	15.98	2372.27	1.87	1.51	8.72
Judy Creek	Lower	Judy Creek	14.7411*	40.39	96.25	12.74	2343.18	1.68	1.35	8.57
Judy Creek	Lower	Judy Creek	15.2117*	40.95	83.32	9.75	2309.99	1.49	1.17	8.41
Judy Creek	Lower	Judy Creek	15.6823*	41.48	69.41	7.00	2271.24	1.28	0.99	8.24
Judy Creek	Lower	Judy Creek	16.1529*	42.02	56.37	4.69	2231.95	1.06	0.81	8.06
Judy Creek	Lower	Judy Creek	16.6235*	42.58	44.84	2.96	2200.30	0.87	0.64	7.91
Judy Creek	Lower	Judy Creek	17.0941*	43.18	36.18	1.77	2179.58	0.72	0.49	7.80
Judy Creek	Lower	Judy Creek	17.5647*	43.80	28.32	0.91	2163.50	0.58	0.35	7.71
Judy Creek	Lower	Judy Creek	18.0352*	44.44	21.98	0.36	2152.59	0.47	0.22	7.64
Judy Creek	Lower	Judy Creek	18.5058*	45.09	16.55	0.07	2146.03	0.38	0.10	7.58
Judy Creek	Lower	Judy Creek	18.9764*	45.76	11.98		2142.58	0.30		7.54
Judy Creek	Lower	Judy Creek	19.4470*	46.43	8.35		2141.38	0.27		7.52
Judy Creek	Lower	Judy Creek	19.9176*	47.08	5.10		2134.57	0.23		7.48
Judy Creek	Lower	Judy Creek	20.3882*	47.67	1.80		2111.50	0.14		7.38
Judy Creek	Lower	Judy Creek	20.8588*	48.26	0.19		2088.51	0.07		7.28
Judy Creek	Lower	Judy Creek	21.3294*	48.87			2068.43			7.20
Judy Creek	Lower	Judy Creek	21.8	49.49			2052.92			7.16
Judy Creek	Lower	Judy Creek	22.26*	50.12			2063.17			7.14
Judy Creek	Lower	Judy Creek	22.72*	50.65			2036.79			7.02
Judy Creek	Lower	Judy Creek	23.18*	51.20			2013.43			6.90
Judy Creek	Lower	Judy Creek	23.64*	51.76			1992.07			6.78
Judy Creek	Lower	Judy Creek	24.1*	52.36			1975.05			6.67
Judy Creek	Lower	Judy Creek	24.56*	52.98			1960.11			6.55
Judy Creek	Lower	Judy Creek	25.02*	53.62			1950.08			6.45
Judy Creek	Lower	Judy Creek	25.48*	54.28			1943.06			6.34
Judy Creek	Lower	Judy Creek	25.94*	54.97			1937.78			6.23
Judy Creek	Lower	Judy Creek	26.4*	55.67			1936.87			6.11
Judy Creek	Lower	Judy Creek	26.86*	56.39			1940.08			5.99
Judy Creek	Lower	Judy Creek	27.32*	57.13		0.12	1945.40		0.06	5.90
Judy Creek	Lower	Judy Creek	27.78*	57.89		1.35	1951.21		0.19	5.84
Judy Creek	Lower	Judy Creek	28.24*	58.61		3.78	1948.43		0.31	5.75
Judy Creek	Lower	Judy Creek	28.7*	59.28		6.24	1919.99		0.40	5.60
Judy Creek	Lower	Judy Creek	29.16*	59.92		9.00	1878.56		0.48	5.41
Judy Creek	Lower	Judy Creek	29.62*	60.53		11.72	1825.31		0.54	5.19

Judy Creek	Lower Judy Creek	30.08*	61.15	14.99	1772.28	0.61	4.97
Judy Creek	Lower Judy Creek	30.54*	61.86	20.80	1743.14	0.72	4.82
Judy Creek	Lower Judy Creek	31.0	62.61	76.69	1728.97	0.33	4.72

Profile Output Table - User Defined Table #3

River	Reach	River Sta	W.S. Elev (ft)	Mann Wtd Chnl	Mann Wtd Left	Mann Wtd Right
Fish Creek	Lower	Fish Creek 0.7	4.67	0.053	0.055	0.065
Fish Creek	Lower	Fish Creek 1.54615*	5.00	0.052	0.060	0.065
Fish Creek	Lower	Fish Creek 2.39230*	5.41	0.051	0.060	0.060
Fish Creek	Lower	Fish Creek 3.23846*	5.86	0.050	0.055	0.060
Fish Creek	Lower	Fish Creek 4.08461*	6.40	0.050	0.055	0.060
Fish Creek	Lower	Fish Creek 4.93076*	6.99	0.050	0.055	0.060
Fish Creek	Lower	Fish Creek 5.77692*	7.48	0.047	0.050	0.050
Fish Creek	Lower	Fish Creek 6.62307*	7.92	0.047	0.050	0.055
Fish Creek	Lower	Fish Creek 7.46923*	8.38	0.047	0.050	0.050
Fish Creek	Lower	Fish Creek 8.31538*	8.86	0.047	0.050	0.050
Fish Creek	Lower	Fish Creek 9.16153*	9.39	0.047	0.050	0.055
Fish Creek	Lower	Fish Creek 10.0076*	9.99	0.047	0.050	0.050
Fish Creek	Lower	Fish Creek 10.8538*	10.66	0.047	0.060	0.055
Fish Creek	Lower	Fish Creek 11.7	11.38	0.047	0.044	0.092
Fish Creek	Lower	Fish Creek 12.6	11.84	0.022	0.050	0.077
Fish Creek	Lower	Fish Creek 13.4285*	12.33	0.024	0.050	0.073
Fish Creek	Lower	Fish Creek 14.2571*	12.92	0.023	0.050	0.071
Fish Creek	Lower	Fish Creek 15.0857*	13.54	0.023	0.051	0.069
Fish Creek	Lower	Fish Creek 15.9142*	14.19	0.022	0.051	0.068
Fish Creek	Lower	Fish Creek 16.7428*	14.82	0.021	0.051	0.066
Fish Creek	Lower	Fish Creek 17.5714*	15.47	0.021	0.051	0.065
Fish Creek	Lower	Fish Creek 18.4	16.12	0.020	0.050	0.063
Fish Creek	Lower	Fish Creek 19.2375*	16.73	0.021	0.053	0.065
Fish Creek	Lower	Fish Creek 20.075*	17.46	0.021	0.054	0.066
Fish Creek	Lower	Fish Creek 20.9125*	18.37	0.021	0.055	0.068
Fish Creek	Lower	Fish Creek 21.75*	19.11	0.021	0.057	0.070
Fish Creek	Lower	Fish Creek 22.5875*	19.82	0.022	0.059	0.071
Fish Creek	Lower	Fish Creek 23.425*	20.48	0.021	0.060	0.073
Fish Creek	Lower	Fish Creek 24.2625*	21.14	0.022	0.061	0.074
Fish Creek	Lower	Fish Creek 25.1	21.94	0.024	0.084	0.090
Fish Creek	Lower	Fish Creek 26.09	22.97	0.021	0.060	0.072
Fish Creek	Upper	Fish Creek 26.85	23.80	0.027	0.058	0.069
Fish Creek	Upper	Fish Creek 27.6428*	24.72	0.028	0.056	0.066
Fish Creek	Upper	Fish Creek 28.4357*	25.38	0.029	0.054	0.063
Fish Creek	Upper	Fish Creek 29.2285*	25.84	0.029	0.052	0.060
Fish Creek	Upper	Fish Creek 30.0214*	26.17	0.028	0.050	0.057
Fish Creek	Upper	Fish Creek 30.8142*	26.43	0.029	0.047	0.054
Fish Creek	Upper	Fish Creek 31.6071*	26.63	0.029	0.045	0.051
Fish Creek	Upper	Fish Creek 32.4	26.81	0.029	0.050	0.050
Fish Creek	Upper	Fish Creek 33.3083*	27.01	0.028	0.043	0.047
Fish Creek	Upper	Fish Creek 34.2166*	27.46	0.028	0.042	0.047
Fish Creek	Upper	Fish Creek 35.125*	28.26	0.028	0.042	0.046
Fish Creek	Upper	Fish Creek 36.0333*	29.31	0.028	0.042	0.046
Fish Creek	Upper	Fish Creek 36.9416*	30.40	0.028	0.042	0.045
Fish Creek	Upper	Fish Creek 37.85*	31.43	0.028	0.042	0.045
Fish Creek	Upper	Fish Creek 38.7583*	32.45	0.029	0.041	0.044
Fish Creek	Upper	Fish Creek 39.6666*	33.42	0.029	0.041	0.043
Fish Creek	Upper	Fish Creek 40.575*	34.32	0.029	0.041	0.043
Fish Creek	Upper	Fish Creek 41.4833*	35.15	0.029	0.041	0.042
Fish Creek	Upper	Fish Creek 42.3916*	35.95	0.029	0.041	0.042
Fish Creek	Upper	Fish Creek 43.3	36.68	0.029	0.040	0.041
Judy Creek	Lower	Judy Creek 0.38	23.71	0.023	0.040	0.060
Judy Creek	Lower	Judy Creek .981819*	24.03	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek 1.58363*	24.54	0.023	0.040	0.050

Judy Creek	Lower	Judy Creek	2.18545*	25.25	0.030	0.040	0.050
Judy Creek	Lower	Judy Creek	2.78727*	25.88	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	3.38909*	26.40	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	3.99090*	26.93	0.022	0.040	0.050
Judy Creek	Lower	Judy Creek	4.59272*	27.47	0.022	0.040	0.050
Judy Creek	Lower	Judy Creek	5.19454*	28.04	0.022	0.040	0.050
Judy Creek	Lower	Judy Creek	5.79636*	28.62	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	6.39818*	29.23	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	7.0	30.14	0.036	0.050	0.045
Judy Creek	Lower	Judy Creek	7.42500*	30.79	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	7.85000*	31.21	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	8.27500*	31.70	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	8.70000*	32.20	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	9.12500*	32.71	0.022	0.040	0.050
Judy Creek	Lower	Judy Creek	9.55000*	33.21	0.022	0.040	0.050
Judy Creek	Lower	Judy Creek	9.975*	33.73	0.022	0.040	0.050
Judy Creek	Lower	Judy Creek	10.4*	34.25	0.022	0.040	0.050
Judy Creek	Lower	Judy Creek	10.825*	34.78	0.022	0.040	
Judy Creek	Lower	Judy Creek	11.25*	35.33	0.022	0.040	
Judy Creek	Lower	Judy Creek	11.675*	35.88	0.022	0.040	
Judy Creek	Lower	Judy Creek	12.1*	36.48	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	12.525*	37.11	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	12.95*	37.74	0.023	0.040	0.050
Judy Creek	Lower	Judy Creek	13.375*	38.41	0.024	0.040	0.050
Judy Creek	Lower	Judy Creek	13.8	39.11	0.024	0.060	0.060
Judy Creek	Lower	Judy Creek	14.2705*	39.82	0.023	0.050	0.050
Judy Creek	Lower	Judy Creek	14.7411*	40.39	0.022	0.050	0.050
Judy Creek	Lower	Judy Creek	15.2117*	40.95	0.021	0.050	0.050
Judy Creek	Lower	Judy Creek	15.6823*	41.48	0.020	0.050	0.050
Judy Creek	Lower	Judy Creek	16.1529*	42.02	0.020	0.050	0.050
Judy Creek	Lower	Judy Creek	16.6235*	42.58	0.020	0.050	0.050
Judy Creek	Lower	Judy Creek	17.0941*	43.18	0.020	0.050	0.050
Judy Creek	Lower	Judy Creek	17.5647*	43.80	0.020	0.050	0.050
Judy Creek	Lower	Judy Creek	18.0352*	44.44	0.020	0.050	0.050
Judy Creek	Lower	Judy Creek	18.5058*	45.09	0.020	0.050	0.050
Judy Creek	Lower	Judy Creek	18.9764*	45.76	0.020	0.050	
Judy Creek	Lower	Judy Creek	19.4470*	46.43	0.020	0.050	
Judy Creek	Lower	Judy Creek	19.9176*	47.08	0.019	0.050	
Judy Creek	Lower	Judy Creek	20.3882*	47.67	0.018	0.050	
Judy Creek	Lower	Judy Creek	20.8588*	48.26	0.018	0.050	
Judy Creek	Lower	Judy Creek	21.3294*	48.87	0.018		
Judy Creek	Lower	Judy Creek	21.8	49.49	0.018		
Judy Creek	Lower	Judy Creek	22.26*	50.12	0.018		
Judy Creek	Lower	Judy Creek	22.72*	50.65	0.018		
Judy Creek	Lower	Judy Creek	23.18*	51.20	0.018		
Judy Creek	Lower	Judy Creek	23.64*	51.76	0.018		
Judy Creek	Lower	Judy Creek	24.1*	52.36	0.018		
Judy Creek	Lower	Judy Creek	24.56*	52.98	0.018		
Judy Creek	Lower	Judy Creek	25.02*	53.62	0.018		
Judy Creek	Lower	Judy Creek	25.48*	54.28	0.018		
Judy Creek	Lower	Judy Creek	25.94*	54.97	0.018		
Judy Creek	Lower	Judy Creek	26.4*	55.67	0.018		
Judy Creek	Lower	Judy Creek	26.86*	56.39	0.018		
Judy Creek	Lower	Judy Creek	27.32*	57.13	0.018		0.050
Judy Creek	Lower	Judy Creek	27.78*	57.89	0.018		0.050
Judy Creek	Lower	Judy Creek	28.24*	58.61	0.017		0.050
Judy Creek	Lower	Judy Creek	28.7*	59.28	0.016		0.050
Judy Creek	Lower	Judy Creek	29.16*	59.92	0.015		0.050
Judy Creek	Lower	Judy Creek	29.62*	60.53	0.014		0.050

Judy Creek	Lower Judy Creek	30.08*	61.15	0.014	0.050
Judy Creek	Lower Judy Creek	30.54*	61.86	0.014	0.050
Judy Creek	Lower Judy Creek	31.0	62.61	0.014	0.071

Profile Output Table - User Defined Table #4

River	Reach	River Sta	W.S. Elev (ft)	Shear Chan (lb/sq ft)	Shear LOB (lb/sq ft)	Shear ROB (lb/sq ft)	Power Chan (lb/ft s)	Power LOB (lb/ft s)	Power ROB (lb/ft s)
Fish Creek	Lower	Fish Creek 0.7	4.67	0.01	0.01	0.00	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 1.54615*	5.00	0.01	0.01	0.00	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 2.39230*	5.41	0.02	0.02	0.00	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 3.23846*	5.86	0.02	0.01	0.00	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 4.08461*	6.40	0.03	0.01	0.01	0.02	0.00	0.00
Fish Creek	Lower	Fish Creek 4.93076*	6.99	0.03	0.01	0.01	0.02	0.00	0.00
Fish Creek	Lower	Fish Creek 5.77692*	7.48	0.02	0.01	0.01	0.02	0.00	0.00
Fish Creek	Lower	Fish Creek 6.62307*	7.92	0.03	0.01	0.01	0.03	0.00	0.00
Fish Creek	Lower	Fish Creek 7.46923*	8.38	0.03	0.01	0.01	0.03	0.00	0.00
Fish Creek	Lower	Fish Creek 8.31538*	8.86	0.04	0.01	0.01	0.04	0.00	0.00
Fish Creek	Lower	Fish Creek 9.16153*	9.39	0.05	0.01	0.01	0.06	0.00	0.00
Fish Creek	Lower	Fish Creek 10.0076*	9.99	0.05	0.01	0.01	0.07	0.00	0.01
Fish Creek	Lower	Fish Creek 10.8538*	10.66	0.07	0.02	0.02	0.12	0.01	0.01
Fish Creek	Lower	Fish Creek 11.7	11.38	0.08	0.02	0.02	0.14	0.01	0.01
Fish Creek	Lower	Fish Creek 12.6	11.84	0.06	0.01	0.01	0.19	0.01	0.00
Fish Creek	Lower	Fish Creek 13.4285*	12.33	0.08	0.02	0.01	0.26	0.01	0.00
Fish Creek	Lower	Fish Creek 14.2571*	12.92	0.09	0.02	0.01	0.30	0.01	0.00
Fish Creek	Lower	Fish Creek 15.0857*	13.54	0.09	0.02	0.01	0.31	0.01	0.00
Fish Creek	Lower	Fish Creek 15.9142*	14.19	0.09	0.02	0.01	0.31	0.01	0.00
Fish Creek	Lower	Fish Creek 16.7428*	14.82	0.08	0.02	0.01	0.31	0.01	0.00
Fish Creek	Lower	Fish Creek 17.5714*	15.47	0.09	0.02	0.01	0.33	0.01	0.00
Fish Creek	Lower	Fish Creek 18.4	16.12	0.08	0.02	0.01	0.32	0.01	0.01
Fish Creek	Lower	Fish Creek 19.2375*	16.73	0.10	0.02	0.01	0.40	0.01	0.01
Fish Creek	Lower	Fish Creek 20.075*	17.46	0.13	0.02	0.02	0.63	0.01	0.01
Fish Creek	Lower	Fish Creek 20.9125*	18.37	0.12	0.03	0.02	0.52	0.02	0.01
Fish Creek	Lower	Fish Creek 21.75*	19.11	0.11	0.03	0.02	0.47	0.02	0.01
Fish Creek	Lower	Fish Creek 22.5875*	19.82	0.11	0.03	0.02	0.46	0.02	0.01
Fish Creek	Lower	Fish Creek 23.425*	20.48	0.11	0.02	0.03	0.44	0.01	0.01
Fish Creek	Lower	Fish Creek 24.2625*	21.14	0.12	0.02	0.03	0.49	0.01	0.02
Fish Creek	Lower	Fish Creek 25.1	21.94	0.15	0.03	0.05	0.66	0.01	0.02
Fish Creek	Lower	Fish Creek 26.09	22.97	0.12	0.02	0.03	0.53	0.01	0.02
Fish Creek	Upper	Fish Creek 26.85	23.80	0.15	0.01	0.01	0.57	0.00	0.00
Fish Creek	Upper	Fish Creek 27.6428*	24.72	0.12	0.01	0.01	0.41	0.01	0.00
Fish Creek	Upper	Fish Creek 28.4357*	25.38	0.09	0.02	0.01	0.26	0.01	0.01
Fish Creek	Upper	Fish Creek 29.2285*	25.84	0.07	0.02	0.01	0.18	0.01	0.01
Fish Creek	Upper	Fish Creek 30.0214*	26.17	0.05	0.01	0.01	0.12	0.01	0.00
Fish Creek	Upper	Fish Creek 30.8142*	26.43	0.04	0.01	0.01	0.09	0.01	0.00
Fish Creek	Upper	Fish Creek 31.6071*	26.63	0.04	0.01	0.01	0.07	0.01	0.00
Fish Creek	Upper	Fish Creek 32.4	26.81	0.03	0.01	0.01	0.06	0.01	0.00
Fish Creek	Upper	Fish Creek 33.3083*	27.01	0.06	0.02	0.01	0.14	0.01	0.01
Fish Creek	Upper	Fish Creek 34.2166*	27.46	0.11	0.02	0.02	0.35	0.02	0.01
Fish Creek	Upper	Fish Creek 35.125*	28.26	0.15	0.02	0.02	0.54	0.02	0.01
Fish Creek	Upper	Fish Creek 36.0333*	29.31	0.16	0.02	0.02	0.60	0.01	0.01
Fish Creek	Upper	Fish Creek 36.9416*	30.40	0.15	0.01	0.02	0.57	0.01	0.02
Fish Creek	Upper	Fish Creek 37.85*	31.43	0.14	0.01	0.02	0.53	0.00	0.02
Fish Creek	Upper	Fish Creek 38.7583*	32.45	0.14	0.01	0.02	0.51	0.00	0.02
Fish Creek	Upper	Fish Creek 39.6666*	33.42	0.13	0.01	0.02	0.46	0.00	0.02
Fish Creek	Upper	Fish Creek 40.575*	34.32	0.12	0.00	0.02	0.41	0.00	0.02
Fish Creek	Upper	Fish Creek 41.4833*	35.15	0.12	0.00	0.02	0.38	0.00	0.02
Fish Creek	Upper	Fish Creek 42.3916*	35.95	0.11	0.00	0.02	0.35	0.00	0.02
Fish Creek	Upper	Fish Creek 43.3	36.68	0.09	0.01	0.02	0.28	0.01	0.01
Judy Creek	Lower	Judy Creek 0.38	23.71	0.07	0.01	0.01	0.22	0.01	0.01
Judy Creek	Lower	Judy Creek .981819*	24.03	0.11	0.01	0.01	0.44	0.00	0.00
Judy Creek	Lower	Judy Creek 1.58363*	24.54	0.12	0.01	0.02	0.50	0.00	0.01

Judy Creek	Lower	Judy Creek	2.18545*	25.25	0.18	0.01	0.03	0.69	0.01	0.02
Judy Creek	Lower	Judy Creek	2.78727*	25.88	0.12	0.01	0.02	0.46	0.00	0.01
Judy Creek	Lower	Judy Creek	3.38909*	26.40	0.13	0.01	0.02	0.51	0.00	0.01
Judy Creek	Lower	Judy Creek	3.99090*	26.93	0.12	0.01	0.02	0.52	0.00	0.01
Judy Creek	Lower	Judy Creek	4.59272*	27.47	0.13	0.01	0.02	0.55	0.00	0.01
Judy Creek	Lower	Judy Creek	5.19454*	28.04	0.13	0.01	0.02	0.55	0.01	0.01
Judy Creek	Lower	Judy Creek	5.79636*	28.62	0.14	0.01	0.02	0.58	0.01	0.01
Judy Creek	Lower	Judy Creek	6.39818*	29.23	0.14	0.02	0.02	0.61	0.01	0.01
Judy Creek	Lower	Judy Creek	7.0	30.14	0.24	0.03	0.04	0.85	0.02	0.04
Judy Creek	Lower	Judy Creek	7.42500*	30.79	0.10	0.02	0.02	0.40	0.01	0.01
Judy Creek	Lower	Judy Creek	7.85000*	31.21	0.12	0.01	0.03	0.47	0.01	0.02
Judy Creek	Lower	Judy Creek	8.27500*	31.70	0.12	0.01	0.02	0.52	0.00	0.01
Judy Creek	Lower	Judy Creek	8.70000*	32.20	0.13	0.01	0.02	0.55	0.00	0.01
Judy Creek	Lower	Judy Creek	9.12500*	32.71	0.12	0.00	0.01	0.52	0.00	0.01
Judy Creek	Lower	Judy Creek	9.55000*	33.21	0.12	0.00	0.01	0.54	0.00	0.00
Judy Creek	Lower	Judy Creek	9.975*	33.73	0.13	0.00	0.01	0.55	0.00	0.00
Judy Creek	Lower	Judy Creek	10.4*	34.25	0.13	0.00	0.00	0.56	0.00	0.00
Judy Creek	Lower	Judy Creek	10.825*	34.78	0.13	0.00		0.57	0.00	
Judy Creek	Lower	Judy Creek	11.25*	35.33	0.13	0.00		0.59	0.00	
Judy Creek	Lower	Judy Creek	11.675*	35.88	0.13	0.01		0.60	0.00	
Judy Creek	Lower	Judy Creek	12.1*	36.48	0.15	0.01	0.00	0.67	0.01	0.00
Judy Creek	Lower	Judy Creek	12.525*	37.11	0.15	0.02	0.01	0.68	0.01	0.00
Judy Creek	Lower	Judy Creek	12.95*	37.74	0.15	0.02	0.02	0.69	0.02	0.01
Judy Creek	Lower	Judy Creek	13.375*	38.41	0.17	0.03	0.02	0.76	0.03	0.01
Judy Creek	Lower	Judy Creek	13.8	39.11	0.17	0.04	0.03	0.78	0.03	0.02
Judy Creek	Lower	Judy Creek	14.2705*	39.82	0.13	0.03	0.02	0.55	0.02	0.01
Judy Creek	Lower	Judy Creek	14.7411*	40.39	0.12	0.02	0.02	0.53	0.02	0.01
Judy Creek	Lower	Judy Creek	15.2117*	40.95	0.12	0.02	0.02	0.51	0.01	0.01
Judy Creek	Lower	Judy Creek	15.6823*	41.48	0.11	0.02	0.01	0.49	0.01	0.01
Judy Creek	Lower	Judy Creek	16.1529*	42.02	0.12	0.02	0.01	0.53	0.01	0.00
Judy Creek	Lower	Judy Creek	16.6235*	42.58	0.12	0.01	0.01	0.55	0.01	0.00
Judy Creek	Lower	Judy Creek	17.0941*	43.18	0.12	0.01	0.01	0.57	0.00	0.00
Judy Creek	Lower	Judy Creek	17.5647*	43.80	0.13	0.01	0.01	0.59	0.00	0.00
Judy Creek	Lower	Judy Creek	18.0352*	44.44	0.13	0.01	0.00	0.60	0.00	0.00
Judy Creek	Lower	Judy Creek	18.5058*	45.09	0.13	0.01	0.00	0.61	0.00	0.00
Judy Creek	Lower	Judy Creek	18.9764*	45.76	0.13	0.01		0.61	0.00	
Judy Creek	Lower	Judy Creek	19.4470*	46.43	0.13	0.00		0.61	0.00	
Judy Creek	Lower	Judy Creek	19.9176*	47.08	0.12	0.00		0.56	0.00	
Judy Creek	Lower	Judy Creek	20.3882*	47.67	0.11	0.00		0.52	0.00	
Judy Creek	Lower	Judy Creek	20.8588*	48.26	0.11	0.00		0.54	0.00	
Judy Creek	Lower	Judy Creek	21.3294*	48.87	0.11			0.56		
Judy Creek	Lower	Judy Creek	21.8	49.49	0.12			0.57		
Judy Creek	Lower	Judy Creek	22.26*	50.12	0.10			0.43		
Judy Creek	Lower	Judy Creek	22.72*	50.65	0.10			0.45		
Judy Creek	Lower	Judy Creek	23.18*	51.20	0.10			0.47		
Judy Creek	Lower	Judy Creek	23.64*	51.76	0.11			0.49		
Judy Creek	Lower	Judy Creek	24.1*	52.36	0.11			0.50		
Judy Creek	Lower	Judy Creek	24.56*	52.98	0.11			0.52		
Judy Creek	Lower	Judy Creek	25.02*	53.62	0.11			0.53		
Judy Creek	Lower	Judy Creek	25.48*	54.28	0.11			0.54		
Judy Creek	Lower	Judy Creek	25.94*	54.97	0.11			0.55		
Judy Creek	Lower	Judy Creek	26.4*	55.67	0.11			0.55		
Judy Creek	Lower	Judy Creek	26.86*	56.39	0.12			0.55		
Judy Creek	Lower	Judy Creek	27.32*	57.13	0.12		0.00	0.55		0.00
Judy Creek	Lower	Judy Creek	27.78*	57.89	0.12		0.00	0.55		0.00
Judy Creek	Lower	Judy Creek	28.24*	58.61	0.10		0.01	0.49		0.00
Judy Creek	Lower	Judy Creek	28.7*	59.28	0.10		0.01	0.46		0.00
Judy Creek	Lower	Judy Creek	29.16*	59.92	0.09		0.01	0.44		0.00
Judy Creek	Lower	Judy Creek	29.62*	60.53	0.08		0.01	0.42		0.00

Judy Creek	Lower Judy Creek	30.08*	61.15	0.09	0.01	0.46	0.00
Judy Creek	Lower Judy Creek	30.54*	61.86	0.09	0.01	0.49	0.01
Judy Creek	Lower Judy Creek	31.0	62.61	0.09	0.01	0.51	0.00

HEC-RAS Run, Fish and Judy Creeks, 50-Year Flood

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X   X XXXXXX   XXXX   XXXX   XX   XXXX
X   X X       X   X   X   X   X X   X
X   X X       X   X   X   X   X X   X
XXXXXXXX XXXX   X   XXX XXXX   XXXXXX   XXXX
X   X X       X   X   X   X   X X   X
X   X X       X   X   X   X   X X   X
X   X XXXXXX   XXXX   X   X   X   X   XXXXX
  
```

50-YEAR FLOOD, FISH AND JUDY CREEKS

PROJECT DATA

Project Title: 2001 Back Water Analysis
 Project File : 26feb02.prj
 Run Date and Time: 2/27/2002 8:48:28 AM

Project in English units

PLAN DATA

Plan Title: 50-Year Flood Plan
 Plan File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.p09

Geometry Title: 50-year Flood Geometry
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g11

Flow Title : 50-year Flood Flow Data
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f12

Plan Summary Information:

Number of:	Cross Sections = 116	Multitple Openings = 0
	Culverts = 0	Inline Weirs = 0
	Bridges = 0	

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculaton tolerance =	0.01
Maximum number of interations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Friction Slope
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: 50-year Flood Flow Data
 Flow File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.fl2

Flow Data (cfs)

River	Reach	RS	50-Year Flood
Fish Creek	Upper Fish Creek	43.3	20969
Fish Creek	Upper Fish Creek	32.4	21306
Fish Creek	Upper Fish Creek	26.85	21571
Fish Creek	Lower Fish Creek	26.09	36959
Fish Creek	Lower Fish Creek	25.1	37003
Fish Creek	Lower Fish Creek	18.4	38003
Fish Creek	Lower Fish Creek	12.6	38702
Fish Creek	Lower Fish Creek	11.7	38702
Fish Creek	Lower Fish Creek	0.7	45099
Judy Creek	Lower Judy Creek	31.0	14199
Judy Creek	Lower Judy Creek	21.8	15461
Judy Creek	Lower Judy Creek	13.8	16660
Judy Creek	Lower Judy Creek	7.0	17996
Judy Creek	Lower Judy Creek	0.38	18463

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Fish Creek	Lower Fish Creek	50-Year Flood		Normal S = .000075

GEOMETRY DATA

Geometry Title: 50-year Flood Geometry
 Geometry File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g11

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Fish Creek	Upper Fish Creek		Fish Junct.
Fish Creek	Lower Fish Creek	Fish Junct.	
Judy Creek	Lower Judy Creek		Fish Junct.

JUNCTION INFORMATION

Name: Fish Junct.
 Description: Confluence of Fish and Judy Creek
 Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle

Fish Creek	Upper Fish Creek to Fish Creek	Lower Fish Creek	3915
Judy Creek	Lower Judy Creek to Fish Creek	Lower Fish Creek	3694

SUMMARY OF MANNING'S N VALUES

River:Fish Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n13	n14	n15
Upper Fish Creek	43.3	.04	.027	.07	.04											
Upper Fish Creek	42.3916*	.04	.027	.07	.042											
Upper Fish Creek	41.4833*	.041	.027	.07	.043											
Upper Fish Creek	40.575*	.041	.027	.07	.043											
Upper Fish Creek	39.6666*	.042	.027	.07	.044											
Upper Fish Creek	38.7583*	.042	.027	.07	.045											
Upper Fish Creek	37.85*	.043	.028	.046												
Upper Fish Creek	36.9416*	.043	.028	.046												
Upper Fish Creek	36.0333*	.043	.028	.047												
Upper Fish Creek	35.125*	.044	.028	.048												
Upper Fish Creek	34.2166*	.044	.028	.048												
Upper Fish Creek	33.3083*	.045	.028	.049												
Upper Fish Creek	32.4	.04	.055	.07	.028	.05	.04	.05	.04							
Upper Fish Creek	31.6071*	.047	.07	.028	.055											
Upper Fish Creek	30.8142*	.05	.07	.027	.054											
Upper Fish Creek	30.0214*	.052	.07	.027	.057											
Upper Fish Creek	29.2285*	.054	.07	.027	.059											
Upper Fish Creek	28.4357*	.056	.07	.027	.061											
Upper Fish Creek	27.6428*	.059	.07	.027	.063											
Upper Fish Creek	26.85	.061	.027	.065												
Lower Fish Creek	26.09	.063	.07	.021	.067											
Lower Fish Creek	25.1	.05	.04	.05	.04	.05	.04	.07	.04	.05	.07	.021	.07	.04	.06	.04
Lower Fish Creek	24.2625*	.064	.08	.022	.068											
Lower Fish Creek	23.425*	.062	.08	.021	.066											
Lower Fish Creek	22.5875*	.06	.08	.021	.064											
Lower Fish Creek	21.75*	.058	.09	.021	.063											
Lower Fish Creek	20.9125*	.056	.1	.021	.061											
Lower Fish Creek	20.075*	.054	.1	.021	.059											
Lower Fish Creek	19.2375*	.052	.1	.021	.057											
Lower Fish Creek	18.4	.05	.07	.04	.05	.11	.02	.07	.05	.07	.05					
Lower Fish Creek	17.5714*	.054	.11	.021	.055											
Lower Fish Creek	16.7428*	.053	.11	.021	.064											
Lower Fish Creek	15.9142*	.052	.11	.022	.069											
Lower Fish Creek	15.0857*	.051	.11	.022	.073											
Lower Fish Creek	14.2571*	.049	.11	.022	.078											
Lower Fish Creek	13.4285*	.048	.11	.022	.082											
Lower Fish Creek	12.6	.047	.11	.022	.11	.087										
Lower Fish Creek	11.7	.11	.045	.05	.045	.09	.11	.047	.09	.05	.047	.11	.09	.11	.045	
Lower Fish Creek	10.8538*	.053	.11	.047	.055	.047	.092									
Lower Fish Creek	10.0076*	.053	.1	.047	.055	.047	.09									
Lower Fish Creek	9.16153*	.053	.1	.047	.055	.047	.087									
Lower Fish Creek	8.31538*	.054	.09	.047	.055	.047	.085									
Lower Fish Creek	7.46923*	.054	.09	.047	.055	.047	.083									
Lower Fish Creek	6.62307*	.054	.08	.047	.055	.047	.081									
Lower Fish Creek	5.77692*	.054	.08	.047	.055	.047	.078									
Lower Fish Creek	4.93076*	.054	.08	.047	.055	.047	.076									
Lower Fish Creek	4.08461*	.054	.07	.047	.055	.047	.074									
Lower Fish Creek	3.23846*	.055	.07	.047	.055	.047	.072									
Lower Fish Creek	2.39230*	.055	.06	.047	.055	.047	.069									
Lower Fish Creek	1.54615*	.055	.06	.047	.055	.047	.067									
Lower Fish Creek	0.7	.065	.055	.047	.055	.047	.055	.047	.055	.047	.065					

River:Judy Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9
Lower Judy Creek	31.0	.05	.014	.1	.05					
Lower Judy Creek	30.54*	.05	.014	.06						
Lower Judy Creek	30.08*	.06	.014	.06						
Lower Judy Creek	29.62*	.06	.014	.06						
Lower Judy Creek	29.16*	.06	.015	.06						

Lower Judy Creek	28.7*	.07	.016	.06						
Lower Judy Creek	28.24*	.07	.017	.07						
Lower Judy Creek	27.78*	.07	.018	.07						
Lower Judy Creek	27.32*	.07	.018	.07						
Lower Judy Creek	26.86*	.08	.018	.07						
Lower Judy Creek	26.4*	.08	.018	.08						
Lower Judy Creek	25.94*	.08	.018	.08						
Lower Judy Creek	25.48*	.09	.018	.08						
Lower Judy Creek	25.02*	.09	.018	.08						
Lower Judy Creek	24.56*	.09	.018	.09						
Lower Judy Creek	24.1*	.09	.018	.09						
Lower Judy Creek	23.64*	.1	.018	.09						
Lower Judy Creek	23.18*	.1	.018	.09						
Lower Judy Creek	22.72*	.1	.018	.1						
Lower Judy Creek	22.26*	.11	.018	.1						
Lower Judy Creek	21.8	.05	.11	.018	.1	.05				
Lower Judy Creek	21.3294*	.11	.018	.1						
Lower Judy Creek	20.8588*	.1	.018	.09						
Lower Judy Creek	20.3882*	.1	.018	.09						
Lower Judy Creek	19.9176*	.1	.019	.09						
Lower Judy Creek	19.4470*	.09	.02	.09						
Lower Judy Creek	18.9764*	.09	.02	.08						
Lower Judy Creek	18.5058*	.09	.02	.08						
Lower Judy Creek	18.0352*	.08	.02	.08						
Lower Judy Creek	17.5647*	.08	.02	.07						
Lower Judy Creek	17.0941*	.07	.02	.07						
Lower Judy Creek	16.6235*	.07	.02	.07						
Lower Judy Creek	16.1529*	.07	.02	.06						
Lower Judy Creek	15.6823*	.06	.02	.06						
Lower Judy Creek	15.2117*	.06	.021	.06						
Lower Judy Creek	14.7411*	.06	.022	.06						
Lower Judy Creek	14.2705*	.05	.023	.05						
Lower Judy Creek	13.8	.05	.04	.05	.024	.05	.04			
Lower Judy Creek	13.375*	.05	.024	.05						
Lower Judy Creek	12.95*	.05	.023	.049						
Lower Judy Creek	12.525*	.05	.023	.049						
Lower Judy Creek	12.1*	.05	.03	.023	.049					
Lower Judy Creek	11.675*	.05	.03	.022	.048					
Lower Judy Creek	11.25*	.05	.04	.022	.048					
Lower Judy Creek	10.825*	.05	.05	.022	.047					
Lower Judy Creek	10.4*	.05	.06	.022	.047					
Lower Judy Creek	9.975*	.05	.06	.022	.047					
Lower Judy Creek	9.5500*	.05	.07	.022	.046					
Lower Judy Creek	9.12500*	.05	.08	.022	.046					
Lower Judy Creek	8.70000*	.05	.08	.023	.046					
Lower Judy Creek	8.27500*	.05	.09	.023	.045					
Lower Judy Creek	7.85000*	.05	.1	.023	.045					
Lower Judy Creek	7.42500*	.05	.1	.023	.044					
Lower Judy Creek	7.0	.04	.05	.04	.05	.11	.024	.11	.05	.04
Lower Judy Creek	6.39818*	.05	.023	.046						
Lower Judy Creek	5.79636*	.05	.023	.048						
Lower Judy Creek	5.19454*	.05	.022	.05						
Lower Judy Creek	4.59272*	.05	.022	.052						
Lower Judy Creek	3.99090*	.05	.022	.053						
Lower Judy Creek	3.38909*	.05	.023	.055						
Lower Judy Creek	2.78727*	.05	.023	.057						
Lower Judy Creek	2.18545*	.05	.023	.059						
Lower Judy Creek	1.58363*	.05	.023	.061						
Lower Judy Creek	.981819*	.05	.023	.063						
Lower Judy Creek	0.38	.05	.023	.065						

SUMMARY OF REACH LENGTHS

River: Fish Creek

Reach	River Sta.	Left	Channel	Right
-------	------------	------	---------	-------

Upper Fish Creek	43.3	1903.5	4751.08	1745.42
Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171
Upper Fish Creek	29.2285*	2464.43	4273.14	2171
Upper Fish Creek	28.4357*	2464.43	4273.14	2171
Upper Fish Creek	27.6428*	2464.43	4273.14	2171
Upper Fish Creek	26.85	0	0	0
Lower Fish Creek	26.09	3700	4769	4679
Lower Fish Creek	25.1	2028.75	4406.38	2370.38
Lower Fish Creek	24.2625*	2028.75	4406.38	2370.38
Lower Fish Creek	23.425*	2028.75	4406.38	2370.38
Lower Fish Creek	22.5875*	2028.75	4406.38	2370.38
Lower Fish Creek	21.75*	2028.75	4406.38	2370.38
Lower Fish Creek	20.9125*	2028.75	4406.38	2370.38
Lower Fish Creek	20.075*	2028.75	4406.38	2370.38
Lower Fish Creek	19.2375*	2028.75	4406.38	2370.38
Lower Fish Creek	18.4	3217.29	4349	2885.43
Lower Fish Creek	17.5714*	3217.29	4349	2885.43
Lower Fish Creek	16.7428*	3217.29	4349	2885.43
Lower Fish Creek	15.9142*	3217.29	4349	2885.43
Lower Fish Creek	15.0857*	3217.29	4349	2885.43
Lower Fish Creek	14.2571*	3217.29	4349	2885.43
Lower Fish Creek	13.4285*	3217.29	4349	2885.43
Lower Fish Creek	12.6	1090	5078	2467
Lower Fish Creek	11.7	2559	4481.46	2515.69
Lower Fish Creek	10.8538*	2559	4481.46	2515.69
Lower Fish Creek	10.0076*	2559	4481.46	2515.69
Lower Fish Creek	9.16153*	2559	4481.46	2515.69
Lower Fish Creek	8.31538*	2559	4481.46	2515.69
Lower Fish Creek	7.46923*	2559	4481.46	2515.69
Lower Fish Creek	6.62307*	2559	4481.46	2515.69
Lower Fish Creek	5.77692*	2559	4481.46	2515.69
Lower Fish Creek	4.93076*	2559	4481.46	2515.69
Lower Fish Creek	4.08461*	2559	4481.46	2515.69
Lower Fish Creek	3.23846*	2559	4481.46	2515.69
Lower Fish Creek	2.39230*	2559	4481.46	2515.69
Lower Fish Creek	1.54615*	2559	4481.46	2515.7
Lower Fish Creek	0.7	0	0	0

River: Judy Creek

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	31.0	1164.9	2386.5	1005.25
Lower Judy Creek	30.54*	1164.9	2386.5	1005.25

Lower Judy Creek	30.08*	1164.9	2386.5	1005.25
Lower Judy Creek	29.62*	1164.9	2386.5	1005.25
Lower Judy Creek	29.16*	1164.9	2386.5	1005.25
Lower Judy Creek	28.7*	1164.9	2386.5	1005.25
Lower Judy Creek	28.24*	1164.9	2386.5	1005.25
Lower Judy Creek	27.78*	1164.9	2386.5	1005.25
Lower Judy Creek	27.32*	1164.9	2386.5	1005.25
Lower Judy Creek	26.86*	1164.9	2386.5	1005.25
Lower Judy Creek	26.4*	1164.9	2386.5	1005.25
Lower Judy Creek	25.94*	1164.9	2386.5	1005.25
Lower Judy Creek	25.48*	1164.9	2386.5	1005.25
Lower Judy Creek	25.02*	1164.9	2386.5	1005.25
Lower Judy Creek	24.56*	1164.9	2386.5	1005.25
Lower Judy Creek	24.1*	1164.9	2386.5	1005.25
Lower Judy Creek	23.64*	1164.9	2386.5	1005.25
Lower Judy Creek	23.18*	1164.9	2386.5	1005.25
Lower Judy Creek	22.72*	1164.9	2386.5	1005.25
Lower Judy Creek	22.26*	1164.9	2386.5	1005.25
Lower Judy Creek	21.8	1459.47	2420.88	1416
Lower Judy Creek	21.3294*	1459.47	2420.88	1416
Lower Judy Creek	20.8588*	1459.47	2420.88	1416
Lower Judy Creek	20.3882*	1459.47	2420.88	1416
Lower Judy Creek	19.9176*	1459.47	2420.88	1416
Lower Judy Creek	19.4470*	1459.47	2420.88	1416
Lower Judy Creek	18.9764*	1459.47	2420.88	1416
Lower Judy Creek	18.5058*	1459.47	2420.88	1416
Lower Judy Creek	18.0352*	1459.47	2420.88	1416
Lower Judy Creek	17.5647*	1459.47	2420.88	1416
Lower Judy Creek	17.0941*	1459.47	2420.88	1416
Lower Judy Creek	16.6235*	1459.47	2420.88	1416
Lower Judy Creek	16.1529*	1459.47	2420.88	1416
Lower Judy Creek	15.6823*	1459.47	2420.88	1416
Lower Judy Creek	15.2117*	1459.47	2420.88	1416
Lower Judy Creek	14.7411*	1459.47	2420.88	1416
Lower Judy Creek	14.2705*	1459.47	2420.89	1416
Lower Judy Creek	13.8	1530.69	2280.69	1205.25
Lower Judy Creek	13.375*	1530.69	2280.69	1205.25
Lower Judy Creek	12.95*	1530.69	2280.69	1205.25
Lower Judy Creek	12.525*	1530.69	2280.69	1205.25
Lower Judy Creek	12.1*	1530.69	2280.69	1205.25
Lower Judy Creek	11.675*	1530.69	2280.69	1205.25
Lower Judy Creek	11.25*	1530.69	2280.69	1205.25
Lower Judy Creek	10.825*	1530.69	2280.69	1205.25
Lower Judy Creek	10.4*	1530.69	2280.69	1205.25
Lower Judy Creek	9.975*	1530.69	2280.69	1205.25
Lower Judy Creek	9.55000*	1530.69	2280.69	1205.25
Lower Judy Creek	9.12500*	1530.69	2280.69	1205.25
Lower Judy Creek	8.70000*	1530.69	2280.69	1205.25
Lower Judy Creek	8.27500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.85000*	1530.69	2280.69	1205.25
Lower Judy Creek	7.42500*	1530.69	2280.7	1205.25
Lower Judy Creek	7.0	1574.27	2316.18	1729.73
Lower Judy Creek	6.39818*	1574.27	2316.18	1729.73
Lower Judy Creek	5.79636*	1574.27	2316.18	1729.73
Lower Judy Creek	5.19454*	1574.27	2316.18	1729.73
Lower Judy Creek	4.59272*	1574.27	2316.18	1729.73
Lower Judy Creek	3.99090*	1574.27	2316.18	1729.73
Lower Judy Creek	3.38909*	1574.27	2316.18	1729.73
Lower Judy Creek	2.78727*	1574.27	2316.18	1729.73

Lower Judy Creek	2.18545*	1574.27	2316.18	1729.73
Lower Judy Creek	1.58363*	1574.27	2316.18	1729.73
Lower Judy Creek	.981819*	1574.28	2316.18	1729.73
Lower Judy Creek	0.38	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Fish Creek

Reach	River Sta.	Contr.	Expan.
Upper Fish Creek	43.3	.1	.3
Upper Fish Creek	42.3916*	.1	.3
Upper Fish Creek	41.4833*	.1	.3
Upper Fish Creek	40.575*	.1	.3
Upper Fish Creek	39.6666*	.1	.3
Upper Fish Creek	38.7583*	.1	.3
Upper Fish Creek	37.85*	.1	.3
Upper Fish Creek	36.9416*	.1	.3
Upper Fish Creek	36.0333*	.1	.3
Upper Fish Creek	35.125*	.1	.3
Upper Fish Creek	34.2166*	.1	.3
Upper Fish Creek	33.3083*	.1	.3
Upper Fish Creek	32.4	.1	.3
Upper Fish Creek	31.6071*	.1	.3
Upper Fish Creek	30.8142*	.1	.3
Upper Fish Creek	30.0214*	.1	.3
Upper Fish Creek	29.2285*	.1	.3
Upper Fish Creek	28.4357*	.1	.3
Upper Fish Creek	27.6428*	.1	.3
Upper Fish Creek	26.85	.1	.3
Lower Fish Creek	26.09	.1	.3
Lower Fish Creek	25.1	.1	.3
Lower Fish Creek	24.2625*	.1	.3
Lower Fish Creek	23.425*	.1	.3
Lower Fish Creek	22.5875*	.1	.3
Lower Fish Creek	21.75*	.1	.3
Lower Fish Creek	20.9125*	.1	.3
Lower Fish Creek	20.075*	.1	.3
Lower Fish Creek	19.2375*	.1	.3
Lower Fish Creek	18.4	.1	.3
Lower Fish Creek	17.5714*	.1	.3
Lower Fish Creek	16.7428*	.1	.3
Lower Fish Creek	15.9142*	.1	.3
Lower Fish Creek	15.0857*	.1	.3
Lower Fish Creek	14.2571*	.1	.3
Lower Fish Creek	13.4285*	.1	.3
Lower Fish Creek	12.6	.1	.3
Lower Fish Creek	11.7	.1	.3
Lower Fish Creek	10.8538*	.1	.3
Lower Fish Creek	10.0076*	.1	.3
Lower Fish Creek	9.16153*	.1	.3
Lower Fish Creek	8.31538*	.1	.3
Lower Fish Creek	7.46923*	.1	.3
Lower Fish Creek	6.62307*	.1	.3
Lower Fish Creek	5.77692*	.1	.3
Lower Fish Creek	4.93076*	.1	.3
Lower Fish Creek	4.08461*	.1	.3
Lower Fish Creek	3.23846*	.1	.3
Lower Fish Creek	2.39230*	.1	.3
Lower Fish Creek	1.54615*	.1	.3
Lower Fish Creek	0.7	.1	.3

River: Judy Creek

Reach	River Sta.	Contr.	Expan.
Lower Judy Creek	31.0	.1	.3
Lower Judy Creek	30.54*	.1	.3
Lower Judy Creek	30.08*	.1	.3
Lower Judy Creek	29.62*	.1	.3
Lower Judy Creek	29.16*	.1	.3
Lower Judy Creek	28.7*	.1	.3
Lower Judy Creek	28.24*	.1	.3
Lower Judy Creek	27.78*	.1	.3
Lower Judy Creek	27.32*	.1	.3
Lower Judy Creek	26.86*	.1	.3
Lower Judy Creek	26.4*	.1	.3
Lower Judy Creek	25.94*	.1	.3
Lower Judy Creek	25.48*	.1	.3
Lower Judy Creek	25.02*	.1	.3
Lower Judy Creek	24.56*	.1	.3
Lower Judy Creek	24.1*	.1	.3
Lower Judy Creek	23.64*	.1	.3
Lower Judy Creek	23.18*	.1	.3
Lower Judy Creek	22.72*	.1	.3
Lower Judy Creek	22.26*	.1	.3
Lower Judy Creek	21.8	.1	.3
Lower Judy Creek	21.3294*	.1	.3
Lower Judy Creek	20.8588*	.1	.3
Lower Judy Creek	20.3882*	.1	.3
Lower Judy Creek	19.9176*	.1	.3
Lower Judy Creek	19.4470*	.1	.3
Lower Judy Creek	18.9764*	.1	.3
Lower Judy Creek	18.5058*	.1	.3
Lower Judy Creek	18.0352*	.1	.3
Lower Judy Creek	17.5647*	.1	.3
Lower Judy Creek	17.0941*	.1	.3
Lower Judy Creek	16.6235*	.1	.3
Lower Judy Creek	16.1529*	.1	.3
Lower Judy Creek	15.6823*	.1	.3
Lower Judy Creek	15.2117*	.1	.3
Lower Judy Creek	14.7411*	.1	.3
Lower Judy Creek	14.2705*	.1	.3
Lower Judy Creek	13.8	.1	.3
Lower Judy Creek	13.375*	.1	.3
Lower Judy Creek	12.95*	.1	.3
Lower Judy Creek	12.525*	.1	.3
Lower Judy Creek	12.1*	.1	.3
Lower Judy Creek	11.675*	.1	.3
Lower Judy Creek	11.25*	.1	.3
Lower Judy Creek	10.825*	.1	.3
Lower Judy Creek	10.4*	.1	.3
Lower Judy Creek	9.975*	.1	.3
Lower Judy Creek	9.55000*	.1	.3
Lower Judy Creek	9.12500*	.1	.3
Lower Judy Creek	8.70000*	.1	.3
Lower Judy Creek	8.27500*	.1	.3
Lower Judy Creek	7.85000*	.1	.3
Lower Judy Creek	7.42500*	.1	.3
Lower Judy Creek	7.0	.1	.3
Lower Judy Creek	6.39818*	.1	.3

Lower Judy Creek	5.79636*	.1	.3
Lower Judy Creek	5.19454*	.1	.3
Lower Judy Creek	4.59272*	.1	.3
Lower Judy Creek	3.99090*	.1	.3
Lower Judy Creek	3.38909*	.1	.3
Lower Judy Creek	2.78727*	.1	.3
Lower Judy Creek	2.18545*	.1	.3
Lower Judy Creek	1.58363*	.1	.3
Lower Judy Creek	.981819*	.1	.3
Lower Judy Creek	0.38	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Fish Creek	Lower	Fish Creek 0.7	45099.00		0.30	5.36	2.25	5.37	0.000075	0.55	83320.22	25346.33	0.05
Fish Creek	Lower	Fish Creek 1.54615*	38702.00		-0.36	5.68		5.69	0.000079	0.54	73137.92	24817.28	0.05
Fish Creek	Lower	Fish Creek 2.39230*	38702.00		-0.74	6.05		6.06	0.000108	0.63	64250.42	24077.23	0.07
Fish Creek	Lower	Fish Creek 3.23846*	38702.00		-1.13	6.51		6.52	0.000123	0.71	58248.41	22510.95	0.08
Fish Creek	Lower	Fish Creek 4.08461*	38702.00		-1.52	7.09		7.10	0.000162	0.93	47440.04	19423.85	0.09
Fish Creek	Lower	Fish Creek 4.93076*	38702.00		-1.90	7.72		7.73	0.000138	0.95	48428.95	18531.92	0.09
Fish Creek	Lower	Fish Creek 5.77692*	38702.00		-2.29	8.25		8.27	0.000116	1.00	47910.14	17639.90	0.09
Fish Creek	Lower	Fish Creek 6.62307*	38702.00		-2.68	8.75		8.76	0.000116	1.07	46704.61	17229.02	0.09
Fish Creek	Lower	Fish Creek 7.46923*	38702.00		-3.07	9.24		9.26	0.000121	1.15	45531.44	17025.89	0.09
Fish Creek	Lower	Fish Creek 8.31538*	38702.00		-3.45	9.74		9.76	0.000129	1.26	44332.78	16980.13	0.10
Fish Creek	Lower	Fish Creek 9.16153*	38702.00		-3.84	10.29		10.31	0.000146	1.36	43123.21	16975.48	0.10
Fish Creek	Lower	Fish Creek 10.0076*	38702.00		-4.23	10.86		10.89	0.000157	1.52	42475.34	17203.29	0.11
Fish Creek	Lower	Fish Creek 10.8538*	38702.00		-4.61	11.49		11.52	0.000181	1.71	41140.27	15783.09	0.12
Fish Creek	Lower	Fish Creek 11.7	38702.00		-5.00	12.13		12.16	0.000191	1.79	40529.10	15720.33	0.12
Fish Creek	Lower	Fish Creek 12.6	38702.00		-5.80	12.53		12.61	0.000123	3.39	39406.65	15192.85	0.19
Fish Creek	Lower	Fish Creek 13.4285*	38003.00		-5.83	13.06		13.14	0.000161	3.37	36258.06	14282.03	0.19
Fish Creek	Lower	Fish Creek 14.2571*	38003.00		-5.86	13.68		13.78	0.000175	3.62	35042.29	14604.07	0.21
Fish Creek	Lower	Fish Creek 15.0857*	38003.00		-5.89	14.33		14.45	0.000183	3.79	33390.44	13363.25	0.22
Fish Creek	Lower	Fish Creek 15.9142*	38003.00		-5.91	15.01		15.14	0.000183	3.86	32320.68	12101.50	0.22
Fish Creek	Lower	Fish Creek 16.7428*	38003.00		-5.94	15.70		15.84	0.000179	4.04	31323.66	11425.96	0.23
Fish Creek	Lower	Fish Creek 17.5714*	38003.00		-5.97	16.38		16.52	0.000178	4.08	30295.58	10604.08	0.24
Fish Creek	Lower	Fish Creek 18.4	38003.00		-6.00	17.03		17.18	0.000168	4.16	29010.69	10104.79	0.24
Fish Creek	Lower	Fish Creek 19.2375*	37003.00		-4.42	17.63		17.82	0.000200	4.49	24813.10	8686.90	0.26
Fish Creek	Lower	Fish Creek 20.075*	37003.00		-2.84	18.45		18.76	0.000300	5.28	19164.69	7820.49	0.29
Fish Creek	Lower	Fish Creek 20.9125*	37003.00		-1.26	19.46		19.73	0.000223	5.05	20205.39	5972.75	0.27
Fish Creek	Lower	Fish Creek 21.75*	37003.00		0.32	20.26		20.50	0.000192	4.83	22718.89	6355.57	0.26
Fish Creek	Lower	Fish Creek 22.5875*	37003.00		1.90	21.00		21.19	0.000192	4.50	25025.88	6860.79	0.24
Fish Creek	Lower	Fish Creek 23.425*	37003.00		3.48	21.65		21.84	0.000182	4.52	26682.79	7494.00	0.24
Fish Creek	Lower	Fish Creek 24.2625*	37003.00		5.06	22.30		22.49	0.000189	4.56	28179.62	8033.07	0.24
Fish Creek	Lower	Fish Creek 25.1	37003.00		6.64	23.00		23.17	0.000208	4.48	29455.23	8670.03	0.24
Fish Creek	Lower	Fish Creek 26.09	36959.00		7.89	23.94		24.16	0.000219	5.01	26788.31	8300.88	0.27
Fish Creek	Upper	Fish Creek 26.85	21571.00		6.88	24.86		25.09	0.000254	4.38	13388.74	6560.49	0.23
Fish Creek	Upper	Fish Creek 27.6428*	21306.00		7.84	25.81		25.98	0.000219	3.96	13776.31	5075.71	0.20
Fish Creek	Upper	Fish Creek 28.4357*	21306.00		8.80	26.55		26.65	0.000144	3.22	17430.16	4797.63	0.16
Fish Creek	Upper	Fish Creek 29.2285*	21306.00		9.76	27.02		27.09	0.000112	2.77	20365.49	5082.55	0.14
Fish Creek	Upper	Fish Creek 30.0214*	21306.00		10.72	27.36		27.41	0.000086	2.51	22844.20	5342.21	0.13
Fish Creek	Upper	Fish Creek 30.8142*	21306.00		11.68	27.62		27.66	0.000070	2.26	25000.81	5594.50	0.11
Fish Creek	Upper	Fish Creek 31.6071*	21306.00		12.64	27.83		27.86	0.000062	2.05	26855.13	5855.09	0.10
Fish Creek	Upper	Fish Creek 32.4	21306.00		13.60	28.01		28.03	0.000052	1.88	28238.81	6121.75	0.10
Fish Creek	Upper	Fish Creek 33.3083*	20969.00		14.03	28.19		28.24	0.000098	2.60	20935.20	5657.01	0.14
Fish Creek	Upper	Fish Creek 34.2166*	20969.00		14.45	28.59		28.69	0.000181	3.43	15121.47	5016.82	0.18
Fish Creek	Upper	Fish Creek 35.125*	20969.00		14.88	29.32		29.50	0.000266	4.13	11575.00	4371.75	0.22
Fish Creek	Upper	Fish Creek 36.0333*	20969.00		15.30	30.35		30.57	0.000294	4.40	9862.32	3770.76	0.24
Fish Creek	Upper	Fish Creek 36.9416*	20969.00		15.73	31.49		31.73	0.000289	4.45	9050.86	3217.88	0.24
Fish Creek	Upper	Fish Creek 37.85*	20969.00		16.15	32.65		32.89	0.000275	4.43	8668.83	2946.58	0.23
Fish Creek	Upper	Fish Creek 38.7583*	20969.00		16.58	33.79		34.02	0.000264	4.25	8383.56	2696.61	0.22
Fish Creek	Upper	Fish Creek 39.6666*	20969.00		17.00	34.87		35.09	0.000242	4.13	8058.58	2409.51	0.21
Fish Creek	Upper	Fish Creek 40.575*	20969.00		17.43	35.87		36.09	0.000225	4.02	7721.81	2103.20	0.20
Fish Creek	Upper	Fish Creek 41.4833*	20969.00		17.85	36.82		37.03	0.000211	3.93	7457.41	1807.78	0.20
Fish Creek	Upper	Fish Creek 42.3916*	20969.00		18.28	37.72		37.92	0.000196	3.80	7842.29	3126.93	0.19
Fish Creek	Upper	Fish Creek 43.3	20969.00		18.70	38.51		38.63	0.000138	3.17	11033.75	2633.53	0.16
Judy Creek	Lower	Judy Creek 0.38	18463.00		8.18	24.74		24.84	0.000143	3.37	17981.95	6283.85	0.20
Judy Creek	Lower	Judy Creek .981819*	17996.00		8.91	25.06		25.25	0.000228	4.18	13620.14	6861.08	0.25
Judy Creek	Lower	Judy Creek 1.58363*	17996.00		9.64	25.57		25.84	0.000302	4.79	10401.36	5995.24	0.28

Judy Creek	Lower	Judy Creek	2.18545*	17996.00	10.37	26.22	26.47	0.000282	4.66	9751.41	4268.61	0.27
Judy Creek	Lower	Judy Creek	2.78727*	17996.00	11.10	26.83	27.08	0.000282	4.67	9714.28	4409.60	0.27
Judy Creek	Lower	Judy Creek	3.38909*	17996.00	11.83	27.43	27.68	0.000280	4.66	9631.49	4589.55	0.27
Judy Creek	Lower	Judy Creek	3.99090*	17996.00	12.55	28.02	28.28	0.000265	4.74	9462.29	4338.77	0.28
Judy Creek	Lower	Judy Creek	4.59272*	17996.00	13.28	28.59	28.86	0.000270	4.79	9366.58	4305.59	0.28
Judy Creek	Lower	Judy Creek	5.19454*	17996.00	14.01	29.17	29.43	0.000271	4.80	9263.75	4344.06	0.28
Judy Creek	Lower	Judy Creek	5.79636*	17996.00	14.74	29.78	30.03	0.000282	4.70	9322.83	4410.52	0.27
Judy Creek	Lower	Judy Creek	6.39818*	17996.00	15.47	30.39	30.65	0.000288	4.76	9096.41	4486.16	0.28
Judy Creek	Lower	Judy Creek	7.0	17996.00	16.20	31.28	31.39	0.000410	3.50	10454.44	4740.19	0.20
Judy Creek	Lower	Judy Creek	7.42500*	16660.00	16.63	31.93	32.13	0.000338	4.20	8603.00	4491.45	0.24
Judy Creek	Lower	Judy Creek	7.85000*	16660.00	17.05	32.66	32.94	0.000423	4.69	6972.65	4317.49	0.26
Judy Creek	Lower	Judy Creek	8.27500*	16660.00	17.48	33.51	33.77	0.000356	4.48	6527.15	3036.66	0.25
Judy Creek	Lower	Judy Creek	8.70000*	16660.00	17.90	34.24	34.52	0.000338	4.53	6096.25	2828.76	0.25
Judy Creek	Lower	Judy Creek	9.12500*	16660.00	18.33	34.92	35.22	0.000302	4.65	5593.44	2283.33	0.25
Judy Creek	Lower	Judy Creek	9.55000*	16660.00	18.75	35.46	35.80	0.000221	4.88	4983.63	1745.77	0.26
Judy Creek	Lower	Judy Creek	9.975*	16660.00	19.18	35.95	36.32	0.000235	5.03	4471.77	1216.58	0.27
Judy Creek	Lower	Judy Creek	10.4*	16660.00	19.60	36.47	36.87	0.000244	5.14	4125.47	1097.04	0.28
Judy Creek	Lower	Judy Creek	10.825*	16660.00	20.03	37.01	37.42	0.000251	5.22	3842.59	981.65	0.28
Judy Creek	Lower	Judy Creek	11.25*	16660.00	20.45	37.57	37.99	0.000255	5.28	3649.72	809.80	0.28
Judy Creek	Lower	Judy Creek	11.675*	16660.00	20.88	38.14	38.57	0.000257	5.33	3525.44	724.39	0.28
Judy Creek	Lower	Judy Creek	12.1*	16660.00	21.30	38.75	39.18	0.000283	5.36	3461.00	669.54	0.29
Judy Creek	Lower	Judy Creek	12.525*	16660.00	21.73	39.39	39.83	0.000288	5.38	3425.48	653.00	0.29
Judy Creek	Lower	Judy Creek	12.95*	16660.00	22.15	40.04	40.48	0.000291	5.41	3386.49	637.70	0.29
Judy Creek	Lower	Judy Creek	13.375*	16660.00	22.58	40.73	41.17	0.000318	5.43	3370.96	580.24	0.29
Judy Creek	Lower	Judy Creek	13.8	16660.00	23.00	41.44	41.89	0.000320	5.45	3367.58	552.76	0.29
Judy Creek	Lower	Judy Creek	14.2705*	15461.00	23.93	42.19	42.58	0.000248	5.02	3378.90	533.65	0.27
Judy Creek	Lower	Judy Creek	14.7411*	15461.00	24.86	42.77	43.16	0.000237	5.09	3311.26	451.00	0.27
Judy Creek	Lower	Judy Creek	15.2117*	15461.00	25.79	43.33	43.73	0.000226	5.15	3250.74	410.68	0.28
Judy Creek	Lower	Judy Creek	15.6823*	15461.00	26.72	43.85	44.27	0.000216	5.23	3184.19	388.49	0.28
Judy Creek	Lower	Judy Creek	16.1529*	15461.00	27.65	44.37	44.81	0.000228	5.32	3119.58	384.36	0.29
Judy Creek	Lower	Judy Creek	16.6235*	15461.00	28.58	44.92	45.36	0.000239	5.38	3065.15	381.52	0.30
Judy Creek	Lower	Judy Creek	17.0941*	15461.00	29.51	45.50	45.95	0.000248	5.43	3025.14	380.69	0.30
Judy Creek	Lower	Judy Creek	17.5647*	15461.00	30.44	46.10	46.56	0.000256	5.48	2991.11	380.62	0.31
Judy Creek	Lower	Judy Creek	18.0352*	15461.00	31.36	46.71	47.18	0.000262	5.51	2964.69	381.56	0.31
Judy Creek	Lower	Judy Creek	18.5058*	15461.00	32.29	47.34	47.81	0.000267	5.54	2945.06	383.82	0.31
Judy Creek	Lower	Judy Creek	18.9764*	15461.00	33.22	47.98	48.46	0.000271	5.55	2936.95	447.48	0.31
Judy Creek	Lower	Judy Creek	19.4470*	15461.00	34.15	48.64	49.11	0.000274	5.56	2951.30	473.73	0.31
Judy Creek	Lower	Judy Creek	19.9176*	15461.00	35.08	49.28	49.76	0.000251	5.58	2960.88	486.61	0.32
Judy Creek	Lower	Judy Creek	20.3882*	15461.00	36.01	49.86	50.34	0.000234	5.63	2942.32	488.81	0.32
Judy Creek	Lower	Judy Creek	20.8588*	15461.00	36.94	50.43	50.93	0.000243	5.68	2922.06	501.94	0.33
Judy Creek	Lower	Judy Creek	21.3294*	15461.00	37.87	51.01	51.52	0.000251	5.73	2947.06	584.50	0.33
Judy Creek	Lower	Judy Creek	21.8	15461.00	38.80	51.62	52.13	0.000257	5.75	3014.51	570.73	0.33
Judy Creek	Lower	Judy Creek	22.26*	14199.00	39.51	52.28	52.70	0.000213	5.23	3110.99	682.01	0.31
Judy Creek	Lower	Judy Creek	22.72*	14199.00	40.22	52.79	53.22	0.000224	5.29	3052.42	759.93	0.31
Judy Creek	Lower	Judy Creek	23.18*	14199.00	40.93	53.32	53.76	0.000234	5.33	2981.35	767.84	0.32
Judy Creek	Lower	Judy Creek	23.64*	14199.00	41.64	53.87	54.32	0.000244	5.37	2909.77	741.95	0.32
Judy Creek	Lower	Judy Creek	24.1*	14199.00	42.35	54.45	54.91	0.000253	5.41	2843.39	761.99	0.33
Judy Creek	Lower	Judy Creek	24.56*	14199.00	43.06	55.05	55.51	0.000262	5.44	2777.04	786.19	0.33
Judy Creek	Lower	Judy Creek	25.02*	14199.00	43.77	55.68	56.14	0.000270	5.46	2712.55	813.29	0.34
Judy Creek	Lower	Judy Creek	25.48*	14199.00	44.48	56.32	56.79	0.000276	5.48	2683.30	583.98	0.34
Judy Creek	Lower	Judy Creek	25.94*	14199.00	45.19	56.98	57.45	0.000282	5.49	2665.40	558.31	0.34
Judy Creek	Lower	Judy Creek	26.4*	14199.00	45.90	57.65	58.12	0.000287	5.49	2656.04	542.18	0.35
Judy Creek	Lower	Judy Creek	26.86*	14199.00	46.61	58.34	58.81	0.000292	5.49	2653.22	537.25	0.35
Judy Creek	Lower	Judy Creek	27.32*	14199.00	47.32	59.04	59.50	0.000296	5.49	2653.79	534.79	0.35
Judy Creek	Lower	Judy Creek	27.78*	14199.00	48.03	59.74	60.21	0.000301	5.50	2657.45	534.36	0.35
Judy Creek	Lower	Judy Creek	28.24*	14199.00	48.74	60.43	60.91	0.000275	5.51	2652.97	528.96	0.36
Judy Creek	Lower	Judy Creek	28.7*	14199.00	49.45	61.06	61.54	0.000258	5.58	2613.87	497.25	0.37
Judy Creek	Lower	Judy Creek	29.16*	14199.00	50.16	61.65	62.15	0.000246	5.70	2557.83	435.19	0.38
Judy Creek	Lower	Judy Creek	29.62*	14199.00	50.87	62.22	62.74	0.000237	5.84	2499.74	411.72	0.40

Judy Creek	Lower Judy Creek	30.08*	14199.00	51.58	62.78	63.34	0.000264	6.01	2442.59	462.42	0.41
Judy Creek	Lower Judy Creek	30.54*	14199.00	52.29	63.42	64.00	0.000283	6.09	2645.35	923.32	0.43
Judy Creek	Lower Judy Creek	31.0	14199.00	53.00	64.13	64.67	0.000282	5.99	3394.45	1639.31	0.42

Profile Output Table - Standard Table 2

River	Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Fish Creek	Lower	Fish Creek 0.7		5.37	5.36	0.00		6798.41	37799.82	500.76	25346.33
Fish Creek	Lower	Fish Creek 1.54615*		5.69	5.68	0.00	0.32	7253.21	31043.51	405.28	24817.28
Fish Creek	Lower	Fish Creek 2.39230*		6.06	6.05	0.01	0.38	8606.15	29682.22	413.62	24077.23
Fish Creek	Lower	Fish Creek 3.23846*		6.52	6.51	0.01	0.46	9655.45	28601.14	445.41	22510.95
Fish Creek	Lower	Fish Creek 4.08461*		7.10	7.09	0.01	0.59	3443.03	34648.85	610.12	19423.85
Fish Creek	Lower	Fish Creek 4.93076*		7.73	7.72	0.01	0.64	4344.84	33645.39	711.77	18531.92
Fish Creek	Lower	Fish Creek 5.77692*		8.27	8.25	0.01	0.54	4878.50	33084.52	738.98	17639.90
Fish Creek	Lower	Fish Creek 6.62307*		8.76	8.75	0.02	0.48	5576.53	32355.26	770.21	17229.02
Fish Creek	Lower	Fish Creek 7.46923*		9.26	9.24	0.02	0.49	6482.52	31366.09	853.39	17025.89
Fish Creek	Lower	Fish Creek 8.31538*		9.76	9.74	0.02	0.51	7567.69	30130.97	1003.34	16980.13
Fish Creek	Lower	Fish Creek 9.16153*		10.31	10.29	0.02	0.55	9620.70	28061.78	1019.53	16975.48
Fish Creek	Lower	Fish Creek 10.0076*		10.89	10.86	0.03	0.59	11951.86	25493.52	1256.62	17203.29
Fish Creek	Lower	Fish Creek 10.8538*		11.52	11.49	0.03	0.63	15891.51	21555.99	1254.50	15783.09
Fish Creek	Lower	Fish Creek 11.7		12.16	12.13	0.02	0.64	22959.69	14177.46	1564.86	15720.33
Fish Creek	Lower	Fish Creek 12.6		12.61	12.53	0.09	0.44	19103.02	18211.30	1387.68	15192.85
Fish Creek	Lower	Fish Creek 13.4285*		13.14	13.06	0.09	0.53	18506.73	17845.76	1650.50	14282.03
Fish Creek	Lower	Fish Creek 14.2571*		13.78	13.68	0.10	0.63	16679.56	18886.32	2437.12	14604.07
Fish Creek	Lower	Fish Creek 15.0857*		14.45	14.33	0.12	0.67	15530.81	19523.10	2949.08	13363.25
Fish Creek	Lower	Fish Creek 15.9142*		15.14	15.01	0.12	0.69	14919.80	19733.88	3349.32	12101.50
Fish Creek	Lower	Fish Creek 16.7428*		15.84	15.70	0.14	0.69	13961.27	20475.01	3566.73	11425.96
Fish Creek	Lower	Fish Creek 17.5714*		16.52	16.38	0.14	0.68	13399.75	20449.59	4153.66	10604.08
Fish Creek	Lower	Fish Creek 18.4		17.18	17.03	0.15	0.66	13390.68	20573.62	4038.71	10104.79
Fish Creek	Lower	Fish Creek 19.2375*		17.82	17.63	0.19	0.63	12956.21	21938.71	2108.08	8686.90
Fish Creek	Lower	Fish Creek 20.075*		18.76	18.45	0.31	0.90	7279.01	25999.61	3724.38	7820.49
Fish Creek	Lower	Fish Creek 20.9125*		19.73	19.46	0.28	0.97	6567.68	25371.60	5063.73	5972.75
Fish Creek	Lower	Fish Creek 21.75*		20.50	20.26	0.24	0.76	6500.37	24057.55	6445.08	6355.57
Fish Creek	Lower	Fish Creek 22.5875*		21.19	21.00	0.19	0.69	6688.81	22004.92	8309.28	6860.79
Fish Creek	Lower	Fish Creek 23.425*		21.84	21.65	0.19	0.65	6047.68	21361.14	9594.18	7494.00
Fish Creek	Lower	Fish Creek 24.2625*		22.49	22.30	0.18	0.64	5713.95	20628.24	10660.81	8033.07
Fish Creek	Lower	Fish Creek 25.1		23.17	23.00	0.17	0.68	6421.90	19196.02	11385.08	8670.03
Fish Creek	Lower	Fish Creek 26.09		24.16	23.94	0.22	0.98	5559.93	20740.53	10658.54	8300.88
Fish Creek	Upper	Fish Creek 26.85		25.09	24.86	0.23	0.93	2917.16	16719.52	1934.32	6560.49
Fish Creek	Upper	Fish Creek 27.6428*		25.98	25.81	0.18	0.90	3964.02	15435.78	1906.20	5075.71
Fish Creek	Upper	Fish Creek 28.4357*		26.65	26.55	0.10	0.66	5737.22	12561.32	3007.47	4797.63
Fish Creek	Upper	Fish Creek 29.2285*		27.09	27.02	0.06	0.44	6696.99	10598.14	4010.87	5082.55
Fish Creek	Upper	Fish Creek 30.0214*		27.41	27.36	0.05	0.32	7173.03	9290.64	4842.33	5342.21
Fish Creek	Upper	Fish Creek 30.8142*		27.66	27.62	0.03	0.25	7517.13	8030.57	5758.30	5594.50
Fish Creek	Upper	Fish Creek 31.6071*		27.86	27.83	0.03	0.20	8011.90	6950.10	6344.00	5855.09
Fish Creek	Upper	Fish Creek 32.4		28.03	28.01	0.02	0.17	7850.23	6042.66	7413.11	6121.75
Fish Creek	Upper	Fish Creek 33.3083*		28.24	28.19	0.05	0.21	7004.15	8158.02	5806.83	5657.01
Fish Creek	Upper	Fish Creek 34.2166*		28.69	28.59	0.10	0.44	5958.09	10717.37	4293.55	5016.82
Fish Creek	Upper	Fish Creek 35.125*		29.50	29.32	0.17	0.78	4664.69	13229.92	3074.40	4371.75
Fish Creek	Upper	Fish Creek 36.0333*		30.57	30.35	0.22	1.06	3640.23	14836.61	2492.16	3770.76
Fish Creek	Upper	Fish Creek 36.9416*		31.73	31.49	0.24	1.16	2752.86	15962.37	2253.78	3217.88
Fish Creek	Upper	Fish Creek 37.85*		32.89	32.65	0.25	1.16	2008.23	16882.96	2077.81	2946.58
Fish Creek	Upper	Fish Creek 38.7583*		34.02	33.79	0.23	1.13	1438.42	17173.04	2357.54	2696.61
Fish Creek	Upper	Fish Creek 39.6666*		35.09	34.87	0.22	1.07	866.20	17589.13	2513.67	2409.51
Fish Creek	Upper	Fish Creek 40.575*		36.09	35.87	0.22	1.00	480.92	17906.88	2581.20	2103.20
Fish Creek	Upper	Fish Creek 41.4833*		37.03	36.82	0.21	0.95	221.07	18214.38	2533.55	1807.78
Fish Creek	Upper	Fish Creek 42.3916*		37.92	37.72	0.20	0.89	228.78	18259.66	2480.57	3126.93
Fish Creek	Upper	Fish Creek 43.3		38.63	38.51	0.12	0.70	3329.07	15624.42	2015.50	2633.53
Judy Creek	Lower	Judy Creek 0.38		24.84	24.74	0.10	0.67	2796.98	10229.25	5436.77	6283.85
Judy Creek	Lower	Judy Creek .981819*		25.25	25.06	0.19	0.38	1966.05	12237.01	3792.94	6861.08
Judy Creek	Lower	Judy Creek 1.58363*		25.84	25.57	0.27	0.57	1687.69	13781.37	2526.94	5995.24

Judy Creek	Lower	Judy Creek	2.18545*	26.47	26.22	0.25	0.63	0.00	1743.43	13388.98	2863.60	4268.61
Judy Creek	Lower	Judy Creek	2.78727*	27.08	26.83	0.25	0.61	0.00	1604.99	13328.76	3062.25	4409.60
Judy Creek	Lower	Judy Creek	3.38909*	27.68	27.43	0.25	0.60	0.00	1545.56	13217.19	3233.26	4589.55
Judy Creek	Lower	Judy Creek	3.99090*	28.28	28.02	0.26	0.59	0.00	1406.18	13330.41	3259.42	4338.77
Judy Creek	Lower	Judy Creek	4.59272*	28.86	28.59	0.27	0.58	0.00	1318.50	13340.85	3336.65	4305.59
Judy Creek	Lower	Judy Creek	5.19454*	29.43	29.17	0.27	0.58	0.00	1312.03	13226.68	3457.29	4344.06
Judy Creek	Lower	Judy Creek	5.79636*	30.03	29.78	0.25	0.59	0.00	1370.86	12871.54	3753.60	4410.52
Judy Creek	Lower	Judy Creek	6.39818*	30.65	30.39	0.26	0.61	0.00	1433.48	12961.99	3600.53	4486.16
Judy Creek	Lower	Judy Creek	7.0	31.39	31.28	0.11	0.73	0.01	2447.09	9759.79	5789.12	4740.19
Judy Creek	Lower	Judy Creek	7.42500*	32.13	31.93	0.20	0.72	0.03	1657.69	12006.52	2995.79	4491.45
Judy Creek	Lower	Judy Creek	7.85000*	32.94	32.66	0.28	0.79	0.02	1494.28	13765.76	1399.96	4317.49
Judy Creek	Lower	Judy Creek	8.27500*	33.77	33.51	0.26	0.83	0.00	1317.75	13669.06	1673.19	3036.66
Judy Creek	Lower	Judy Creek	8.70000*	34.52	34.24	0.27	0.74	0.00	1173.00	14143.00	1343.99	2828.76
Judy Creek	Lower	Judy Creek	9.12500*	35.22	34.92	0.30	0.69	0.01	960.22	14739.24	960.54	2283.33
Judy Creek	Lower	Judy Creek	9.55000*	35.80	35.46	0.34	0.57	0.01	646.23	15482.00	531.77	1745.77
Judy Creek	Lower	Judy Creek	9.975*	36.32	35.95	0.37	0.51	0.01	502.47	15855.87	301.66	1216.58
Judy Creek	Lower	Judy Creek	10.4*	36.87	36.47	0.40	0.54	0.01	395.89	16116.88	147.23	1097.04
Judy Creek	Lower	Judy Creek	10.825*	37.42	37.01	0.41	0.56	0.01	314.28	16292.55	53.17	981.65
Judy Creek	Lower	Judy Creek	11.25*	37.99	37.57	0.42	0.57	0.00	264.17	16377.69	18.14	809.80
Judy Creek	Lower	Judy Creek	11.675*	38.57	38.14	0.43	0.58	0.00	229.61	16421.47	8.92	724.39
Judy Creek	Lower	Judy Creek	12.1*	39.18	38.75	0.44	0.61	0.00	226.33	16420.34	13.32	669.54
Judy Creek	Lower	Judy Creek	12.525*	39.83	39.39	0.44	0.65	0.00	231.06	16408.02	20.92	653.00
Judy Creek	Lower	Judy Creek	12.95*	40.48	40.04	0.45	0.66	0.00	241.83	16388.30	29.86	637.70
Judy Creek	Lower	Judy Creek	13.375*	41.17	40.73	0.45	0.69	0.00	280.69	16337.76	41.55	580.24
Judy Creek	Lower	Judy Creek	13.8	41.89	41.44	0.45	0.72	0.00	316.59	16298.91	44.50	552.76
Judy Creek	Lower	Judy Creek	14.2705*	42.58	42.19	0.38	0.68	0.01	273.00	15152.60	35.40	533.65
Judy Creek	Lower	Judy Creek	14.7411*	43.16	42.77	0.40	0.58	0.00	200.59	15235.73	24.68	451.00
Judy Creek	Lower	Judy Creek	15.2117*	43.73	43.33	0.41	0.56	0.00	176.09	15264.57	20.34	410.68
Judy Creek	Lower	Judy Creek	15.6823*	44.27	43.85	0.42	0.53	0.00	152.30	15292.37	16.33	388.49
Judy Creek	Lower	Judy Creek	16.1529*	44.81	44.37	0.44	0.54	0.00	117.99	15329.36	13.65	384.36
Judy Creek	Lower	Judy Creek	16.6235*	45.36	44.92	0.45	0.56	0.00	106.52	15344.79	9.69	381.52
Judy Creek	Lower	Judy Creek	17.0941*	45.95	45.50	0.46	0.59	0.00	97.16	15355.94	7.90	380.69
Judy Creek	Lower	Judy Creek	17.5647*	46.56	46.10	0.46	0.61	0.00	77.67	15377.02	6.31	380.62
Judy Creek	Lower	Judy Creek	18.0352*	47.18	46.71	0.47	0.63	0.00	71.37	15385.32	4.31	381.56
Judy Creek	Lower	Judy Creek	18.5058*	47.81	47.34	0.47	0.64	0.00	58.63	15399.07	3.30	383.82
Judy Creek	Lower	Judy Creek	18.9764*	48.46	47.98	0.48	0.65	0.00	54.70	15403.47	2.83	447.48
Judy Creek	Lower	Judy Creek	19.4470*	49.11	48.64	0.48	0.66	0.00	51.33	15404.13	5.54	473.73
Judy Creek	Lower	Judy Creek	19.9176*	49.76	49.28	0.48	0.63	0.00	42.15	15408.51	10.34	486.61
Judy Creek	Lower	Judy Creek	20.3882*	50.34	49.86	0.49	0.59	0.00	36.52	15409.95	14.53	488.81
Judy Creek	Lower	Judy Creek	20.8588*	50.93	50.43	0.50	0.58	0.00	33.10	15408.82	19.08	501.94
Judy Creek	Lower	Judy Creek	21.3294*	51.52	51.01	0.51	0.60	0.00	27.51	15405.87	27.62	584.50
Judy Creek	Lower	Judy Creek	21.8	52.13	51.62	0.51	0.61	0.00	25.63	15369.01	66.35	570.73
Judy Creek	Lower	Judy Creek	22.26*	52.70	52.28	0.42	0.56	0.01	18.79	14105.67	74.54	682.01
Judy Creek	Lower	Judy Creek	22.72*	53.22	52.79	0.43	0.52	0.00	12.70	14122.25	64.05	759.93
Judy Creek	Lower	Judy Creek	23.18*	53.76	53.32	0.44	0.54	0.00	6.80	14129.14	63.06	767.84
Judy Creek	Lower	Judy Creek	23.64*	54.32	53.87	0.45	0.57	0.00	3.38	14145.33	50.29	741.95
Judy Creek	Lower	Judy Creek	24.1*	54.91	54.45	0.45	0.59	0.00	1.63	14160.92	36.45	761.99
Judy Creek	Lower	Judy Creek	24.56*	55.51	55.05	0.46	0.61	0.00	0.54	14174.99	23.47	786.19
Judy Creek	Lower	Judy Creek	25.02*	56.14	55.68	0.46	0.63	0.00	0.10	14184.86	14.04	813.29
Judy Creek	Lower	Judy Creek	25.48*	56.79	56.32	0.47	0.65	0.00	0.00	14184.06	14.94	583.98
Judy Creek	Lower	Judy Creek	25.94*	57.45	56.98	0.47	0.67	0.00		14185.79	13.20	558.31
Judy Creek	Lower	Judy Creek	26.4*	58.12	57.65	0.47	0.68	0.00		14185.98	13.02	542.18
Judy Creek	Lower	Judy Creek	26.86*	58.81	58.34	0.47	0.69	0.00		14182.89	16.11	537.25
Judy Creek	Lower	Judy Creek	27.32*	59.50	59.04	0.47	0.70	0.00		14180.26	18.74	534.79
Judy Creek	Lower	Judy Creek	27.78*	60.21	59.74	0.47	0.71	0.00		14176.27	22.73	534.36
Judy Creek	Lower	Judy Creek	28.24*	60.91	60.43	0.47	0.69	0.00		14173.11	25.89	528.96
Judy Creek	Lower	Judy Creek	28.7*	61.54	61.06	0.48	0.64	0.00		14167.22	31.78	497.25
Judy Creek	Lower	Judy Creek	29.16*	62.15	61.65	0.50	0.60	0.01		14165.22	33.78	435.19
Judy Creek	Lower	Judy Creek	29.62*	62.74	62.22	0.53	0.58	0.01		14162.81	36.19	411.72

Judy Creek	Lower Judy Creek	30.08*	63.34	62.78	0.56	0.60	0.01	14157.02	41.98	462.42
Judy Creek	Lower Judy Creek	30.54*	64.00	63.42	0.57	0.65	0.00	14085.98	113.02	923.32
Judy Creek	Lower Judy Creek	31.0	64.67	64.13	0.54	0.67	0.00	13699.17	499.83	1639.31

Profile Output Table - User Defined Table #1

River	Reach	River Sta	W.S. Elev (ft)	Q Total (cfs)	Q Left (cfs)	Q Channel (cfs)	Q Total (cfs)	Vel Left (ft/s)	Vel Right (ft/s)	Vol Chan (acre-ft)
Fish Creek	Lower	Fish Creek 0.7	5.36	45099.00	6798.41	37799.82	45099.00	0.53	0.25	
Fish Creek	Lower	Fish Creek 1.54615*	5.68	38702.00	7253.21	31043.51	38702.00	0.51	0.23	6459.76
Fish Creek	Lower	Fish Creek 2.39230*	6.05	38702.00	8606.15	29682.22	38702.00	0.56	0.26	11839.06
Fish Creek	Lower	Fish Creek 3.23846*	6.51	38702.00	9655.45	28601.14	38702.00	0.58	0.27	16338.61
Fish Creek	Lower	Fish Creek 4.08461*	7.09	38702.00	3443.03	34648.85	38702.00	0.41	0.32	20307.71
Fish Creek	Lower	Fish Creek 4.93076*	7.72	38702.00	4344.84	33645.39	38702.00	0.41	0.30	24042.02
Fish Creek	Lower	Fish Creek 5.77692*	8.25	38702.00	4878.50	33084.52	38702.00	0.40	0.28	27568.34
Fish Creek	Lower	Fish Creek 6.62307*	8.75	38702.00	5576.53	32355.26	38702.00	0.41	0.27	30822.01
Fish Creek	Lower	Fish Creek 7.46923*	9.24	38702.00	6482.52	31366.09	38702.00	0.43	0.27	33776.41
Fish Creek	Lower	Fish Creek 8.31538*	9.74	38702.00	7567.69	30130.97	38702.00	0.45	0.28	36411.49
Fish Creek	Lower	Fish Creek 9.16153*	10.29	38702.00	9620.70	28061.78	38702.00	0.51	0.28	38704.89
Fish Creek	Lower	Fish Creek 10.0076*	10.86	38702.00	11951.86	25493.52	38702.00	0.56	0.30	40628.79
Fish Creek	Lower	Fish Creek 10.8538*	11.49	38702.00	15891.51	21555.99	38702.00	0.64	0.34	42144.41
Fish Creek	Lower	Fish Creek 11.7	12.13	38702.00	22959.69	14177.46	38702.00	0.81	0.38	43201.09
Fish Creek	Lower	Fish Creek 12.6	12.53	38702.00	19103.02	18211.30	38702.00	0.64	0.32	43975.02
Fish Creek	Lower	Fish Creek 13.4285*	13.06	38003.00	18506.73	17845.76	38003.00	0.69	0.39	44507.63
Fish Creek	Lower	Fish Creek 14.2571*	13.68	38003.00	16679.56	18886.32	38003.00	0.71	0.39	45032.03
Fish Creek	Lower	Fish Creek 15.0857*	14.33	38003.00	15530.81	19523.10	38003.00	0.73	0.43	45549.58
Fish Creek	Lower	Fish Creek 15.9142*	15.01	38003.00	14919.80	19733.88	38003.00	0.75	0.46	46062.02
Fish Creek	Lower	Fish Creek 16.7428*	15.70	38003.00	13961.27	20475.01	38003.00	0.73	0.49	46569.82
Fish Creek	Lower	Fish Creek 17.5714*	16.38	38003.00	13399.75	20449.59	38003.00	0.74	0.58	47072.79
Fish Creek	Lower	Fish Creek 18.4	17.03	38003.00	13390.68	20573.62	38003.00	0.79	0.57	47570.12
Fish Creek	Lower	Fish Creek 19.2375*	17.63	37003.00	12956.21	21938.71	37003.00	0.82	0.51	48067.50
Fish Creek	Lower	Fish Creek 20.075*	18.45	37003.00	7279.01	25999.61	37003.00	0.84	0.67	48563.46
Fish Creek	Lower	Fish Creek 20.9125*	19.46	37003.00	6567.68	25371.60	37003.00	0.90	0.64	49066.21
Fish Creek	Lower	Fish Creek 21.75*	20.26	37003.00	6500.37	24057.55	37003.00	0.82	0.66	49572.17
Fish Creek	Lower	Fish Creek 22.5875*	21.00	37003.00	6688.81	22004.92	37003.00	0.79	0.71	50071.52
Fish Creek	Lower	Fish Creek 23.425*	21.65	37003.00	6047.68	21361.14	37003.00	0.69	0.73	50557.69
Fish Creek	Lower	Fish Creek 24.2625*	22.30	37003.00	5713.95	20628.24	37003.00	0.61	0.75	51025.26
Fish Creek	Lower	Fish Creek 25.1	23.00	37003.00	6421.90	19196.02	37003.00	0.62	0.77	51470.54
Fish Creek	Lower	Fish Creek 26.09	23.94	36959.00	5559.93	20740.53	36959.00	0.61	0.78	51931.83
Fish Creek	Upper	Fish Creek 26.85	24.86	21571.00	2917.16	16719.52	21571.00	0.51	0.50	357.57
Fish Creek	Upper	Fish Creek 27.6428*	25.81	21306.00	3964.02	15435.78	21306.00	0.60	0.59	735.69
Fish Creek	Upper	Fish Creek 28.4357*	26.55	21306.00	5737.22	12561.32	21306.00	0.69	0.58	1118.22
Fish Creek	Upper	Fish Creek 29.2285*	27.02	21306.00	6696.99	10598.14	21306.00	0.70	0.58	1497.13
Fish Creek	Upper	Fish Creek 30.0214*	27.36	21306.00	7173.03	9290.64	21306.00	0.69	0.56	1866.03
Fish Creek	Upper	Fish Creek 30.8142*	27.62	21306.00	7517.13	8030.57	21306.00	0.68	0.55	2221.66
Fish Creek	Upper	Fish Creek 31.6071*	27.83	21306.00	8011.90	6950.10	21306.00	0.70	0.53	2562.01
Fish Creek	Upper	Fish Creek 32.4	28.01	21306.00	7850.23	6042.66	21306.00	0.69	0.54	2885.66
Fish Creek	Upper	Fish Creek 33.3083*	28.19	20969.00	7004.15	8158.02	20969.00	0.82	0.63	3232.20
Fish Creek	Upper	Fish Creek 34.2166*	28.59	20969.00	5958.09	10717.37	20969.00	0.96	0.74	3574.13
Fish Creek	Upper	Fish Creek 35.125*	29.32	20969.00	4664.69	13229.92	20969.00	1.01	0.82	3919.33
Fish Creek	Upper	Fish Creek 36.0333*	30.35	20969.00	3640.23	14836.61	20969.00	0.99	0.89	4277.92
Fish Creek	Upper	Fish Creek 36.9416*	31.49	20969.00	2752.86	15962.37	20969.00	0.91	0.93	4657.38
Fish Creek	Upper	Fish Creek 37.85*	32.65	20969.00	2008.23	16882.96	20969.00	0.82	0.87	5060.76
Fish Creek	Upper	Fish Creek 38.7583*	33.79	20969.00	1438.42	17173.04	20969.00	0.74	0.98	5489.02
Fish Creek	Upper	Fish Creek 39.6666*	34.87	20969.00	866.20	17589.13	20969.00	0.62	1.05	5941.65
Fish Creek	Upper	Fish Creek 40.575*	35.87	20969.00	480.92	17906.88	20969.00	0.54	1.09	6416.88
Fish Creek	Upper	Fish Creek 41.4833*	36.82	20969.00	221.07	18214.38	20969.00	0.44	1.10	6912.86
Fish Creek	Upper	Fish Creek 42.3916*	37.72	20969.00	228.78	18259.66	20969.00	0.29	1.11	7428.00
Fish Creek	Upper	Fish Creek 43.3	38.51	20969.00	3329.07	15624.42	20969.00	0.83	0.96	7958.83
Judy Creek	Lower	Judy Creek 0.38	24.74	18463.00	2796.98	10229.25	18463.00	0.60	0.53	304.60
Judy Creek	Lower	Judy Creek .981819*	25.06	17996.00	1966.05	12337.01	17996.00	0.54	0.54	463.25
Judy Creek	Lower	Judy Creek 1.58363*	25.57	17996.00	1687.69	13781.37	17996.00	0.58	0.55	617.54

Judy Creek	Lower	Judy Creek	2.18545*	26.22	17996.00	1743.43	13388.98	17996.00	0.61	0.71	770.38
Judy Creek	Lower	Judy Creek	2.78727*	26.83	17996.00	1604.99	13328.76	17996.00	0.57	0.76	922.64
Judy Creek	Lower	Judy Creek	3.38909*	27.43	17996.00	1545.56	13217.19	17996.00	0.57	0.79	1073.96
Judy Creek	Lower	Judy Creek	3.99090*	28.02	17996.00	1406.18	13330.41	17996.00	0.55	0.80	1224.15
Judy Creek	Lower	Judy Creek	4.59272*	28.59	17996.00	1318.50	13340.85	17996.00	0.53	0.82	1372.95
Judy Creek	Lower	Judy Creek	5.19454*	29.17	17996.00	1312.03	13226.68	17996.00	0.54	0.84	1520.27
Judy Creek	Lower	Judy Creek	5.79636*	29.78	17996.00	1370.86	12871.54	17996.00	0.57	0.90	1666.46
Judy Creek	Lower	Judy Creek	6.39818*	30.39	17996.00	1433.48	12961.99	17996.00	0.59	0.91	1811.79
Judy Creek	Lower	Judy Creek	7.0	31.28	17996.00	2447.09	9759.79	17996.00	0.79	1.27	1958.38
Judy Creek	Lower	Judy Creek	7.42500*	31.93	16660.00	1657.69	12006.52	16660.00	0.67	0.92	2106.16
Judy Creek	Lower	Judy Creek	7.85000*	32.66	16660.00	1494.28	13765.76	16660.00	0.71	0.72	2257.81
Judy Creek	Lower	Judy Creek	8.27500*	33.51	16660.00	1317.75	13669.06	16660.00	0.65	1.17	2414.56
Judy Creek	Lower	Judy Creek	8.70000*	34.24	16660.00	1173.00	14143.00	16660.00	0.67	1.09	2576.10
Judy Creek	Lower	Judy Creek	9.12500*	34.92	16660.00	960.22	14739.24	16660.00	0.68	0.94	2740.73
Judy Creek	Lower	Judy Creek	9.55000*	35.46	16660.00	646.23	15482.00	16660.00	0.62	0.70	2906.69
Judy Creek	Lower	Judy Creek	9.975*	35.95	16660.00	502.47	15855.87	16660.00	0.62	0.59	3072.24
Judy Creek	Lower	Judy Creek	10.4*	36.47	16660.00	395.89	16116.88	16660.00	0.58	0.48	3236.93
Judy Creek	Lower	Judy Creek	10.825*	37.01	16660.00	314.28	16292.55	16660.00	0.55	0.37	3400.82
Judy Creek	Lower	Judy Creek	11.25*	37.57	16660.00	264.17	16377.69	16660.00	0.54	0.33	3563.82
Judy Creek	Lower	Judy Creek	11.675*	38.14	16660.00	229.61	16421.47	16660.00	0.54	0.41	3725.77
Judy Creek	Lower	Judy Creek	12.1*	38.75	16660.00	226.33	16420.34	16660.00	0.60	0.63	3886.69
Judy Creek	Lower	Judy Creek	12.525*	39.39	16660.00	231.06	16408.02	16660.00	0.67	0.73	4046.79
Judy Creek	Lower	Judy Creek	12.95*	40.04	16660.00	241.83	16388.30	16660.00	0.75	0.82	4205.96
Judy Creek	Lower	Judy Creek	13.375*	40.73	16660.00	280.69	16337.76	16660.00	0.89	0.93	4364.09
Judy Creek	Lower	Judy Creek	13.8	41.44	16660.00	316.59	16298.91	16660.00	0.99	0.81	4521.27
Judy Creek	Lower	Judy Creek	14.2705*	42.19	15461.00	273.00	15152.60	15461.00	0.89	0.66	4688.27
Judy Creek	Lower	Judy Creek	14.7411*	42.77	15461.00	200.59	15235.73	15461.00	0.74	0.52	4855.25
Judy Creek	Lower	Judy Creek	15.2117*	43.33	15461.00	176.09	15264.57	15461.00	0.71	0.49	5020.72
Judy Creek	Lower	Judy Creek	15.6823*	43.85	15461.00	152.30	15292.37	15461.00	0.67	0.47	5184.27
Judy Creek	Lower	Judy Creek	16.1529*	44.37	15461.00	117.99	15329.36	15461.00	0.57	0.47	5345.61
Judy Creek	Lower	Judy Creek	16.6235*	44.92	15461.00	106.52	15344.79	15461.00	0.56	0.41	5504.92
Judy Creek	Lower	Judy Creek	17.0941*	45.50	15461.00	97.16	15355.94	15461.00	0.54	0.39	5662.64
Judy Creek	Lower	Judy Creek	17.5647*	46.10	15461.00	77.67	15377.02	15461.00	0.46	0.38	5819.16
Judy Creek	Lower	Judy Creek	18.0352*	46.71	15461.00	71.37	15385.32	15461.00	0.45	0.31	5974.73
Judy Creek	Lower	Judy Creek	18.5058*	47.34	15461.00	58.63	15399.07	15461.00	0.39	0.29	6129.60
Judy Creek	Lower	Judy Creek	18.9764*	47.98	15461.00	54.70	15403.47	15461.00	0.37	0.19	6284.01
Judy Creek	Lower	Judy Creek	19.4470*	48.64	15461.00	51.33	15404.13	15461.00	0.36	0.15	6438.15
Judy Creek	Lower	Judy Creek	19.9176*	49.28	15461.00	42.15	15408.51	15461.00	0.30	0.18	6591.96
Judy Creek	Lower	Judy Creek	20.3882*	49.86	15461.00	36.52	15409.95	15461.00	0.28	0.20	6744.85
Judy Creek	Lower	Judy Creek	20.8588*	50.43	15461.00	33.10	15408.82	15461.00	0.28	0.21	6896.33
Judy Creek	Lower	Judy Creek	21.3294*	51.01	15461.00	27.51	15405.87	15461.00	0.25	0.19	7046.42
Judy Creek	Lower	Judy Creek	21.8	51.62	15461.00	25.63	15369.01	15461.00	0.24	0.28	7195.39
Judy Creek	Lower	Judy Creek	22.26*	52.28	14199.00	18.79	14105.67	14199.00	0.20	0.23	7342.40
Judy Creek	Lower	Judy Creek	22.72*	52.79	14199.00	12.70	14122.25	14199.00	0.19	0.20	7489.42
Judy Creek	Lower	Judy Creek	23.18*	53.32	14199.00	6.80	14129.14	14199.00	0.15	0.22	7635.23
Judy Creek	Lower	Judy Creek	23.64*	53.87	14199.00	3.38	14145.33	14199.00	0.13	0.20	7779.95
Judy Creek	Lower	Judy Creek	24.1*	54.45	14199.00	1.63	14160.92	14199.00	0.12	0.17	7923.73
Judy Creek	Lower	Judy Creek	24.56*	55.05	14199.00	0.54	14174.99	14199.00	0.09	0.14	8066.74
Judy Creek	Lower	Judy Creek	25.02*	55.68	14199.00	0.10	14184.86	14199.00	0.06	0.12	8209.18
Judy Creek	Lower	Judy Creek	25.48*	56.32	14199.00	0.00	14184.06	14199.00	0.02	0.16	8351.24
Judy Creek	Lower	Judy Creek	25.94*	56.98	14199.00		14185.79	14199.00		0.16	8493.01
Judy Creek	Lower	Judy Creek	26.4*	57.65	14199.00		14185.98	14199.00		0.18	8634.58
Judy Creek	Lower	Judy Creek	26.86*	58.34	14199.00		14182.89	14199.00		0.23	8776.05
Judy Creek	Lower	Judy Creek	27.32*	59.04	14199.00		14180.26	14199.00		0.26	8917.46
Judy Creek	Lower	Judy Creek	27.78*	59.74	14199.00		14176.27	14199.00		0.29	9058.82
Judy Creek	Lower	Judy Creek	28.24*	60.43	14199.00		14173.11	14199.00		0.32	9199.92
Judy Creek	Lower	Judy Creek	28.7*	61.06	14199.00		14167.22	14199.00		0.42	9339.87
Judy Creek	Lower	Judy Creek	29.16*	61.65	14199.00		14165.22	14199.00		0.47	9477.48
Judy Creek	Lower	Judy Creek	29.62*	62.22	14199.00		14162.81	14199.00		0.47	9611.96

Judy Creek	Lower Judy Creek	30.08*	62.78	14199.00	14157.02	14199.00	0.48	9742.87
Judy Creek	Lower Judy Creek	30.54*	63.42	14199.00	14085.98	14199.00	0.34	9870.74
Judy Creek	Lower Judy Creek	31.0	64.13	14199.00	13699.17	14199.00	0.45	9996.76

Profile Output Table - User Defined Table #2

River	Reach	River Sta	W.S. Elev (ft)	Flow Area L (sq ft)	Flow Area R (sq ft)	Flow Area Ch (sq ft)	Hydr Depth L (ft)	Hydr Depth R (ft)	Hydr Depth C (ft)
Fish Creek	Lower	Fish Creek 0.7	5.36	12881.12	2040.56	68398.54	3.42	1.30	3.42
Fish Creek	Lower	Fish Creek 1.54615*	5.68	14160.70	1797.37	57179.85	3.12	1.10	3.07
Fish Creek	Lower	Fish Creek 2.39230*	6.05	15240.91	1615.38	47394.13	2.86	1.08	2.75
Fish Creek	Lower	Fish Creek 3.23846*	6.51	16513.34	1657.42	40077.65	2.73	1.09	2.68
Fish Creek	Lower	Fish Creek 4.08461*	7.09	8426.60	1931.41	37082.03	1.26	1.18	3.34
Fish Creek	Lower	Fish Creek 4.93076*	7.72	10566.29	2349.30	35513.36	1.43	1.30	3.80
Fish Creek	Lower	Fish Creek 5.77692*	8.25	12225.69	2645.97	33038.48	1.56	1.36	4.19
Fish Creek	Lower	Fish Creek 6.62307*	8.75	13641.74	2849.60	30213.27	1.61	1.30	4.59
Fish Creek	Lower	Fish Creek 7.46923*	9.24	15176.30	3134.72	27220.42	1.67	1.27	4.99
Fish Creek	Lower	Fish Creek 8.31538*	9.74	16786.96	3540.02	24005.80	1.72	1.28	5.37
Fish Creek	Lower	Fish Creek 9.16153*	10.29	18920.21	3624.78	20578.23	1.82	1.22	5.73
Fish Creek	Lower	Fish Creek 10.0076*	10.86	21480.28	4172.54	16822.52	1.96	1.19	6.14
Fish Creek	Lower	Fish Creek 10.8538*	11.49	24817.92	3681.07	12641.28	2.17	1.53	6.54
Fish Creek	Lower	Fish Creek 11.7	12.13	28491.47	4136.93	7900.70	2.36	1.65	6.88
Fish Creek	Lower	Fish Creek 12.6	12.53	29652.87	4376.74	5377.05	2.45	1.74	9.55
Fish Creek	Lower	Fish Creek 13.4285*	13.06	26758.81	4207.00	5292.25	2.32	1.94	9.48
Fish Creek	Lower	Fish Creek 14.2571*	13.68	23507.37	6322.34	5212.58	2.26	1.74	9.39
Fish Creek	Lower	Fish Creek 15.0857*	14.33	21386.50	6848.76	5155.18	2.34	1.88	9.33
Fish Creek	Lower	Fish Creek 15.9142*	15.01	19989.83	7220.69	5110.17	2.54	1.96	9.28
Fish Creek	Lower	Fish Creek 16.7428*	15.70	19027.15	7234.36	5062.15	2.67	1.93	9.21
Fish Creek	Lower	Fish Creek 17.5714*	16.38	18105.42	7176.64	5013.51	2.86	1.92	9.15
Fish Creek	Lower	Fish Creek 18.4	17.03	16981.97	7079.78	4948.94	2.96	1.86	9.12
Fish Creek	Lower	Fish Creek 19.2375*	17.63	15808.25	4119.88	4884.98	2.88	1.53	9.60
Fish Creek	Lower	Fish Creek 20.075*	18.45	8676.93	5567.01	4920.76	1.98	1.89	10.09
Fish Creek	Lower	Fish Creek 20.9125*	19.46	7311.34	7874.81	5019.24	3.41	2.35	10.67
Fish Creek	Lower	Fish Creek 21.75*	20.26	7904.36	9830.22	4984.31	3.24	2.84	10.99
Fish Creek	Lower	Fish Creek 22.5875*	21.00	8474.31	11662.92	4888.65	2.93	3.30	11.16
Fish Creek	Lower	Fish Creek 23.425*	21.65	8726.28	13232.98	4723.54	2.50	3.69	11.14
Fish Creek	Lower	Fish Creek 24.2625*	22.30	9389.35	14269.39	4520.88	2.35	3.93	11.00
Fish Creek	Lower	Fish Creek 25.1	23.00	10435.23	14737.08	4282.93	2.27	4.00	10.74
Fish Creek	Lower	Fish Creek 26.09	23.94	9057.75	13586.63	4143.93	2.14	3.69	10.55
Fish Creek	Upper	Fish Creek 26.85	24.86	5712.47	3863.14	3813.13	1.49	1.61	11.33
Fish Creek	Upper	Fish Creek 27.6428*	25.81	6634.23	3246.27	3895.81	2.03	2.18	11.86
Fish Creek	Upper	Fish Creek 28.4357*	26.55	8369.40	5157.65	3903.12	3.16	2.82	12.17
Fish Creek	Upper	Fish Creek 29.2285*	27.02	9581.67	6961.71	3822.11	3.72	3.18	12.16
Fish Creek	Upper	Fish Creek 30.0214*	27.36	10445.30	8699.95	3698.94	4.17	3.44	12.08
Fish Creek	Upper	Fish Creek 30.8142*	27.62	11042.71	10406.47	3551.63	4.51	3.65	12.03
Fish Creek	Upper	Fish Creek 31.6071*	27.83	11386.45	12081.39	3387.29	4.76	3.80	11.95
Fish Creek	Upper	Fish Creek 32.4	28.01	11362.15	13665.50	3211.16	4.84	3.90	11.81
Fish Creek	Upper	Fish Creek 33.3083*	28.19	8572.48	9219.44	3143.27	3.95	2.88	11.14
Fish Creek	Upper	Fish Creek 34.2166*	28.59	6183.75	5810.96	3126.76	3.09	2.13	10.70
Fish Creek	Upper	Fish Creek 35.125*	29.32	4604.40	3767.50	3203.10	2.50	1.69	10.58
Fish Creek	Upper	Fish Creek 36.0333*	30.35	3680.90	2809.11	3372.31	2.16	1.60	10.78
Fish Creek	Upper	Fish Creek 36.9416*	31.49	3030.79	2434.32	3585.75	1.92	1.85	11.10
Fish Creek	Upper	Fish Creek 37.85*	32.65	2463.00	2394.71	3811.12	1.70	2.06	11.43
Fish Creek	Upper	Fish Creek 38.7583*	33.79	1939.60	2402.19	4041.77	1.47	2.33	11.76
Fish Creek	Upper	Fish Creek 39.6666*	34.87	1404.20	2396.30	4258.09	1.19	2.35	12.03
Fish Creek	Upper	Fish Creek 40.575*	35.87	896.41	2369.20	4456.20	0.95	3.00	12.23
Fish Creek	Upper	Fish Creek 41.4833*	36.82	506.96	2311.94	4638.51	0.72	3.15	12.38
Fish Creek	Upper	Fish Creek 42.3916*	37.72	802.47	2232.35	4807.48	0.39	3.28	12.49
Fish Creek	Upper	Fish Creek 43.3	38.51	4017.94	2089.56	4926.24	2.49	3.33	12.47
Judy Creek	Lower	Judy Creek 0.38	24.74	4673.40	10268.70	3039.85	2.18	2.69	9.18
Judy Creek	Lower	Judy Creek .981819*	25.06	3617.59	7075.00	2927.55	1.33	1.85	8.97
Judy Creek	Lower	Judy Creek 1.58363*	25.57	2897.50	4627.95	2875.92	1.20	1.42	8.92

Judy Creek	Lower	Judy Creek	2.18545*	26.22	2843.23	4035.47	2872.71	1.36	2.17	8.99
Judy Creek	Lower	Judy Creek	2.78727*	26.83	2822.23	4037.41	2854.64	1.22	2.28	9.02
Judy Creek	Lower	Judy Creek	3.38909*	27.43	2714.00	4080.68	2836.81	1.08	2.32	9.05
Judy Creek	Lower	Judy Creek	3.99090*	28.02	2558.72	4091.08	2812.49	1.13	2.31	9.07
Judy Creek	Lower	Judy Creek	4.59272*	28.59	2492.73	4089.49	2784.36	1.13	2.29	9.08
Judy Creek	Lower	Judy Creek	5.19454*	29.17	2413.54	4093.16	2757.05	1.08	2.27	9.09
Judy Creek	Lower	Judy Creek	5.79636*	29.78	2419.42	4161.96	2741.44	1.06	2.28	9.13
Judy Creek	Lower	Judy Creek	6.39818*	30.39	2422.85	3948.68	2724.88	1.03	2.14	9.18
Judy Creek	Lower	Judy Creek	7.0	31.28	3110.75	4554.51	2789.18	1.21	2.44	9.47
Judy Creek	Lower	Judy Creek	7.42500*	31.93	2486.30	3261.04	2855.66	1.04	1.80	9.71
Judy Creek	Lower	Judy Creek	7.85000*	32.66	2101.83	1933.36	2937.46	0.93	1.10	9.99
Judy Creek	Lower	Judy Creek	8.27500*	33.51	2041.87	1435.19	3050.09	0.94	2.56	10.36
Judy Creek	Lower	Judy Creek	8.70000*	34.24	1739.99	1235.84	3120.42	0.85	2.48	10.59
Judy Creek	Lower	Judy Creek	9.12500*	34.92	1402.33	1022.78	3168.32	0.93	2.16	10.75
Judy Creek	Lower	Judy Creek	9.55000*	35.46	1049.83	762.38	3171.42	1.03	1.75	10.78
Judy Creek	Lower	Judy Creek	9.975*	35.95	810.51	508.81	3152.45	1.48	1.35	10.73
Judy Creek	Lower	Judy Creek	10.4*	36.47	683.02	304.16	3138.29	1.39	0.96	10.78
Judy Creek	Lower	Judy Creek	10.825*	37.01	575.32	145.12	3122.15	1.25	0.63	10.82
Judy Creek	Lower	Judy Creek	11.25*	37.57	490.97	54.52	3104.23	1.16	0.54	10.85
Judy Creek	Lower	Judy Creek	11.675*	38.14	421.52	21.80	3082.12	1.07	0.47	10.87
Judy Creek	Lower	Judy Creek	12.1*	38.75	375.05	21.04	3064.91	1.00	1.41	10.90
Judy Creek	Lower	Judy Creek	12.525*	39.39	346.08	28.56	3050.84	0.97	1.74	10.95
Judy Creek	Lower	Judy Creek	12.95*	40.04	321.08	36.26	3029.15	0.93	2.06	10.97
Judy Creek	Lower	Judy Creek	13.375*	40.73	315.00	44.62	3011.34	1.09	2.41	11.01
Judy Creek	Lower	Judy Creek	13.8	41.44	319.95	54.91	2992.72	1.26	1.93	11.04
Judy Creek	Lower	Judy Creek	14.2705*	42.19	307.89	53.94	3017.07	1.34	1.69	11.08
Judy Creek	Lower	Judy Creek	14.7411*	42.77	271.46	47.70	2992.10	1.83	1.61	10.94
Judy Creek	Lower	Judy Creek	15.2117*	43.33	246.65	41.53	2962.56	2.26	1.54	10.79
Judy Creek	Lower	Judy Creek	15.6823*	43.85	226.21	34.84	2923.15	2.53	1.50	10.60
Judy Creek	Lower	Judy Creek	16.1529*	44.37	207.60	28.82	2883.15	2.37	1.46	10.41
Judy Creek	Lower	Judy Creek	16.6235*	44.92	191.43	23.90	2849.82	2.22	1.41	10.25
Judy Creek	Lower	Judy Creek	17.0941*	45.50	178.92	20.08	2826.14	2.08	1.31	10.12
Judy Creek	Lower	Judy Creek	17.5647*	46.10	167.94	16.73	2806.44	1.95	1.20	10.00
Judy Creek	Lower	Judy Creek	18.0352*	46.71	158.96	13.90	2791.83	1.83	1.08	9.91
Judy Creek	Lower	Judy Creek	18.5058*	47.34	151.86	11.54	2781.66	1.71	0.94	9.83
Judy Creek	Lower	Judy Creek	18.9764*	47.98	146.68	15.07	2775.21	1.61	0.21	9.77
Judy Creek	Lower	Judy Creek	19.4470*	48.64	143.11	36.52	2771.66	1.51	0.39	9.71
Judy Creek	Lower	Judy Creek	19.9176*	49.28	139.12	58.42	2763.33	1.46	0.56	9.64
Judy Creek	Lower	Judy Creek	20.3882*	49.86	129.82	73.60	2738.90	1.38	0.69	9.52
Judy Creek	Lower	Judy Creek	20.8588*	50.43	120.27	89.58	2712.21	1.30	0.74	9.39
Judy Creek	Lower	Judy Creek	21.3294*	51.01	112.19	145.55	2689.33	1.23	0.72	9.27
Judy Creek	Lower	Judy Creek	21.8	51.62	106.18	236.93	2671.40	1.18	1.25	9.17
Judy Creek	Lower	Judy Creek	22.26*	52.28	91.78	323.84	2695.37	1.06	1.08	9.13
Judy Creek	Lower	Judy Creek	22.72*	52.79	66.18	314.42	2671.82	0.80	0.83	8.92
Judy Creek	Lower	Judy Creek	23.18*	53.32	43.95	286.39	2651.01	0.56	0.74	8.73
Judy Creek	Lower	Judy Creek	23.64*	53.87	26.10	251.84	2631.83	0.42	0.68	8.56
Judy Creek	Lower	Judy Creek	24.1*	54.45	13.80	212.69	2616.90	0.30	0.53	8.40
Judy Creek	Lower	Judy Creek	24.56*	55.05	6.00	167.11	2603.93	0.20	0.38	8.25
Judy Creek	Lower	Judy Creek	25.02*	55.68	1.70	115.10	2595.74	0.10	0.24	8.12
Judy Creek	Lower	Judy Creek	25.48*	56.32	0.07	92.95	2590.28	0.02	0.36	8.00
Judy Creek	Lower	Judy Creek	25.94*	56.98		80.20	2585.20		0.35	7.90
Judy Creek	Lower	Judy Creek	26.4*	57.65		73.39	2582.65		0.35	7.81
Judy Creek	Lower	Judy Creek	26.86*	58.34		71.47	2581.75		0.35	7.72
Judy Creek	Lower	Judy Creek	27.32*	59.04		73.21	2580.58		0.37	7.63
Judy Creek	Lower	Judy Creek	27.78*	59.74		77.83	2579.62		0.40	7.54
Judy Creek	Lower	Judy Creek	28.24*	60.43		81.61	2571.36		0.45	7.44
Judy Creek	Lower	Judy Creek	28.7*	61.06		76.24	2537.63		0.52	7.26
Judy Creek	Lower	Judy Creek	29.16*	61.65		72.05	2485.78		0.88	7.04
Judy Creek	Lower	Judy Creek	29.62*	62.22		76.36	2423.39		1.39	6.79

Judy Creek	Lower Judy Creek	30.08*	62.78	86.83	2355.76	0.85	6.53
Judy Creek	Lower Judy Creek	30.54*	63.42	333.21	2312.14	0.60	6.34
Judy Creek	Lower Judy Creek	31.0	64.13	1106.32	2288.13	0.87	6.19

Profile Output Table - User Defined Table #3

River	Reach	River Sta	W.S. Elev (ft)	Mann Wtd Chnl	Mann Wtd Left	Mann Wtd Right
Fish Creek	Lower	Fish Creek 0.7	5.36	0.053	0.055	0.065
Fish Creek	Lower	Fish Creek 1.54615*	5.68	0.052	0.055	0.067
Fish Creek	Lower	Fish Creek 2.39230*	6.05	0.051	0.055	0.069
Fish Creek	Lower	Fish Creek 3.23846*	6.51	0.050	0.055	0.072
Fish Creek	Lower	Fish Creek 4.08461*	7.09	0.050	0.054	0.074
Fish Creek	Lower	Fish Creek 4.93076*	7.72	0.050	0.054	0.076
Fish Creek	Lower	Fish Creek 5.77692*	8.25	0.048	0.054	0.078
Fish Creek	Lower	Fish Creek 6.62307*	8.75	0.048	0.054	0.081
Fish Creek	Lower	Fish Creek 7.46923*	9.24	0.048	0.054	0.083
Fish Creek	Lower	Fish Creek 8.31538*	9.74	0.048	0.054	0.085
Fish Creek	Lower	Fish Creek 9.16153*	10.29	0.047	0.053	0.087
Fish Creek	Lower	Fish Creek 10.0076*	10.86	0.047	0.053	0.090
Fish Creek	Lower	Fish Creek 10.8538*	11.49	0.048	0.053	0.092
Fish Creek	Lower	Fish Creek 11.7	12.13	0.048	0.046	0.092
Fish Creek	Lower	Fish Creek 12.6	12.53	0.022	0.047	0.089
Fish Creek	Lower	Fish Creek 13.4285*	13.06	0.025	0.048	0.082
Fish Creek	Lower	Fish Creek 14.2571*	13.68	0.024	0.049	0.078
Fish Creek	Lower	Fish Creek 15.0857*	14.33	0.023	0.051	0.073
Fish Creek	Lower	Fish Creek 15.9142*	15.01	0.023	0.052	0.069
Fish Creek	Lower	Fish Creek 16.7428*	15.70	0.021	0.053	0.064
Fish Creek	Lower	Fish Creek 17.5714*	16.38	0.021	0.054	0.055
Fish Creek	Lower	Fish Creek 18.4	17.03	0.020	0.050	0.055
Fish Creek	Lower	Fish Creek 19.2375*	17.63	0.021	0.052	0.057
Fish Creek	Lower	Fish Creek 20.075*	18.45	0.023	0.054	0.059
Fish Creek	Lower	Fish Creek 20.9125*	19.46	0.021	0.056	0.061
Fish Creek	Lower	Fish Creek 21.75*	20.26	0.021	0.058	0.063
Fish Creek	Lower	Fish Creek 22.5875*	21.00	0.023	0.060	0.064
Fish Creek	Lower	Fish Creek 23.425*	21.65	0.022	0.062	0.066
Fish Creek	Lower	Fish Creek 24.2625*	22.30	0.022	0.064	0.068
Fish Creek	Lower	Fish Creek 25.1	23.00	0.023	0.067	0.070
Fish Creek	Lower	Fish Creek 26.09	23.94	0.021	0.063	0.067
Fish Creek	Upper	Fish Creek 26.85	24.86	0.027	0.061	0.065
Fish Creek	Upper	Fish Creek 27.6428*	25.81	0.029	0.059	0.063
Fish Creek	Upper	Fish Creek 28.4357*	26.55	0.029	0.056	0.061
Fish Creek	Upper	Fish Creek 29.2285*	27.02	0.030	0.054	0.059
Fish Creek	Upper	Fish Creek 30.0214*	27.36	0.029	0.052	0.057
Fish Creek	Upper	Fish Creek 30.8142*	27.62	0.029	0.050	0.054
Fish Creek	Upper	Fish Creek 31.6071*	27.83	0.029	0.047	0.055
Fish Creek	Upper	Fish Creek 32.4	28.01	0.029	0.045	0.050
Fish Creek	Upper	Fish Creek 33.3083*	28.19	0.028	0.045	0.049
Fish Creek	Upper	Fish Creek 34.2166*	28.59	0.028	0.044	0.048
Fish Creek	Upper	Fish Creek 35.125*	29.32	0.028	0.044	0.048
Fish Creek	Upper	Fish Creek 36.0333*	30.35	0.028	0.043	0.047
Fish Creek	Upper	Fish Creek 36.9416*	31.49	0.028	0.043	0.046
Fish Creek	Upper	Fish Creek 37.85*	32.65	0.028	0.043	0.046
Fish Creek	Upper	Fish Creek 38.7583*	33.79	0.029	0.042	0.045
Fish Creek	Upper	Fish Creek 39.6666*	34.87	0.029	0.042	0.044
Fish Creek	Upper	Fish Creek 40.575*	35.87	0.029	0.041	0.043
Fish Creek	Upper	Fish Creek 41.4833*	36.82	0.029	0.041	0.043
Fish Creek	Upper	Fish Creek 42.3916*	37.72	0.029	0.040	0.042
Fish Creek	Upper	Fish Creek 43.3	38.51	0.029	0.040	0.041
Judy Creek	Lower	Judy Creek 0.38	24.74	0.023	0.050	0.065
Judy Creek	Lower	Judy Creek .981819*	25.06	0.023	0.050	0.063
Judy Creek	Lower	Judy Creek 1.58363*	25.57	0.023	0.050	0.061

Judy Creek	Lower	Judy Creek	2.18545*	26.22	0.023	0.050	0.059
Judy Creek	Lower	Judy Creek	2.78727*	26.83	0.023	0.050	0.057
Judy Creek	Lower	Judy Creek	3.38909*	27.43	0.023	0.050	0.055
Judy Creek	Lower	Judy Creek	3.99090*	28.02	0.022	0.050	0.053
Judy Creek	Lower	Judy Creek	4.59272*	28.59	0.022	0.050	0.052
Judy Creek	Lower	Judy Creek	5.19454*	29.17	0.022	0.050	0.050
Judy Creek	Lower	Judy Creek	5.79636*	29.78	0.023	0.050	0.048
Judy Creek	Lower	Judy Creek	6.39818*	30.39	0.023	0.050	0.046
Judy Creek	Lower	Judy Creek	7.0	31.28	0.038	0.050	0.044
Judy Creek	Lower	Judy Creek	7.42500*	31.93	0.029	0.050	0.044
Judy Creek	Lower	Judy Creek	7.85000*	32.66	0.030	0.050	0.045
Judy Creek	Lower	Judy Creek	8.27500*	33.51	0.029	0.050	0.045
Judy Creek	Lower	Judy Creek	8.70000*	34.24	0.029	0.050	0.046
Judy Creek	Lower	Judy Creek	9.12500*	34.92	0.027	0.050	0.046
Judy Creek	Lower	Judy Creek	9.55000*	35.46	0.022	0.050	0.046
Judy Creek	Lower	Judy Creek	9.975*	35.95	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	10.4*	36.47	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	10.825*	37.01	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	11.25*	37.57	0.022	0.050	0.048
Judy Creek	Lower	Judy Creek	11.675*	38.14	0.022	0.050	0.048
Judy Creek	Lower	Judy Creek	12.1*	38.75	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	12.525*	39.39	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	12.95*	40.04	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	13.375*	40.73	0.024	0.050	0.050
Judy Creek	Lower	Judy Creek	13.8	41.44	0.024	0.050	0.050
Judy Creek	Lower	Judy Creek	14.2705*	42.19	0.023	0.050	0.050
Judy Creek	Lower	Judy Creek	14.7411*	42.77	0.022	0.060	0.060
Judy Creek	Lower	Judy Creek	15.2117*	43.33	0.021	0.060	0.060
Judy Creek	Lower	Judy Creek	15.6823*	43.85	0.020	0.060	0.060
Judy Creek	Lower	Judy Creek	16.1529*	44.37	0.020	0.070	0.060
Judy Creek	Lower	Judy Creek	16.6235*	44.92	0.020	0.070	0.070
Judy Creek	Lower	Judy Creek	17.0941*	45.50	0.020	0.070	0.070
Judy Creek	Lower	Judy Creek	17.5647*	46.10	0.020	0.080	0.070
Judy Creek	Lower	Judy Creek	18.0352*	46.71	0.020	0.080	0.080
Judy Creek	Lower	Judy Creek	18.5058*	47.34	0.020	0.090	0.080
Judy Creek	Lower	Judy Creek	18.9764*	47.98	0.020	0.090	0.080
Judy Creek	Lower	Judy Creek	19.4470*	48.64	0.020	0.090	0.090
Judy Creek	Lower	Judy Creek	19.9176*	49.28	0.019	0.100	0.090
Judy Creek	Lower	Judy Creek	20.3882*	49.86	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	20.8588*	50.43	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	21.3294*	51.01	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	21.8	51.62	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	22.26*	52.28	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	22.72*	52.79	0.018	0.100	0.100
Judy Creek	Lower	Judy Creek	23.18*	53.32	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	23.64*	53.87	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	24.1*	54.45	0.018	0.090	0.090
Judy Creek	Lower	Judy Creek	24.56*	55.05	0.018	0.090	0.090
Judy Creek	Lower	Judy Creek	25.02*	55.68	0.018	0.090	0.080
Judy Creek	Lower	Judy Creek	25.48*	56.32	0.018	0.090	0.080
Judy Creek	Lower	Judy Creek	25.94*	56.98	0.018	0.080	0.080
Judy Creek	Lower	Judy Creek	26.4*	57.65	0.018	0.080	0.080
Judy Creek	Lower	Judy Creek	26.86*	58.34	0.018	0.070	0.070
Judy Creek	Lower	Judy Creek	27.32*	59.04	0.018	0.070	0.070
Judy Creek	Lower	Judy Creek	27.78*	59.74	0.018	0.070	0.070
Judy Creek	Lower	Judy Creek	28.24*	60.43	0.017	0.070	0.070
Judy Creek	Lower	Judy Creek	28.7*	61.06	0.016	0.060	0.060
Judy Creek	Lower	Judy Creek	29.16*	61.65	0.015	0.060	0.060
Judy Creek	Lower	Judy Creek	29.62*	62.22	0.014	0.060	0.060

Judy Creek	Lower Judy Creek	30.08*	62.78	0.014	0.060
Judy Creek	Lower Judy Creek	30.54*	63.42	0.014	0.060
Judy Creek	Lower Judy Creek	31.0	64.13	0.014	0.054

Profile Output Table - User Defined Table #4

River	Reach	River Sta	W.S. Elev (ft)	Shear Chan (lb/sq ft)	Shear LOB (lb/sq ft)	Shear ROB (lb/sq ft)	Power Chan (lb/ft s)	Power LOB (lb/ft s)	Power ROB (lb/ft s)
Fish Creek	Lower	Fish Creek 0.7	5.36	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 1.54615*	5.68	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 2.39230*	6.05	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 3.23846*	6.51	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 4.08461*	7.09	0.03	0.01	0.01	0.03	0.01	0.00
Fish Creek	Lower	Fish Creek 4.93076*	7.72	0.03	0.01	0.01	0.03	0.01	0.00
Fish Creek	Lower	Fish Creek 5.77692*	8.25	0.03	0.01	0.01	0.03	0.00	0.00
Fish Creek	Lower	Fish Creek 6.62307*	8.75	0.03	0.01	0.01	0.04	0.00	0.00
Fish Creek	Lower	Fish Creek 7.46923*	9.24	0.04	0.01	0.01	0.04	0.01	0.00
Fish Creek	Lower	Fish Creek 8.31538*	9.74	0.04	0.01	0.01	0.05	0.01	0.00
Fish Creek	Lower	Fish Creek 9.16153*	10.29	0.05	0.02	0.01	0.07	0.01	0.00
Fish Creek	Lower	Fish Creek 10.0076*	10.86	0.06	0.02	0.01	0.09	0.01	0.00
Fish Creek	Lower	Fish Creek 10.8538*	11.49	0.07	0.02	0.02	0.13	0.02	0.01
Fish Creek	Lower	Fish Creek 11.7	12.13	0.08	0.03	0.02	0.15	0.02	0.01
Fish Creek	Lower	Fish Creek 12.6	12.53	0.07	0.02	0.01	0.24	0.01	0.00
Fish Creek	Lower	Fish Creek 13.4285*	13.06	0.09	0.02	0.02	0.32	0.02	0.01
Fish Creek	Lower	Fish Creek 14.2571*	13.68	0.10	0.02	0.02	0.37	0.02	0.01
Fish Creek	Lower	Fish Creek 15.0857*	14.33	0.11	0.03	0.02	0.40	0.02	0.01
Fish Creek	Lower	Fish Creek 15.9142*	15.01	0.11	0.03	0.02	0.41	0.02	0.01
Fish Creek	Lower	Fish Creek 16.7428*	15.70	0.10	0.03	0.02	0.41	0.02	0.01
Fish Creek	Lower	Fish Creek 17.5714*	16.38	0.10	0.03	0.02	0.41	0.02	0.01
Fish Creek	Lower	Fish Creek 18.4	17.03	0.09	0.03	0.02	0.39	0.02	0.01
Fish Creek	Lower	Fish Creek 19.2375*	17.63	0.12	0.04	0.02	0.53	0.03	0.01
Fish Creek	Lower	Fish Creek 20.075*	18.45	0.19	0.04	0.04	0.99	0.03	0.02
Fish Creek	Lower	Fish Creek 20.9125*	19.46	0.15	0.05	0.03	0.75	0.04	0.02
Fish Creek	Lower	Fish Creek 21.75*	20.26	0.13	0.04	0.03	0.63	0.03	0.02
Fish Creek	Lower	Fish Creek 22.5875*	21.00	0.13	0.04	0.04	0.60	0.03	0.03
Fish Creek	Lower	Fish Creek 23.425*	21.65	0.13	0.03	0.04	0.57	0.02	0.03
Fish Creek	Lower	Fish Creek 24.2625*	22.30	0.13	0.03	0.05	0.59	0.02	0.03
Fish Creek	Lower	Fish Creek 25.1	23.00	0.14	0.03	0.05	0.62	0.02	0.04
Fish Creek	Lower	Fish Creek 26.09	23.94	0.14	0.03	0.05	0.72	0.02	0.04
Fish Creek	Upper	Fish Creek 26.85	24.86	0.18	0.02	0.03	0.78	0.01	0.01
Fish Creek	Upper	Fish Creek 27.6428*	25.81	0.16	0.03	0.03	0.63	0.02	0.02
Fish Creek	Upper	Fish Creek 28.4357*	26.55	0.11	0.03	0.03	0.35	0.02	0.01
Fish Creek	Upper	Fish Creek 29.2285*	27.02	0.08	0.03	0.02	0.23	0.02	0.01
Fish Creek	Upper	Fish Creek 30.0214*	27.36	0.06	0.02	0.02	0.16	0.02	0.01
Fish Creek	Upper	Fish Creek 30.8142*	27.62	0.05	0.02	0.02	0.12	0.01	0.01
Fish Creek	Upper	Fish Creek 31.6071*	27.83	0.05	0.02	0.01	0.09	0.01	0.01
Fish Creek	Upper	Fish Creek 32.4	28.01	0.04	0.02	0.01	0.07	0.01	0.01
Fish Creek	Upper	Fish Creek 33.3083*	28.19	0.07	0.02	0.02	0.17	0.02	0.01
Fish Creek	Upper	Fish Creek 34.2166*	28.59	0.12	0.03	0.02	0.41	0.03	0.02
Fish Creek	Upper	Fish Creek 35.125*	29.32	0.17	0.04	0.03	0.71	0.04	0.02
Fish Creek	Upper	Fish Creek 36.0333*	30.35	0.20	0.04	0.03	0.86	0.04	0.03
Fish Creek	Upper	Fish Creek 36.9416*	31.49	0.20	0.03	0.03	0.88	0.03	0.03
Fish Creek	Upper	Fish Creek 37.85*	32.65	0.19	0.03	0.04	0.86	0.02	0.03
Fish Creek	Upper	Fish Creek 38.7583*	33.79	0.19	0.02	0.04	0.81	0.02	0.04
Fish Creek	Upper	Fish Creek 39.6666*	34.87	0.18	0.02	0.04	0.74	0.01	0.04
Fish Creek	Upper	Fish Creek 40.575*	35.87	0.17	0.01	0.04	0.68	0.01	0.05
Fish Creek	Upper	Fish Creek 41.4833*	36.82	0.16	0.01	0.04	0.63	0.00	0.05
Fish Creek	Upper	Fish Creek 42.3916*	37.72	0.15	0.00	0.04	0.57	0.00	0.04
Fish Creek	Upper	Fish Creek 43.3	38.51	0.11	0.02	0.03	0.33	0.02	0.03
Judy Creek	Lower	Judy Creek 0.38	24.74	0.08	0.02	0.02	0.27	0.01	0.01
Judy Creek	Lower	Judy Creek .981819*	25.06	0.13	0.02	0.03	0.53	0.01	0.01
Judy Creek	Lower	Judy Creek 1.58363*	25.57	0.17	0.02	0.03	0.80	0.01	0.01

Judy Creek	Lower	Judy Creek	2.18545*	26.22	0.16	0.02	0.04	0.73	0.01	0.03
Judy Creek	Lower	Judy Creek	2.78727*	26.83	0.16	0.02	0.04	0.73	0.01	0.03
Judy Creek	Lower	Judy Creek	3.38909*	27.43	0.16	0.02	0.04	0.73	0.01	0.03
Judy Creek	Lower	Judy Creek	3.99090*	28.02	0.15	0.02	0.04	0.70	0.01	0.03
Judy Creek	Lower	Judy Creek	4.59272*	28.59	0.15	0.02	0.04	0.72	0.01	0.03
Judy Creek	Lower	Judy Creek	5.19454*	29.17	0.15	0.02	0.04	0.73	0.01	0.03
Judy Creek	Lower	Judy Creek	5.79636*	29.78	0.16	0.02	0.04	0.74	0.01	0.04
Judy Creek	Lower	Judy Creek	6.39818*	30.39	0.16	0.02	0.04	0.77	0.01	0.04
Judy Creek	Lower	Judy Creek	7.0	31.28	0.24	0.03	0.06	0.83	0.02	0.08
Judy Creek	Lower	Judy Creek	7.42500*	31.93	0.20	0.02	0.04	0.85	0.01	0.03
Judy Creek	Lower	Judy Creek	7.85000*	32.66	0.26	0.02	0.03	1.22	0.02	0.02
Judy Creek	Lower	Judy Creek	8.27500*	33.51	0.23	0.02	0.06	1.02	0.01	0.07
Judy Creek	Lower	Judy Creek	8.70000*	34.24	0.22	0.02	0.05	1.00	0.01	0.06
Judy Creek	Lower	Judy Creek	9.12500*	34.92	0.20	0.02	0.04	0.93	0.01	0.04
Judy Creek	Lower	Judy Creek	9.55000*	35.46	0.15	0.01	0.02	0.72	0.01	0.02
Judy Creek	Lower	Judy Creek	9.975*	35.95	0.16	0.02	0.02	0.79	0.01	0.01
Judy Creek	Lower	Judy Creek	10.4*	36.47	0.16	0.02	0.01	0.84	0.01	0.01
Judy Creek	Lower	Judy Creek	10.825*	37.01	0.17	0.02	0.01	0.88	0.01	0.00
Judy Creek	Lower	Judy Creek	11.25*	37.57	0.17	0.02	0.01	0.90	0.01	0.00
Judy Creek	Lower	Judy Creek	11.675*	38.14	0.17	0.02	0.01	0.92	0.01	0.00
Judy Creek	Lower	Judy Creek	12.1*	38.75	0.19	0.02	0.02	1.02	0.01	0.02
Judy Creek	Lower	Judy Creek	12.525*	39.39	0.20	0.02	0.03	1.05	0.01	0.02
Judy Creek	Lower	Judy Creek	12.95*	40.04	0.20	0.02	0.04	1.07	0.01	0.03
Judy Creek	Lower	Judy Creek	13.375*	40.73	0.22	0.02	0.05	1.17	0.02	0.04
Judy Creek	Lower	Judy Creek	13.8	41.44	0.22	0.03	0.04	1.19	0.02	0.03
Judy Creek	Lower	Judy Creek	14.2705*	42.19	0.17	0.02	0.03	0.85	0.02	0.02
Judy Creek	Lower	Judy Creek	14.7411*	42.77	0.16	0.03	0.02	0.82	0.02	0.01
Judy Creek	Lower	Judy Creek	15.2117*	43.33	0.15	0.03	0.02	0.77	0.02	0.01
Judy Creek	Lower	Judy Creek	15.6823*	43.85	0.14	0.03	0.02	0.74	0.02	0.01
Judy Creek	Lower	Judy Creek	16.1529*	44.37	0.15	0.03	0.02	0.78	0.02	0.01
Judy Creek	Lower	Judy Creek	16.6235*	44.92	0.15	0.03	0.02	0.82	0.02	0.01
Judy Creek	Lower	Judy Creek	17.0941*	45.50	0.15	0.03	0.02	0.84	0.02	0.01
Judy Creek	Lower	Judy Creek	17.5647*	46.10	0.16	0.03	0.02	0.87	0.01	0.01
Judy Creek	Lower	Judy Creek	18.0352*	46.71	0.16	0.03	0.02	0.88	0.01	0.01
Judy Creek	Lower	Judy Creek	18.5058*	47.34	0.16	0.03	0.02	0.90	0.01	0.00
Judy Creek	Lower	Judy Creek	18.9764*	47.98	0.16	0.03	0.00	0.91	0.01	0.00
Judy Creek	Lower	Judy Creek	19.4470*	48.64	0.16	0.03	0.01	0.91	0.01	0.00
Judy Creek	Lower	Judy Creek	19.9176*	49.28	0.15	0.02	0.01	0.83	0.01	0.00
Judy Creek	Lower	Judy Creek	20.3882*	49.86	0.14	0.02	0.01	0.77	0.01	0.00
Judy Creek	Lower	Judy Creek	20.8588*	50.43	0.14	0.02	0.01	0.80	0.01	0.00
Judy Creek	Lower	Judy Creek	21.3294*	51.01	0.14	0.02	0.01	0.82	0.00	0.00
Judy Creek	Lower	Judy Creek	21.8	51.62	0.15	0.02	0.02	0.84	0.00	0.01
Judy Creek	Lower	Judy Creek	22.26*	52.28	0.12	0.01	0.01	0.63	0.00	0.00
Judy Creek	Lower	Judy Creek	22.72*	52.79	0.12	0.01	0.01	0.65	0.00	0.00
Judy Creek	Lower	Judy Creek	23.18*	53.32	0.13	0.01	0.01	0.67	0.00	0.00
Judy Creek	Lower	Judy Creek	23.64*	53.87	0.13	0.01	0.01	0.70	0.00	0.00
Judy Creek	Lower	Judy Creek	24.1*	54.45	0.13	0.00	0.01	0.72	0.00	0.00
Judy Creek	Lower	Judy Creek	24.56*	55.05	0.13	0.00	0.01	0.73	0.00	0.00
Judy Creek	Lower	Judy Creek	25.02*	55.68	0.14	0.00	0.00	0.74	0.00	0.00
Judy Creek	Lower	Judy Creek	25.48*	56.32	0.14	0.00	0.01	0.75	0.00	0.00
Judy Creek	Lower	Judy Creek	25.94*	56.98	0.14		0.01	0.76		0.00
Judy Creek	Lower	Judy Creek	26.4*	57.65	0.14		0.01	0.77		0.00
Judy Creek	Lower	Judy Creek	26.86*	58.34	0.14		0.01	0.77		0.00
Judy Creek	Lower	Judy Creek	27.32*	59.04	0.14		0.01	0.77		0.00
Judy Creek	Lower	Judy Creek	27.78*	59.74	0.14		0.01	0.78		0.00
Judy Creek	Lower	Judy Creek	28.24*	60.43	0.13		0.01	0.70		0.00
Judy Creek	Lower	Judy Creek	28.7*	61.06	0.12		0.01	0.65		0.00
Judy Creek	Lower	Judy Creek	29.16*	61.65	0.11		0.01	0.62		0.01
Judy Creek	Lower	Judy Creek	29.62*	62.22	0.10		0.02	0.58		0.01

Judy Creek	Lower Judy Creek	30.08*	62.78	0.11	0.01	0.64	0.01
Judy Creek	Lower Judy Creek	30.54*	63.42	0.11	0.01	0.68	0.00
Judy Creek	Lower Judy Creek	31.0	64.13	0.11	0.02	0.65	0.01

HEC-RAS Run, Fish and Judy Creeks, 100-Year Flood

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X   X  XXXXXX   XXXX   XXXX   XX   XXXX
X   X X         X  X     X X   X X   X
X   X X         X     X  X X   X  X   X
XXXXXXXX XXXX   X     XXX XXXX   XXXXXX   XXXX
X   X X         X     X  X   X  X   X
X   X X         X  X     X  X   X  X   X
X   X  XXXXXX   XXXX   X  X   X  X   XXXXX
  
```

100-YEAR FLOOD, FISH AND JUDY CREEKS

PROJECT DATA

Project Title: 2001 Back Water Analysis
 Project File : 26feb02.prj
 Run Date and Time: 2/26/2002 4:11:25 PM

Project in English units

PLAN DATA

Plan Title: 100-Year Flood Plan
 Plan File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.p08

Geometry Title: 100-year Flood Geometry
 Geometry File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g16

Flow Title : 100-year Flood Flow Data
 Flow File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f13

Plan Summary Information:

Number of:	Cross Sections =	116	Multitple Openings =	0
	Culverts =	0	Inline Weirs =	0
	Bridges =	0		

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculaton tolerance =	0.01
Maximum number of interations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary	
Conveyance Calculation Method:	At breaks in n values only
Friction Slope Method:	Average Friction Slope
Computational Flow Regime:	Subcritical Flow

FLOW DATA

Flow Title: 100-year Flood Flow Data
 Flow File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f13

Flow Data (cfs)

River	Reach	RS	100-Year Flood
Fish Creek	Upper Fish Creek	43.3	24119
Fish Creek	Upper Fish Creek	32.4	24499
Fish Creek	Upper Fish Creek	26.85	24798
Fish Creek	Lower Fish Creek	26.09	42051
Fish Creek	Lower Fish Creek	25.1	42101
Fish Creek	Lower Fish Creek	18.4	43249
Fish Creek	Lower Fish Creek	12.6	43995
Fish Creek	Lower Fish Creek	11.7	43995
Fish Creek	Lower Fish Creek	0.7	51116
Judy Creek	Lower Judy Creek	31.0	16455
Judy Creek	Lower Judy Creek	21.8	17888
Judy Creek	Lower Judy Creek	13.8	19248
Judy Creek	Lower Judy Creek	7.0	20760
Judy Creek	Lower Judy Creek	0.38	21289

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Fish Creek	Lower Fish Creek	100-Year Flood		Normal S = .000075

GEOMETRY DATA

Geometry Title: 100-year Flood Geometry
 Geometry File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g16

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Fish Creek	Upper Fish Creek		Fish Junct.
Fish Creek	Lower Fish Creek	Fish Junct.	
Judy Creek	Lower Judy Creek		Fish Junct.

JUNCTION INFORMATION

Name: Fish Junct.
 Description: Confluence of Fish and Judy Creek
 Energy computation Method

Length across Junction River	Reach	Tributary River	Reach	Length	Angle

Fish Creek Upper Fish Creek to Fish Creek Lower Fish Creek 3915
 Judy Creek Lower Judy Creek to Fish Creek Lower Fish Creek 3694

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 43.3

INPUT

Description: Cross Section at River Mile 43.3

Station Elevation Data num= 62											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3	95.5	63.1	87.2	195.6	35	1377.1	35.7	1387.5	37.1		
1507	37.6	1802.5	39	1914.9	40.9	2104.3	38.2	2170.4	38.4		
2182.2	37.3	2197.8	27.1	2203.6	25.7	2212.1	21.6	2222.7	18.7		
2231.9	19.3	2242.5	18.7	2252.4	19.1	2261.6	21.5	2272.2	22.2		
2282.1	23.4	2292.8	23.5	2302	24	2311.9	24.2	2322.5	25		
2332.4	24.9	2342.3	25.3	2351.9	25.7	2405.5	27.5	2452.6	27.9		
2505.3	28.1	2551.4	28.1	2562.1	29.4	2577.3	34.4	2587.3	35.1		
2721.7	40.7	2906.1	42.2	3074.5	34.9	3160.8	34.5	3185	35.9		
3475.7	32.8	3562.3	42.5	3907.5	44.9	4205.9	44.9	4504.3	43.2		
4806.6	41.6	5103.9	39.6	5129.4	39.7	5282.4	39.8	5407.4	40.5		
5701.3	42.8	5925.6	43.2	6115.3	51.7	6309.9	55.6	6604.2	56.5		
6910.5	54.9	7207.6	52.8	7509.9	53.1	7808.3	51.6	8106.9	54.4		
8409.5	53.4	8705.2	56.6								

Manning's n Values num= 4							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
3	.04	2182.2	.027	2562.1	.07	2721.7	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 2182.2 2577.3 1903.5 4751.08 1745.42 .1 .3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
3	2170.4	31.63	2562.1	8705.2	31.63

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	39.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.040	0.029	0.041
W.S. Elev (ft)	39.09	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	4996.42	5154.68	2461.53
E.G. Slope (ft/ft)	0.000140	Area (sq ft)	4996.42	5154.68	2461.53
Q Total (cfs)	24119.00	Flow (cfs)	4537.58	17004.95	2576.48
Top Width (ft)	2816.98	Top Width (ft)	1762.35	395.10	659.52
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)	0.91	3.30	1.05
Max Chl Dpth (ft)	20.39	Hydr. Depth (ft)	2.84	13.05	3.73
Conv. Total (cfs)	2036804.0	Conv. (cfs)	383189.8	1436036.0	217578.5
Length Wtd. (ft)	4062.41	Wetted Per. (ft)	1763.28	402.93	660.13
Min Ch El (ft)	18.70	Shear (lb/sq ft)	0.02	0.11	0.03
Alpha	2.17	Stream Power (lb/ft s)	0.02	0.37	0.03
Frctn Loss (ft)	0.69	Cum Volume (acre-ft)	7229.70	8265.45	6217.09
C & E Loss (ft)	0.01	Cum SA (acres)	1935.31	647.98	1696.51

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 42.3916*

INPUT

Description: Interpolated Cross Section at River Mile 42.39

Station Elevation Data num= 154											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.75	93.31	77.59	85.42	102.3	78.16	198.07	50.39	242.58	37.5		
266.58	37.52	305.9	37.1	386.03	37.04	479.14	37.12	574.75	37.11		
676.79	37.21	760.81	37.27	862.64	37.72	956.16	37.67	1010.33	37.57		
1044.37	37.28	1120.15	37.56	1228.92	37.63	1270.14	37.66	1334.67	37.61		
1427.27	37.29	1461.38	37.05	1525.6	37.14	1613.87	37.11	1695.17	37.65		
1713.79	37.71	1723.85	38.74	1726.74	38.96	1743.34	38.64	1782.6	37.5		
1812.83	37.4	1875.54	37.76	1921.76	38.05	1953	37.38	1977.44	37.13		
2016.89	37.08	2092.76	37.22	2186.47	37.53	2243.5	37.66	2281	38.08		
2306.08	38.42	2383.46	39.33	2481.03	38.24	2559.2	37.46	2580.2	37.33		
2593.78	36.94	2619.3	36.75	2701.61	37.17	2713.39	36.4	2716.3	36.17		
2719.46	34.24	2721.85	32.55	2724.96	30.71	2730.06	27.89	2733.4	26.06		
2735.2	25.69	2739.75	24.76	2740.3	24.54	2745.4	22.48	2749.07	21		
2750.49	20.67	2755.59	19.49	2760.68	18.28	2769.12	18.82	2778.83	18.28		
2788.36	18.66	2796.28	20.63	2797.22	20.87	2807.42	21.53	2813.73	22.28		
2816.95	22.66	2827.25	22.78	2831.18	22.99	2836.11	23.29	2845.64	23.55		
2849.15	23.84	2855.84	24.32	2865.37	24.23	2874.9	24.6	2884.15	24.98		
2931.34	26.51	2935.74	26.65	2981.08	27.05	3013.18	27.18	3031.81	27.19		
3045.98	27.15	3063.96	26.97	3072.86	26.94	3076.19	26.98	3080.36	27.52		
3085.77	28.28	3086.49	28.39	3101.12	33.37	3111.49	34.08	3112.41	34.13		
3250.85	39.22	3255.48	39.25	3442.04	40.58	3563.17	35.93	3616.65	33.89		
3706.13	33.55	3731.22	34.84	3799.83	34.2	3898.18	33.35	3948.94	33.46		
4032.64	32.43	4083.73	37.34	4122.43	41.14	4283.73	42.01	4480.35	43.11		
4502.5	43.1	4691.43	43.03	4789.75	43	4896.61	42.44	5086.54	41.67		
5099.14	41.61	5412.58	40.3	5720.84	38.62	5735.79	38.68	5747.28	38.78		
5905.92	39.69	5976.7	40.41	6035.53	40.86	6121.7	41.68	6215.24	42.39		
6340.26	43.27	6430.19	43.43	6572.83	43.62	6637.38	46.16	6769.52	51.33		
6855.5	52.82	6971.29	54.91	7083.03	55.26	7276.44	55.79	7281.74	55.77		
7509.13	54.51	7594.02	54.11	7743.71	53.17	7902.07	52.18	7999.93	52.27		
8161.19	52.41	8215.51	52.46	8372.04	51.78	8524.91	50.96	8595.19	51.47		
8756.8	52.82	8834.52	53.64	8907.06	53.6	9071.62	53.02	9148.27	52.61		
9186.86	52.88	9318.42	54.17	9360.04	54.93	9454.87	56.27				

Manning's n Values num= 4											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
2.75	.04	2716.3	.027	3086.49	.07	3101.12	.042				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	2716.3	3101.12		1903.5	4751.08	1745.42	.1	.3

Blocked Obstructions num= 2						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	
2.75	2716.3	30.85	3101.12	9454.87	30.85	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	38.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.	0.040	0.029	0.042
W.S. Elev (ft)	38.31	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	2076.28	5032.39	2640.71
E.G. Slope (ft/ft)	0.000200	Area (sq ft)	2076.28	5032.39	2640.71
Q Total (cfs)	24119.00	Flow (cfs)	1032.48	19887.54	3198.98
Top Width (ft)	3366.24	Top Width (ft)	2264.16	384.82	717.26
Vel Total (ft/s)	2.47	Avg. Vel. (ft/s)	0.50	3.95	1.21
Max Chl Dpth (ft)	20.03	Hydr. Depth (ft)	0.92	13.08	3.68
Conv. Total (cfs)	1706969.0	Conv. (cfs)	73071.1	1407497.0	226400.8
Length Wtd. (ft)	4250.88	Wetted Per. (ft)	2264.38	390.19	717.78

Min Ch El (ft)	18.28	Shear (lb/sq ft)	0.01	0.16	0.05
Alpha	2.14	Stream Power (lb/ft s)	0.01	0.64	0.06
Frctn Loss (ft)	0.90	Cum Volume (acre-ft)	7075.17	7709.90	6114.87
C & E Loss (ft)	0.00	Cum SA (acres)	1847.33	605.45	1668.93

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 41.4833*

INPUT
 Description: Interpolated Cross Section at River Mile 41.48
 Station Elevation Data num= 154

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.5	91.12	92.07	83.64	121.66	76.93	236.28	51.7	289.55	40
318.28	40.03	365.34	39.18	461.25	39.01	572.7	39.13	687.13	39.07
809.28	39.21	909.84	39.29	1031.72	40.15	1143.65	40	1208.49	39.77
1249.24	39.18	1339.93	39.7	1470.13	39.79	1519.46	39.82	1596.7	39.7
1707.54	39.02	1748.37	38.52	1825.22	38.68	1930.89	38.56	2028.19	39.61
2050.47	39.72	2062.52	40.69	2065.97	40.82	2085.85	40.13	2132.84	37.71
2169.01	37.41	2244.08	37.93	2299.4	38.33	2336.79	36.86	2366.05	36.27
2413.27	36.03	2504.07	36.02	2616.24	36.27	2684.49	36.32	2729.38	36.66
2759.4	36.99	2852.01	37.76	2968.8	36.7	3062.36	36.02	3087.5	36.01
3103.76	35.39	3134.3	35.3	3232.81	35.95	3246.92	35.28	3250.4	35.03
3253.84	33.06	3256.44	31.12	3259.82	29.29	3265.36	26.69	3268.99	25.02
3270.96	24.68	3275.9	23.82	3276.5	23.62	3282.04	21.75	3286.03	20.4
3287.58	20.1	3293.12	19.01	3298.67	17.85	3306.33	18.35	3315.17	17.85
3324.33	18.21	3331.94	20.02	3332.84	20.24	3342.65	20.87	3348.71	21.56
3351.81	21.92	3361.71	22.06	3365.48	22.27	3370.22	22.58	3379.38	22.91
3382.76	23.2	3389.19	23.64	3398.35	23.57	3407.51	23.91	3416.39	24.25
3461.76	25.67	3465.99	25.81	3509.57	26.19	3540.42	26.34	3558.33	26.29
3571.95	26.2	3589.23	25.83	3597.78	25.78	3600.99	25.86	3604.99	26.4
3610.19	27.26	3610.89	27.37	3624.95	32.33	3635.69	33.07	3636.64	33.11
3779.99	37.73	3784.79	37.76	3977.99	38.96	4103.42	34.73	4158.8	32.89
4251.46	32.59	4277.44	33.77	4348.5	33.21	4450.34	32.52	4502.9	33.25
4589.57	32.06	4642.49	36.37	4682.55	39.79	4849.6	40.43	5053.2	41.32
5076.14	41.3	5271.78	41.15	5373.59	41.1	5484.25	40.56	5680.94	40.07
5693.99	40.03	6018.57	39	6337.78	37.64	6353.27	37.7	6365.16	37.85
6529.44	39.58	6602.74	40.64	6663.65	41.21	6752.9	42.21	6849.75	42.93
6979.22	43.75	7072.35	43.9	7220.05	44.03	7286.9	46.32	7423.73	50.96
7512.77	52.27	7632.68	54.23	7748.39	54.59	7948.67	55.08	7954.16	55.06
8189.64	53.69	8277.55	53.33	8432.56	52.47	8596.55	51.57	8697.89	51.64
8864.87	51.77	8921.13	51.83	9083.22	51.22	9241.52	50.31	9314.3	50.71
9481.66	51.95	9562.13	52.89	9637.25	53.02	9807.66	52.4	9887.04	51.81
9927	51.9510063.23		53.1610106.34		54.2610204.53		55.93		

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
2.5	.041	3250.4	.027	3610.89	.07	3624.95	.043

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 3250.4 3624.95 1903.5 4751.08 1745.42 .1 .3

Sta L	Sta R	Elev	Sta L	Sta R	Elev
2.5	3250.4	30.06	3624.95	10204.53	30.06

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	37.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.23	Wt. n-Val.	0.041	0.029	0.043
W.S. Elev (ft)	37.37	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	931.26	4845.57	2728.30
E.G. Slope (ft/ft)	0.000226	Area (sq ft)	931.26	4845.57	2728.30
Q Total (cfs)	24119.00	Flow (cfs)	548.10	20239.55	3331.35
Top Width (ft)	1985.24	Top Width (ft)	837.53	374.55	773.17
Vel Total (ft/s)	2.84	Avg. Vel. (ft/s)	0.59	4.18	1.22
Max Chl Dpth (ft)	19.52	Hydr. Depth (ft)	1.11	12.94	3.53
Conv. Total (cfs)	1605288.0	Conv. (cfs)	36480.1	1347084.0	221724.5
Length Wtd. (ft)	4245.47	Wetted Per. (ft)	837.59	379.46	773.60
Min Ch El (ft)	17.85	Shear (lb/sq ft)	0.02	0.18	0.05
Alpha	1.85	Stream Power (lb/ft s)	0.01	0.75	0.06
Frctn Loss (ft)	0.99	Cum Volume (acre-ft)	7009.46	7171.21	6007.30
C & E Loss (ft)	0.00	Cum SA (acres)	1779.56	564.03	1639.07

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 40.575*

INPUT

Description: Interpolated Cross Section at River Mile 40.58

Station Elevation Data		num= 154									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2.25	88.93	106.56	81.85	141.01	75.71	274.49	53.01	336.53	42.5		
369.98	42.53	424.79	41.25	536.48	40.98	666.26	41.13	799.52	41.02		
941.76	41.2	1058.86	41.31	1200.79	42.57	1331.15	42.33	1406.65	41.97		
1454.11	41.09	1559.72	41.84	1711.34	41.95	1768.79	41.99	1858.73	41.79		
1987.81	40.75	2035.35	39.98	2124.85	40.21	2247.9	40.01	2361.21	41.57		
2387.16	41.74	2401.19	42.64	2405.21	42.68	2428.35	41.62	2483.07	37.92		
2525.2	37.42	2612.61	38.09	2677.04	38.61	2720.58	36.35	2754.65	35.42		
2809.64	34.98	2915.38	34.82	3046	35.01	3125.49	34.98	3177.77	35.23		
3212.72	35.56	3320.57	36.2	3456.57	35.16	3565.53	34.59	3594.8	34.69		
3613.73	33.84	3649.3	33.85	3764.02	34.72	3780.45	34.16	3784.5	33.9		
3788.21	31.89	3791.03	29.69	3794.68	27.87	3800.67	25.49	3804.59	23.98		
3806.71	23.68	3812.06	22.88	3812.7	22.69	3818.69	21.01	3823	19.8		
3824.68	19.53	3830.66	18.53	3836.65	17.43	3843.55	17.88	3851.5	17.43		
3860.29	17.77	3867.59	19.41	3868.46	19.61	3877.87	20.2	3883.69	20.85		
3886.66	21.18	3896.16	21.34	3899.79	21.54	3904.33	21.87	3913.12	22.26		
3916.36	22.56	3922.53	22.96	3931.32	22.9	3940.11	23.21	3948.64	23.53		
3992.17	24.83	3996.23	24.96	4038.05	25.34	4067.66	25.49	4084.84	25.38		
4097.91	25.25	4114.49	24.7	4122.7	24.62	4125.78	24.75	4129.62	25.29		
4134.61	26.23	4135.28	26.36	4148.77	31.3	4159.88	32.05	4160.86	32.1		
4309.14	36.25	4314.1	36.28	4513.93	37.34	4643.67	33.53	4700.95	31.88		
4796.79	31.64	4823.67	32.71	4897.16	32.22	5002.5	31.69	5056.86	33.05		
5146.51	31.69	5201.24	35.39	5242.68	38.43	5415.46	38.86	5626.05	39.54		
5649.77	39.5	5852.13	39.28	5957.44	39.2	6071.9	38.68	6275.34	38.48		
6288.83	38.44	6624.56	37.7	6954.73	36.65	6970.74	36.72	6983.04	36.93		
7152.96	39.47	7228.77	40.86	7291.78	41.57	7384.09	42.74	7484.27	43.47		
7618.18	44.22	7714.5	44.37	7867.28	44.45	7936.42	46.49	8077.95	50.59		
8170.04	51.72	8294.07	53.54	8413.75	53.92	8620.91	54.37	8626.59	54.35		
8870.14	52.87	8961.07	52.54	9121.4	51.76	9291.02	50.95	9395.84	51.02		
9568.55	51.14	9626.74	51.19	9794.4	50.66	9958.13	49.67	10033.41	49.95		
10206.51	51.07	10289.75	52.13	10367.45	52.45	10543.7	51.78	10625.81	51.02		
10667.14	51.03	10808.05	52.16	10852.64	53.58	10954.2	55.6				

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 2.25 .041 3784.5 .027 4135.28 .07 4148.77 .043

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 3784.5 4148.77 1903.5 4751.08 1745.42 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 2.25 3784.5 29.29 4148.77 10954.2 29.29

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	36.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.041	0.029	0.043
W.S. Elev (ft)	36.38	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	1420.92	4642.73	2786.33
E.G. Slope (ft/ft)	0.000240	Area (sq ft)	1420.92	4642.73	2786.33
Q Total (cfs)	24119.00	Flow (cfs)	966.44	19804.29	3348.27
Top Width (ft)	2282.06	Top Width (ft)	1064.57	364.27	853.22
Vel Total (ft/s)	2.73	Avg. Vel. (ft/s)	0.68	4.27	1.20
Max Chl Dpth (ft)	18.95	Hydr. Depth (ft)	1.33	12.75	3.27
Conv. Total (cfs)	1557910.0	Conv. (cfs)	62424.8	1279212.0	216273.8
Length Wtd. (ft)	4192.47	Wetted Per. (ft)	1064.64	368.84	853.58
Min Ch El (ft)	17.43	Shear (lb/sq ft)	0.02	0.19	0.05
Alpha	2.04	Stream Power (lb/ft s)	0.01	0.80	0.06
Frctn Loss (ft)	1.04	Cum Volume (acre-ft)	6958.06	6653.77	5896.82
C & E Loss (ft)	0.00	Cum SA (acres)	1738.00	523.74	1606.48

Warning: Divided flow computed for this cross-section.

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 39.6666*

INPUT Description: Interpolated Cross Section at River Mile 39.67

Station Elevation Data num= 154									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
2 86.73 121.05 80.07 160.37 74.49 312.7 54.32 383.51 45									
421.68 45.04 484.23 43.32 611.7 42.95 759.82 43.14 911.91 42.97									
1074.24 43.2 1207.89 43.33 1369.87 45 1518.64 44.66 1604.81 44.18									
1658.97 42.99 1779.51 43.98 1952.54 44.11 2018.11 44.16 2120.76 43.88									
2268.07 42.48 2322.33 41.45 2424.48 41.74 2564.91 41.47 2694.24 43.53									
2723.84 43.75 2739.86 44.59 2744.44 44.54 2770.86 43.1 2833.31 38.13									
2881.39 37.43 2981.15 38.26 3054.68 38.88 3104.37 35.83 3143.26 34.56									
3206.01 33.93 3326.7 33.62 3475.77 33.76 3566.48 33.64 3626.15 33.81									
3666.04 34.13 3789.13 34.63 3944.34 33.62 4068.69 33.16 4102.1 33.37									
4123.71 32.29 4164.29 32.4 4295.23 33.5 4313.98 33.05 4318.6 32.77									
4322.59 30.71 4325.61 28.26 4329.54 26.45 4335.97 24.29 4340.18 22.95									
4342.47 22.67 4348.21 21.94 4348.9 21.77 4355.33 20.28 4359.97 19.2									
4361.77 18.96 4368.2 18.05 4374.63 17 4380.77 17.4 4387.83 17									
4396.25 17.32 4403.25 18.8 4404.08 18.98 4413.09 19.54 4418.67 20.13									
4421.52 20.44 4430.62 20.62 4434.09 20.81 4438.44 21.16 4446.86 21.62									
4449.97 21.92 4455.88 22.28 4464.3 22.23 4472.72 22.52 4480.88 22.8									
4522.59 24 4526.47 24.11 4566.54 24.49 4594.89 24.65 4611.36 24.47									

4623.88	24.3	4639.76	23.57	4647.62	23.47	4650.57	23.63	4654.25	24.18
4659.03	25.21	4659.67	25.35	4672.6	30.27	4684.07	31.04	4685.09	31.09
4838.29	34.77	4843.41	34.79	5049.87	35.73	5183.91	32.32	5243.1	30.88
5342.12	30.69	5369.89	31.64	5445.82	31.23	5554.65	30.86	5610.82	32.84
5703.44	31.31	5759.99	34.41	5802.81	37.08	5981.32	37.29	6198.9	37.75
6223.41	37.7	6432.48	37.4	6541.29	37.3	6659.54	36.81	6869.73	36.88
6883.68	36.86	7230.54	36.4	7571.67	35.67	7588.21	35.74	7600.93	36.01
7776.48	39.36	7854.81	41.09	7919.91	41.92	8015.28	43.27	8118.78	44
8257.14	44.69	8356.66	44.84	8514.5	44.86	8585.94	46.66	8732.17	50.22
8827.32	51.17	8955.45	52.85	9079.12	53.25	9293.14	53.67	9299.01	53.65
9550.65	52.05	9644.59	51.75	9810.25	51.05	9985.49	50.33	10093.79	50.4
10272.24	50.51	10332.36	50.55	10505.58	50.09	10674.75	49.03	10752.52	49.19
10931.37	50.21	11017.37	51.37	11097.64	51.88	11279.75	51.16	11364.58	50.22
11407.28	50.11	11552.87	51.15	11598.93	52.91	11703.87	55.27		

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
2	.042	4318.6	.027	4659.67	.07	4672.6	.044

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

4318.6	4672.6	1903.5	4751.08	1745.42	.1	.3
--------	--------	--------	---------	---------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
2	4318.6	28.51	4672.6	11703.87	28.51

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	35.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.042	0.029	0.044
W.S. Elev (ft)	35.34	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	1970.67	4426.32	2841.20
E.G. Slope (ft/ft)	0.000257	Area (sq ft)	1970.67	4426.32	2841.20
Q Total (cfs)	24119.00	Flow (cfs)	1557.63	19335.82	3225.56
Top Width (ft)	2554.74	Top Width (ft)	1199.25	354.00	1001.50
Vel Total (ft/s)	2.61	Avg. Vel. (ft/s)	0.79	4.37	1.14
Max Chl Dpth (ft)	18.34	Hydr. Depth (ft)	1.64	12.50	2.84
Conv. Total (cfs)	1503286.0	Conv. (cfs)	97083.4	1205160.0	201042.3
Length Wtd. (ft)	4139.10	Wetted Per. (ft)	1199.32	358.32	1001.81
Min Ch El (ft)	17.00	Shear (lb/sq ft)	0.03	0.20	0.05
Alpha	2.28	Stream Power (lb/ft s)	0.02	0.87	0.05
Frctn Loss (ft)	1.12	Cum Volume (acre-ft)	6883.96	6159.19	5784.07
C & E Loss (ft)	0.00	Cum SA (acres)	1688.54	484.57	1569.33

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m) between the current and previous cross section. This may indicate the need for additional cross sections.
Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
REACH: Upper Fish Creek RS: 38.7583*

INPUT Description: Interpolated Cross Section at River Mile 38.76

Station Elevation Data num= 154

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1.75	84.54	135.53	78.29	179.72	73.26	350.92	55.63	430.48	47.5
473.38	47.55	543.68	45.39	686.93	44.91	853.38	45.15	1024.29	44.93
1206.72	45.2	1356.92	45.35	1538.95	47.42	1706.14	46.99	1802.97	46.38

1863.84	44.89	1999.29	46.12	2193.75	46.27	2267.44	46.33	2382.79	45.97
2548.34	44.2	2609.32	42.92	2724.11	43.27	2881.92	42.92	3027.26	45.49
3060.53	45.76	3078.52	46.54	3083.68	46.4	3113.36	44.59	3183.55	38.33
3237.58	37.44	3349.69	38.42	3432.32	39.16	3488.16	35.31	3531.86	33.7
3602.39	32.87	3738.01	32.42	3905.54	32.5	4007.48	32.3	4074.53	32.38
4119.36	32.7	4257.68	33.06	4432.11	32.08	4571.85	31.73	4609.4	32.04
4633.68	30.75	4679.29	30.95	4826.43	32.27	4847.51	31.93	4852.7	31.63
4856.96	29.53	4860.2	26.83	4864.39	25.04	4871.27	23.09	4875.78	21.91
4878.22	21.66	4884.36	21	4885.1	20.85	4891.98	19.54	4896.94	18.6
4898.86	18.39	4905.74	17.57	4912.62	16.58	4917.98	16.92	4924.17	16.58
4932.22	16.88	4938.91	18.19	4939.7	18.34	4948.32	18.87	4953.65	19.41
4956.37	19.7	4965.07	19.9	4968.39	20.09	4972.55	20.46	4980.6	20.97
4983.57	21.28	4989.22	21.6	4997.27	21.57	5005.32	21.82	5013.13	22.08
5053	23.16	5056.72	23.26	5095.02	23.64	5122.13	23.81	5137.88	23.57
5149.84	23.35	5165.03	22.43	5172.55	22.31	5175.36	22.51	5178.88	23.07
5183.45	24.18	5184.06	24.33	5196.43	29.23	5208.27	30.02	5209.32	30.08
5367.43	33.28	5372.72	33.3	5585.81	34.11	5724.16	31.12	5785.25	29.87
5887.45	29.73	5916.11	30.58	5994.48	30.24	6106.81	30.02	6164.78	32.64
6260.38	30.94	6318.74	33.44	6362.93	35.72	6547.18	35.71	6771.75	35.96
6797.05	35.9	7012.84	35.53	7125.13	35.41	7247.19	34.93	7464.13	35.28
7478.52	35.27	7836.53	35.1	8188.61	34.69	8205.69	34.76	8218.81	35.08
8400	39.26	8480.85	41.31	8548.04	42.28	8646.47	43.8	8753.3	44.54
8896.09	45.16	8998.81	45.31	9161.73	45.28	9235.46	46.83	9386.38	49.86
9484.59	50.63	9616.84	52.17	9744.48	52.58	9965.38	52.96	9971.44	52.94
10231.16	51.23	10328.12	50.97	10499.09	50.35	10679.97	49.72	10791.74	49.77
10975.92	49.86	11037.97	49.91	11216.75	49.53	11391.36	48.39	11471.63	48.43
11656.22	49.32	11744.98	50.62	11827.84	51.31	12015.79	50.54	12103.34	49.43
12147.42	49.18	12297.68	50.14	12345.23	52.23	12453.53	54.93		

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 1.75 .042 4852.7 .027 5184.06 .07 5196.43 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 4852.7 5196.43 1903.5 4751.08 1745.42 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 1.75 4852.7 27.72 5196.43 12453.53 27.72

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	34.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.042	0.029	0.045
W.S. Elev (ft)	34.22	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	2512.36	4189.90	2874.57
E.G. Slope (ft/ft)	0.000283	Area (sq ft)	2512.36	4189.90	2874.57
Q Total (cfs)	24119.00	Flow (cfs)	2278.72	18878.71	2961.57
Top Width (ft)	2816.09	Top Width (ft)	1334.94	343.73	1137.42
Vel Total (ft/s)	2.52	Avg. Vel. (ft/s)	0.91	4.51	1.03
Max Chl Dpth (ft)	17.64	Hydr. Depth (ft)	1.88	12.19	2.53
Conv. Total (cfs)	1434036.0	Conv. (cfs)	135485.1	1122465.0	176085.2
Length Wtd. (ft)	4082.18	Wetted Per. (ft)	1335.02	347.88	1137.69
Min Ch El (ft)	16.58	Shear (lb/sq ft)	0.03	0.21	0.04
Alpha	2.54	Stream Power (lb/ft s)	0.03	0.96	0.05
Frctn Loss (ft)	1.17	Cum Volume (acre-ft)	6786.01	5689.30	5669.56
C & E Loss (ft)	0.00	Cum SA (acres)	1633.17	446.52	1526.47

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross

section. This may indicate the need for additional cross sections.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 37.85*

INPUT

Description: Interpolated Cross Section at River Mile 37.85

Station Elevation Data		num=		154	
Sta	Elev	Sta	Elev	Sta	Elev
1.5	82.35	150.02	76.51	199.08	72.04
525.09	50.06	603.13	47.47	762.15	46.88
1339.21	47.2	1505.94	47.37	1708.03	49.85
2068.7	46.79	2219.08	48.26	2434.96	48.43
2828.6	45.93	2896.3	44.39	3023.73	44.81
3397.21	47.77	3417.19	48.49	3422.92	48.27
3593.77	37.44	3718.23	38.59	3809.96	39.44
3998.76	31.82	4149.32	31.21	4335.3	31.24
4572.68	31.27	4726.24	31.49	4919.88	30.54
5143.65	29.2	5194.29	29.5	5357.64	31.04
5391.34	28.36	5394.78	25.39	5399.25	23.62
5413.98	20.65	5420.51	20.06	5421.3	19.93
5435.95	17.82	5443.28	17.09	5450.6	16.15
5468.18	16.43	5474.56	17.57	5475.32	17.71
5491.22	18.96	5499.52	19.18	5502.69	19.36
5517.18	20.64	5522.57	20.92	5530.25	20.9
5583.41	22.32	5586.96	22.42	5623.5	22.78
5675.81	22.4	5690.3	21.3	5697.47	21.15
5707.88	23.15	5708.46	23.32	5720.25	28.2
5896.58	31.8	5902.03	31.82	6121.76	32.49
6432.78	28.78	6462.33	29.51	6543.14	29.25
6817.31	30.57	6877.49	32.46	6923.06	34.37
7370.68	34.1	7593.19	33.65	7708.98	33.51
8073.36	33.69	8442.51	33.8	8805.55	33.71
9023.52	39.15	9106.88	41.54	9176.16	42.63
9535.05	45.64	9640.97	45.78	9808.95	45.69
10141.86	50.08	10278.23	51.48	10409.84	51.91
10911.66	50.41	11011.64	50.18	11187.93	49.64
11679.6	49.22	11743.59	49.28	11927.93	48.97
12381.07	48.45	12472.6	49.86	12558.03	50.73
12887.56	48.25	13042.5	49.14	13091.52	51.56

Manning's n Values		num=		3	
Sta	n Val	Sta	n Val	Sta	n Val
1.5	.043	5386.8	.028	5720.25	.046

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	5386.8	5720.25	1903.5	4751.08	1745.42	.1	.3	

Blocked Obstructions		num=		2	
Sta L	Sta R	Elev	Sta L	Sta R	Elev
1.5	5386.8	26.94	5720.25	13203.2	26.94

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	33.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.	0.043	0.028	0.046
W.S. Elev (ft)	33.05	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	3048.64	3944.50	2861.31
E.G. Slope (ft/ft)	0.000290	Area (sq ft)	3048.64	3944.50	2861.31

Q Total (cfs)	24119.00	Flow (cfs)	2914.51	18350.88	2853.62
Top Width (ft)	2976.11	Top Width (ft)	1471.43	333.45	1171.23
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	0.96	4.65	1.00
Max Chl Dpth (ft)	16.90	Hydr. Depth (ft)	2.07	11.83	2.44
Conv. Total (cfs)	1416846.0	Conv. (cfs)	171209.7	1078004.0	167632.9
Length Wtd. (ft)	3989.26	Wetted Per. (ft)	1471.51	337.52	1171.47
Min Ch El (ft)	16.15	Shear (lb/sq ft)	0.04	0.21	0.04
Alpha	2.79	Stream Power (lb/ft s)	0.04	0.98	0.04
Frctn Loss (ft)	1.18	Cum Volume (acre-ft)	6664.51	5245.69	5554.64
C & E Loss (ft)	0.00	Cum SA (acres)	1571.86	409.59	1480.22

Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 36.9416*

INPUT

Description: Interpolated Cross Section at River Mile 36.94

Station Elevation Data		num= 154									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1.25	80.16	164.51	74.73	218.43	70.82	427.34	58.25	524.43	52.5		
576.79	52.56	662.57	49.54	837.38	48.85	1040.5	49.16	1249.07	48.83		
1471.69	49.2	1654.97	49.39	1877.11	52.27	2081.13	51.65	2199.29	50.79		
2273.57	48.69	2438.87	50.4	2676.17	50.6	2766.08	50.66	2906.85	50.15		
3108.87	47.66	3183.28	45.86	3323.36	46.34	3515.94	45.83	3693.3	49.4		
3733.9	49.79	3755.86	50.45	3762.15	50.13	3798.37	47.56	3884.02	38.75		
3949.96	37.45	4086.77	38.75	4187.6	39.71	4255.74	34.28	4309.07	31.99		
4395.13	30.77	4560.64	30.01	4765.07	29.98	4889.47	29.62	4971.29	29.53		
5026	29.85	5194.8	29.92	5407.65	29	5578.18	28.86	5624	29.4		
5653.63	27.65	5709.29	28.05	5888.85	29.82	5914.56	29.69	5920.9	29.37		
5925.72	27.18	5929.37	23.96	5934.11	22.2	5941.88	20.7	5946.97	19.83		
5949.73	19.64	5956.66	19.12	5957.5	19.01	5965.27	18.07	5970.87	17.4		
5973.04	17.25	5980.81	16.61	5988.58	15.73	5992.42	15.97	5996.83	15.73		
6004.14	15.99	6010.22	16.96	6010.94	17.08	6018.77	17.54	6023.61	17.98		
6026.08	18.21	6033.98	18.46	6036.99	18.63	6040.77	19.04	6048.08	19.68		
6050.78	20	6055.91	20.24	6063.22	20.23	6070.53	20.43	6077.62	20.63		
6113.83	21.49	6117.21	21.57	6151.99	21.93	6176.61	22.12	6190.9	21.75		
6201.77	21.45	6215.56	20.17	6222.39	19.99	6224.95	20.28	6228.15	20.85		
6232.3	22.13	6232.85	22.3	6244.08	27.17	6256.66	27.99	6257.77	28.06		
6425.73	30.32	6431.34	30.33	6657.7	30.87	6804.66	28.71	6869.54	27.86		
6978.11	27.83	7008.55	28.45	7091.8	28.26	7211.12	28.36	7272.7	32.23		
7374.25	30.2	7436.24	31.48	7483.19	33.01	7678.9	32.57	7917.44	32.38		
7944.32	32.3	8173.54	31.77	8292.83	31.61	8422.48	31.18	8652.92	32.09		
8668.21	32.1	9048.5	32.5	9422.49	32.72	9440.63	32.8	9454.57	33.23		
9647.04	39.04	9732.92	41.77	9804.29	42.99	9908.85	44.85	10022.33	45.62		
10174.01	46.11	10283.12	46.25	10456.18	46.11	10534.5	47.16	10694.82	49.12		
10799.14	49.53	10939.62	50.79	11075.2	51.25	11309.84	51.54	11316.28	51.53		
11592.17	49.59	11695.17	49.41	11876.78	48.93	12068.91	48.48	12187.64	48.52		
12383.29	48.59	12449.2	48.64	12639.11	48.41	12824.58	47.11	12909.85	46.91		
13105.93	47.57	13200.21	49.11	13288.23	50.16	13487.88	49.31	13580.88	47.84		
13627.7	47.33	13787.32	48.13	13837.82	50.88	13952.87	54.27				

Manning's n Values		num= 3			
Sta	n Val	Sta	n Val	Sta	n Val
1.25	.043	5920.9	.028	6244.08	.046

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

5920.9 6244.08 1903.5 4751.08 1745.42 .1 .3
Blocked Obstructions num= 2
Sta L Sta R Elev Sta L Sta R Elev
0 5920.9 26.16 6244.0813952.87 26.16

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	32.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.043	0.028	0.046
W.S. Elev (ft)	31.87	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	3634.54	3708.46	2995.34
E.G. Slope (ft/ft)	0.000304	Area (sq ft)	3634.54	3708.46	2995.34
Q Total (cfs)	24119.00	Flow (cfs)	3777.55	17308.73	3032.72
Top Width (ft)	3576.52	Top Width (ft)	1603.59	323.18	1649.76
Vel Total (ft/s)	2.33	Avg. Vel. (ft/s)	1.04	4.67	1.01
Max Chl Dpth (ft)	16.14	Hydr. Depth (ft)	2.27	11.47	1.82
Conv. Total (cfs)	1383609.0	Conv. (cfs)	216702.8	992931.4	173974.8
Length Wtd. (ft)	3847.91	Wetted Per. (ft)	1603.67	327.23	1649.98
Min Ch El (ft)	15.73	Shear (lb/sq ft)	0.04	0.21	0.03
Alpha	2.93	Stream Power (lb/ft s)	0.04	1.00	0.03
Frctn Loss (ft)	1.17	Cum Volume (acre-ft)	6518.49	4828.34	5437.30
C & E Loss (ft)	0.01	Cum SA (acres)	1504.67	373.78	1423.70

Warning: Divided flow computed for this cross-section.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Fish Creek
REACH: Upper Fish Creek RS: 36.0333*

INPUT
Description: Interpolated Cross Section at River Mile 36.03

Station	Elevation	Data	num=	154					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1	77.97	178.99	72.94	237.78	69.59	465.55	59.56	571.41	55
628.49	55.07	722.02	51.61	912.6	50.82	1134.06	51.17	1361.45	50.79
1604.17	51.2	1803.99	51.42	2046.19	54.7	2268.62	53.98	2397.46	52.99
2478.44	50.59	2658.65	52.54	2917.37	52.76	3015.41	52.83	3168.88	52.24
3389.14	49.39	3470.27	47.33	3622.99	47.87	3832.95	47.28	4026.32	51.36
4070.59	51.8	4094.53	52.4	4101.39	51.99	4140.88	49.05	4234.25	38.96
4306.15	37.46	4455.3	38.91	4565.24	39.99	4639.54	33.76	4697.68	31.13
4791.51	29.71	4971.95	28.81	5194.83	28.73	5330.47	28.28	5419.67	28.1
5479.32	28.42	5663.35	28.35	5895.42	27.46	6081.35	27.43	6131.3	28.08
6163.6	26.1	6224.29	26.6	6420.05	28.59	6448.09	28.57	6455	28.23
6460.09	26.01	6463.96	22.53	6468.97	20.78	6477.19	19.5	6482.57	18.79
6485.48	18.63	6492.82	18.18	6493.7	18.09	6501.92	17.34	6507.84	16.8
6510.13	16.68	6518.35	16.12	6526.57	15.3	6529.63	15.5	6533.17	15.3
6540.11	15.54	6545.88	16.35	6546.56	16.45	6553.99	16.88	6558.58	17.26
6560.93	17.47	6568.43	17.74	6571.29	17.91	6574.88	18.33	6581.82	19.03
6584.38	19.36	6589.26	19.56	6596.2	19.57	6603.14	19.74	6609.87	19.91
6644.24	20.65	6647.45	20.72	6680.47	21.08	6703.85	21.28	6717.42	20.85
6727.74	20.5	6740.83	19.03	6747.31	18.83	6749.74	19.16	6752.78	19.74
6756.72	21.1	6757.24	21.29	6767.9	26.13	6780.85	26.98	6782	27.05
6954.87	28.84	6960.66	28.85	7193.64	29.25	7344.91	27.51	7411.69	26.86
7523.44	26.87	7554.77	27.38	7640.46	27.26	7763.28	27.53	7826.66	32.02
7931.18	29.83	7994.99	30.51	8043.31	31.65	8244.76	30.99	8490.29	30.59
8517.95	30.5	8753.89	29.9	8876.67	29.71	9010.12	29.3	9247.32	30.49
9263.05	30.52	9654.48	31.211	10039.44	31.741	10058.11	31.821	10072.45	32.31

10270.56	38.9310358.95	41.9910432.42	43.3410540.04	45.3810656.84	46.15
10812.97	46.5810925.28	46.72 11103.4	46.5211184.02	47.3311349.03	48.75
11456.41	48.9911601.01	50.1111740.56	50.5811982.08	50.8311988.71	50.82
12272.68	48.7812378.69	48.6112565.62	48.2312763.38	47.8712885.59	47.9
13086.97	47.9513154.81	48.13350.29	47.8513541.19	46.4613628.96	46.15
13830.78	46.713927.83	48.3514018.42	49.5914223.92	48.6814319.65	47.05
14367.84	46.414532.13	47.1314584.12	50.214702.53	53.93	

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 1 .043 6455 .028 6767.9 .047

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 6455 6767.9 1903.5 4751.08 1745.42 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 1 6455 25.37 6767.914702.53 25.37

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	30.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.	0.043	0.028	0.047
W.S. Elev (ft)	30.72	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	4319.55	3488.62	3521.14
E.G. Slope (ft/ft)	0.000304	Area (sq ft)	4319.55	3488.62	3521.14
Q Total (cfs)	24119.00	Flow (cfs)	4792.83	15983.52	3342.65
Top Width (ft)	4168.39	Top Width (ft)	1730.41	312.90	2125.08
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	1.11	4.58	0.95
Max Chl Dpth (ft)	15.42	Hydr. Depth (ft)	2.50	11.15	1.66
Conv. Total (cfs)	1382218.0	Conv. (cfs)	274668.7	915987.6	191561.3
Length Wtd. (ft)	3654.55	Wetted Per. (ft)	1730.51	317.00	2125.27
Min Ch El (ft)	15.30	Shear (lb/sq ft)	0.05	0.21	0.03
Alpha	3.15	Stream Power (lb/ft s)	0.05	0.96	0.03
Frctn Loss (ft)	1.04	Cum Volume (acre-ft)	6344.70	4435.85	5306.75
C & E Loss (ft)	0.02	Cum SA (acres)	1431.82	339.09	1348.08

Warning: Divided flow computed for this cross-section.
 Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 35.125*

INPUT
 Description: Interpolated Cross Section at River Mile 35.13
 Station Elevation Data num= 154

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.75	75.77	193.48	71.16	257.14	68.37	503.76	60.87	618.39	57.5
680.19	57.58	781.46	53.68	987.83	52.79	1227.62	53.18	1473.84	52.74
1736.65	53.2	1953.02	53.44	2215.26	57.12	2456.12	56.31	2595.62	55.19
2683.3	52.5	2878.44	54.68	3158.58	54.92	3264.73	55	3430.91	54.33
3669.4	51.12	3757.25	48.79	3922.62	49.4	4149.97	48.74	4359.34	53.32
4407.27	53.81	4433.2	54.35	4440.62	53.85	4483.38	50.54	4584.49	39.17
4662.33	37.47	4823.84	39.08	4942.88	40.27	5023.33	33.25	5086.28	30.27
5187.88	28.66	5383.26	27.61	5624.6	27.47	5771.46	26.94	5868.06	26.68
5932.64	26.99	6131.91	26.79	6383.19	25.92	6584.51	26	6638.6	26.76
6673.58	24.55	6739.29	25.15	6951.26	27.36	6981.62	27.45	6989.1	27.1
6994.47	24.83	6998.54	21.1	7003.83	19.36	7012.49	18.3	7018.16	17.75

7021.24	17.63	7028.97	17.24	7029.9	17.16	7038.56	16.6	7044.8	16.2
7047.23	16.11	7055.89	15.64	7064.55	14.88	7066.85	15.02	7069.5	14.88
7076.07	15.1	7081.53	15.74	7082.18	15.82	7089.21	16.21	7093.56	16.55
7095.79	16.73	7102.89	17.02	7105.6	17.18	7108.99	17.62	7115.56	18.39
7117.99	18.72	7122.6	18.88	7129.17	18.9	7135.74	19.04	7142.11	19.18
7174.66	19.81	7177.69	19.87	7208.95	20.22	7231.08	20.43	7243.93	19.94
7253.7	19.55	7266.1	17.9	7272.23	17.67	7274.53	18.04	7277.41	18.63
7281.14	20.08	7281.64	20.28	7291.73	25.1	7305.04	25.96	7306.22	26.03
7484.02	27.35	7489.97	27.36	7729.59	27.63	7885.16	26.31	7953.84	25.85
8068.77	25.92	8100.99	26.32	8189.12	26.27	8315.43	26.7	8380.62	31.82
8488.12	29.46	8553.75	29.53	8603.44	30.3	8810.62	29.42	9063.14	28.81
9091.59	28.7	9334.24	28.02	9460.52	27.81	9597.77	27.43	9841.71	28.89
9857.89	28.9310260.47		29.9110656.38		30.7610675.58		30.8410690.33		31.39
10894.08	38.8210984.99		42.2211060.55		43.711171.23		45.9111291.36		46.69
11451.93	47.0611567.43		47.1911750.63		46.9411833.54		47.512003.25		48.38
12113.68	48.44	12262.4	49.4212405.92		49.9112654.31		50.1212661.13		50.12
12953.18	47.9613062.21		47.8213254.47		47.5213457.86		47.2513583.55		47.27
13790.65	47.3113860.43		47.3614061.47		47.29	14257.8	45.8214348.07		45.38
14555.64	45.8214655.45		47.5914748.62		49.0214959.97		48.0615058.42		46.25
15107.98	45.4815276.95		46.1215330.41		49.53	15452.2	53.6		

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 .75 .044 6989.1 .028 7291.73 .048

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 6989.1 7291.73 1903.5 4751.08 1745.42 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .75 6989.1 24.6 7291.73 15452.2 24.6

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	29.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.044	0.028	0.048
W.S. Elev (ft)	29.72	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	5332.00	3321.77	4714.08
E.G. Slope (ft/ft)	0.000267	Area (sq ft)	5332.00	3321.77	4714.08
Q Total (cfs)	24119.00	Flow (cfs)	5919.21	14092.81	4106.98
Top Width (ft)	4761.39	Top Width (ft)	1867.83	302.63	2590.93
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	1.11	4.24	0.87
Max Chl Dpth (ft)	14.84	Hydr. Depth (ft)	2.85	10.98	1.82
Conv. Total (cfs)	1476427.0	Conv. (cfs)	362340.3	862681.4	251405.6
Length Wtd. (ft)	3374.81	Wetted Per. (ft)	1867.95	306.83	2591.10
Min Ch El (ft)	14.88	Shear (lb/sq ft)	0.05	0.18	0.03
Alpha	3.36	Stream Power (lb/ft s)	0.05	0.77	0.03
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	6133.82	4064.45	5141.76
C & E Loss (ft)	0.02	Cum SA (acres)	1353.21	305.53	1253.59

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 34.2166*

INPUT

Description: Interpolated Cross Section at River Mile 34.22

Station Elevation Data num= 154
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

.5	73.58	207.97	69.38	276.49	67.15	541.98	62.18	665.36	60
731.9	60.09	840.91	55.76	1063.05	54.76	1321.18	55.19	1586.23	54.69
1869.14	55.2	2102.05	55.46	2384.34	59.55	2643.61	58.64	2793.78	57.39
2888.17	54.4	3098.23	56.82	3399.79	57.08	3514.05	57.16	3692.94	56.42
3949.67	52.84	4044.23	50.26	4222.24	50.94	4466.98	50.19	4692.36	55.28
4743.96	55.82	4771.86	56.3	4779.86	55.71	4825.89	52.03	4934.73	39.38
5018.52	37.48	5192.38	39.24	5320.52	40.55	5407.12	32.73	5474.89	29.41
5584.25	27.61	5794.57	26.4	6054.37	26.21	6212.46	25.6	6316.44	25.25
6385.96	25.56	6600.47	25.22	6870.96	24.38	7087.67	24.56	7145.9	25.44
7183.55	23	7254.29	23.7	7482.47	26.14	7515.14	26.34	7523.2	25.97
7528.85	23.65	7533.13	19.66	7538.68	17.94	7547.79	17.1	7553.76	16.71
7556.99	16.62	7565.12	16.3	7566.1	16.24	7575.21	15.87	7581.77	15.6
7584.32	15.54	7593.42	15.16	7602.53	14.45	7604.07	14.55	7605.83	14.45
7612.03	14.65	7617.19	15.12	7617.8	15.19	7624.44	15.55	7628.54	15.83
7630.64	15.99	7637.34	16.3	7639.9	16.45	7643.1	16.91	7649.31	17.74
7651.59	18.08	7655.94	18.2	7662.15	18.23	7668.35	18.35	7674.36	18.46
7705.07	18.97	7707.94	19.03	7737.44	19.37	7758.32	19.59	7770.45	19.03
7779.67	18.6	7791.37	16.77	7797.16	16.52	7799.33	16.92	7802.04	17.52
7805.56	19.05	7806.03	19.26	7815.55	24.07	7829.24	24.95	7830.45	25.02
8013.17	25.87	8019.28	25.87	8265.53	26.02	8425.4	25.11	8495.99	24.85
8614.1	24.97	8647.22	25.26	8737.78	25.28	8867.59	25.86	8934.58	31.61
9045.05	29.09	9112.5	28.55	9163.57	28.94	9376.48	27.85	9635.99	27.02
9665.23	26.9	9914.6	26.1510044	36	25.9110185	41	25.5510436	11	27.29
10452.74	27.3410866	45	28.6111273	32	29.7811293	05	29.8611308	22	30.46
11517.6	38.7111611	03	42.4511688	67	44.0611802	42	46.4411925	87	47.23
12090.89	47.5312209	59	47.6612397	85	47.3612483	06	47.6612657	47	48.01
12770.95	47.8912923	79	48.7313071	28	49.2413326	55	49.4113333	55	49.41
13633.69	47.1413745	74	47.0413943	31	46.8114152	33	46.63	14281.5	46.65
14494.33	46.6714566	04	46.7314772	64	46.7214974	42	45.1715067	18	44.62
15280.49	44.9515383	06	46.8315478	81	48.4415696	01	47.4415797	19	45.46
15848.12	44.5516021	77	45.1116076	71	48.8516201	87	53.27		

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
.5	.044	7523.2	.028
		7815.55	.048

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	7523.2	7815.55		1903.5	4751.08	1745.42	.1	.3

Blocked Obstructions		num= 2			
Sta L	Sta R	Elev	Sta L	Sta R	Elev
.5	7523.2	23.82	7815.55	16201.87	23.82

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	29.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.044	0.028	0.048
W.S. Elev (ft)	29.02	Reach Len. (ft)	1903.50	4751.08	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	7032.68	3250.13	7032.34
E.G. Slope (ft/ft)	0.000178	Area (sq ft)	7032.68	3250.13	7032.34
Q Total (cfs)	24119.00	Flow (cfs)	7276.72	11363.31	5478.97
Top Width (ft)	5359.21	Top Width (ft)	2024.41	292.35	3042.45
Vel Total (ft/s)	1.39	Avg. Vel. (ft/s)	1.03	3.50	0.78
Max Chl Dpth (ft)	14.57	Hydr. Depth (ft)	3.47	11.12	2.31
Conv. Total (cfs)	1805598.0	Conv. (cfs)	544750.3	850680.9	410167.2
Length Wtd. (ft)	3045.77	Wetted Per. (ft)	2024.51	296.73	3042.64
Min Ch El (ft)	14.45	Shear (lb/sq ft)	0.04	0.12	0.03
Alpha	3.21	Stream Power (lb/ft s)	0.04	0.43	0.02
Frctn Loss (ft)	0.42	Cum Volume (acre-ft)	5863.66	3706.05	4906.42
C & E Loss (ft)	0.02	Cum SA (acres)	1268.16	273.08	1140.73

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 33.3083*

INPUT

Description: Interpolated Cross Section at River Mile 33.31

Station	Elevation	Data	num=	154						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
.25	71.39	222.45	67.6	295.85	65.92	580.19	63.49	712.34	62.5	
783.6	62.59	900.35	57.83	1138.28	56.73	1414.74	57.19	1698.61	56.65	
2001.62	57.2	2251.07	57.48	2553.42	61.97	2831.11	60.97	2991.94	59.6	
3093.03	56.3	3318.01	58.96	3640.99	59.24	3763.38	59.33	3954.97	58.51	
4229.93	54.57	4331.22	51.73	4521.87	52.47	4783.99	51.65	5025.38	57.24	
5080.64	57.84	5110.53	58.25	5119.09	57.57	5168.39	53.51	5284.96	39.59	
5374.71	37.49	5560.92	39.41	5698.16	40.82	5790.91	32.22	5863.49	28.56	
5980.63	26.55	6205.89	25.2	6484.13	24.96	6653.45	24.26	6764.82	23.83	
6839.28	24.13	7069.02	23.65	7358.73	22.84	7590.84	23.13	7653.2	24.12	
7693.53	21.45	7769.28	22.25	8013.67	24.91	8048.67	25.22	8057.3	24.83	
8063.22	22.48	8067.71	18.23	8073.54	16.52	8083.1	15.9	8089.35	15.67	
8092.75	15.61	8101.27	15.36	8102.3	15.32	8111.85	15.13	8118.74	15	
8121.41	14.97	8130.96	14.68	8140.52	14.03	8141.28	14.08	8142.17	14.03	
8148	14.21	8152.84	14.51	8153.42	14.56	8159.66	14.88	8163.52	15.12	
8165.49	15.25	8171.79	15.58	8174.2	15.73	8177.21	16.2	8183.05	17.09	
8185.2	17.44	8189.29	17.52	8195.12	17.57	8200.95	17.65	8206.61	17.74	
8235.49	18.14	8238.18	18.18	8265.92	18.52	8285.56	18.74	8296.96	18.13	
8305.63	17.65	8316.63	15.63	8322.08	15.36	8324.12	15.81	8326.67	16.41	
8329.98	18.03	8330.42	18.25	8339.38	23.03	8353.43	23.93	8354.67	24.01	
8542.31	24.39	8548.59	24.39	8801.47	24.4	8965.65	23.9	9038.14	23.84	
9159.43	24.02	9193.44	24.19	9286.44	24.29	9419.74	25.03	9488.54	31.41	
9601.99	28.72	9671.25	27.58	9723.7	27.59	9942.34	26.27	10208.84	25.23	
10238.86	25.11	10494.95	24.28	10628.21	24.01	10773.05	23.68	11030.5	25.7	
11047.58	25.76	11472.44	27.31	11890.26	28.79	11910.53	28.88	11926.1	29.54	
12141.12	38.61	12237.06	42.67	12316.8	44.41	12433.61	46.97	12560.38	47.76	
12729.85	48.12	12851.74	48.13	13045.08	47.77	13132.58	47.83	13311.68	47.64	
13428.23	47.35	13585.17	48.05	13736.64	48.57	13998.78	48.71	14005.98	48.71	
14314.19	46.32	14429.26	46.25	14632.16	46.11	14846.8	46.02	14979.45	46.02	
15198.02	46.04	15271.66	46.09	15483.82	46.16	15691.03	44.53	15786.29	43.86	
16005.34	44.07	16110.68	46.08	16209	47.87	16432.05	46.82	16535.96	44.67	
16588.26	43.63	16766.58	44.11	16823	48.18	16951.53	52.93			

Manning's n	Values	num=	3
Sta	n Val	Sta	n Val
.25	.045	8057.3	.028
		8339.38	.049

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 8057.3 8339.38 1903.5 4751.09 1745.42 .1 .3

Blocked Obstructions	num=	2			
Sta L	Sta R	Elev	Sta L	Sta R	Elev
.25	8057.3	23.03	8339.38	16951.53	23.03

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	28.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.045	0.028	0.049
W.S. Elev (ft)	28.63	Reach Len. (ft)	1903.50	4751.09	1745.42
Crit W.S. (ft)		Flow Area (sq ft)	9529.09	3266.77	10655.41

E.G. Slope (ft/ft)	0.000098	Area (sq ft)	9529.09	3266.77	10655.41
Q Total (cfs)	24119.00	Flow (cfs)	8285.68	8687.50	7145.82
Top Width (ft)	5834.69	Top Width (ft)	2195.23	282.08	3357.38
Vel Total (ft/s)	1.03	Avg. Vel. (ft/s)	0.87	2.66	0.67
Max Chl Dpth (ft)	14.60	Hydr. Depth (ft)	4.34	11.58	3.17
Conv. Total (cfs)	2437257.0	Conv. (cfs)	837278.3	877883.5	722094.6
Length Wtd. (ft)	2739.88	Wetted Per. (ft)	2195.32	286.68	3357.62
Min Ch El (ft)	14.03	Shear (lb/sq ft)	0.03	0.07	0.02
Alpha	2.78	Stream Power (lb/ft s)	0.02	0.19	0.01
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	5501.80	3350.65	4552.06
C & E Loss (ft)	0.01	Cum SA (acres)	1175.97	241.75	1012.51

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 32.4

INPUT

Description: Cross Section at River Mile 32.4

Station Elevation Data		num= 97									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	69.2	315.2	64.7	618.4	64.8	835.3	65.1	959.8	59.9		
1213.5	58.7	1508.3	59.2	1811	58.6	2134.1	59.2	2400.1	59.5		
2722.5	64.4	3018.6	63.3	3190.1	61.8	3297.9	58.2	3537.8	61.1		
3882.2	61.4	4012.7	61.5	4217	60.6	4510.2	56.3	4618.2	53.2		
4821.5	54	5101	53.1	5358.4	59.2	5449.2	60.2	5510.9	55		
5635.2	39.8	5730.9	37.5	6075.8	41.1	6174.7	31.7	6252.1	27.7		
6377	25.5	6617.2	24	6913.9	23.7	7213.2	22.4	7292.6	22.7		
7846.5	21.3	8094	21.7	8160.5	22.8	8203.5	19.9	8582.2	24.1		
8591.4	23.7	8597.6	21.3	8602.3	16.8	8608.4	15.1	8618.4	14.7		
8628.5	14.6	8638.5	14.4	8648.5	14.4	8658.5	14.4	8668.5	14.2		
8678.5	13.6	8688.5	13.9	8698.5	14.4	8708.5	15	8718.8	16.8		
8765.9	17.3	8812.8	17.9	8831.6	16.7	8841.9	14.5	8847	14.2		
8851.3	15.3	8854.4	17	8863.2	22	8878.9	23	9077.9	22.9		
9505.9	22.7	9835.1	23.3	9971.9	24.2	10042.5	31.2	10230	26.6		
10508.2	24.7	10812.5	23.3	11075.3	22.4	11360.7	21.8	11624.9	24.1		
12528	27.9	12863.1	42.9	13064.8	47.5	13194.9	48.3	13493.9	48.6		
13782.1	48	14085.5	46.8	14402	47.9	14678.4	48	14994.7	45.5		
15321	45.4	15677.4	45.4	15901.7	45.4	16195	45.6	16505.4	43.1		
16730.2	43.2	16939.2	47.3	17168.1	46.2	17328.4	42.7	17511.4	43.1		
17569.3	47.5	17701.2	52.6								

Manning's n Values		num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.04	7846.5	.055	8582.2	.07	8597.6	.028	8863.2	.05		
15321	.04	15901.7	.05	16730.2	.04						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
8591.4	8863.2	2464.43	4273.14	2171	.1	.3	

Blocked Obstructions		num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev		
0	8582.2	22.25	8878.9	17701.2	22.25		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	28.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.045	0.029	0.050
W.S. Elev (ft)	28.45	Reach Len. (ft)	2464.43	4273.14	2171.00

Crit W.S. (ft)		Flow Area (sq ft)	12396.38	3330.80	15215.37
E.G. Slope (ft/ft)	0.000053	Area (sq ft)	12396.38	3330.80	15215.37
Q Total (cfs)	24499.00	Flow (cfs)	9148.11	6481.38	8869.52
Top Width (ft)	6162.48	Top Width (ft)	2353.73	271.80	3536.95
Vel Total (ft/s)	0.79	Avg. Vel. (ft/s)	0.74	1.95	0.58
Max Chl Dpth (ft)	14.85	Hydr. Depth (ft)	5.27	12.25	4.30
Conv. Total (cfs)	3352688.0	Conv. (cfs)	1251919.0	886976.1	1213794.0
Length Wtd. (ft)	2880.74	Wetted Per. (ft)	2353.82	276.69	3537.26
Min Ch El (ft)	13.60	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	2.12	Stream Power (lb/ft s)	0.01	0.08	0.01
Frctn Loss (ft)	0.17	Cum Volume (acre-ft)	5022.74	2990.85	4033.74
C & E Loss (ft)	0.00	Cum SA (acres)	1076.58	211.55	874.38

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 31.6071*

INPUT

Description: Interpolated Cross Section at River Mile 31.61

Station Elevation Data		num= 195							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	67.73	168.71	65.39	259.62	63.85	294.66	63.27	320.24	62.89
472	62.5	509.35	62.53	599.81	62.6	628.29	62.59	688	62.63
695.9	62.63	698.78	62.58	790.55	62.6	818.52	62.63	821.57	62.64
848.66	62.66	850.88	62.58	863.5	62.12	975.15	58.19	999.5	58.09
1072.18	57.8	1074.97	57.8	1107.61	57.71	1232.91	57.23	1242.32	57.24
1491.65	57.61	1525.54	57.67	1532.42	57.69	1720.5	57.63	1757.76	57.61
1839.96	57.56	1976.86	57.92	1996.06	57.98	2168.23	58.04	2180.44	58.04
2242.4	57.68	2344.7	57.05	2438.48	57.06	2486.29	57.63	2527.79	58.12
2590.49	58.89	2627.55	59.36	2669.32	59.87	2716.33	60.47	2766.04	61.15
2805.2	61.06	2874.21	60.72	2913.93	60.6	3066.87	60.13	3197.6	59.17
3219.15	59.01	3241.12	58.84	3305.09	57.04	3350.64	55.76	3473.36	57
3474.39	57.01	3594.38	58.23	3714.85	58.32	3773.69	58.34	3803.81	58.34
3944.28	58.45	3971.26	58.47	4006.03	58.49	4076.87	58.52	4201.47	58.03
4284.44	57.76	4320.73	57.32	4413.48	56.3	4488.27	55.45	4516.34	55.08
4539.09	54.82	4582.33	54.29	4641.47	52.87	4692.05	51.76	4720.3	51.91
4898.61	52.37	4918.41	52.3	5107.25	51.26	5182.58	49.26	5191.8	49.22
5329.6	51.8	5437.46	53.9	5444.09	54.03	5536.34	54.89	5599.03	50.43
5725.32	37.41	5822.55	35.44	6172.96	38.54	6273.45	30.49	6352.08	27.06
6478.98	25.18	6723.02	23.9	7024.47	23.65	7328.55	22.55	7409.22	22.81
7833.21	21.92	7971.98	21.66	8075.9	21.82	8223.44	21.98	8271.21	22.63
8291	22.91	8334.69	20.42	8498.11	21.95	8541.91	22.37	8559.08	22.82
8617.12	23.18	8634.16	22.98	8642.72	23.05	8719.45	23.8	8727.74	23.5
8728.79	25.04	8732.5	23.51	8735.28	22.52	8735.95	22.23	8741.37	17.44
8742.38	17.1	8743.88	16.89	8744.5	16.6	8748.41	15.47	8755.96	14.74
8758.7	14.61	8759.94	14.58	8763.42	14.56	8771.6	14.41	8772.57	14.39
8781.72	14.26	8783.14	14.22	8790.87	14.15	8794.67	14.01	8800.01	13.82
8806.21	13.69	8809.16	13.58	8817.75	13.44	8818.31	13.41	8821.97	13.09
8829.29	12.64	8839.2	13.07	8840.65	13.16	8849.1	13.56	8852	13.72
8859.01	14.18	8863.37	14.92	8869.22	15.91	8874.73	15.99	8886.09	16.31
8897.45	16.57	8908.81	16.94	8912.67	17.17	8915.88	17.21	8937.89	17.49
8962.36	17.81	8980.99	16.72	8988.9	15.15	8991.2	14.71	8996.25	14.49
8999.12	15.21	9000.51	15.57	9003.58	17.22	9012.3	22.07	9026.37	22.95
9057.32	22.99	9095.9	23.04	9204.66	22.98	9588.11	22.81	9883.05	23.32
10005.61	24.0910068.87	30.0910236.85	26.15	10486.1	24.5210758.73	23.31			
10994.18	22.5411249.87	22.0211486.58	23.9912295.69						

12776.62	44.0412893.18	44.7213161.06	44.9813419.26	44.4613691.09	43.43
13974.65	44.3714222.28	44.4514505.66	42.31 14798	42.2215117.31	42.22
15318.27	42.2115581.04	42.3815859.14	40.2416060.54	40.3216247.79	43.83
16452.86	42.8916596.48	39.8916760.44	40.2316812.31	4416930.48	48.37

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.047	8728.79	.07	8735.95	.028	9012.3	.055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

8728.79	9012.3	2464.43	4273.14	2171	.1	.3
---------	--------	---------	---------	------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	8728.79	21.99	9012.316930.48	21.99	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	28.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.047	0.029	0.055
W.S. Elev (ft)	28.27	Reach Len. (ft)	2464.43	4273.14	2171.00
Crit W.S. (ft)		Flow Area (sq ft)	12438.78	3511.62	13482.15
E.G. Slope (ft/ft)	0.000064	Area (sq ft)	12438.78	3511.62	13482.15
Q Total (cfs)	24499.00	Flow (cfs)	9377.22	7475.76	7646.02
Top Width (ft)	5898.70	Top Width (ft)	2404.47	283.51	3210.72
Vel Total (ft/s)	0.83	Avg. Vel. (ft/s)	0.75	2.13	0.57
Max Chl Dpth (ft)	15.63	Hydr. Depth (ft)	5.17	12.39	4.20
Conv. Total (cfs)	3072405.0	Conv. (cfs)	1175991.0	937530.2	958883.0
Length Wtd. (ft)	2971.82	Wetted Per. (ft)	2405.38	288.49	3211.02
Min Ch El (ft)	12.64	Shear (lb/sq ft)	0.02	0.05	0.02
Alpha	2.45	Stream Power (lb/ft s)	0.02	0.10	0.01
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	4320.21	2655.24	3318.61
C & E Loss (ft)	0.00	Cum SA (acres)	941.98	184.31	706.23

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 30.8142*

INPUT
 Description: Interpolated Cross Section at River Mile 30.81
 Station Elevation Data num= 195

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	66.27	171.36	63.95	263.71	62.15	299.3	61.47	325.28	61.07
479.43	60.25	517.36	60.3	609.25	60.41	638.18	60.39	698.83	60.39
706.85	60.37	709.78	60.27	802.99	60.18	831.4	60.2	834.5	60.23
862.02	60.22	864.27	60.15	877.09	59.76	990.5	56.47	1015.24	56.39
1089.06	56.16	1091.89	56.17	1125.05	56.14	1252.31	55.76	1261.88	55.77
1515.12	56.09	1549.56	56.14	1556.54	56.17	1747.58	56.43	1785.43	56.46
1868.92	56.52	2007.98	57	2027.48	57.07	2202.36	56.89	2214.77	56.87
2277.7	56.09	2381.61	54.71	2476.87	54.62	2525.42	55.04	2567.58	55.4
2631.26	56	2668.91	56.39	2711.34	56.79	2759.09	57.28	2809.58	57.89
2849.36	57.85	2919.45	57.43	2959.8	57.35	3115.15	56.95	3247.93	56.16
3269.82	56.02	3292.13	55.89	3357.11	54.39	3403.38	53.31	3528.03	54.33
3529.08	54.34	3650.95	55.36	3773.32	55.43	3833.09	55.43	3863.68	55.41
4006.37	55.5	4033.77	55.52	4069.09	55.53	4141.04	55.54	4267.61	55.11
4351.88	54.91	4388.74	54.57	4482.95	53.86	4558.92	53.24	4587.43	52.9
4610.54	52.71	4654.46	52.28	4714.53	51.11	4765.91	50.31	4794.59	50.52

4975.71	50.74	4995.82	50.66	5187.64	49.18	5264.15	45.42	5273.52	45.13
5413.49	47.06	5523.04	48.75	5529.78	48.86	5623.49	49.58	5687.16	45.87
5815.44	35.02	5914.2	33.38	6270.13	35.98	6372.19	29.27	6452.07	26.42
6580.96	24.86	6828.85	23.8	7135.04	23.61	7443.91	22.7	7525.85	22.92
7956.5	22.2	8097.46	22.01	8203.01	22.18	8352.88	22.25	8401.4	22.78
8421.51	23.01	8465.88	20.94	8631.87	22.21	8676.37	22.57	8693.81	23.3
8752.76	23.38	8770.07	22.79	8778.76	22.84	8856.69	23.5	8865.11	23.26
8866.19	26.37	8870.39	24.56	8873.54	23.51	8874.29	23.17	8880.44	18.09
8881.59	17.65	8883.29	17.58	8883.99	17.15	8888.42	15.84	8896.97	14.64
8900.08	14.48	8901.49	14.45	8905.43	14.45	8914.7	14.23	8915.8	14.19
8926.17	14.1	8927.77	14.05	8936.53	13.89	8940.85	13.62	8946.9	13.24
8953.93	12.97	8957.27	12.81	8967	12.68	8967.63	12.65	8971.78	12.21
8980.08	11.68	8989.89	12.25	8991.33	12.36	8999.71	12.72	9002.58	12.87
9009.53	13.35	9013.85	14.08	9019.64	15.02	9025.1	15.11	9036.35	15.65
9047.61	16.04	9058.87	16.66	9062.69	17.08	9065.88	17.11	9087.68	17.4
9111.93	17.73	9130.38	16.74	9138.22	15.3	9140.5	14.93	9145.5	14.77
9148.35	15.47	9149.72	15.85	9152.76	17.44	9161.41	22.13	9173.84	22.9
9201.19	22.99	9235.29	23.11	9331.42	23.07	9670.33	22.92	9931	23.34
10039.33	23.9810095.23	28.98	10243.7	25.69	10464	24.3310704.96	23.33		
10913.05	22.6811139.05	22.2511348.25	23.8812063.37	26.5812328.72	37.29				
12488.44	40.5812591.46	41.1512828.22	41.3513056.43	40.9213296.68	40.06				
13547.3	40.8413766.16	40.9114016.62	39.12	14275	39.0414557.22	39.03			
14734.83	39.0314967.08	39.1715212.87	37.3815390.88	37.4415556.37	40.37				
15737.63	39.5815864.56	37.0816009.47	37.3616055.32	40.516159.76	44.14				

Manning's n Values		num=	4
Sta	n Val	Sta	n Val
0	.05	8866.19	.07
		8874.29	.027
		9161.41	.054

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	8866.19	9161.41	2464.43	4273.14	2171	.1		.3

Blocked Obstructions		num=	2		
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	8866.19	21.73	9161.41	16159.76	21.73

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	28.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.050	0.029	0.054
W.S. Elev (ft)	28.06	Reach Len. (ft)	2464.43	4273.14	2171.00
Crit W.S. (ft)		Flow Area (sq ft)	12112.55	3680.33	11657.31
E.G. Slope (ft/ft)	0.000073	Area (sq ft)	12112.55	3680.33	11657.31
Q Total (cfs)	24499.00	Flow (cfs)	8866.04	8643.67	6989.30
Top Width (ft)	5642.07	Top Width (ft)	2460.07	295.22	2886.78
Vel Total (ft/s)	0.89	Avg. Vel. (ft/s)	0.73	2.35	0.60
Max Chl Dpth (ft)	16.38	Hydr. Depth (ft)	4.92	12.47	4.04
Conv. Total (cfs)	2876946.0	Conv. (cfs)	1041149.0	1015036.0	820761.4
Length Wtd. (ft)	3073.91	Wetted Per. (ft)	2462.40	300.38	2887.06
Min Ch El (ft)	11.68	Shear (lb/sq ft)	0.02	0.06	0.02
Alpha	2.82	Stream Power (lb/ft s)	0.02	0.13	0.01
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	3625.71	2302.48	2692.14
C & E Loss (ft)	0.00	Cum SA (acres)	804.37	155.92	554.29

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 30.0214*

INPUT

Description: Interpolated Cross Section at River Mile 30.02

Station	Elevation	Data	num=	195	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.8	174.02	62.51	267.79	60.44	303.94	59.68	330.32	59.26		
486.86	58	525.38	58.06	618.7	58.22	648.07	58.18	709.66	58.14		
717.81	58.11	720.77	57.95	815.44	57.76	844.29	57.77	847.43	57.81		
875.37	57.78	877.67	57.73	890.68	57.39	1005.85	54.76	1030.97	54.69		
1105.93	54.51	1108.81	54.54	1142.48	54.57	1271.72	54.29	1281.43	54.3		
1538.6	54.58	1573.57	54.62	1580.66	54.66	1774.66	55.23	1813.1	55.31		
1897.88	55.48	2039.09	56.07	2058.9	56.17	2236.49	55.73	2249.09	55.7		
2313	54.49	2418.51	52.37	2515.25	52.17	2564.56	52.45	2607.37	52.68		
2672.04	53.11	2710.27	53.42	2753.36	53.71	2801.85	54.1	2853.12	54.64		
2893.51	54.65	2964.7	54.15	3005.66	54.09	3163.42	53.78	3298.26	53.15		
3320.49	53.04	3343.15	52.93	3409.14	51.74	3456.12	50.87	3582.7	51.67		
3583.77	51.67	3707.53	52.49	3831.8	52.54	3892.49	52.52	3923.56	52.47		
4068.45	52.55	4096.27	52.57	4132.15	52.57	4205.21	52.56	4333.74	52.18		
4419.32	52.07	4456.75	51.81	4552.42	51.41	4629.56	51.04	4658.52	50.73		
4681.98	50.61	4726.58	50.27	4787.59	49.35	4839.76	48.87	4868.89	49.12		
5052.82	49.11	5073.24	49.03	5268.03	47.1	5345.73	41.58	5355.24	41.04		
5497.38	42.33	5608.63	43.6	5615.48	43.69	5710.63	44.27	5775.29	41.3		
5905.56	32.63	6005.85	31.32	6367.29	33.42	6470.94	28.06	6552.05	25.78		
6682.94	24.53	6934.67	23.7	7245.6	23.56	7559.26	22.85	7642.47	23.03		
8079.8	22.47	8222.95	22.37	8330.13	22.53	8482.32	22.53	8531.59	22.93		
8552.01	23.12	8597.07	21.46	8765.64	22.47	8810.82	22.78	8828.53	23.77		
8888.39	23.57	8905.97	22.6	8914.8	22.63	8993.94	23.21	9002.49	23.01		
9003.58	27.71	9008.28	25.62	9011.8	24.5	9012.64	24.1	9019.51	18.73		
9020.79	18.19	9022.69	18.27	9023.48	17.71	9028.43	16.21	9037.98	14.54		
9041.46	14.35	9043.04	14.33	9047.44	14.34	9057.79	14.04	9059.03	14		
9070.62	13.94	9072.41	13.87	9082.2	13.64	9087.02	13.23	9093.78	12.66		
9101.64	12.26	9105.38	12.04	9116.25	11.92	9116.96	11.89	9121.6	11.32		
9130.87	10.72	9140.59	11.42	9142.01	11.55	9150.32	11.88	9153.16	12.02		
9160.04	12.53	9164.32	13.24	9170.06	14.13	9175.47	14.24	9186.62	14.98		
9197.77	15.51	9208.93	16.38	9212.71	16.98	9215.87	17.02	9237.47	17.31		
9261.49	17.64	9279.77	16.76	9287.54	15.45	9289.79	15.14	9294.75	15.06		
9297.57	15.74	9298.93	16.12	9301.95	17.67	9310.51	22.2	9321.31	22.84		
9345.07	22.99	9374.68	23.19	9458.17	23.15	9752.54	23.03	9978.96	23.36		
10073.04	23.88	10121.6	27.87	10250.56	25.24	10441.89	24.15	10651.18	23.34		
10831.93	22.82	11028.22	22.47	11209.93	23.78	11831.06	25.93	12061.53	34.49		
12200.25	37.11	12289.73	37.57	12495.38	37.73	12693.59	37.38	12902.26	36.69		
13119.94	37.31	13310.04	37.36	13527.59	35.92	13752.01	35.86	13997.13	35.85		
14151.4	35.84	14353.12	35.95	14566.61	34.52	14721.22	34.57	14864.96	36.9		
15022.39	36.27	15132.64	34.27	15258.5	34.49	15298.33	37.15	15389.04	39.91		

Manning's n Values	num=	4
Sta	n Val	Sta
0	.052	9003.58
	.07	9012.64
	.027	9310.51
	.057	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
9003.58	9310.51	2464.43	4273.14	2171	.1	.3	

Blocked Obstructions	num=	2
Sta L	Sta R	Elev
0	9003.58	21.47
	9310.51	15389.04
		21.47

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	27.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.052	0.029	0.057

W.S. Elev (ft)	27.80	Reach Len. (ft)	2464.43	4273.14	2171.00
Crit W.S. (ft)		Flow Area (sq ft)	11532.53	3831.46	9800.89
E.G. Slope (ft/ft)	0.000090	Area (sq ft)	11532.53	3831.46	9800.89
Q Total (cfs)	24499.00	Flow (cfs)	8582.09	9966.45	5950.46
Top Width (ft)	5396.53	Top Width (ft)	2523.28	306.93	2566.33
Vel Total (ft/s)	0.97	Avg. Vel. (ft/s)	0.74	2.60	0.61
Max Chl Dpth (ft)	17.08	Hydr. Depth (ft)	4.57	12.48	3.82
Conv. Total (cfs)	2588220.0	Conv. (cfs)	906663.1	1052915.0	628641.7
Length Wtd. (ft)	3185.00	Wetted Per. (ft)	2527.14	312.37	2566.58
Min Ch El (ft)	10.72	Shear (lb/sq ft)	0.03	0.07	0.02
Alpha	3.20	Stream Power (lb/ft s)	0.02	0.18	0.01
Frctn Loss (ft)	0.33	Cum Volume (acre-ft)	2956.84	1934.03	2157.41
C & E Loss (ft)	0.00	Cum SA (acres)	663.40	126.39	418.40

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 29.2285*

INPUT

Description: Interpolated Cross Section at River Mile 29.23

Station Elevation Data		num= 194									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	63.34	176.67	61.07	271.88	58.74	308.58	57.89	335.36	57.44		
494.29	55.75	533.4	55.83	628.14	56.03	657.96	55.98	720.49	55.89		
728.76	55.85	731.77	55.64	827.88	55.34	857.17	55.33	860.36	55.39		
888.73	55.34	891.06	55.3	904.27	55.02	1021.2	53.04	1046.7	52.99		
1122.81	52.87	1125.73	52.91	1159.92	53	1291.13	52.82	1300.99	52.83		
1562.08	53.06	1597.58	53.1	1604.78	53.14	1801.75	54.03	1840.77	54.16		
1926.85	54.45	2070.21	55.14	2090.31	55.26	2270.61	54.58	2283.41	54.53		
2348.29	52.89	2455.42	50.03	2553.63	49.73	2603.7	49.86	2647.16	49.96		
2712.81	50.22	2751.62	50.45	2795.37	50.63	2844.6	50.91	2896.65	51.39		
2937.67	51.45	3009.94	50.86	3051.53	50.84	3211.69	50.61	3348.6	50.14		
3371.16	50.06	3394.17	49.98	3461.16	49.08	3508.86	48.42	3637.37	49		
3638.46	49.01	3764.11	49.61	3890.27	49.65	3951.89	49.61	3983.43	49.54		
4130.54	49.6	4158.78	49.61	4195.2	49.61	4269.39	49.58	4399.87	49.26		
4486.75	49.23	4524.76	49.06	4621.89	48.97	4700.21	48.83	4729.6	48.55		
4753.43	48.5	4798.71	48.26	4860.65	47.59	4913.62	47.42	4943.19	47.72		
5129.92	47.48	5150.66	47.39	5348.42	45.02	5427.3	37.74	5436.96	36.95		
5581.27	37.59	5694.22	38.45	5701.17	38.52	5797.78	38.96	5863.42	36.74		
5995.67	30.24	6097.5	29.27	6464.46	30.86	6569.69	26.84	6652.04	25.14		
6784.93	24.21	7040.49	23.6	7356.17	23.52	7674.62	23	7759.1	23.14		
8203.1	22.75	8348.43	22.72	8457.25	22.89	8611.76	22.81	8661.79	23.08		
8682.51	23.22	8728.26	21.98	8899.4	22.73	8945.27	22.98	8963.25	24.24		
9024.03	23.77	9041.88	22.4	9050.84	22.42	9131.19	22.91	9139.87	22.77		
9140.98	29.04	9146.17	26.67	9150.05	25.49	9150.99	25.03	9158.58	19.37		
9160	18.74	9162.97	18.26	9168.43	16.58	9179	14.44	9182.84	14.22		
9184.58	14.21	9189.45	14.24	9200.89	13.85	9202.25	13.8	9215.07	13.78		
9217.05	13.7	9227.87	13.39	9233.2	12.84	9240.67	12.07	9249.35	11.55		
9253.48	11.26	9265.5	11.16	9266.28	11.14	9271.41	10.43	9281.65	9.76		
9291.29	10.6	9292.7	10.74	9300.92	11.05	9303.74	11.17	9310.56	11.7		
9314.8	12.39	9320.48	13.23	9325.84	13.37	9336.88	14.32	9347.93	14.98		
9358.98	16.1	9362.73	16.89	9365.86	16.93	9387.26	17.22	9411.05	17.56		
9429.16	16.79	9436.85	15.6	9439.09	15.35	9444	15.35	9446.8	16		
9448.15	16.39	9451.13	17.89	9459.61	22.27	9468.78	22.79	9488.94	22.99		
9514.08	23.27	9584.93	23.24	9834.75	23.14	10026.91	23.39	10106.76	23.77		
10147.97	26.76	10257.41	24.79	10419.79	23.96	10597.41	23.35	10750.81	22.96		

10917.39	22.6911071.61	23.6711598.74	25.2711794.34	31.6911912.07	33.65
11988.01	33.9912162.54	34.1112330.76	33.8412507.85	33.3212692.59	33.78
12853.93	33.8113038.55	32.7313229.01	32.6813437.04	32.6713567.96	32.66
13739.16	32.7313920.34	31.6514051.55	31.6914173.55	33.4414307.16	32.96
14400.72	31.4614507.54	31.6214541.34	33.514618.33	35.69	

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.054	9140.98	.07	9158.58	.027	9459.61	.059

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

9140.98	9459.61	2464.43	4273.14	2171	.1	.3
---------	---------	---------	---------	------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	9140.98	21.21	10147.97	14618.33	21.21

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	27.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.06	Wt. n-Val.	0.054	0.030	0.059
W.S. Elev (ft)	27.45	Reach Len. (ft)	2464.43	4273.14	2171.00
Crit W.S. (ft)		Flow Area (sq ft)	10685.31	3956.65	7901.90
E.G. Slope (ft/ft)	0.000116	Area (sq ft)	10685.31	3956.65	7901.90
Q Total (cfs)	24499.00	Flow (cfs)	8145.91	11333.50	5019.59
Top Width (ft)	5107.78	Top Width (ft)	2587.02	315.15	2205.60
Vel Total (ft/s)	1.09	Avg. Vel. (ft/s)	0.76	2.86	0.64
Max Chl Dpth (ft)	17.69	Hydr. Depth (ft)	4.13	12.55	3.58
Conv. Total (cfs)	2274046.0	Conv. (cfs)	756119.3	1051998.0	465928.6
Length Wtd. (ft)	3325.91	Wetted Per. (ft)	2591.10	320.37	2205.79
Min Ch El (ft)	9.76	Shear (lb/sq ft)	0.03	0.09	0.03
Alpha	3.45	Stream Power (lb/ft s)	0.02	0.26	0.02
Frctn Loss (ft)	0.44	Cum Volume (acre-ft)	2328.35	1552.04	1716.27
C & E Loss (ft)	0.00	Cum SA (acres)	518.84	95.88	299.48

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 28.4357*

INPUT
 Description: Interpolated Cross Section at River Mile 28.44

Station Elevation Data num= 195

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.87	179.33	59.63	275.97	57.04	313.21	56.1	340.4	55.63
501.72	53.5	541.42	53.6	637.58	53.84	667.85	53.77	731.32	53.64
739.71	53.59	742.77	53.33	840.32	52.92	870.05	52.9	873.3	52.97
902.09	52.91	904.45	52.87	917.87	52.65	1036.55	51.33	1062.43	51.29
1139.69	51.22	1142.65	51.28	1177.35	51.43	1310.53	51.34	1320.54	51.35
1585.56	51.54	1621.59	51.58	1628.9	51.63	1828.83	52.83	1868.43	53.01
1955.81	53.41	2101.33	54.21	2121.73	54.35	2304.74	53.42	2317.73	53.35
2383.59	51.29	2492.33	47.68	2592.01	47.29	2642.83	47.28	2686.94	47.25
2753.59	47.34	2792.98	47.49	2837.39	47.55	2887.36	47.72	2940.19	48.14
2981.82	48.25	3055.18	47.57	3097.4	47.58	3259.97	47.44	3398.93	47.13
3421.83	47.08	3445.18	47.02	3513.18	46.43	3561.6	45.98	3692.05	46.34
3693.14	46.34	3820.68	46.74	3948.74	46.77	4011.29	46.69	4043.3	46.6
4192.62	46.65	4221.29	46.66	4258.26	46.65	4333.56	46.6	4466	46.33
4554.19	46.38	4592.77	46.3	4691.36	46.53	4770.86	46.62	4800.69	46.38

4824.88	46.39	4870.84	46.25	4933.7	45.83	4987.47	45.98	5017.49	46.32
5207.03	45.85	5228.08	45.75	5428.81	42.94	5508.88	33.9	5518.68	32.86
5665.16	32.86	5779.81	33.3	5786.86	33.34	5884.92	33.65	5951.55	32.17
6085.79	27.85	6189.14	27.21	6561.62	28.3	6668.43	25.63	6752.02	24.5
6886.91	23.89	7146.31	23.5	7466.74	23.47	7789.97	23.15	7875.72	23.25
8326.4	23.02	8473.91	23.08	8584.37	23.24	8741.2	23.09	8791.98	23.24
8813.02	23.33	8859.46	22.5	9033.16	23	9079.72	23.19	9097.97	24.71
9159.67	23.97	9177.78	22.21	9186.88	22.21	9268.44	22.61	9277.25	22.53
9278.37	30.38	9284.05	27.72	9288.31	26.49	9289.34	25.96	9297.65	20.01
9299.2	19.29	9301.5	19.66	9302.45	18.82	9308.44	16.95	9320.01	14.34
9324.22	14.09	9326.13	14.09	9331.46	14.13	9343.99	13.66	9345.48	13.61
9359.51	13.61	9361.69	13.52	9373.54	13.14	9379.37	12.45	9387.56	11.49
9397.06	10.84	9401.59	10.49	9414.75	10.4	9415.61	10.38	9421.22	9.54
9432.44	8.8	9441.99	9.77	9443.38	9.93	9451.53	10.21	9454.32	10.31
9461.07	10.88	9465.27	11.55	9470.9	12.34	9476.21	12.5	9487.15	13.65
9498.09	14.44	9509.04	15.81	9512.75	16.8	9515.85	16.84	9537.04	17.13
9560.61	17.47	9578.56	16.81	9586.17	15.76	9588.39	15.56	9593.25	15.64
9596.02	16.27	9597.36	16.66	9600.31	18.11	9608.71	22.34	9616.24	22.74
9632.81	23	9653.47	23.35	9711.69	23.32	9916.97	23.25	10074.86	23.41
10140.47	23.66	10174.33	25.66	10264.26	24.33	10397.69	23.78	10543.64	23.37
10669.68	23.11	10806.57	22.92	10933.28	23.56	11366.43	24.61	11527.15	28.88
11623.89	30.19	11686.29	30.41	11829.7	30.49	11967.92	30.31	12113.44	29.95
12265.24	30.25	12397.81	30.27	12549.51	29.54	12706.01	29.51	12876.95	29.48
12984.53	29.47	13125.2	29.52	13274.08	28.79	13381.89	28.81	13482.13	29.97
13591.92	29.65	13668.8	28.64	13756.58	28.75	13784.35	30.01	13847.61	31.46

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 0 .056 9278.37 .07 9297.65 .027 9608.71 .061

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 9278.37 9608.71 2464.43 4273.14 2171 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 9278.37 20.94 10174.33 13847.61 20.94

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	27.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.056	0.029	0.061
W.S. Elev (ft)	26.97	Reach Len. (ft)	2464.43	4273.14	2171.00
Crit W.S. (ft)		Flow Area (sq ft)	9481.69	4037.76	5928.04
E.G. Slope (ft/ft)	0.000151	Area (sq ft)	9481.69	4037.76	5928.04
Q Total (cfs)	24499.00	Flow (cfs)	7196.04	13444.37	3858.59
Top Width (ft)	4831.67	Top Width (ft)	2663.06	322.06	1846.55
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)	0.76	3.33	0.65
Max Chl Dpth (ft)	18.17	Hydr. Depth (ft)	3.56	12.54	3.21
Conv. Total (cfs)	1995163.0	Conv. (cfs)	586035.4	1094890.0	314237.7
Length Wtd. (ft)	3530.86	Wetted Per. (ft)	2667.10	327.57	1846.67
Min Ch El (ft)	8.80	Shear (lb/sq ft)	0.03	0.12	0.03
Alpha	3.98	Stream Power (lb/ft s)	0.03	0.39	0.02
Frcn Loss (ft)	0.66	Cum Volume (acre-ft)	1757.87	1159.92	1371.63
C & E Loss (ft)	0.01	Cum SA (acres)	370.33	64.62	198.50

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek

REACH: Upper Fish Creek RS: 27.6428*

INPUT

Description: Interpolated Cross Section at River Mile 27.64

Station Elevation Data num= 195									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	60.41	181.98	58.19	280.05	55.33	317.85	54.3	345.44	53.82
509.15	51.25	549.43	51.36	647.02	51.65	677.74	51.57	742.15	51.4
750.67	51.33	753.77	51.01	852.77	50.5	882.94	50.47	886.23	50.55
915.45	50.47	917.85	50.45	931.46	50.29	1051.9	49.61	1078.17	49.59
1156.56	49.58	1159.57	49.65	1194.79	49.86	1329.94	49.87	1340.1	49.88
1609.04	50.02	1645.61	50.05	1653.03	50.11	1855.91	51.63	1896.1	51.86
1984.77	52.37	2132.44	53.29	2153.15	53.45	2338.87	52.27	2352.05	52.18
2418.88	49.7	2529.23	45.34	2630.4	44.85	2681.97	44.69	2726.73	44.53
2794.36	44.45	2834.34	44.52	2879.4	44.47	2930.11	44.54	2983.73	44.88
3025.98	45.05	3100.42	44.29	3143.26	44.33	3308.24	44.26	3449.26	44.12
3472.5	44.09	3496.2	44.07	3565.21	43.77	3614.34	43.53	3746.72	43.67
3747.83	43.68	3877.26	43.87	4007.22	43.88	4070.69	43.78	4103.18	43.67
4254.71	43.7	4283.8	43.71	4321.31	43.69	4397.73	43.62	4532.14	43.41
4621.63	43.54	4660.78	43.55	4760.83	44.09	4841.5	44.42	4871.78	44.2
4896.32	44.29	4942.96	44.24	5006.76	44.07	5061.33	44.54	5091.79	44.93
5284.13	44.22	5305.49	44.12	5509.2	40.86	5590.45	30.06	5600.4	28.77
5749.05	28.12	5865.39	28.15	5872.55	28.17	5972.06	28.33	6039.68	27.6
6175.91	25.46	6280.79	25.15	6658.79	25.74	6767.18	24.41	6852	23.86
6988.89	23.57	7252.14	23.41	7577.31	23.42	7905.32	23.3	7992.34	23.36
8449.69	23.3	8599.39	23.43	8711.48	23.6	8870.64	23.36	8922.17	23.39
8943.52	23.43	8990.65	23.02	9166.93	23.26	9214.18	23.39	9232.7	25.19
9295.3	24.16	9313.69	22.02	9322.92	22	9405.68	22.31	9414.62	22.28
9415.77	31.71	9421.94	28.78	9426.57	27.48	9427.68	26.9	9436.72	20.66
9438.41	19.83	9440.9	20.35	9441.94	19.37	9448.45	17.32	9461.03	14.24
9465.6	13.96	9467.67	13.96	9473.47	14.02	9487.09	13.48	9488.71	13.41
9503.96	13.45	9506.32	13.35	9519.2	12.88	9525.54	12.06	9534.44	10.91
9544.78	10.12	9549.69	9.72	9564	9.64	9564.93	9.62	9571.04	8.66
9583.23	7.84	9592.68	8.95	9594.07	9.12	9602.13	9.37	9604.9	9.46
9611.58	10.05	9615.75	10.7	9621.32	11.45	9626.58	11.62	9637.41	12.99
9648.25	13.91	9659.09	15.53	9662.77	16.7	9665.84	16.74	9686.83	17.04
9710.18	17.39	9727.95	16.83	9735.49	15.91	9737.68	15.78	9742.5	15.92
9745.25	16.53	9746.57	16.94	9749.5	18.34	9757.82	22.4	9763.71	22.69
9776.69	23	9792.86	23.42	9838.45	23.41	9999.18	23.36	10122.81	23.43
10174.18	23.55	10200.7	24.55	10271.11	23.88	10375.59	23.61	10489.87	23.38
10588.56	23.24	10695.74	23.14	10794.96	23.45	11134.12	23.95	11259.96	26.08
11335.71	26.73	11384.57	26.84	11496.86	26.86	11605.09	26.76	11719.03	26.58
11837.89	26.72	11941.69	26.72	12060.47	26.35	12183.01	26.32	12316.86	26.3
12401.09	26.29	12511.24	26.31	12627.81	25.93	12712.23	25.93	12790.72	26.51
12876.68	26.34	12936.88	25.83	13005.61	25.88	13027.35	26.51	13076.89	27.23

Manning's n Values num= 4									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.059	9415.77	.07	9436.72	.027	9757.82	.063		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	9415.77	9757.82	2464.43	4273.14	2171	.1	.3	

Blocked Obstructions num= 2						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	
0	9415.77	20.68	9759.82	13076.89	20.68	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	26.40	Element	Left OB	Channel	Right OB
----------------	-------	---------	---------	---------	----------

Vel Head (ft)	0.18	Wt. n-Val.	0.059	0.029	0.063
W.S. Elev (ft)	26.22	Reach Len. (ft)	2464.43	4273.14	2171.00
Crit W.S. (ft)		Flow Area (sq ft)	7988.84	4031.86	3946.11
E.G. Slope (ft/ft)	0.000225	Area (sq ft)	7988.84	4031.86	3946.11
Q Total (cfs)	24499.00	Flow (cfs)	5450.55	16486.90	2561.55
Top Width (ft)	5476.72	Top Width (ft)	3287.57	329.16	1859.99
Vel Total (ft/s)	1.53	Avg. Vel. (ft/s)	0.68	4.09	0.65
Max Chl Dpth (ft)	18.38	Hydr. Depth (ft)	2.43	12.25	2.12
Conv. Total (cfs)	1633348.0	Conv. (cfs)	363388.0	1099181.0	170778.5
Length Wtd. (ft)	3680.92	Wetted Per. (ft)	3291.30	334.61	1860.06
Min Ch El (ft)	7.84	Shear (lb/sq ft)	0.03	0.17	0.03
Alpha	4.84	Stream Power (lb/ft s)	0.02	0.69	0.02
Frctn Loss (ft)	0.87	Cum Volume (acre-ft)	1263.67	764.11	1125.57
C & E Loss (ft)	0.00	Cum SA (acres)	202.00	32.68	106.14

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Upper Fish Creek RS: 26.85

INPUT

Description: Interpolated Cross Section at River Mile 26.85

Station	Elevation	Data	num=	123	Elev	Sta	Elev	Sta	Elev
0	58.94	184.64	56.75	284.14	53.63	322.49	52.51	516.58	49
557.45	49.13	656.46	49.46	752.98	49.15	761.62	49.07	764.77	48.7
865.21	48.08	895.82	48.04	899.16	48.13	931.24	48.02	945.05	47.92
1093.9	47.89	1173.44	47.93	1176.49	48.02	1212.22	48.29	1359.65	48.41
1632.52	48.5	1669.62	48.53	1882.99	50.43	1923.77	50.71	2163.56	52.36
2184.57	52.54	2386.37	51.01	2454.18	48.1	2566.14	43	2721.1	42.1
2766.52	41.81	2835.14	41.56	2875.7	41.55	2921.42	41.39	2972.87	41.35
3070.13	41.85	3145.66	41	3189.13	41.07	3499.59	41.11	3523.17	41.11
3617.23	41.12	3801.39	41.01	3802.52	41.01	4065.69	40.99	4130.09	40.87
4163.05	40.73	4346.31	40.76	4384.37	40.73	4598.27	40.48	4728.79	40.79
4830.3	41.65	4912.15	42.21	4942.87	42.03	4967.77	42.18	5079.82	42.31
5166.09	43.53	5382.91	42.48	5589.59	38.78	5682.12	24.68	5832.94	23.39
5950.98	23	8572.99	23.57	8838.6	23.95	9052.36	23.54	9300.69	23.52
9348.63	23.6	9367.42	25.66	9430.94	24.36	9449.59	21.83	9458.96	21.79
9552	22.04	9553.16	33.05	9559.83	29.83	9564.83	28.47	9566.03	27.83
9575.79	21.3	9577.61	20.38	9580.31	21.04	9581.43	19.93	9588.46	17.69
9602.04	14.14	9606.98	13.83	9609.22	13.84	9615.48	13.91	9630.19	13.29
9631.94	13.22	9648.41	13.29	9650.96	13.17	9664.87	12.63	9671.72	11.67
9681.33	10.33	9692.49	9.41	9697.8	8.95	9713.25	8.88	9714.26	8.86
9720.85	7.77	9734.02	6.88	9743.38	8.12	9744.75	8.31	9752.74	8.53
9755.48	8.61	9762.1	9.23	9766.22	9.86	9771.74	10.56	9776.95	10.75
9787.68	12.32	9798.41	13.38	9809.15	15.25	9812.79	16.61	9815.83	16.65
9836.62	16.95	9859.74	17.3	9877.34	16.85	9884.81	16.06	9886.98	15.99
9891.75	16.21	9894.47	16.8	9895.78	17.21	9898.68	18.56	9906.92	22.47
9920.56	23	9932.25	23.51	2306.17	23				

Manning's n Values	num=	3
Sta	n Val	Sta
0	.061	9553.16
	.027	9906.92
		.065

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	9553.16	9906.92		0	0	0	.1	.3	
Blocked Obstructions			num=	1					

Sta L Sta R Elev
 0 9553.16 20.42

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	25.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.	0.061	0.027	0.065
W.S. Elev (ft)	25.30	Reach Len. (ft)	3915.00	3915.00	3915.00
Crit W.S. (ft)		Flow Area (sq ft)	7407.36	3961.81	4922.37
E.G. Slope (ft/ft)	0.000248	Area (sq ft)	7407.36	3961.81	4922.37
Q Total (cfs)	24798.00	Flow (cfs)	4393.55	17547.85	2856.61
Top Width (ft)	6589.69	Top Width (ft)	3853.33	337.11	2399.25
Vel Total (ft/s)	1.52	Avg. Vel. (ft/s)	0.59	4.43	0.58
Max Chl Dpth (ft)	18.42	Hydr. Depth (ft)	1.92	11.75	2.05
Conv. Total (cfs)	1576191.0	Conv. (cfs)	279259.3	1115362.0	181569.4
Length Wtd. (ft)	3915.00	Wetted Per. (ft)	3856.60	342.42	2401.57
Min Ch El (ft)	6.88	Shear (lb/sq ft)	0.03	0.18	0.03
Alpha	6.04	Stream Power (lb/ft s)	0.02	0.79	0.02
Frctn Loss (ft)	0.92	Cum Volume (acre-ft)	828.15	372.03	904.57
C & E Loss (ft)	0.00	Cum SA (acres)			

Warning: Divided flow computed for this cross-section.
 Warning: The cross-section end points had to be extended vertically for the computed water surface.
 Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 26.09

INPUT

Description: Cross Section at River Mile 26.09
 Station Elevation Data num= 117

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	57.55	181.9	55.45	317.7	50.85	508.9	46.85	646.7	47.35
750.3	46.95	753.4	46.55	882.5	46.45	885.8	46.55	917.4	46.45
931	46.35	1156	46.45	1159	46.55	1194.2	46.85	1644.8	47.15
1855	49.25	2152.1	51.55	2350.9	49.35	2528	40.15	2725.4	38.95
2793	38.75	2878	38.85	3024.5	39.45	3098.9	38.35	3470.8	38.35
3746	38.35	4068.7	39.05	4319.2	38.95	4658.5	38.65	4869.4	39.95
5089.3	44.35	5315.9	42.95	5531.9	38.55	5628.6	22.45	7444.3	20.25
7698.8	20.85	7959.3	21.15	8063.9	21.35	8138.8	21.15	8284.4	21.55
8468.9	22.35	8721.6	23.75	8995.7	24.25	9216.3	23.85	9512.7	23.75
9531.5	26.05	9599.6	24.85	9619.6	22.05	10204.9	21.95	10380.1	26.45
10424.5	42.95	10430.4	40.05	10446	43.15	10452	44.95	10464.6	44.91
10468.9	44.63	10490.2	42.16	10499.6	40.49	10514.97	42.4	10525.1	37.2
10532.7	35.41	10552.1	24.2	10556.2	25.89	10557.9	23.81	10577.3	17.39
10583.8	12.99	10593.8	11.39	10603.8	10.89	10613.8	9.99	10623.8	10.39
10633.8	11.49	10643.8	11.49	10653.8	11.49	10663.8	11.19	10673.8	10.89
10683.8	10.69	10693.8	10.29	10703.8	10.09	10713.8	9.49	10723.8	8.69
10733.8	8.39	10743.8	7.89	10753.8	7.89	10763.8	8.79	10773.8	11.69
10783.8	12.39	10793.8	12.59	10803.8	13.29	10813.8	14.59	10907.8	17.39
10939.1	18.66	10950.7	22.95	10972.2	20.99	10981.2	21.85	10990.4	22.36
11022.5	20.75	11242.6	20.25	11335	20.55	11432.9	20.45	11720.9	19.65
14591.4	19.15	14624.4	21.35	14662.2	34.55	14691.4	36.75	15049.4	43.15
15301	43.35	15595.8	44.95	15925.7	45.05	16126.2	45.05	16172.7	45.35
16268.1	45.45	16363.2	45.25	16653.9	46.15	16889.9	46.55	17127.1	46.95
17215.7	49.35	17468.8	51.55						

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 0 .063 10552.1 .07 10556.2 .021 10950.7 .067

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 10514.97 10950.7 3700 4769 4679 .1 .3
 Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 010514.97 20.17 10950.7 17468.8 20.17

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	24.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.	0.063	0.021	0.067
W.S. Elev (ft)	24.38	Reach Len. (ft)	3700.00	4769.00	4679.00
Crit W.S. (ft)		Flow Area (sq ft)	11021.25	4316.98	15206.85
E.G. Slope (ft/ft)	0.000222	Area (sq ft)	11021.25	4316.98	15206.85
Q Total (cfs)	42051.00	Flow (cfs)	6948.42	22159.01	12943.58
Top Width (ft)	8673.61	Top Width (ft)	4597.24	394.00	3682.37
Vel Total (ft/s)	1.38	Avg. Vel. (ft/s)	0.63	5.13	0.85
Max Chl Dpth (ft)	16.49	Hydr. Depth (ft)	2.40	10.96	4.13
Conv. Total (cfs)	2819887.0	Conv. (cfs)	465952.0	1485955.0	867979.9
Length Wtd. (ft)	4545.75	Wetted Per. (ft)	4597.64	398.50	3683.11
Min Ch El (ft)	7.89	Shear (lb/sq ft)	0.03	0.15	0.06
Alpha	7.48	Stream Power (lb/ft s)	0.02	0.77	0.05
Frctn Loss (ft)	0.97	Cum Volume (acre-ft)	32766.67	55461.71	12842.90
C & E Loss (ft)	0.02	Cum SA (acres)	13120.69	12914.15	5494.30

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 25.1

INPUT
 Description: Cross Section at River Mile 25.1
 Station Elevation Data num= 115

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56.3	181.9	54.2	317.7	49.6	508.9	45.6	646.7	46.1
750.3	45.7	753.4	45.3	882.5	45.2	885.8	45.3	917.4	45.2
931	45.1	1156	45.2	1159	45.3	1194.2	45.6	1644.8	45.9
1855	48	2152.1	50.3	2350.9	48.1	2528	38.9	2725.4	37.7
2793	37.5	2878	37.6	3024.5	38.2	3098.9	37.1	3470.8	37.1
3746	37.1	4068.7	37.8	4319.2	37.7	4658.5	37.4	4869.4	38.7
5089.3	43.1	5315.9	41.7	5531.9	37.3	5628.6	21.2	7444.3	19
7698.8	19.6	7959.3	19.9	8063.9	20.1	8138.8	19.9	8284.4	20.3
8468.9	21.1	8721.6	22.5	8995.7	23	9216.3	22.6	9512.7	22.5
9531.5	24.8	9599.6	23.6	9619.6	20.8	10204.9	20.7	10380.1	25.2
10424.5	41.7	10430.4	38.8	10446	41.9	10452	43.7	10464.6	43.66
10468.9	43.38	10490.2	40.91	10499.6	39.24	10514.97	41.15	10525.1	35.95
10532.7	34.16	10552.1	22.95	10577.3	16.14	10583.8	11.74	10593.8	10.14
10603.8	9.64	10613.8	8.74	10623.8	9.14	10633.8	10.24	10643.8	10.24
10653.8	10.24	10663.8	9.94	10673.8	9.64	10683.8	9.44	10693.8	9.04
10703.8	8.84	10713.8	8.24	10723.8	7.44	10733.8	7.14	10743.8	6.64
10753.8	6.64	10763.8	7.54	10773.8	10.44	10783.8	11.14	10793.8	11.34
10803.8	12.04	10813.8	13.34	10907.8	16.14	10939.1	17.41	10950.7	21.7
10972.2	19.74	10981.2	20.6	10990.4	21.11	11022.5	19.5	11242.6	19
11335	19.3	11432.9	19.2	11720.9	18.4	14591.4	17.9	14624.4	20.1

14662.2	33.3	14691.4	35.5	15049.4	41.9	15301	42.1	15595.8	43.7
15925.7	43.8	16126.2	43.8	16172.7	44.1	16268.1	44.2	16363.2	44
16653.9	44.9	16889.9	45.3	17127.1	45.7	17215.7	48.1	17468.8	50.3

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.05	508.9	.04	1194.2	.05	2725.4	.04	3470.8	.05
5089.3	.04	5628.6	.07	8721.6	.04	9216.3	.05	10464.6	.07
10552.1	.021	10939.1	.07	15301	.04	16363.2	.06	17215.7	.04

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

10514.97	10950.7	2028.75	4406.38	2370.38	.1	.3
----------	---------	---------	---------	---------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
010514.97	18.92	10950.7	17468.8	18.92	

CROSS SECTION OUTPUT Profile #100-Year Flood

Element	Left OB	Channel	Right OB
E.G. Elev (ft)	23.61		
Vel Head (ft)	0.16	0.066	0.023
W.S. Elev (ft)	23.45	2028.75	4406.38
Crit W.S. (ft)		12501.83	4462.10
E.G. Slope (ft/ft)	0.000205	12501.83	4462.10
Q Total (cfs)	42101.00	8401.54	20223.68
Top Width (ft)	8699.36	4616.60	399.46
Vel Total (ft/s)	1.26	0.67	4.53
Max Chl Dpth (ft)	16.81	2.71	11.17
Conv. Total (cfs)	2940360.0	586768.9	1412434.0
Length Wtd. (ft)	3335.00	4617.07	403.61
Min Ch El (ft)	6.64	0.03	0.14
Alpha	6.39	0.02	0.64
Frctn Loss (ft)	0.66	31767.64	54981.14
C & E Loss (ft)	0.00	12729.38	12870.71

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 24.2625*

INPUT Description: Interpolated Cross Section at River Mile 24.26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.12	53.51	63.26	52.98	175.39	50.24	176.62	50.22	308.39	45.91
493.91	42	575.19	42.09	627.61	42.17	687.45	41.85	689.99	41.76
696.23	41.74	697.25	41.83	718	41.94	728.13	41.89	731.14	41.53
818.68	41.36	856.41	41.35	859.61	41.44	890.27	41.36	903.46	41.27
1087.12	41.4	1101.63	40.87	1121.78	40.88	1124.69	40.96	1158.84	41.22
1596.06	41.49	1800.01	43.33	2088.28	45.34	2281.18	43.41	2453.02	35.36
2644.55	34.31	2710.14	34.14	2792.62	34.22	2934.76	34.75	3006.95	33.79
3367.8	33.79	3634.83	33.79	3947.94	34.4	4191	34.31	4520.22	34.05
4724.85	35.19	4938.22	39.04	5158.08	37.81	5367.67	33.96	5461.49	19.88
5821.25	19.48	6110.31	19.3	6420.5	19.39	6721.64	18.91	6760.85	18.68
6946.81	18.46	7223.25	18.14	7300.91	18.3	7470.19	18.67	7668.88	18.88
7722.95	18.97	7764.6	19.07	7803.03	19.8	7824.44	19.94	7897.11	20.13
7964.3	20.63	8028.07	21.11	8038.39	21.11	8066.38	21.13	8147.97	20.8
8217.41	20.96	8328.46	21.34	8462.6	22.2	8492.27	22.29	8517.34	22.5

8580.73	22.57	8594.09	22.38	8728.56	22.59	8844.84	22.4	8942.6	22.29
8955.07	22.3	8985.49	21.97	9152.86	21.94	9230.19	21.99	9248.44	24.02
9299.62	23.26	9314.51	23.17	9333.92	20.91	9345.57	21.02	9413.41	21.04
9438.36	20.75	9505.18	21.09	9573.91	21.11	9587.79	21.81	9601.4	21.77
9631.06	21.15	9665.3	21.31	9694.07	21.83	9729.32	21.15	9756.05	21.45
9775.78	20.84	9828.22	20.67	9890.72	21.28	9901.83	21.12	9927.37	21.37
9996.23	23.2510020.55	24.7110071.82	26.0710072.22	26.2110110.02	26.2110110.02	26.2110110.02	26.2110110.02	26.2110110.02	37.59
10114.9	39.2210120.63	36.6710135.77	39.3610141.59	38.710187.77	37.4310202.69	39.42	39.42	39.42	39.42
10157.99	40.6210166.79	39.6910178.65	38.710187.77	37.4310202.69	39.42	39.42	39.42	39.42	39.42
10213.38	34.0710214.53	33.6110223.41	31.8810225.66	30.8610234.12	26.96	26.96	26.96	26.96	26.96
10246.08	21.4910248.24	2110269.62	16.5810275.54	15.3810283.13	11.52	11.52	11.52	11.52	11.52
10294.82	10.1210296.78	10.0410306.51	9.65	10318.2	8.8410322.54	8.95	8.95	8.95	8.95
10329.88	9.1510341.57	10.06	10348.4	10.0310353.26	10.0210364.95	9.99	9.99	9.99	9.99
10376.63	9.6910377.39	9.6710388.32	9.3710400.01	9.15	10403.8	9.02	9.02	9.02	9.02
10411.7	8.7410415.43	8.6710420.41	8.510423.39	8.3810425.38	8.23	8.23	8.23	8.23	8.23
10430.35	7.9110435.07	7.6110435.33	7.59	10440.3	7.2310445.27	6.87	6.87	6.87	6.87
10446.76	6.810450.25	6.7410455.22	6.4510458.45	6.3210460.19	6.23	6.23	6.23	6.23	6.23
10465.16	5.610470.14	5.0610478.89	5.0610487.84	6.0110496.79	8.7	8.7	8.7	8.7	8.7
10505.74	9.4810514.69	9.8110523.64	10.5810532.59	11.8810534.83	11.99	11.99	11.99	11.99	11.99
10590.78	14.2410616.72	15.3610636.67	15.4110644.73	16.8610655.11	20.76	20.76	20.76	20.76	20.76
10676.32	19.02	10685.2	19.7610694.27	20.1910725.94	18.73	10867.8	18.24	18.24	18.24
10943.05	18.2	11034.2	18.6111130.77	18.6711180.85	18.6311414.86	18.11	18.11	18.11	18.11
11506.62	18.1211805.73	18.2812083.59	17.9812734.48	1813027.05	18.31	18.31	18.31	18.31	18.31
13043.32	18.713059.81	18.6813075.52	18.4213250.25	18.1813282.01	18.32	18.32	18.32	18.32	18.32
13368.54	18.2413406.06	17.4513427.86	17.3613471.34	17.3313632.24	17.34	17.34	17.34	17.34	17.34
13818.48	17.2813847.03	17.7113998.74	17.8814108.84	17.86	14246.4	17.81	17.81	17.81	17.81
14278.95	19.7314316.24	31.2714345.04	33.1914428.64	34.514577.47	36.56	36.56	36.56	36.56	36.56
14698.19	38.4814946.37	38.6615237.17	40.0715562.59	40.1615760.37	40.17	40.17	40.17	40.17	40.17
15806.24	40.4315900.35	40.5215994.16	40.3516131.44	40.7316218.75	41.69	41.69	41.69	41.69	41.69
16280.91	4216290.23	42.0416473.48	42.4116513.71	42.4816747.69	42.84	42.84	42.84	42.84	42.84
16766.94	43.316835.08	44.9217084.75	46.79						

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 .12 .06410202.69 .0810225.66 .02210655.11 .068

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 10202.6910655.11 2028.75 4406.38 2370.38 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .12510202.6918.3012510655.1117084.7518.30125

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	22.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.064	0.022	0.068
W.S. Elev (ft)	22.76	Reach Len. (ft)	2028.75	4406.38	2370.38
Crit W.S. (ft)		Flow Area (sq ft)	11361.34	4710.02	15939.94
E.G. Slope (ft/ft)	0.000192	Area (sq ft)	11361.34	4710.02	15939.94
Q Total (cfs)	42101.00	Flow (cfs)	6928.49	22241.94	12930.58
Top Width (ft)	8500.70	Top Width (ft)	4455.24	411.81	3633.64
Vel Total (ft/s)	1.32	Avg. Vel. (ft/s)	0.61	4.72	0.81
Max Chl Dpth (ft)	17.70	Hydr. Depth (ft)	2.55	11.44	4.39
Conv. Total (cfs)	3038726.0	Conv. (cfs)	500077.8	1605357.0	933291.0
Length Wtd. (ft)	3405.80	Wetted Per. (ft)	4455.71	415.49	3634.30
Min Ch El (ft)	5.06	Shear (lb/sq ft)	0.03	0.14	0.05
Alpha	6.96	Stream Power (lb/ft s)	0.02	0.64	0.04
Frctn Loss (ft)	0.65	Cum Volume (acre-ft)	31211.94	54517.23	10266.24
C & E Loss (ft)	0.00	Cum SA (acres)	12518.13	12829.68	4899.63

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 23.425*

INPUT
 Description: Interpolated Cross Section at River Mile 23.43

Station Elevation Data num= 223									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.25	50.72	61.45	50.41	170.15	46.26	171.34	46.24	299.07	42.22
478.91	38.41	557.7	38.28	608.52	38.24	666.53	37.85	669	37.66
675.04	37.65	676.03	37.84	696.14	38.13	705.97	38.07	708.88	37.77
793.74	37.5	830.31	37.5	833.41	37.57	863.14	37.52	875.93	37.45
1053.96	37.61	1068.02	36.54	1087.56	36.55	1090.38	36.62	1123.49	36.85
1547.31	37.08	1745.02	38.65	2024.47	40.38	2211.46	38.72	2378.03	31.83
2563.7	30.93	2627.29	30.77	2707.23	30.85	2845.03	31.3	2915.01	30.47
3264.81	30.47	3523.66	30.47	3827.18	31	4062.8	30.93	4381.93	30.7
4580.3	31.68	4787.13	34.97	5000.27	33.92	5203.44	30.62	5294.39	18.55
5643.13	18.21	5923.33	18.22	6224.02	18.78	6515.95	18.19	6553.96	17.78
6734.22	17.58	7002.2	17.29	7077.48	17.42	7241.57	17.74	7434.18	17.93
7486.59	18.05	7526.97	18.16	7564.23	19.54	7584.98	19.79	7655.43	20.36
7720.56	21.17	7782.37	21.95	7792.38	21.91	7819.51	21.84	7898.6	20.82
7965.91	20.83	8073.56	20.95	8203.6	21.89	8232.36	22.02	8256.67	22.4
8318.11	22.42	8331.07	22.01	8461.41	22.19	8574.13	22.01	8668.9	21.99
8680.98	22	8710.47	21.36	8872.72	21.35	8947.69	21.48	8965.37	23.25
9014.99	22.65	9029.42	22.74	9048.24	21.02	9059.53	21.25	9125.29	21.29
9149.48	20.71	9214.25	21.4	9280.88	21.47	9294.33	22.87	9307.53	22.79
9336.28	21.56	9369.47	21.88	9397.36	22.93	9431.53	21.57	9457.45	22.17
9476.57	20.97	9527.4	20.63	9587.99	21.85	9598.76	21.55	9623.52	21.36
9690.27	23.3	9713.84	25.58	9763.55	26.95	9763.93	27.06	9800.58	35.35
9805.31	36.73	9810.86	34.54	9825.53	36.82	9831.17	38.15	9843.03	38.09
9847.07	37.86	9855.61	37.05	9867.1	36.49	9875.95	35.62	9890.4	37.69
9902.64	31.69	9903.95	31.27	9914.12	29.59	9916.7	28.67	9926.37	25.04
9940.07	20.04	9942.53	19.56	9967.01	15.65	9973.77	14.62	9982.47	11.31
9995.84	10.09	9998.08	10.03	10009.22	9.67	10022.59	8.93	10027.56	9.02
10035.97	9.15	10049.34	9.88	10057.15	9.83	10062.72	9.81	10076.09	9.73
10089.47	9.43	10090.33	9.42	10102.85	9.11	10116.22	8.85	10120.55	8.72
10129.6	8.44	10133.87	8.36	10139.56	8.12	10142.97	7.92	10145.25	7.73
10150.95	7.34	10156.35	6.99	10156.64	6.97	10162.33	6.59	10168.02	6.21
10169.72	6.15	10173.71	6.14	10179.4	5.67	10183.1	5.51	10185.09	5.4
10190.78	4.34	10196.47	3.48	10203.97	3.48	10211.88	4.47	10219.77	6.97
10227.67	7.81	10235.57	8.28	10243.47	9.13	10251.38	10.42	10253.36	10.56
10302.74	13.21	10325.63	14.58	10343.25	14.94	10350.36	16.32	10359.53	19.83
10380.44	18.29	10389.2	18.91	10398.15	19.27	10429.38	17.97	10569.28	17.3
10643.5	17.41	10733.39	17.92	10828.64	18.14	10878.02	18.19	11108.82	17.83
11199.32	17.86	11494.31	18.22	11768.35	17.69	12410.28	17.83	12698.83	18.51
12714.88	19.28	12731.13	19.26	12746.63	18.73	12918.96	18.28	12950.28	18.58
13035.62	18.42	13072.62	16.86	13094.12	16.68	13137.01	16.63	13295.69	16.68
13479.37	16.58	13507.52	17.45	13657.15	17.81	13765.73	17.79	13901.4	17.72
13933.51	19.36	13970.28	29.24	13998.69	30.88	14081.13	31.99	14227.92	33.41
14346.97	35.06	14591.74	35.22	14878.54	36.43	15199.49	36.52	15394.54	36.53
15439.78	36.76	15532.59	36.84	15625.11	36.69	15760.5	37.02	15846.61	38.68
15907.92	39.11	15917.11	39.16	16097.84	39.61	16137.51	39.65	16368.27	39.97
16387.26	40.37	16454.47	41.74	16700.7	43.28				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
.25	.062	9890.4	.08	9940.07	.02110359.53	.066	

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
9890.410359.53 2028.75 4406.38 2370.38 .1 .3

Blocked Obstructions num= 2
Sta L Sta R Elev Sta L Sta R Elev
.259890.402 17.682510359.53 16700.7 17.6825

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	22.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.062	0.022	0.066
W.S. Elev (ft)	22.10	Reach Len. (ft)	2028.75	4406.38	2370.38
Crit W.S. (ft)		Flow Area (sq ft)	10378.42	4913.80	14839.05
E.G. Slope (ft/ft)	0.000189	Area (sq ft)	10378.42	4913.80	14839.05
Q Total (cfs)	42101.00	Flow (cfs)	7285.98	22964.78	11850.24
Top Width (ft)	8015.56	Top Width (ft)	4006.26	425.11	3584.19
Vel Total (ft/s)	1.40	Avg. Vel. (ft/s)	0.70	4.67	0.80
Max Chl Dpth (ft)	18.62	Hydr. Depth (ft)	2.59	11.56	4.14
Conv. Total (cfs)	3059997.0	Conv. (cfs)	529561.8	1669132.0	861302.4
Length Wtd. (ft)	3429.22	Wetted Per. (ft)	4006.78	428.46	3584.75
Min Ch El (ft)	3.48	Shear (lb/sq ft)	0.03	0.14	0.05
Alpha	6.24	Stream Power (lb/ft s)	0.02	0.63	0.04
Frctn Loss (ft)	0.66	Cum Volume (acre-ft)	30705.69	54030.47	9428.80
C & E Loss (ft)	0.00	Cum SA (acres)	12321.08	12787.35	4703.24

Warning: Divided flow computed for this cross-section.
Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
REACH: Lower Fish Creek RS: 22.5875*

INPUT

Description: Interpolated Cross Section at River Mile 22.59

Station Elevation Data	num=	223
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
.38 47.94 59.64 47.84 164.91 42.28 166.06 42.27 289.76 38.53		
463.92 34.81 540.22 34.46 589.43 34.31 645.61 33.84 648 33.57		
653.85 33.55 654.81 33.85 674.28 34.33 683.8 34.26 686.62 34		
768.8 33.63 804.22 33.64 807.22 33.71 836 33.67 848.39 33.62		
1020.8 33.83 1034.42 32.22 1053.34 32.23 1056.07 32.29 1088.13 32.47		
1498.57 32.66 1690.03 33.97 1960.65 35.41 2141.73 34.04 2303.05 28.29		
2482.85 27.54 2544.43 27.41 2621.85 27.47 2755.29 27.85 2823.06 27.16		
3161.81 27.16 3412.48 27.16 3706.42 27.6 3934.59 27.54 4243.65 27.35		
4435.75 28.16 4636.05 30.91 4842.46 30.04 5039.2 27.29 5127.28 17.23		
5465.01 16.94 5736.36 17.13 6027.55 18.16 6310.26 17.48 6347.06 16.89		
6521.63 16.7 6781.15 16.43 6854.05 16.53 7012.96 16.8 7199.48 16.97		
7250.24 17.12 7289.34 17.25 7325.42 19.29 7345.52 19.63 7413.74 20.59		
7476.81 21.71 7536.68 22.79 7546.37 22.72 7572.64 22.55 7649.23 20.83		
7714.42 20.69 7818.67 20.56 7944.6 21.59 7972.45 21.75 7995.99 22.3		
8055.49 22.26 8068.04 21.64 8194.27 21.78 8303.43 21.63 8395.2 21.68		
8406.9 21.7 8435.46 20.75 8592.59 20.75 8665.18 20.97 8682.31 22.47		
8730.36 22.04 8744.34 22.31 8762.56 21.13 8773.49 21.47 8837.18 21.54		
8860.6 20.68 8923.33 21.72 8987.85 21.82 9000.88 23.92 9013.66 23.81		
9041.5 21.97 9073.64 22.45 9100.65 24.02 9133.75 21.99 9158.84 22.89		
9177.36 21.09 9226.59 20.6 9285.25 22.43 9295.69 21.97 9319.67 21.35		
9384.31 23.35 9407.13 26.45 9455.27 27.82 9455.64 27.92 9491.13 33.11		

9495.71	34.25	9501.09	32.41	9515.3	34.28	9520.76	35.38	9532.24	35.3
9536.16	35.1	9544.42	34.4	9555.56	34.27	9564.12	33.81	9578.12	35.96
9591.9	29.31	9593.38	28.93	9604.83	27.31	9607.73	26.49	9618.62	23.13
9634.05	18.58	9636.83	18.11	9664.39	14.72	9672.01	13.86	9681.8	11.09
9696.86	10.07	9699.38	10.01	9711.93	9.68	9726.99	9.03	9732.58	9.09
9742.05	9.16	9757.12	9.71	9765.91	9.62	9772.18	9.58	9787.24	9.48
9802.31	9.18	9803.28	9.16	9817.37	8.84	9832.43	8.56	9837.31	8.43
9847.5	8.14	9852.31	8.05	9858.72	7.73	9862.56	7.45	9865.13	7.22
9871.54	6.76	9877.62	6.36	9877.95	6.34	9884.36	5.94	9890.77	5.54
9892.69	5.51	9897.17	5.53	9903.58	4.89	9907.75	4.69	9909.99	4.57
9916.4	3.08	9922.81	1.9	9929.06	1.9	9935.91	2.94	9942.76	5.23
9949.61	6.15	9956.46	6.76	9963.31	7.67	9970.16	8.97	9971.88	9.13
10014.7	12.1710034.55		13.810049.83		14.4810055.99		15.7710063.94		18.89
10084.56	17.57	10093.2	18.0710102.02		18.3510132.81		17.210270.77		16.37
10343.95	16.6110432.59		17.23	10526.5	17.62	10575.2	17.7610802.78		17.54
10892.02	17.611182.89		18.1711453.11		17.3912086.08		17.6512370.61		18.71
12386.43	19.8712402.46		19.8312417.74		19.0412587.66		18.3812618.55		18.83
12702.7	18.612739.18		16.2712760.38		1612802.67		15.9212959.14		16.02
13140.25	15.8813168.02		17.1913315.55		17.7413422.63		17.7313556.41		17.63
13588.06	18.9913624.32		27.2213652.33		28.5713733.63		29.4713878.37		30.26
13995.76	31.6314237.11		31.7814519.91		32.814836.38		32.8815028.71		32.9
15073.32	33.0915164.84		33.1615256.07		33.0415389.57		33.3215474.48		35.67
15534.93	36.2115543.99		36.29	15722.2	36.7815761.32		36.8315988.86		37.11
16007.59	37.4416073.85		38.5616316.65		39.76				

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 .38 .06 9578.12 .08 9634.05 .02110063.94 .064

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 9578.1210063.94 2028.75 4406.38 2370.38 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .3759578.11917.0637510063.9416316.6517.06375

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	21.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.060	0.023	0.064
W.S. Elev (ft)	21.44	Reach Len. (ft)	2028.75	4406.38	2370.38
Crit W.S. (ft)		Flow Area (sq ft)	9808.65	5084.28	13238.37
E.G. Slope (ft/ft)	0.000197	Area (sq ft)	9808.65	5084.28	13238.37
Q Total (cfs)	42101.00	Flow (cfs)	8270.36	23435.65	10394.99
Top Width (ft)	7073.85	Top Width (ft)	3099.34	439.59	3534.92
Vel Total (ft/s)	1.50	Avg. Vel. (ft/s)	0.84	4.61	0.79
Max Chl Dpth (ft)	19.54	Hydr. Depth (ft)	3.16	11.57	3.75
Conv. Total (cfs)	3001783.0	Conv. (cfs)	589673.3	1670952.0	741158.3
Length Wtd. (ft)	3497.32	Wetted Per. (ft)	3099.77	442.81	3535.43
Min Ch El (ft)	1.90	Shear (lb/sq ft)	0.04	0.14	0.05
Alpha	5.41	Stream Power (lb/ft s)	0.03	0.65	0.04
Frctn Loss (ft)	0.69	Cum Volume (acre-ft)	30235.60	53524.78	8664.86
C & E Loss (ft)	0.01	Cum SA (acres)	12155.62	12743.61	4509.55

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 21.75*

INPUT

Description: Interpolated Cross Section at River Mile 21.75

Station	Elevation	Data	num=	223	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.5	45.15	57.83	45.27	159.67	38.31	160.78	38.29	280.44	34.84		
448.92	31.21	522.73	30.65	570.34	30.38	624.69	29.83	627	29.48		
632.66	29.46	633.59	29.86	652.43	30.52	661.63	30.45	664.36	30.23		
743.86	29.77	778.12	29.79	781.03	29.85	808.87	29.83	820.86	29.79		
987.64	30.04	1000.81	27.9	1019.12	27.9	1021.76	27.95	1052.78	28.1		
1449.83	28.25	1635.05	29.3	1896.84	30.45	2072.01	29.35	2228.06	24.75		
2402	24.15	2461.57	24.05	2536.47	24.1	2665.56	24.4	2731.12	23.85		
3058.82	23.85	3301.31	23.85	3585.66	24.2	3806.39	24.15	4105.37	24		
4291.2	24.65	4484.97	26.85	4684.64	26.15	4874.97	23.95	4960.18	15.9		
5286.89	15.68	5549.39	16.04	5831.08	17.55	6104.57	16.76	6140.17	15.99		
6309.05	15.82	6560.09	15.57	6630.62	15.64	6784.35	15.87	6964.79	16.02		
7013.89	16.19	7051.71	16.34	7086.62	19.03	7106.06	19.47	7172.06	20.82		
7233.07	22.25	7290.98	23.64	7300.35	23.53	7325.77	23.26	7399.87	20.84		
7462.93	20.56	7563.77	20.17	7685.59	21.29	7712.54	21.48	7735.31	22.2		
7792.87	22.11	7805.01	21.27	7927.12	21.37	8032.72	21.24	8121.5	21.37		
8132.82	21.4	8160.45	20.14	8312.45	20.16	8382.68	20.47	8399.24	21.69		
8445.72	21.44	8459.25	21.88	8476.87	21.24	8487.45	21.7	8549.06	21.79		
8571.72	20.64	8632.4	22.03	8694.82	22.18	8707.42	24.98	8719.79	24.83		
8746.72	22.37	8777.81	23.02	8803.94	25.12	8835.96	22.42	8860.23	23.61		
8878.15	21.21	8925.77	20.56	8982.52	23	8992.62	22.39	9015.81	21.34		
9078.35	23.4	9100.43	27.34	9146.99	28.69	9147.36	28.78	9181.69	30.87		
9186.12	31.77	9191.32	30.28	9205.06	31.74	9210.35	32.61	9221.45	32.51		
9225.24	32.34	9233.24	31.76	9244.01	32.06	9252.29	32	9265.83	34.22		
9281.16	26.93	9282.8	26.59	9295.54	25.03	9298.76	24.3	9310.88	21.22		
9328.03	17.12	9331.12	16.67	9361.77	13.79	9370.24	13.09	9381.13	10.88		
9397.88	10.05	9400.69	10	9414.63	9.69	9431.39	9.12	9437.61	9.15		
9448.14	9.16	9464.89	9.53	9474.67	9.42	9481.64	9.36	9498.39	9.22		
9515.14	8.93	9516.22	8.91	9531.89	8.58	9548.64	8.27	9554.07	8.14		
9565.39	7.84	9570.75	7.74	9577.88	7.35	9582.15	6.99	9585	6.72		
9592.13	6.19	9598.9	5.74	9599.26	5.71	9606.38	5.29	9613.51	4.87		
9615.65	4.86	9620.64	4.93	9627.77	4.11	9632.4	3.88	9634.89	3.73		
9642.02	1.83	9649.15	.32	9654.15	.32	9659.95	1.41	9665.75	3.5		
9671.55	4.49	9677.35	5.23	9683.15	6.22	9688.95	7.51	9690.4	7.71		
9726.66	11.14	9743.47	13.02	9756.4	14.01	9761.62	15.22	9768.35	17.95		
9788.68	16.85	9797.19	17.22	9805.89	17.42	9836.25	16.43	9972.26	15.44		
10044.4	15.8210131.79		16.5410224.37		17.0910272.38		17.3310496.74		17.25		
10584.71	17.3410871.47		18.1211137.87		17.0911761.89		17.4812042.39		18.91		
12057.98	20.4612073.79		20.412088.86		19.3512256.37		18.4912286.82		19.09		
12369.78	18.7812405.75		15.6712426.65		15.3212468.34		15.2212622.59		15.35		
12801.14	15.1912828.51		16.9412973.96		17.6713079.52		17.6613211.41		17.54		
13242.62	18.6213278.36		25.1913305.98		26.2713386.12		26.9613528.81		27.11		
13644.54	28.2113882.48		28.3414161.28		29.1614473.27		29.2514662.89		29.26		
14706.86	29.4214797.08		29.4814887.02		29.3915018.64		29.6215102.34		32.65		
15161.94	33.3215170.88		33.4115346.56		33.9715385.13		34.0115609.45		34.25		
15627.91	34.5115693.24		35.39	15932.6	36.25						

Manning's n Values		num=	4
Sta	n Val	Sta	n Val
.5	.058	9265.83	.09
			9310.88
			.021
			9768.35
			.063

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	9265.83	9768.35		2028.75	4406.38	2370.38		.1	.3

Blocked Obstructions		num=	2
Sta L	Sta R	Elev	Sta L
			Sta R
			Elev

.59265.835 16.445 9768.35 15932.6 16.445

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	20.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.058	0.021	0.063
W.S. Elev (ft)	20.69	Reach Len. (ft)	2028.75	4406.38	2370.38
Crit W.S. (ft)		Flow Area (sq ft)	9030.92	5183.03	11351.05
E.G. Slope (ft/ft)	0.000197	Area (sq ft)	9030.92	5183.03	11351.05
Q Total (cfs)	42101.00	Flow (cfs)	7961.34	25894.44	8245.21
Top Width (ft)	6639.19	Top Width (ft)	2698.37	455.27	3485.55
Vel Total (ft/s)	1.65	Avg. Vel. (ft/s)	0.88	5.00	0.73
Max Chl Dpth (ft)	20.37	Hydr. Depth (ft)	3.35	11.38	3.26
Conv. Total (cfs)	3003180.0	Conv. (cfs)	567904.4	1847121.0	588153.7
Length Wtd. (ft)	3584.46	Wetted Per. (ft)	2698.73	458.54	3486.07
Min Ch El (ft)	0.32	Shear (lb/sq ft)	0.04	0.14	0.04
Alpha	5.75	Stream Power (lb/ft s)	0.04	0.69	0.03
Frctn Loss (ft)	0.77	Cum Volume (acre-ft)	29796.88	53005.48	7995.82
C & E Loss (ft)	0.00	Cum SA (acres)	12020.61	12698.35	4318.53

Warning: Divided flow computed for this cross-section.
Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
REACH: Lower Fish Creek RS: 20.9125*

INPUT
Description: Interpolated Cross Section at River Mile 20.91

Station Elevation Data		num= 223									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.62	42.36	56.02	42.71	154.43	34.33	155.5	34.31	271.13	31.14		
433.93	27.61	505.25	26.84	551.26	26.45	603.76	25.82	606	25.38		
611.47	25.37	612.36	25.87	630.57	26.72	639.46	26.64	642.1	26.47		
718.92	25.9	752.03	25.94	754.84	25.98	781.74	25.99	793.32	25.97		
954.48	26.26	967.21	23.57	984.9	23.58	987.45	23.61	1017.42	23.73		
1401.08	23.84	1580.06	24.63	1833.02	25.49	2002.29	24.66	2153.08	21.21		
2321.16	20.76	2378.71	20.69	2451.09	20.73	2575.82	20.95	2639.17	20.54		
2955.82	20.54	3190.14	20.54	3464.9	20.8	3678.19	20.76	3967.09	20.65		
4146.65	21.14	4333.89	22.79	4526.83	22.26	4710.74	20.61	4793.07	14.58		
5108.76	14.41	5362.42	14.96	5634.61	16.94	5898.88	16.05	5933.28	15.09		
6096.46	14.94	6339.04	14.71	6407.19	14.76	6555.74	14.94	6730.09	15.06		
6777.54	15.26	6814.08	15.43	6847.81	18.77	6866.6	19.32	6930.37	21.05		
6989.33	22.78	7045.29	24.48	7054.34	24.34	7078.91	23.97	7150.5	20.86		
7211.43	20.42	7308.88	19.78	7426.59	20.98	7452.63	21.21	7474.63	22.1		
7530.25	21.96	7541.98	20.91	7659.98	20.97	7762.02	20.86	7847.8	21.06		
7858.74	21.1	7885.44	19.53	8032.31	19.57	8100.17	19.96	8116.18	20.91		
8161.09	20.83	8174.16	21.45	8191.19	21.35	8201.41	21.92	8260.95	22.04		
8282.84	20.61	8341.48	22.35	8401.79	22.53	8413.96	26.03	8425.92	25.84		
8451.94	22.78	8481.99	23.59	8507.23	26.21	8538.17	22.84	8561.62	24.33		
8578.93	21.33	8624.95	20.52	8679.79	23.58	8689.54	22.82	8711.96	21.33		
8772.39	23.45	8793.72	28.19	8838.72	29.57	8839.07	29.63	8872.24	28.62		
8876.52	29.29	8881.54	28.16	8894.83	29.2	8899.94	29.83	8910.66	29.72		
8914.33	29.59	8922.05	29.12	8932.46	29.85	8940.46	30.19	8953.55	32.49		
8970.42	24.55	8972.23	24.25	8986.24	22.75	8989.8	22.12	9003.13	19.31		
9022.01	15.66	9025.42	15.22	9059.15	12.87	9068.48	12.33	9080.47	10.66		
9098.91	10.02	9101.99	9.98	9117.34	9.7	9135.78	9.22	9142.63	9.22		
9154.22	9.17	9172.66	9.35	9183.43	9.22	9191.1	9.14	9209.54	8.97		
9227.98	8.68	9229.17	8.66	9246.42	8.31	9264.85	7.97	9270.83	7.84		

9283.29	7.54	9289.19	7.43	9297.03	6.96	9301.73	6.53	9304.88	6.21
9312.72	5.62	9320.17	5.11	9320.57	5.08	9328.41	4.64	9336.26	4.2
9338.61	4.22	9344.11	4.32	9351.95	3.33	9357.05	3.06	9359.8	2.9
9367.64	.57	9375.49	-1.26	9379.24	-1.26	9383.99	-.12	9388.74	1.76
9393.49	2.83	9398.24	3.7	9402.99	4.76	9407.74	6.05	9408.93	6.28
9438.62	10.1	9452.39	12.24	9462.98	13.54	9467.25	14.68	9472.76	17.01
9492.8	16.12	9501.19	16.38	9509.77	16.5	9539.69	15.67	9673.74	14.5
9744.85	15.02	9830.98	15.85	9922.24	16.56	9969.56	16.9	10190.7	16.96
10277.41	17.08	10560.05	18.06	10822.62	16.79	11437.69	17.31	11714.17	19.11
11729.54	21.04	11745.12	20.98	11759.97	19.67	11925.08	18.59	11955.09	19.34
12036.86	18.96	12072.31	15.08	12092.91	14.64	12134	14.51	12286.05	14.69
12462.03	14.49	12489.01	16.68	12632.37	17.61	12736.42	17.61	12866.41	17.45
12897.17	18.25	12932.4	23.16	12959.62	23.96	13038.62	24.44	13179.26	23.95
13293.33	24.79	13527.85	24.89	13802.65	25.53	14110.16	25.61	14297.06	25.63
14340.4	25.75	14429.33	25.81	14517.97	25.73	14647.7	25.91	14730.21	29.64
14788.95	30.42	14797.76	30.53	14970.92	31.15	15008.93	31.18	15230.04	31.38
15248.23	31.59	15312.62	32.21	15548.55	32.74				

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val
 .62 .056 8953.55 .1 9003.13 .021 9472.76 .061

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 8953.55 9472.76 2028.75 4406.38 2370.38 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .6258953.55215.826259472.76315548.5515.82625

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	20.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.27	Wt. n-Val.	0.056	0.022	0.061
W.S. Elev (ft)	19.89	Reach Len. (ft)	2028.75	4406.38	2370.38
Crit W.S. (ft)		Flow Area (sq ft)	8314.80	5225.03	9353.14
E.G. Slope (ft/ft)	0.000235	Area (sq ft)	8314.80	5225.03	9353.14
Q Total (cfs)	42101.00	Flow (cfs)	8204.12	27028.03	6868.85
Top Width (ft)	6276.08	Top Width (ft)	2404.54	472.39	3399.15
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.99	5.17	0.73
Max Chl Dpth (ft)	21.15	Hydr. Depth (ft)	3.46	11.06	2.75
Conv. Total (cfs)	2743681.0	Conv. (cfs)	534654.5	1761390.0	447636.4
Length Wtd. (ft)	3633.18	Wetted Per. (ft)	2404.87	475.94	3399.61
Min Ch El (ft)	-1.26	Shear (lb/sq ft)	0.05	0.16	0.04
Alpha	5.16	Stream Power (lb/ft s)	0.05	0.83	0.03
Frctn Loss (ft)	1.02	Cum Volume (acre-ft)	29392.96	52479.06	7432.50
C & E Loss (ft)	0.00	Cum SA (acres)	11901.78	12651.43	4131.21

Warning: Divided flow computed for this cross-section.

Warning: The energy loss was greater than 1.0 ft (0.3 m) between the current and previous cross section. This may indicate the need for additional cross sections.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 20.075*

INPUT

Description: Interpolated Cross Section at River Mile 20.08

Station Elevation Data num= 223
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

.75	39.58	54.22	40.14	149.18	30.35	150.22	30.33	261.82	27.45
418.93	24.02	487.77	23.03	532.17	22.51	582.84	21.82	585	21.29
590.28	21.28	591.14	21.88	608.71	22.91	617.3	22.82	619.85	22.7
693.98	22.03	725.93	22.09	728.64	22.12	754.61	22.15	765.79	22.14
921.32	22.47	933.61	19.25	950.68	19.25	953.14	19.28	982.07	19.35
1352.34	19.43	1525.07	19.95	1769.21	20.53	1932.57	19.98	2078.1	17.68
2240.31	17.38	2295.86	17.33	2365.7	17.35	2486.09	17.5	2547.22	17.23
2852.83	17.23	3078.97	17.23	3344.14	17.4	3549.99	17.38	3828.8	17.3
4002.11	17.63	4182.81	18.73	4369.01	18.38	4546.51	17.28	4625.97	13.25
4930.64	13.14	5175.45	13.87	5438.14	16.33	5693.18	15.33	5726.39	14.19
5883.87	14.06	6117.99	13.86	6183.76	13.87	6327.12	14.01	6495.39	14.11
6541.18	14.34	6576.46	14.52	6609.01	18.51	6627.14	19.16	6688.69	21.28
6745.59	23.32	6799.59	25.32	6808.33	25.14	6832.04	24.68	6901.13	20.87
6959.94	20.29	7053.99	19.38	7167.59	20.68	7192.72	20.94	7213.96	22
7267.64	21.81	7278.96	20.54	7392.83	20.56	7491.31	20.47	7574.11	20.76
7584.66	20.8	7610.42	18.92	7752.17	18.98	7817.67	19.45	7833.12	20.14
7876.46	20.22	7889.08	21.03	7905.51	21.47	7915.38	22.15	7972.83	22.3
7993.96	20.57	8050.55	22.67	8108.76	22.89	8120.51	27.09	8132.04	26.86
8157.16	23.19	8186.16	24.16	8210.52	27.31	8240.38	23.26	8263.01	25.06
8279.72	21.46	8324.13	20.48	8377.06	24.15	8386.47	23.24	8408.11	21.32
8466.42	23.5	8487.01	29.06	8530.44	30.44	8530.78	30.49	8562.79	26.38
8566.93	26.8	8571.77	26.03	8584.59	26.66	8589.52	27.06	8599.88	26.94
8603.41	26.83	8610.87	26.48	8620.91	27.64	8628.64	28.38	8641.27	30.76
8659.68	22.16	8661.66	21.91	8676.95	20.46	8680.83	19.93	8695.39	17.4
8716	14.21	8719.71	13.77	8756.54	11.94	8766.72	11.57	8779.8	10.44
8799.93	10	8803.29	9.97	8820.05	9.72	8840.18	9.32	8847.65	9.29
8860.31	9.18	8880.43	9.17	8892.19	9.01	8900.56	8.92	8920.69	8.71
8940.81	8.42	8942.11	8.41	8960.94	8.04	8981.07	7.68	8987.58	7.55
9001.19	7.25	9007.62	7.12	9016.19	6.57	9021.32	6.07	9024.75	5.71
9033.32	5.05	9041.45	4.49	9041.88	4.46	9050.44	4	9059.01	3.54
9061.57	3.58	9067.57	3.71	9076.13	2.56	9081.7	2.24	9084.7	2.07
9093.26	-.69	9101.83	-2.84	9104.33	-2.84	9108.02	-1.66	9111.72	.03
9115.42	1.16	9119.12	2.17	9122.82	3.31	9126.52	4.59	9127.45	4.85
9150.58	9.07	9161.3	11.46	9169.55	13.07	9172.88	14.13	9177.17	16.08
9196.92	15.4	9205.19	15.53	9213.64	15.58	9243.13	14.9	9375.23	13.57
9445.31	14.23	9530.18	15.15	9620.11	16.03	9666.74	16.46	9884.66	16.68
9970.11	16.82	10248.64	18.01	10507.38	16.51	11113.49	17.14	11385.94	19.3
11401.09	21.63	11416.45	21.55	11431.08	19.98	11593.79	18.69	11623.36	19.59
11703.94	19.14	11738.87	14.49	11759.17	13.96	11799.67	13.81	11949.5	14.03
12122.92	13.79	12149.51	16.42	12290.78	17.54	12393.31	17.53	12521.41	17.36
12551.72	17.88	12586.44	21.13	12613.27	21.65	12691.11	21.93	12829.71	20.8
12942.11	21.37	13173.23	21.45	13444.02	21.91	13747.06	21.97	13931.23	22
13973.94	22.08	14061.57	22.12	14148.93	22.08	14276.77	22.21	14358.07	26.63
14415.96	27.52	14424.64	27.65	14595.28	28.33	14632.74	28.36	14850.62	28.52
14868.55	28.66	14932.01	29.03	15164.5	29.23				

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 .75 .054 8641.27 .1 8695.39 .021 9177.17 .059

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 8641.27 9177.17 2028.75 4406.38 2370.38 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .74999998641.268 15.20759177.175 15164.5 15.2075

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft) 19.14 Element Left OB Channel Right OB

Vel Head (ft)	0.32	Wt. n-Val.	0.054	0.023	0.059
W.S. Elev (ft)	18.82	Reach Len. (ft)	2028.75	4406.38	2370.38
Crit W.S. (ft)		Flow Area (sq ft)	10369.31	5103.77	6682.79
E.G. Slope (ft/ft)	0.000326	Area (sq ft)	10369.31	5103.77	6682.79
Q Total (cfs)	42101.00	Flow (cfs)	8844.80	28057.76	5198.44
Top Width (ft)	8126.92	Top Width (ft)	4611.91	489.97	3025.05
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.85	5.50	0.78
Max Chl Dpth (ft)	21.66	Hydr. Depth (ft)	2.25	10.42	2.21
Conv. Total (cfs)	2330865.0	Conv. (cfs)	489680.4	1553380.0	287804.6
Length Wtd. (ft)	3517.23	Wetted Per. (ft)	4612.20	494.08	3025.44
Min Ch El (ft)	-2.84	Shear (lb/sq ft)	0.05	0.21	0.04
Alpha	5.64	Stream Power (lb/ft s)	0.04	1.16	0.03
Frctn Loss (ft)	0.94	Cum Volume (acre-ft)	28957.86	51956.64	6996.19
C & E Loss (ft)	0.04	Cum SA (acres)	11738.38	12602.76	3956.42

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 19.2375*

INPUT

Description: Interpolated Cross Section at River Mile 19.24

Station	Elevation	Data	num=	223						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
.87	36.79	52.41	37.57	143.94	26.38	144.94	26.36	252.5	23.76	
403.94	20.42	470.28	19.21	513.08	18.58	561.92	17.81	564	17.19	
569.09	17.19	569.92	17.89	586.86	19.11	595.13	19.01	597.59	18.94	
669.04	18.17	699.84	18.24	702.45	18.26	727.48	18.3	738.25	18.32	
888.16	18.69	900	14.92	916.45	14.93	918.83	14.94	946.71	14.98	
1303.6	15.01	1470.08	15.28	1705.39	15.56	1862.84	15.29	2003.11	14.14	
2159.46	13.99	2213	13.96	2280.32	13.98	2396.35	14.05	2455.28	13.91	
2749.83	13.91	2967.8	13.91	3223.38	14	3421.79	13.99	3690.52	13.95	
3857.56	14.11	4031.72	14.66	4211.2	14.49	4382.27	13.94	4458.86	11.93	
4752.52	11.87	4988.47	12.79	5241.67	15.71	5487.49	14.62	5519.49	13.3	
5671.29	13.18	5896.94	13	5960.33	12.99	6098.51	13.08	6260.7	13.15	
6304.83	13.41	6338.83	13.61	6370.21	18.26	6387.68	19.01	6447	21.5	
6501.84	23.86	6553.9	26.16	6562.32	25.95	6585.17	25.39	6651.77	20.89	
6708.45	20.15	6799.09	18.99	6908.59	20.38	6932.81	20.67	6953.28	21.9	
7005.02	21.65	7015.93	20.17	7125.69	20.15	7220.61	20.09	7300.41	20.45	
7310.58	20.5	7335.41	18.31	7472.04	18.39	7535.16	18.94	7550.05	19.36	
7591.83	19.61	7603.99	20.6	7619.83	21.58	7629.34	22.37	7684.72	22.55	
7705.08	20.54	7759.63	22.98	7815.73	23.24	7827.06	28.14	7838.17	27.88	
7862.38	23.59	7890.33	24.73	7913.81	28.4	7942.59	23.68	7964.41	25.78	
7980.51	21.58	8023.32	20.44	8074.33	24.73	8083.4	23.66	8104.25	21.31	
8160.46	23.55	8180.31	29.93	8222.16	31.32	8222.49	31.34	8253.35	24.14	
8257.33	24.32	8262	23.9	8274.36	24.12	8279.11	24.28	8289.09	24.15	
8292.5	24.07	8299.68	23.84	8309.37	25.43	8316.81	26.57	8328.98	29.03	
8348.94	19.78	8351.08	19.57	8367.66	18.18	8371.87	17.75	8387.65	15.49	
8409.98	12.75	8414.01	12.33	8453.92	11.01	8464.95	10.81	8479.13	10.23	
8500.95	9.97	8504.6	9.95	8522.76	9.73	8544.58	9.41	8552.68	9.35	
8566.39	9.18	8588.21	8.99	8600.94	8.81	8610.02	8.7	8631.83	8.46	
8653.65	8.17	8655.06	8.15	8675.46	7.78	8697.28	7.39	8704.34	7.25	
8719.09	6.95	8726.06	6.81	8735.34	6.19	8740.91	5.6	8744.63	5.2	
8753.91	4.47	8762.72	3.86	8763.19	3.83	8772.47	3.35	8781.75	2.87	
8784.53	2.93	8791.04	3.11	8800.32	1.78	8806.35	1.43	8809.6	1.23	
8818.88	-1.94	8828.16	-4.42	8829.41	-4.42	8832.06	-3.19	8834.71	-1.71	
8837.36	-.5	8840.01	.65	8842.66	1.85	8845.31	3.14	8845.98	3.43	

8862.54	8.03	8870.22	10.68	8876.13	12.6	8878.51	13.58	8881.59	15.14
8901.05	14.67	8909.19	14.69	8917.52	14.66	8946.57	14.13	9076.71	12.63
9145.76	13.43	9229.38	14.46	9317.98	15.5	9363.92	16.03	9578.62	16.39
9662.8	16.56	9937.22	17.95	10192.14	16.2	10789.3	16.97	11057.72	19.5
11072.65	22.21	11087.77	22.13	11102.19	20.29	11262.49	18.81	11291.63	19.85
11371.02	19.32	11405.44	13.89	11425.44	13.28	11465.33	13.11	11612.95	13.36
11783.81	13.1	11810	16.16	11949.19	17.47	12050.21	17.47	12176.41	17.27
12206.28	17.51	12240.49	19.11	12266.91	19.34	12343.61	19.41	12480.15	17.65
12590.9	17.95	12818.6	18.01	13085.39	18.26	13383.95	18.33	13565.4	18.36
13607.48	18.41	13693.82	18.44	13779.88	18.43	13905.83	18.51	13985.94	23.61
14042.97	24.63	14051.52	24.78	14219.64	25.52	14256.55	25.54	14471.21	25.66
14488.88	25.73	14551.39	25.85	14780.45	25.71				

Manning's n Values num= 4
Sta n Val Sta n Val Sta n Val Sta n Val
.87 .052 8328.98 .1 8367.66 .021 8881.59 .057

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
8328.98 8881.59 2028.75 4406.38 2370.38 .1 .3

Blocked Obstructions num= 2
Sta L Sta R Elev Sta L Sta R Elev
.87499998328.98414.588758881.58814780.4514.58875

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	18.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.	0.052	0.021	0.057
W.S. Elev (ft)	17.97	Reach Len. (ft)	2028.75	4406.38	2370.38
Crit W.S. (ft)		Flow Area (sq ft)	17652.41	5056.50	5076.36
E.G. Slope (ft/ft)	0.000206	Area (sq ft)	17652.41	5056.50	5076.36
Q Total (cfs)	42101.00	Flow (cfs)	15803.41	23508.05	2789.54
Top Width (ft)	9064.95	Top Width (ft)	5496.96	511.86	3056.13
Vel Total (ft/s)	1.52	Avg. Vel. (ft/s)	0.90	4.65	0.55
Max Chl Dpth (ft)	22.39	Hydr. Depth (ft)	3.21	9.88	1.66
Conv. Total (cfs)	2930062.0	Conv. (cfs)	1099854.0	1636067.0	194140.8
Length Wtd. (ft)	3328.15	Wetted Per. (ft)	5498.05	517.11	3056.53
Min Ch El (ft)	-4.42	Shear (lb/sq ft)	0.04	0.13	0.02
Alpha	5.40	Stream Power (lb/ft s)	0.04	0.59	0.01
Frctn Loss (ft)	0.63	Cum Volume (acre-ft)	28305.32	51442.75	6676.25
C & E Loss (ft)	0.01	Cum SA (acres)	11502.98	12552.09	3790.96

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
REACH: Lower Fish Creek RS: 18.4

INPUT

Description: Cross Section at River Mile 18.4

Station Elevation Data num= 112									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
1 34 50.6 35 138.7 22.4 452.8 15.4 541 13.8									
543 13.1 547.9 13.1 548.7 13.9 565 15.3 644.1 14.3									
855 14.9 866.4 10.6 4574.4 10.6 4801.5 11.7 5045.2 15.1									
5281.8 13.9 5312.6 12.4 5458.7 12.3 5736.9 12.1 6026 12.2									
6101.2 12.7 6131.4 18 6258.1 24.4 6308.2 27 6338.3 26.1									
6402.4 20.9 6544.2 18.6 6672.9 20.4 6692.6 21.8 6742.4 21.5									
6752.9 19.8 6949.9 19.7 7036.5 20.2 7060.4 17.7 7191.9 17.8									

7307.2	19	7343.3	22.6	7396.6	22.8	7416.2	20.5	7468.7	23.3
7522.7	23.6	7533.6	29.2	7544.3	28.9	7567.6	24	7594.5	25.3
7617.1	29.5	7644.8	24.1	7665.8	26.5	7681.3	21.7	7722.5	20.4
7771.6	25.3	7800.4	21.3	7854.5	23.6	7873.6	30.8	7914.2	32.2
7943.9	21.9	7988.5	21.2	8016.7	27.3	8038.2	17.4	8062.9	15.56
8079.9	13.58	8108.3	10.88	8151.3	10.08	8205.9	9.94	8257.7	9.42
8309.7	8.6	8368	7.9	8421.1	6.96	8444.5	6.5	8454.5	5.8
8464.5	4.7	8474.5	3.9	8484.5	3.2	8494.5	2.7	8504.5	2.2
8514.5	2.5	8524.5	1	8534.5	.4	8544.5	-3.2	8554.5	-6
8564.5	2	8574.5	7	8586	14.2	8778.2	11.7	9061.1	15.6
9355.5	16.3	9625.8	17.9	9876.9	15.9	10465.1	16.8	10729.5	19.7
10744.2	22.8	10759.1	22.7	10773.3	20.6	10931.2	18.9	10959.9	20.1
11038.1	19.5	11072	13.3	11091.7	12.6	11131	12.4	11276.4	12.7
11444.7	12.4	11470.5	15.9	11607.6	17.4	11707.1	17.4	11996.1	16.9
12130.6	14.5	13534.9	14.8	13613.8	20.6	13678.4	21.9	13844	22.7
14109.2	22.8	14396.4	22.2						

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
1	.05	6026	.07	6402.4	.04	7307.2	.05	7873.6	.11
8038.2	.02	8586	.07	8778.2	.05	10465.1	.07	11707.1	.05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

8016.7	8586	3217.29	4349	2885.43	.1	.3
--------	------	---------	------	---------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
1	8016.7	13.97	8586	14396.4	13.97

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	17.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.	0.050	0.020	0.055
W.S. Elev (ft)	17.37	Reach Len. (ft)	3217.29	4349.00	2885.43
Crit W.S. (ft)		Flow Area (sq ft)	18902.71	5130.89	8413.03
E.G. Slope (ft/ft)	0.000172	Area (sq ft)	18902.71	5130.89	8413.03
Q Total (cfs)	43249.00	Flow (cfs)	16181.66	22008.86	5058.49
Top Width (ft)	10484.65	Top Width (ft)	5763.33	547.38	4173.94
Vel Total (ft/s)	1.33	Avg. Vel. (ft/s)	0.86	4.29	0.60
Max Chl Dpth (ft)	23.37	Hydr. Depth (ft)	3.28	9.37	2.02
Conv. Total (cfs)	3299306.0	Conv. (cfs)	1234439.0	1678974.0	385893.1
Length Wtd. (ft)	3750.12	Wetted Per. (ft)	5763.91	555.09	4174.53
Min Ch El (ft)	-6.00	Shear (lb/sq ft)	0.04	0.10	0.02
Alpha	5.45	Stream Power (lb/ft s)	0.03	0.43	0.01
Frctn Loss (ft)	0.67	Cum Volume (acre-ft)	27454.07	50927.49	6309.22
C & E Loss (ft)	0.00	Cum SA (acres)	11240.76	12498.51	3594.24

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 17.5714*

INPUT Description: Interpolated Cross Section at River Mile 17.57

Station	Elevation	Data	num=	188							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.86	32.49	55.66	33.03	99.58	27.91	153.01	21.92	205.31	20.95		
334.61	18.4	460.08	16.12	500.09	15.45	597.55	14.12	599.76	13.53		

605.17	13.53	605.94	14.13	606.05	14.21	624.06	15.32	711.47	14.01
735.88	13.94	854.35	14.17	944.51	15.01	955.62	11.84	957.11	11.38
999.57	10.74	1080.46	10.9	1249.24	10.89	1433.32	10.39	1539.05	10.41
1663.25	10.39	1779.17	10.37	1911.65	10.44	2057.51	10.39	2058.15	10.41
3010.36	10.4	3961.94	10.37	4175.31	10.59	4386.13	10.73	4454.92	10.37
4938.99	10.43	4961.92	10.56	4979.11	10.43	5054.36	10.44	5059.37	10.46
5155.54	10.84	5170.19	11.34	5190.58	11.07	5305.3	11.46	5321.15	11.63
5435.79	12.74	5545.35	13.95	5574.59	14.28	5707.13	13.81	5836.02	13.29
5870.06	12.01	6031.5	11.91	6338.9	11.73	6658.35	11.8	6741.44	12.23
6774.81	16.77	6914.81	22.25	6970.17	24.47	7003.43	23.7	7074.26	19.24
7230.95	17.26	7373.16	18.8	7394.93	20	7449.96	19.74	7461.56	18.28
7679.24	18.18	7774.93	18.61	7801.34	16.46	7946.64	16.54	8074.05	17.57
8113.94	20.65	8172.83	20.82	8194.49	18.85	8252.5	21.24	8284.15	21.38
8312.17	21.52	8324.21	26.33	8336.04	26.08	8361.78	21.9	8391.51	23.04
8416.48	26.66	8434.47	23.95	8447.09	22.05	8470.29	24.12	8487.42	20.01
8532.94	18.92	8587.2	23.14	8587.97	23.06	8619.02	19.89	8678.8	22.21
8699.91	28.51	8708.35	28.78	8737.65	29.05	8744.77	29.25	8763.76	24.18
8777.59	20.5	8824.27	20.06	8826.87	20.1	8840.83	22.86	8845.29	23.42
8849.75	23.78	8858.03	25.24	8872.42	19.13	8879.19	16.24	8886.82	15.55
8894.57	14.88	8903.49	14.29	8920.22	12.55	8948.17	10.18	8990.49	9.4
9044.22	9.16	9095.2	8.61	9146.37	7.79	9203.75	7.07	9256	6.15
9279.03	5.71	9288.87	5.08	9298.72	4.12	9308.56	3.41	9318.4	2.79
9328.24	2.34	9338.08	1.89	9347.92	2.13	9357.76	.82	9360.71	.66
9367.6	.1	9377.44	-3.28	9387.29	-5.97	9399.89	.99	9405.13	2.81
9409.6	5.04	9412.5	6.64	9414.51	7.91	9421.2	10.92	9427	14.07
9442.82	13.58	9617.55	11.3	9673.79	11.87	9786.64	13	9832	14.38
9895.28	14.55	9898.03	14.59	10061.91	14.92	10189.91	14.92	10197.97	14.94
10371.99	16.87	10398.35	16.54	10457.89	16.79	10706.84	16.85	10841.32	14.91
11162.99	15.22	11208.34	15.51	11271.62	16.38	11290	16.22	11296.94	16.22
11325.41	16.48	11552.14	18.62	11566.71	21.27	11581.49	21.19	11595.56	19.39
11600.68	19.34	11752.11	17.93	11780.57	18.96	11858.09	18.45	11891.71	13.14
11911.24	12.54	11950.2	12.37	11954	12.38	12094.35	12.64	12149.11	12.56
12261.21	12.61	12286.79	15.66	12307.31	15.89	12422.72	17.39	12491.88	17.63
12521.36	17.61	12662.74	17.31	12688.05	16.96	12807.89	16.47	12812.5	16.39
12884.22	14.94	12941.24	14.06	14333.51	14.31	14411.73	19.29	14475.78	20.4
14639.96	21.09	14902.89	21.17	15187.63	20.66				

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 .86 .054 8858.03 .11 8879.19 .021 9427 .055

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 8858.03 9427 3217.29 4349 2885.43 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .86 8858.03 13.39 9427 15187.63 13.39

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	16.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.	0.054	0.021	0.055
W.S. Elev (ft)	16.70	Reach Len. (ft)	3217.29	4349.00	2885.43
Crit W.S. (ft)		Flow Area (sq ft)	20190.80	5191.34	8420.52
E.G. Slope (ft/ft)	0.000183	Area (sq ft)	20190.80	5191.34	8420.52
Q Total (cfs)	43249.00	Flow (cfs)	16239.20	21743.43	5266.37
Top Width (ft)	11044.73	Top Width (ft)	6514.50	548.89	3981.34
Vel Total (ft/s)	1.28	Avg. Vel. (ft/s)	0.80	4.19	0.63
Max Chl Dpth (ft)	22.67	Hydr. Depth (ft)	3.10	9.46	2.11
Conv. Total (cfs)	3193003.0	Conv. (cfs)	1198914.0	1605282.0	388807.3

Length Wtd. (ft)	3748.60	Wetted Per. (ft)	6515.35	555.32	3981.89
Min Ch El (ft)	-5.97	Shear (lb/sq ft)	0.04	0.11	0.02
Alpha	5.57	Stream Power (lb/ft s)	0.03	0.45	0.02
Frctn Loss (ft)	0.69	Cum Volume (acre-ft)	26010.37	50412.21	5751.69
C & E Loss (ft)	0.00	Cum SA (acres)	10787.35	12443.79	3324.14

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 16.7428*

INPUT

Description: Interpolated Cross Section at River Mile 16.74

Station	Elevation	Data	num=	188	Sta	Elev	Sta	Elev	Sta	Elev
.71	30.97	60.73	31.07	108.82	26.51	167.33	21.44	224.59	20.56	
366.17	18.07	503.57	16.03	547.37	15.5	654.09	14.45	656.51	13.95	
662.44	13.96	663.29	14.46	663.41	14.53	683.13	15.34	778.84	13.72	
805.56	13.52	935.29	13.68	1034.02	15.11	1046.18	12.56	1047.81	12.16	
1094.3	10.89	1182.88	11.2	1367.7	11.17	1569.26	10.17	1685.04	10.23	
1821.04	10.17	1947.98	10.14	2093.04	10.29	2252.76	10.17	2253.46	10.23	
3296.13	10.2	4338.11	10.14	4571.76	10.57	4802.61	10.86	4877.93	10.14	
5407.99	10.26	5433.1	10.51	5451.93	10.26	5534.33	10.28	5539.81	10.3	
5645.12	10.63	5661.16	11.56	5683.48	10.94	5809.11	11.22	5826.46	11.36	
5952	12.13	6071.96	13.18	6103.97	13.46	6249.11	13.12	6390.25	12.69	
6427.52	11.61	6604.29	11.53	6940.9	11.36	7290.7	11.4	7381.69	11.75	
7418.23	15.53	7571.53	20.09	7632.15	21.95	7668.57	21.3	7746.12	17.58	
7917.7	15.92	8073.42	17.2	8097.25	18.19	8157.51	17.97	8170.21	16.76	
8408.58	16.67	8513.36	17.02	8542.28	15.23	8701.38	15.29	8840.89	16.13	
8884.57	18.7	8949.06	18.84	8972.78	17.19	9036.3	19.19	9070.96	19.3	
9101.64	19.44	9114.83	23.46	9127.77	23.26	9155.97	19.8	9188.51	20.78	
9215.86	23.82	9235.56	21.58	9249.37	20	9274.78	21.73	9293.54	18.32	
9343.39	17.43	9402.8	20.98	9403.64	20.92	9437.64	18.49	9503.1	20.83	
9526.21	26.22	9535.46	26.5	9567.54	26.13	9575.34	26.31	9596.14	22.11	
9611.27	19.09	9662.39	18.88	9665.24	19.01	9680.53	21.78	9685.41	22.03	
9690.29	21.89	9699.36	23.19	9713.52	17.69	9720.17	15.08	9727.68	14.27	
9735.31	13.53	9744.09	13.01	9760.55	11.53	9788.05	9.48	9829.68	8.72	
9882.55	8.39	9932.7	7.8	9983.05	6.99	10039.5	6.24	10090.91	5.34	
10113.57	4.91	10123.25	4.37	10132.93	3.54	10142.61	2.93	10152.29	2.38	
10161.98	1.98	10171.66	1.58	10181.34	1.76	10191.02	.64	10193.93	.5	
10200.71	-.21	10210.39	-3.36	10220.07	-5.94	10235.29	-.03	10241.61	1.54	
10247	4.23	10250.5	6.27	10252.92	7.83	10261	10.51	10268	13.94	
10283.68	13.17	10456.91	10.91	10512.66	11.26	10624.54	11.95	10669.5	14.09	
10732.23	13.54	10734.96	13.57	10897.43	13.85	11024.32	13.53	11032.31	13.53	
11204.82	16.36	11230.96	15.53	11289.99	15.68	11536.79	13.8	11670.1	13.71	
11988.99	13.83	12033.95	14.34	12096.69	15.98	12114.91	15.65	12121.78	15.57	
12150.01	15.77	12374.78	17.53	12389.23	19.75	12403.87	19.67	12417.83	18.17	
12422.9	18.13	12573.02	16.97	12601.23	17.83	12678.09	17.41	12711.41	12.98	
12730.77	12.48	12769.4	12.34	12773.17	12.35	12912.31	12.58	12966.59	12.52	
13077.73	12.82	13103.08	15.42	13123.43	15.66	13237.83	17.38	13306.4	17.86	
13335.63	17.82	13475.78	17.45	13500.88	16.82	13619.68	16.04	13624.25	15.95	
13695.35	14.35	13751.87	13.61	15132.12	13.83	15209.66	17.97	15273.16	18.9	
15435.92	19.47	15696.58	19.54	15978.86	19.11					

Manning's n Values	num=	4					
Sta	n Val	Sta	n Val	Sta	n Val		
.71	.053	9699.36	.11	9720.17	.021	10268	.064

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 9699.36 10268 3217.29 4349 2885.43 .1 .3
 Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .71 9699.36 12.81 1026815978.86 12.81

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	16.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.14	Wt. n-Val.	0.053	0.022	0.064
W.S. Elev (ft)	16.01	Reach Len. (ft)	3217.29	4349.00	2885.43
Crit W.S. (ft)		Flow Area (sq ft)	21281.89	5234.89	8435.03
E.G. Slope (ft/ft)	0.000185	Area (sq ft)	21281.89	5234.89	8435.03
Q Total (cfs)	43249.00	Flow (cfs)	16963.67	21742.04	4543.29
Top Width (ft)	11681.02	Top Width (ft)	7240.68	550.20	3890.14
Vel Total (ft/s)	1.24	Avg. Vel. (ft/s)	0.80	4.15	0.54
Max Chl Dpth (ft)	21.95	Hydr. Depth (ft)	2.94	9.51	2.17
Conv. Total (cfs)	3180045.0	Conv. (cfs)	1247317.0	1598665.0	334062.3
Length Wtd. (ft)	3742.02	Wetted Per. (ft)	7241.35	555.87	3890.68
Min Ch El (ft)	-5.94	Shear (lb/sq ft)	0.03	0.11	0.03
Alpha	5.85	Stream Power (lb/ft s)	0.03	0.45	0.01
Frctn Loss (ft)	0.70	Cum Volume (acre-ft)	24478.81	49891.74	5193.43
C & E Loss (ft)	0.00	Cum SA (acres)	10279.38	12388.92	3063.44

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 15.9142*

INPUT

Description: Interpolated Cross Section at River Mile 15.91

Station Elevation Data	num=	188
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
.57 29.46 65.79 29.1 118.05 25.11 181.64 20.96 243.87 20.17		
397.74 17.74 547.06 15.95 594.66 15.54 710.64 14.77 713.27 14.38		
719.71 14.38 720.63 14.79 720.76 14.84 742.19 15.36 846.21 13.44		
875.25 13.09 1016.23 13.18 1123.52 15.22 1136.75 13.29 1138.52 12.93		
1189.04 11.03 1285.3 11.5 1486.16 11.46 1705.21 9.96 1831.03 10.04		
1978.83 9.96 2116.78 9.91 2274.43 10.13 2448.01 9.96 2448.76 10.04		
3581.91 10 4714.29 9.91 4968.2 10.56 5219.09 10.99 5300.95 9.91		
5876.99 10.09 5904.28 10.47 5924.74 10.09 6014.29 10.13 6020.25 10.14		
6134.7 10.42 6152.13 11.79 6176.38 10.81 6312.91 10.99 6331.76 11.09		
6468.2 11.53 6598.56 12.4 6633.36 12.65 6791.08 12.44 6944.47 12.08		
6984.97 11.22 7177.09 11.14 7542.9 10.99 7923.05 11 8021.93 11.28		
8061.64 14.3 8228.24 17.94 8294.12 19.42 8333.7 18.9 8417.99 15.92		
8604.45 14.58 8773.68 15.59 8799.58 16.39 8865.07 16.21 8878.87 15.24		
9137.91 15.15 9251.79 15.42 9283.21 13.99 9456.13 14.03 9607.74 14.7		
9655.21 16.75 9725.3 16.86 9751.07 15.54 9820.1 17.13 9857.77 17.22		
9891.11 17.36 9905.44 20.59 9919.51 20.45 9950.15 17.71 9985.52 18.52		
10015.24 20.9710036.65 19.210051.66 17.9510079.28 19.3510099.66 16.63		
10153.83 15.95 10218.4 18.8310219.31 18.7710256.27 17.08 10327.4 19.44		
10352.52 23.9210362.57 24.2210397.43 23.210405.91 23.3610428.51 20.05		
10444.96 17.6910500.51 17.71 10503.6 17.9110520.22 20.710525.53 20.65		
10530.83 19.9910540.69 21.1310554.62 16.2510561.16 13.9210568.54 13		
10576.04 12.1810584.68 11.7410600.87 10.510627.92 8.7710668.87 8.04		
10720.87 7.61 10770.2 6.9810819.72 6.1810875.24 5.4110925.81 4.53		

10948.1	4.1210957.62	3.6510967.15	2.9610976.67	2.4410986.19	1.98
10995.72	1.6311005.24	1.2811014.76	1.3811024.29	.4611027.14	.34
11033.81	-.5111043.33	-3.4411052.86	-5.9111070.68	-1.0411078.09	.27
11084.4	3.43 11088.5	5.9111091.34	7.74 11100.8	10.11 11109	13.81
11124.55	12.7511296.26	10.511351.53	10.6511462.43	10.9 11507	13.79
11569.18	12.5411571.89	12.5611732.94	12.7811858.73	12.1511866.64	12.13
12037.66	15.8512063.57	14.5312122.08	14.5712366.73	12.7512498.88	12.5
12815	12.4512859.56	13.1712921.75	15.5812939.81	15.0712946.62	14.92
12974.61	15.0513197.42	16.4513211.74	18.2213226.26	18.1613240.09	16.96
13245.12	16.9313393.93	16 13421.9	16.6913498.09	16.3613531.12	12.82
13550.31	12.42 13588.6	12.3113592.33	12.3213730.26	12.5213784.08	12.47
13894.24	13.0313919.38	15.1813939.54	15.4314052.95	17.3614120.92	18.09
14149.89	18.0314288.83	17.6 14313.7	16.6814431.47	15.61 14436	15.52
14506.48	13.7614562.51	13.1715930.72	13.34 16007.6	16.6616070.54	17.4
16231.88	17.8616490.27	17.9116770.09	17.57		

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
.57	.05210540.69	.1110561.16	.022	11109	.069		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

10540.69	11109	3217.29	4349	2885.43	.1	.3
----------	-------	---------	------	---------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
.5710540.69	12.23	1110916770.09	12.23		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	15.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.052	0.023	0.069
W.S. Elev (ft)	15.32	Reach Len. (ft)	3217.29	4349.00	2885.43
Crit W.S. (ft)		Flow Area (sq ft)	22451.73	5277.87	8361.00
E.G. Slope (ft/ft)	0.000190	Area (sq ft)	22451.73	5277.87	8361.00
Q Total (cfs)	43249.00	Flow (cfs)	18025.63	20949.02	4274.36
Top Width (ft)	12766.24	Top Width (ft)	8401.87	551.76	3812.60
Vel Total (ft/s)	1.20	Avg. Vel. (ft/s)	0.80	3.97	0.51
Max Chl Dpth (ft)	21.23	Hydr. Depth (ft)	2.67	9.57	2.19
Conv. Total (cfs)	3138000.0	Conv. (cfs)	1307878.0	1519990.0	310132.7
Length Wtd. (ft)	3729.91	Wetted Per. (ft)	8402.38	557.02	3813.12
Min Ch El (ft)	-5.91	Shear (lb/sq ft)	0.03	0.11	0.03
Alpha	5.52	Stream Power (lb/ft s)	0.03	0.45	0.01
Frctn Loss (ft)	0.70	Cum Volume (acre-ft)	22863.75	49366.95	4637.15
C & E Loss (ft)	0.00	Cum SA (acres)	9701.71	12333.91	2808.32

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 15.0857*

INPUT
 Description: Interpolated Cross Section at River Mile 15.09
 Station Elevation Data num= 188

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.43	27.94	70.86	27.13	127.29	23.71	195.95	20.48	263.16	19.78
429.3	17.4	590.54	15.86	641.94	15.59	767.18	15.1	770.02	14.8
776.98	14.81	777.97	15.11	778.11	15.15	801.26	15.38	913.57	13.15
944.94	12.67	1097.17	12.69	1213.03	15.33	1227.31	14.02	1229.22	13.71

1283.78	11.17	1387.73	11.8	1604.62	11.74	1841.16	9.74	1977.02	9.86
2136.62	9.74	2285.59	9.69	2455.83	9.97	2643.25	9.74	2644.07	9.86
3867.68	9.8	5090.47	9.69	5364.65	10.54	5635.57	11.11	5723.96	9.69
6345.99	9.91	6375.46	10.43	6397.56	9.91	6494.25	9.97	6500.68	9.98
6624.27	10.22	6643.1	12.02	6669.29	10.68	6816.71	10.75	6837.07	10.81
6984.4	10.92	7125.17	11.63	7162.75	11.83	7333.06	11.75	7498.7	11.48
7542.43	10.83	7749.88	10.76	8144.9	10.62	8555.4	10.6	8662.17	10.8
8705.05	13.07	8884.96	15.79	8956.1	16.89	8998.83	16.5	9089.85	14.26
9291.19	13.24	9473.94	13.99	9501.91	14.59	9572.62	14.45	9587.53	13.72
9867.25	13.64	9990.22	13.83	10024.15	12.76	10210.87	12.77	10374.59	13.27
10425.85	14.81	10501.53	14.88	10529.36	13.89	10603.9	15.08	10644.58	15.14
10680.58	15.29	10696.05	17.72	10711.25	17.63	10744.33	15.61	10782.53	16.26
10814.62	18.13	10837.73	16.83	10853.95	15.89	10883.77	16.97	10905.78	14.94
10964.28	14.47	11033.99	16.67	11034.98	16.63	11074.89	15.68	11151.7	18.06
11178.82	21.63	11189.67	21.94	11227.32	20.28	11236.47	20.42	11260.88	17.99
11278.64	16.29	11338.64	16.53	11341.97	16.82	11359.92	19.63	11365.65	19.26
11371.37	18.09	11382.01	19.07	11395.71	14.81	11402.15	12.76	11409.41	11.72
11416.78	10.83	11425.28	10.47	11441.2	9.47	11467.79	8.07	11508.06	7.36
11559.19	6.84	11607.7	6.17	11656.4	5.37	11710.99	4.58	11760.72	3.72
11782.63	3.32	11792	2.94	11801.36	2.38	11810.73	1.95	11820.09	1.57
11829.46	1.27	11838.82	.97	11848.18	1.01	11857.55	.28	11860.36	.18
11866.91	-.82	11876.28	-3.52	11885.64	-5.89	11906.07	-2.05	11914.57	-.99
11921.8	2.62	11926.5	5.55	11929.75	7.66	11940.6	9.71	11950	13.69
11965.41	12.34	12135.62	10.1	12190.4	10.04	12300.32	9.85	12344.5	13.49
12406.14	11.53	12408.82	11.54	12568.46	11.71	12693.13	10.77	12700.98	10.72
12870.49	15.34	12896.18	13.52	12954.17	13.46	13196.67	11.71	13327.66	11.3
13641	11.06	13685.17	12	13746.81	15.19	13764.71	14.49	13771.47	14.26
13799.21	14.34	14020.06	15.37	14034.25	16.69	14048.64	16.65	14062.36	15.74
14067.34	15.72	14214.84	15.04	14242.56	15.56	14318.08	15.31	14350.82	12.66
14369.85	12.36	14407.8	12.29	14411.5	12.29	14548.22	12.46	14601.56	12.43
14710.75	13.23	14735.67	14.94	14755.66	15.21	14868.07	17.35	14935.44	18.31
14964.16	18.24	15101.87	17.75	15126.53	16.53	15243.26	15.18	15247.75	15.09
15317.61	13.17	15373.15	12.73	16729.33	12.86	16805.53	15.34	16867.92	15.9
17027.84	16.24	17283.96	16.29	17561.31	16.03				

Manning's n Values		num= 4	
Sta	n Val	Sta	n Val
.43	.05	11382.01	.11
		1111402.15	.022
		11950	.073

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coef	Contr.	Expan.
	11382.01	11950		3217.29	4349	2885.43		.1	.3
Blocked Obstructions		num= 2							
Sta L	Sta R	Elev	Sta L	Sta R	Elev				
.43	11382.01	11.66	11950	17561.31	11.66				

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	14.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.	0.051	0.024	0.073
W.S. Elev (ft)	14.63	Reach Len. (ft)	3217.29	4349.00	2885.43
Crit W.S. (ft)		Flow Area (sq ft)	24107.22	5317.94	7941.08
E.G. Slope (ft/ft)	0.000188	Area (sq ft)	24107.22	5317.94	7941.08
Q Total (cfs)	43249.00	Flow (cfs)	18908.59	20585.58	3754.84
Top Width (ft)	13693.14	Top Width (ft)	9366.70	553.71	3772.73
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)	0.78	3.87	0.47
Max Chl Dpth (ft)	20.52	Hydr. Depth (ft)	2.57	9.60	2.10
Conv. Total (cfs)	3157032.0	Conv. (cfs)	1380263.0	1502678.0	274090.4
Length Wtd. (ft)	3718.86	Wetted Per. (ft)	9367.01	558.82	3773.25
Min Ch El (ft)	-5.89	Shear (lb/sq ft)	0.03	0.11	0.02

Alpha	5.54	Stream Power (lb/ft s)	0.02	0.43	0.01
Frctn Loss (ft)	0.68	Cum Volume (acre-ft)	21144.36	48838.01	4097.22
C & E Loss (ft)	0.00	Cum SA (acres)	9045.53	12278.73	2557.09

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 14.2571*

INPUT

Description: Interpolated Cross Section at River Mile 14.26

Station Elevation Data		num= 188							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.29	26.43	75.92	25.17	136.53	22.3	210.26	20	282.44	19.38
460.87	17.07	634.03	15.77	689.23	15.64	823.73	15.42	826.78	15.23
834.25	15.24	835.31	15.44	835.47	15.47	860.32	15.4	980.94	12.86
1014.63	12.25	1178.12	12.19	1302.54	15.44	1317.87	14.75	1319.93	14.49
1378.52	11.31	1490.15	12.1	1723.08	12.03	1977.11	9.53	2123.02	9.67
2294.42	9.53	2454.39	9.46	2637.22	9.81	2838.5	9.53	2839.38	9.67
4153.45	9.6	5466.65	9.46	5761.1	10.53	6052.04	11.24	6146.97	9.46
6815	9.74	6846.64	10.39	6870.37	9.74	6974.22	9.81	6981.12	9.82
7113.85	10.01	7134.06	12.25	7162.19	10.56	7320.52	10.51	7342.38	10.54
7500.6	10.31	7651.78	10.85	7692.13	11.01	7875.04	11.07	8052.92	10.87
8099.89	10.44	8322.68	10.37	8746.9	10.25	9187.75	10.2	9302.42	10.33
9348.47	11.83	9541.67	13.63	9618.07	14.36	9663.97	14.1	9761.71	12.6
9977.94	11.9	10174.2	12.39	10204.24	12.78	10280.18	12.68	10296.19	12.2
10596.59	12.12	10728.65	12.24	10765.09	11.52	10965.61	11.52	11141.43	11.83
11196.48	12.85	11277.76	12.91	11307.65	12.23	11387.7	13.02	11431.38	13.06
11470.05	13.21	11486.67	14.85	11502.98	14.81	11538.51	13.51	11579.53	13.99
11614	15.29	11638.82	14.45	11656.24	13.84	11688.26	14.58	11711.89	13.25
11774.72	12.99	11849.59	14.51	11850.66	14.49	11893.51	14.27	11976	16.67
12005.13	19.34	12016.78	19.66	12057.22	17.35	12067.04	17.47	12093.25	15.93
12112.33	14.88	12176.76	15.35	12180.34	15.72	12199.61	18.55	12205.76	17.87
12211.92	16.19	12223.34	17.01	12236.81	13.38	12243.14	11.61	12250.27	10.45
12257.52	9.48	12265.87	9.19	12281.52	8.44	12307.67	7.37	12347.25	6.68
12397.52	6.06	12445.2	5.36	12493.07	4.57	12546.74	3.75	12595.62	2.91
12617.17	2.53	12626.37	2.22	12635.58	1.81	12644.78	1.47	12653.99	1.16
12663.19	.91	12672.4	.66	12681.61	.64	12690.81	.11	12693.57	.02
12700.02	-1.12	12709.22	-3.61	12718.43	-5.86	12741.47	-3.07	12751.04	-2.26
12759.2	1.81	12764.51	5.19	12768.17	7.57	12780.4	9.31	12791	13.56
12806.27	11.93	12974.97	9.71	13029.26	9.42	13138.21	8.8	13182	13.19
13243.09	10.52	13245.75	10.53	13403.97	10.64	13527.54	9.38	13535.32	9.31
13703.33	14.82	13728.79	12.51	13786.27	12.35	14026.61	10.65	14156.44	10.1
14467	9.67	14510.78	10.84	14571.88	14.79	14589.62	13.92	14596.31	13.61
14623.8	13.63	14842.69	14.28	14856.76	15.17	14871.03	15.13	14884.62	14.53
14889.56	14.51	15035.76	14.07	15063.23	14.42	15138.08	14.27	15170.53	12.5
15189.38	12.31	15227	12.26	15230.67	12.26	15366.17	12.39	15419.04	12.39
15527.26	13.44	15551.96	14.71	15571.77	14.96	15683.19	17.34	15749.96	18.54
15778.42	18.44	15914.91	17.91	15939.35	16.39	16055.05	14.75	16059.5	14.66
16128.74	12.58	16183.79	12.29	17527.94	12.37	17603.46	14.03	17665.29	14.4
17823.8	14.63	18077.64	14.66	18352.54	14.49				

Manning's n Values		num= 4	
Sta	n Val	Sta	n Val
.29	.049	12243.14	.022
		12791	.078

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

12223.34 12791 3217.29 4349 2885.43 .1 .3
 Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 .2912223.34 11.08 1279118352.54 11.08

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	14.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.049	0.024	0.078
W.S. Elev (ft)	13.97	Reach Len. (ft)	3217.29	4349.00	2885.43
Crit W.S. (ft)		Flow Area (sq ft)	26553.97	5374.17	7402.56
E.G. Slope (ft/ft)	0.000178	Area (sq ft)	26553.97	5374.17	7402.56
Q Total (cfs)	43249.00	Flow (cfs)	20374.70	19763.52	3110.78
Top Width (ft)	14903.72	Top Width (ft)	10554.30	556.37	3793.05
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)	0.77	3.68	0.42
Max Chl Dpth (ft)	19.83	Hydr. Depth (ft)	2.52	9.66	1.95
Conv. Total (cfs)	3243323.0	Conv. (cfs)	1527936.0	1482103.0	233283.5
Length Wtd. (ft)	3699.59	Wetted Per. (ft)	10554.68	561.48	3793.62
Min Ch El (ft)	-5.86	Shear (lb/sq ft)	0.03	0.11	0.02
Alpha	5.35	Stream Power (lb/ft s)	0.02	0.39	0.01
Frctn Loss (ft)	0.63	Cum Volume (acre-ft)	19273.47	48304.26	3589.03
C & E Loss (ft)	0.01	Cum SA (acres)	8309.86	12223.31	2306.51

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 13.4285*

INPUT
 Description: Interpolated Cross Section at River Mile 13.43
 Station Elevation Data num= 179

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
.14	24.91	80.98	23.2	145.76	20.9	224.58	19.52	301.72	18.99
492.43	16.73	677.51	15.69	736.52	15.69	880.27	15.75	883.53	15.65
891.52	15.67	892.66	15.77	892.82	15.78	919.39	15.42	1048.31	12.57
1084.31	11.82	1259.06	11.7	1392.05	15.54	1408.44	15.47	1410.63	15.27
1473.26	11.46	1592.58	12.4	1841.54	12.31	2113.05	9.31	2269.01	9.49
2452.21	9.31	2623.2	9.23	2818.61	9.66	3033.75	9.31	3034.69	9.49
4439.23	9.4	5842.82	9.23	6157.55	10.51	6468.52	11.37	6569.99	9.23
7284	9.57	7317.82	10.34	7343.19	9.57	7454.18	9.65	7461.56	9.66
7603.42	9.81	7625.03	12.47	7655.1	10.43	7824.32	10.27	7847.69	10.27
8016.8	9.71	8178.39	10.08	8221.52	10.19	8417.02	10.38	8607.15	10.27
8657.35	10.04	8895.47	9.99	9348.9	9.87	9820.09	9.8	9942.66	9.85
9991.88	10.610198.39	11.4810280.04	11.84	10329.1	11.710433.58	10.94	10664.69	10.5710874.46	10.68
10664.69	10.5710874.46	10.7910906.56	10.9810987.73	10.9211004.84	10.9211004.84	10.68	11325.93	10.611467.08	10.4
11325.93	10.611467.08	10.6511506.03	10.2911720.36	10.2611908.28	10.2611908.28	10.4	11967.12	10.912053.99	10.98
11967.12	10.912053.99	10.9212085.94	10.58	12171.5	10.9712218.19	10.98	12259.52	11.1312277.28	11.73
12259.52	11.1312277.28	11.9812294.72	11.99	12332.7	11.41112376.54	11.73	12413.38	12.4512439.91	11.56
12413.38	12.4512439.91	12.0812458.52	11.7912492.75	12.212518.01	12.212518.01	11.56	12585.16	11.512665.19	15.28
12585.16	11.512665.19	12.3512666.33	12.3412712.13	12.8712800.31	12.8712800.31	15.28	12831.44	17.0512843.89	13.86
12831.44	17.0512843.89	17.3812887.11	14.4312897.61	14.5312925.63	14.5312925.63	13.86	12946.02	13.4813014.88	16.49
12946.02	13.4813014.88	14.1813018.71	14.6313039.31	17.4813045.88	17.4813045.88	16.49	13052.46	14.313064.67	9.17
13052.46	14.313064.67	14.96	13077.9	11.9413084.12	10.4413091.14	9.17	13098.26	8.1313106.47	6
13098.26	8.1313106.47	7.9213121.85	7.4213147.54	6.6713186.44	6.6713186.44	6	13235.84	5.28	13282.7
13235.84	5.28	13282.7	4.5513329.75	3.7613382.49	2.9113430.53	2.1	13451.7	1.7313460.75	.75
13451.7	1.7313460.75	1.5113469.79	1.2213478.84	.9813487.89	.9813487.89	.75	13496.93	.5513505.98	-.14
13496.93	.5513505.98	.3513515.03	.2713524.07	-.0813526.79	-.0813526.79	-.14			

13533.12	-1.4213542.17	-3.6813551.21	-5.8313576.86	-4.0813587.52	-3.53
13596.6	1.0113602.51	4.8213606.58	7.49 13620.2	8.9 13632	13.43
13647.14	11.5113814.32	9.3113868.13	8.8113976.11	7.75 14019.5	12.9
14080.05	9.5114082.68	9.5114239.49	9.5714361.95	814369.66	7.91
14536.17	14.3114561.39	11.5114618.36	11.2314856.55	9.614985.22	8.9
15293	8.2915336.39	9.6715396.94	14.415414.52	13.3415421.16	12.95
15448.4	12.9115665.33	13.215679.28	13.6415693.41	13.6215706.88	13.32
15711.78	13.3115856.67	13.1115883.89	13.2915958.07	13.2215990.23	12.34
16008.92	12.25 16046.2	12.2316049.83	12.2316184.13	12.3316236.52	12.34
16343.78	13.6516368.25	14.4616387.88	14.73 16498.3	17.3316564.48	18.77
16592.69	18.6516727.96	18.0516752.18	16.2416866.84	14.32	

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
.14	.04813064.67	.1113084.12	.022	13632	.082		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

13064.67	13632	3217.29	4349	2885.43	.1	.3
----------	-------	---------	------	---------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
.1413064.67	10.5	13632	19143.77	10.5	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	13.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.048	0.025	0.082
W.S. Elev (ft)	13.35	Reach Len. (ft)	3217.29	4349.00	2885.43
Crit W.S. (ft)		Flow Area (sq ft)	30111.85	5454.25	4898.80
E.G. Slope (ft/ft)	0.000163	Area (sq ft)	30111.85	5454.25	4898.80
Q Total (cfs)	43249.00	Flow (cfs)	22620.47	18604.62	2023.91
Top Width (ft)	14736.60	Top Width (ft)	11590.39	560.05	2586.16
Vel Total (ft/s)	1.07	Avg. Vel. (ft/s)	0.75	3.41	0.41
Max Chl Dpth (ft)	19.18	Hydr. Depth (ft)	2.60	9.74	1.89
Conv. Total (cfs)	3382473.0	Conv. (cfs)	1769131.0	1455054.0	158288.4
Length Wtd. (ft)	3696.70	Wetted Per. (ft)	11590.78	565.29	2586.79
Min Ch El (ft)	-5.83	Shear (lb/sq ft)	0.03	0.10	0.02
Alpha	4.65	Stream Power (lb/ft s)	0.02	0.34	0.01
Frctn Loss (ft)	0.54	Cum Volume (acre-ft)	17180.83	47763.71	3181.61
C & E Loss (ft)	0.00	Cum SA (acres)	7492.07	12167.58	2095.23

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 12.6

INPUT
 Description: Interpolated Cross Section at River Mile 12.6

Station Elevation Data num= 77

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	23.4	155	19.5	321	18.6	524	16.4	721	15.6
950	16.1	1154	11.4	1340	11.2	1499	16.2	1568	11.6
1695	12.7	1960	12.6	2249	9.1	2415	9.3	2610	9.1
2792	9	3000	9.5	3229	9.1	3230	9.3	4725	9.2
6219	9	6554	10.5	6885	11.5	6993	9	7753	9.4
7789	10.3	7816	9.4	7942	9.5	8093	9.6	8116	12.7
8148	10.3	8353	10	8533	9.1	8705	9.3	8959	9.7
13005	8.9	13241	9.7	13482	10.2	13671	15.1	13717	11.5

13758	11.8	13853	13	13879	16.4	13886	15.1	13893	12.4
13906	12.9	13919	10.5	13932	7.9	13939	6.78	14360	-.3
14384	-5.8	14424	-4.8	14434	.2	14445	7.4	14460	8.5
14473	13.3	14488	11.1	14707	8.2	14814	6.7	14857	12.6
14917	8.5	15075	8.5	15204	6.5	15369	13.8	15394	10.5
15814	7.7	16119	6.9	16162	8.5	16222	14	16246	12.3
16273	12.2	16534	12.1	16869	12.2	17054	12.3	17204	14.5
17379	19	17541	18.2						

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.047	13758	.11	13932	.022	14473	.11	14707	.087

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

13906	14473	1090	5078	2467	.1	.3
-------	-------	------	------	------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	13932	9.92	14445	19935	9.92

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	12.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.047	0.022	0.089
W.S. Elev (ft)	12.80	Reach Len. (ft)	1090.00	5078.00	2467.00
Crit W.S. (ft)		Flow Area (sq ft)	33050.29	5532.60	5075.53
E.G. Slope (ft/ft)	0.000128	Area (sq ft)	33050.29	5532.60	5075.53
Q Total (cfs)	43995.00	Flow (cfs)	22816.17	19452.71	1726.12
Top Width (ft)	15595.90	Top Width (ft)	12478.90	565.13	2551.87
Vel Total (ft/s)	1.01	Avg. Vel. (ft/s)	0.69	3.52	0.34
Max Chl Dpth (ft)	18.60	Hydr. Depth (ft)	2.65	9.79	1.99
Conv. Total (cfs)	3889168.0	Conv. (cfs)	2016954.0	1719624.0	152589.6
Length Wtd. (ft)	2705.49	Wetted Per. (ft)	12479.49	574.52	2552.64
Min Ch El (ft)	-5.80	Shear (lb/sq ft)	0.02	0.08	0.02
Alpha	5.63	Stream Power (lb/ft s)	0.01	0.27	0.01
Frctn Loss (ft)	0.43	Cum Volume (acre-ft)	14848.29	47215.25	2851.26
C & E Loss (ft)	0.02	Cum SA (acres)	6603.20	12111.41	1925.06

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 11.7

INPUT

Description: Cross Section at River Mile 11.7

Station Elevation Data num= 104

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	23.1	154.5	19.2	321.4	18.3	523.9	16.1	721.3	15.3
950.1	15.8	1153.5	11.1	1340.4	10.9	1499.4	15.9	1567.7	11.3
1694.6	12.4	1960.3	12.3	2248.9	8.8	2415.4	9	2610.4	8.8
2792.3	8.7	2999.5	9.2	3228.5	8.8	3230	9	4725	8.9
6219.3	8.7	6554	10.2	6884.5	11.2	6993.1	8.7	7752.9	9.1
7789	10	7816.4	9.1	7941.7	9.2	8092.5	9.3	8116.1	12.4
8147.5	10	8353.4	9.7	8533	8.8	8705	9	8958.5	9.4
13005.1	8.6	13240.6	9.4	13481.8	9.9	13670.5	14.8	13716.7	11.2
13758.2	11.5	13853.4	12.7	13878.5	16.1	13885.5	14.8	13892.6	12.1
13905.9	12.6	13919.1	10.2	13932.2	7.6	13951.4	5.8	14045.3	7.2
14136.4	2.8	14142.7	2.7	14152.6	2.4	14162.7	1.4	14172.6	-.1
14182.7	-.6	14192.6	-1.3	14202.7	-1.9	14207.6	-3.1	14212.7	3

14220	10	14345.6	8.9	14384.6	16.7	14490.7	23.9	14771.9	20.9
15535.7	8.4	15555.8	7.7	15564.2	7.9	15576.9	4.9	15631.2	6.5
15691.2	6.1	15728.1	2.7	15759	1.3	15783.9	-3.9	15809	-5
15833.9	-5	15859	-4.3	15883.9	-4.7	15909	-4.1	15933.9	-3.5
15959	2.9	15978.2	7.7	15992.5	8.2	16005.8	13	16020.8	10.8
16240.1	7.9	16347.2	6.4	16390.3	12.3	16449.7	8.2	16608.1	8.2
16736.9	6.2	16902	13.5	16927.3	10.2	17347.2	7.4	17652.3	6.6
17695.4	8.2	17755.3	13.7	17779.3	12	17805.9	11.9	18066.6	11.8
18401.6	11.9	18587.3	12	18736.5	14.2	18912.2	18.7		

Manning's n Values num= 14

Sta	n	Val	Sta	n	Val	Sta	n	Val	Sta	n	Val
0	.11	1153.5	.045	4725	.05	6884.5	.045	13481.8			.09
13758.2	.11	13932.2	.047	14220	.09	14490.7	.05	15535.7			.047
16005.8	.11	16240.1	.09	17755.3	.11	18401.6	.045				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 13905.9 16005.8 2559 4481.46 2515.69 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 13905.9 9.62 16005.8 21468.3 9.62

CROSS SECTION OUTPUT Profile #100-Year Flood

Element	Left OB	Channel	Right OB
E.G. Elev (ft)	12.44		
Vel Head (ft)	0.02	0.046	0.048
W.S. Elev (ft)	12.42	2559.00	4481.46
Crit W.S. (ft)		31989.09	8233.18
E.G. Slope (ft/ft)	0.000191	31989.09	8233.18
Q Total (cfs)	43995.00	27137.14	14928.88
Top Width (ft)	16170.42	12459.10	1170.28
Vel Total (ft/s)	0.98	0.85	1.81
Max Chl Dpth (ft)	17.42	2.57	7.04
Conv. Total (cfs)	3185911.0	1965144.0	1081079.0
Length Wtd. (ft)	3385.91	12459.66	1180.66
Min Ch El (ft)	-5.00	0.03	0.08
Alpha	1.64	0.03	0.15
Frctn Loss (ft)	0.63	14034.55	46412.88
C & E Loss (ft)	0.00	6291.19	12010.26

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 10.8538*

INPUT

Description: Interpolated Cross Section at River Mile 10.85

Station Elevation Data num= 262

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.53	145.83	17.92	303.37	17.09	494.51	15.05	680.84	14.3
789.5	14.52	896.81	14.76	1088.8	10.43	1265.21	10.25	1415.3	14.87
1479.76	10.63	1599.55	11.65	1839.03	11.57	1850.34	11.56	2122.75	8.33
2279.91	8.51	2463.98	8.33	2635.67	8.23	2817.1	8.66	2831.25	8.69
3047.41	8.31	3048.82	8.49	3871.16	8.38	4459.96	8.36	4850.97	8.32
5851.35	8.13	5870.44	8.13	6186.37	9.54	6498.33	10.49	6600.84	8.19
6840.92	8.33	7318.02	8.54	7352.1	9.37	7377.96	8.54	7496.23	8.62
7638.57	8.7	7660.85	11.56	7690.49	9.34	7773.33	9.22	7884.84	9.07
8054.36	8.24	8216.72	8.43	8456	8.81	8632.19	8.78	9555.54	8.54

10472.96	8.39	11325.9	8.2512275.61	8.1412323.49	8.3	12497.9	8.88
12725.57	9.3312903.69	13.86	12947.3	10.5312986.47	10.8113076.33	11.92	
13100.02	15.0513106.63	13.8513113.33	11.3613125.88	11.8213147.48	9.58		
13160.7	8.0813168.91	7.1613180.17	6.5513197.96	5.613200.32	5.46		
13217.04	5.4913230.29	5.6913236.11	5.6413240.68	5.4113244.97	5.56		
13249.99	5.7813255.14	5.8213272.97	6.113289.67	6.2413308.47	6.41		
13326.23	6.5613339.82	6.6813353.93	6.7913355.07	6.7513380.51	6.07		
13416.17	5.0913431.07	4.6713441.06	4.3913452.66	4.0213465.87	3.64		
13485.18	3.1513499.33	2.8113502.97	2.7113513.27	2.6313526.93	2.4		
13529.47	2.3513545.02	1.4913545.99	1.4313562.11	.0713562.19	.06		
13578.71	-.3913582.71	-.5513594.91	-1.0413607.88	-1.4813611.43	-1.6		
13619.45	-2.7213627.79	2.9113639.73	9.3613641.55	9.3513677.07	9.18		
13718.64	8.9913756.01	8.7913789.27	8.64	13816.3	8.5	13845.2	8.35
13860.8	10.1113893.53	13.8113909.01	15.5613926.77	16.2413950.71	17.16		
13982.96	18.3914014.06	19.5714048.86	20.9414074.19	21.8614082.58	22.19		
14104.36	22.0814137.55	21.8114166.11	21.714192.55	21.51	14227.7	21.3	
14272.64	21.0714307.63	20.8514334.41	20.6214387.41	20.3	14456.7	19.94	
14498.07	19.68	14541.8	19.47	14542.6	19.4614575.18	19.1214605.09	18.83
14626.06	18.6914673.26	18.2814706.26	17.9414741.79	17.6114779.06	17.27		
14788.47	17.1814793.15	17.0614799.38	16.8114804.69	16.9514809.03	16.97		
14813.76	16.9314826.56	16.8114848.68	16.6114865.26	16.4714888.75	16.26		
14930.29	15.87	14958.5	15.6114982.83	15.3815020.04	15.0315051.27	14.74	
15086.1	14.4215111.11	14.215138.02	13.96	15157.2	13.7815180.79	13.55	
15211.19	13.315231.05	13.115251.75	12.9115271.23	12.7315286.72	12.59		
15295.3	12.5115305.65	12.4215331.09	12.215365.69	11.8615407.24	11.52		
15449.29	11.1315489.98	10.7415514.34	10.5115532.95	10.32	15541.3	10.21	
15548.25	1015558.28	9.8415561.39	10.0415562.11	10.0915564.99	10.04		
15594.74	9.7715623.76	9.5415660.16	9.115694.76	8.8815792.13	7.97		
15825.01	7.3215838.75	7.5115859.53	4.7415948.36	6.2116046.52	5.83		
16106.88	2.6916157.43	1.3916169.64	-.0516178.24	-1.0416198.17	-3.43		
16204.4	-3.5916213.93	-3.9316239.23	-5.8516262.22	-5.8516284.98	-4.45		
16308.15	-4.0716312.09	-3.9916326.46	-3.9616343.87	-4.0516344.68	-4.04		
16350.43	-4.0816360.86	-4.1316361.58	-4.1416381.43	-3.9316409.43	-3.61		
16411.45	-3.5816438.19	-3.2416458.21	-316460.94	-2.9816466.18	-2.38		
16485.16	-.1716506.31	2.3316510.81	2.8516519.55	3.8416529.53	4.91		
16548.97	7.1	16549	7.116569.05	7.416576.94	7.5316577.39	7.51	
16584.82	8.3416591.59	9.2916594.97	10.0916598.36	11.0516603.81	12.2		
16618.34	10.1716830.66	7.5516834.73	7.516934.35	6.1716976.08	11.62		
17033.58	7.8417155.16	7.8517186.94	7.917311.64	6.2617329.58	7.04		
17471.49	13.117495.98	10.0617670.98	9.0417902.51	7.618008.26	7.35		
18197.9	6.5918239.63	8.0118261.47	9.8918297.62	13.0318320.86	11.44		
18346.61	11.3318598.58	11.0618599.01	11.0618914.56	11.118923.35	11.11		
19103.14	11.3519189.73	12.6419247.59	13.4519417.69	17.5819573.86	16.82		
19589.12	15.5719597.39	14.84					

Manning's n Values		num= 6	
Sta	n Val	Sta	n Val
0	.05313125.88	.1113168.91	.04713639.73
16603.81	.092		.05515948.36
			.047

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
13125.88	16603.81		2559	4481.46	2515.69	.1	.3	
Blocked Obstructions			num= 3					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
013125.88		9.19	016603.81		-4.6116618.34	21892.42		9.19

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	11.81	Element	Left OB	Channel	Right OB
----------------	-------	---------	---------	---------	----------

Vel Head (ft)	0.03	Wt. n-Val.	0.053	0.048	0.092
W.S. Elev (ft)	11.78	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	28236.11	13214.94	4394.61
E.G. Slope (ft/ft)	0.000184	Area (sq ft)	28236.11	13214.94	4394.61
Q Total (cfs)	43995.00	Flow (cfs)	19391.48	22998.18	1605.34
Top Width (ft)	16219.50	Top Width (ft)	11792.54	1975.82	2451.13
Vel Total (ft/s)	0.96	Avg. Vel. (ft/s)	0.69	1.74	0.37
Max Chl Dpth (ft)	16.39	Hydr. Depth (ft)	2.39	6.69	1.79
Conv. Total (cfs)	3240890.0	Conv. (cfs)	1428473.0	1694160.0	118257.1
Length Wtd. (ft)	3656.73	Wetted Per. (ft)	11793.06	1981.60	2451.78
Min Ch El (ft)	-4.61	Shear (lb/sq ft)	0.03	0.08	0.02
Alpha	1.95	Stream Power (lb/ft s)	0.02	0.13	0.01
Frctn Loss (ft)	0.63	Cum Volume (acre-ft)	12265.54	45309.59	2302.69
C & E Loss (ft)	0.00	Cum SA (acres)	5578.84	11848.42	1636.69

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 10.0076*

INPUT

Description: Interpolated Cross Section at River Mile 10.01

Station Elevation Data		num= 272	
Sta	Elev	Sta	Elev
0	19.96	137.17	16.65
742.58	13.5	843.51	13.72
1391.83	9.95	1504.49	10.89
2144.43	8.02	2317.55	7.85
2866.31	7.81	2867.64	7.98
5503.63	7.56	5521.59	7.56
6434.4	7.83	6883.14	7.98
7184.64	8.1	7205.6	10.72
7575.73	7.68	7728.43	7.86
9850.6	7.8110652	8.85	7.7111546
11969.35	8.7712136	8.88	12.9112177
12321.54	14.0112327	8.88	12.9112334
12394.21	7.5712405	8.88	6.7112421
12472.47	5.0412490	8.88	5.3112498
12518.21	5.3112525	8.88	5.3112550
12624.09	6.1712642	8.88	6.2912662
12749	4.8112769	8.88	4.4312783
12844.83	2.9712864	8.88	2.7112869
12902.81	2.3512906	8.88	2.3112927
12951.78	.2212974	8.88	-.1912980
13020.16	-1.313031	8.88	-2.3313042
13111.31	8.5713169	8.88	8.413220
13344.81	7.813366	8.88	9.4113411
13491.32	15.8913536	8.88	1713579
13674.46	20.48	13704.7	20.413750
13875.99	19.6513938	8.88	19.48
14194	18.4214251	8.88	18.1614312
14400.08	17.39	14429.2	17.3214494
14641.68	16.0114654	8.88	15.9314661
14683.31	15.7114689	8.88	15.6814707
14794.02	15.08	14851.7	14.7114890
15019.7	13.6715068	8.88	13.3815102
15199.57	12.5915241	8.88	12.3815269
15346.69	11.72	15358.6	11.6515372

15514.05	10.7815572.45	10.4315628.96	10.0515662.79	9.8415688.63	9.66
15700.22	9.5115709.88	9.1615723.81	8.9515728.12	9.3715729.13	9.47
15733.12	9.4115774.43	9.1615814.74	8.9915865.29	8.4915913.34	8.38
16048.56	7.5416094.22	6.9416113.31	7.1116142.16	4.5716265.52	5.91
16401.84	5.5616485.67	2.6816555.87	1.4916572.82	.1716584.76	-.73
16612.44	-2.9516621.09	-3.1216634.33	-3.5316669.46	-6.6916690.53	-6.69
16724.61	-4.2216759.29	-3.7916765.19	-3.6716786.69	-3.5116812.74	-3.55
16813.97	-3.5116822.57	-3.5516838.18	-3.5716839.25	-3.5816868.97	-3.41
16910.88	-3.0916913.91	-3.0616953.92	-2.716983.89	-2.4716987.97	-2.46
16995.83	-1.9317024.23	.0517055.88	2.3317062.63	2.817075.71	3.68
17090.65	4.5717119.74	6.517119.78	6.5 17149.8	6.75 17161.6	6.87
17162.27	6.8317173.41	7.1317183.53	7.817188.59	8.7817193.66	10.08
17201.83	11.417215.88	9.5517421.21	7.2117425.15	7.1617521.49	5.95
17561.85	10.9417617.47	7.4817735.04	7.4917765.78	7.617886.38	6.31
17903.73	7.0618040.97	12.6918064.66	9.9318233.91	9.0918457.83	7.8
18560.1	7.59 18743.5	6.5918783.86	7.8218804.98	9.5118839.95	12.36
18862.42	10.8918887.32	10.7619131.01	10.3219131.42	10.3219436.59	10.3
19445.1	10.3119618.97	10.719702.72	11.9619758.67	12.6919923.19	16.46
20074.22	15.7520088.97	14.5920096.97	13.9720207.64	12.02 20271.6	9.98
20341.52	9.9820720.42	10.2421034.95	10.58 21347.4	10.7921679.03	11.08
21988.76	11.3222316.55	11.38			

Manning's n Values		num= 6	
Sta	n Val	Sta	n Val
0	.05312345.87	.112405.62	.04713111.31
17201.83	.09		.05516113.31
			.047

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
12345.87	17201.83		2559	4481.46	2515.69		.1		.3
Blocked Obstructions		num= 3							
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
012345.87		8.77	017201.83		-4.2317561.85	22316.55		8.77	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	11.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.	0.053	0.047	0.090
W.S. Elev (ft)	11.16	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	24766.19	17644.38	5271.00
E.G. Slope (ft/ft)	0.000159	Area (sq ft)	24766.19	17644.38	5271.00
Q Total (cfs)	43995.00	Flow (cfs)	15036.38	27317.68	1640.94
Top Width (ft)	17842.75	Top Width (ft)	11127.68	2803.21	3911.86
Vel Total (ft/s)	0.92	Avg. Vel. (ft/s)	0.61	1.55	0.31
Max Chl Dpth (ft)	15.39	Hydr. Depth (ft)	2.23	6.29	1.35
Conv. Total (cfs)	3489586.0	Conv. (cfs)	1192653.0	2166778.0	130155.4
Length Wtd. (ft)	3814.64	Wetted Per. (ft)	11128.17	2806.97	3912.61
Min Ch El (ft)	-4.23	Shear (lb/sq ft)	0.02	0.06	0.01
Alpha	1.90	Stream Power (lb/ft s)	0.01	0.10	0.00
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	10708.69	43722.18	2023.58
C & E Loss (ft)	0.00	Cum SA (acres)	4905.60	11602.59	1452.95

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 9.16153*

INPUT
 Description: Interpolated Cross Section at River Mile 9.16

Station Elevation Data			num= 272						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	18.39	128.5	15.37	267.32	14.66	435.74	12.94	599.92	12.29
695.67	12.47	790.22	12.67	959.39	9.08	1114.84	8.94	1247.09	12.81
1303.89	9.28	1409.44	10.14	1620.45	10.09	1630.43	10.08	1870.46	7.39
2008.94	7.54	2171.13	7.38	2322.42	7.3	2482.28	7.65	2494.75	7.67
2685.22	7.32	2686.46	7.47	3411.06	7.25	3929.89	7.27	4274.42	7.27
5155.91	6.99	5172.73	7	5451.11	8.22	5726	9.07	5816.32	7.17
6027.87	7.33	6448.26	7.42	6478.29	8.11	6501.08	7.41	6605.29	7.46
6730.72	7.51	6750.35	9.89	6776.46	8.03	6849.46	7.92	6947.71	7.8
7097.09	7.12	7240.15	7.29	7450.99	7.63	7606.25	7.62	8419.85	7.28
9228.24	7.23	9979.8	7.1610816.64	7.2110858.83	7.3511012.51	7.83			
11213.12	8.211370.07	11.9711408.49	9.211443.01	9.4311522.19	10.35				
11543.06	12.9611548.89	11.9611554.79	9.8811565.85	10.2711604.23	8.34				
11627.73	7.0511642.33	6.2711662.34	5.7411693.97	4.9311698.16	4.79				
11727.89	4.5811751.42	4.9311761.78	4.67	11769.9	3.8911777.53	4.27			
11786.44	4.83	11795.6	4.8511827.29	5.3611856.97	5.511890.39	5.66			
11921.96	5.7811946.12	5.9	11971.2	5.9611973.23	5.9312018.44	5.37			
12081.83	4.5412108.31	4.1812126.07	3.9312146.68	3.4812170.15	3.13				
12204.48	2.7912229.65	2.61	12236.1	2.5412254.42	2.4912254.43	2.49			
12278.69	2.312283.21	2.2612310.85	1.5412312.58	1.4912341.22	.39				
12341.36	.3812370.73	.0212377.84	-.1112399.52	-.5312422.59	-.9				
12428.89	-1.0112443.14	-1.9512457.97	2.7312479.19	8.0912482.42	8.08				
12545.56	7.9512619.45	7.8112685.88	7.6312744.99	7.5112793.03	7.38				
12844.41	7.2512872.13	8.7112930.31	11.8112957.82	13.2712989.39	13.85				
13031.94	14.6213089.26	15.6213144.55	16.59	13206.4	17.8213251.42	18.49			
13266.34	18.7713305.05	18.7113364.04	18.3413414.81	18.3813461.81	18.18				
13524.28	1813604.17	17.8913666.36	17.6713713.96	17.3513808.16	17.09				
13931.31	16.914004.86	16.6514082.58	16.5914084.01	16.5814141.92	16.22				
14195.07	15.9414232.35	15.9414316.25	15.65	14374.9	15.314438.06	15.01			
14504.3	14.7414521.02	14.6714529.34	14.414540.41	13.7814549.86	14.29				
14557.58	14.4414565.99	14.4314588.74	14.3114628.05	14.1614657.52	14.06				
14699.28	13.914773.11	13.5614823.25	13.3414866.49	13.1514932.63	12.84				
14988.14	12.615050.05	12.3315094.51	12.1915142.33	11.9815176.44	11.83				
15218.36	11.6315272.39	11.4615307.69	11.29	15344.5	11.13	15379.1	10.98		
15406.65	10.86	15421.9	10.7915440.29	10.7415485.51	10.5615547.01	10.25			
15620.87	10.0515695.61	9.7215767.94	9.3615811.24	9.1815844.31	8.99				
15859.15	8.8115871.51	8.3215889.33	8.0515894.86	8.715896.14	8.85				
15901.26	8.7915954.13	8.5616005.71	8.4516070.42	7.8716131.91	7.88				
16304.99	7.1116363.44	6.5716387.86	6.7216424.79	4.4116582.69	5.62				
16757.15	5.2916864.45	2.67	16954.3	1.58	16976	.3816991.28	-.42		
17026.71	-2.4817037.79	-2.6417054.73	-3.1417099.69	-7.5417118.85	-7.54				
17164.24	-3.9917210.43	-3.5117218.28	-3.3617246.91	-3.0517281.62	-3.04				
17283.25	-2.9817294.71	-3.02	17315.5	-3.0117316.93	-3.0217356.51	-2.88			
17412.32	-2.5717416.36	-2.5417469.66	-2.1717509.58	-1.9317515.01	-1.94				
17525.47	-1.48	17563.3	.2817605.46	2.3417614.44	2.7517631.86	3.51			
17651.76	4.2317690.51	5.917690.56	5.917730.54	6.117746.27	6.21				
17747.16	6.1417761.99	5.9217775.48	6.3117782.21	7.4717788.96	9.12				
17799.85	10.617813.41	8.9218011.77	6.8618015.57	6.8218108.64	5.72				
18147.63	10.2718201.35	7.1218314.93	7.1418344.62	7.2918461.12	6.37				
18477.88	7.0818610.46	12.2918633.34	9.7918796.84	9.1319013.14	8				
19111.94	7.83	19289.1	6.5819328.09	7.6319348.49	9.1219382.27	11.68			
19403.97	10.3319428.03	10.219663.44	9.5819663.84	9.5819958.63	9.5				
19966.84	9.5220134.81	10.0520215.71	11.2820269.76	11.9420428.68	15.34				
20574.58	14.6720588.83	13.6220596.56	13.0520703.47	11.2720765.25	9.42				
20832.79	9.4221198.81	9.8121502.65	10.3221804.47	10.6422124.82	11.08				
22424.03	11.4222740.67	11.52							

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.05311565.85	.111642.33	.04712545.56	.05516131.91	.047				
17799.85	.087								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 11565.8517799.85 2559 4481.46 2515.69 .1 .3

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
011565.85	8.34		017799.85	-3.8418147.6322740.67	8.34			

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	10.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.053	0.047	0.087
W.S. Elev (ft)	10.59	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	22048.48	21665.62	4565.76
E.G. Slope (ft/ft)	0.000147	Area (sq ft)	22048.48	21665.62	4565.76
Q Total (cfs)	43995.00	Flow (cfs)	12404.85	30220.22	1369.93
Top Width (ft)	17427.86	Top Width (ft)	10460.02	3662.10	3305.73
Vel Total (ft/s)	0.91	Avg. Vel. (ft/s)	0.56	1.39	0.30
Max Chl Dpth (ft)	14.43	Hydr. Depth (ft)	2.11	5.92	1.38
Conv. Total (cfs)	3627008.0	Conv. (cfs)	1022673.0	2491396.0	112939.2
Length Wtd. (ft)	3931.90	Wetted Per. (ft)	10460.50	3664.82	3306.38
Min Ch El (ft)	-3.84	Shear (lb/sq ft)	0.02	0.05	0.01
Alpha	1.72	Stream Power (lb/ft s)	0.01	0.08	0.00
Frctn Loss (ft)	0.55	Cum Volume (acre-ft)	9333.59	41700.07	1739.53
C & E Loss (ft)	0.00	Cum SA (acres)	4271.50	11270.01	1244.53

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 8.31538*

INPUT

Description: Interpolated Cross Section at River Mile 8.32

Station Elevation Data	num=	272							
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 16.82 119.83 14.09 249.29 13.44 406.35 11.88 559.46 11.29									
648.75 11.44 736.93 11.63 894.69 8.41 1039.66 8.29 1162.98 11.78									
1215.96 8.6 1314.38 9.38 1511.17 9.35 1520.47 9.35 1744.32 6.91									
1873.46 7.05 2024.71 6.9 2165.79 6.83 2314.87 7.14 2326.5 7.17									
2504.12 6.83 2505.29 6.96 3181.02 6.68 3664.85 6.73 3986.15 6.74									
4808.19 6.42 4823.88 6.43 5083.48 7.57 5339.83 8.36 5424.06 6.66									
5621.34 6.82 6013.38 6.87 6041.39 7.48 6062.64 6.85 6159.82 6.88									
6276.79 6.91 6295.09 9.05 6319.45 7.38 6387.52 7.27 6479.15 7.16									
6618.45 6.56 6751.86 6.73 6948.48 7.04 7093.27 7.04 7852.01 6.66									
8605.87 6.65 9306.75 6.6110087.15 6.7410126.49 6.8710269.81 7.3									
10456.89 7.6410603.25 11.0210639.09 8.5310671.28 8.7410745.12 9.56									
10764.59 11.9210770.02 11.0210775.52 9.1510785.84 9.4910832.61 7.72									
10861.25 6.5410879.04 5.8210903.43 5.3410941.97 4.610947.08 4.45									
10983.31 4.1211011.99 4.5411024.61 4.1811034.51 3.13 11043.8 3.62									
11054.67 4.3611065.83 4.3611104.45 511140.63 5.1311181.35 5.28									
11219.82 5.3911249.27 5.5111279.83 5.5411282.31 5.5211337.41 5.03									
11414.65 4.2711446.93 3.9311468.57 3.7 11493.7 3.21 11522.3 2.88									
11564.13 2.61 11594.8 2.5111602.67 2.45 11625 2.4211625.01 2.42									
11654.57 2.2511660.08 2.2211693.77 1.5611695.87 1.5311730.78 .55									
11730.95 .5511766.74 .2211775.41 .1111801.83 -.2711829.94 -.61									
11837.62 -.7111854.98 -1.5611873.06 2.6411898.92 7.4511902.86 7.44									

11979.8	7.3412069.85	7.2212150.81	7.0512222.85	6.95	12281.4	6.82		
12344.02	6.7	12377.8	8	12448.7	10.8112482.22	12.13	12520.7	12.66
12572.55	13.3412642.42	14.24	12709.8	15.112785.17	16.2512840.04	16.8		
12858.22	17.0612905.39	17.0312977.28	16.6113039.16	16.7213096.44	16.51			
13172.58	16.3513269.93	16.313345.72	16.0813403.74	15.7213518.53	15.48			
13668.62	15.3813758.26	15.1313852.98	15.1513854.71	15.1413925.29	14.77			
13990.07	14.514035.49	14.5714137.75	14.3314209.22	13.98	14286.2	13.71		
14366.92	13.48	14387.3	13.4114397.43	13.0714410.93	12.2614422.44	12.96		
14431.85	13.18	14442.1	13.1814469.82	13.0614517.74	12.9314553.64	12.85		
14604.54	12.7214694.52	12.414755.63	12.214808.32	12.0414888.93	11.75			
14956.58	11.5315032.02	11.2915086.21	11.1815144.49	10.9915186.05	10.86			
15237.14	10.6615302.99	10.5515346.01	10.3815390.87	10.2315433.04	10.1			
15466.62	9.99	15485.2	9.9315507.61	9.8915562.72	9.7515637.67	9.45		
15727.68	9.3115818.77	9.0215906.91	8.6815959.68	8.5115999.99	8.32			
16018.08	8.1116033.14	7.4716054.86	7.1616061.59	8.0316063.16	8.24			
16069.39	8.1616133.83	7.9516196.69	7.916275.54	7.2516350.49	7.38			
16561.42	6.6816632.65	6.1916662.42	6.3216707.42	4.2416899.85	5.33			
17112.47	5.0217243.23	2.6517352.74	1.6717379.18	.59	17397.8	-.11		
17440.98	-2.0117454.48	-2.1717475.12	-2.7517529.92	-8.3817547.16	-8.38			
17603.86	-3.7617661.57	-3.2317671.38	-3.0517707.14	-2.6	17750.5	-2.54		
17752.54	-2.4517766.85	-2.4817792.82	-2.45	17794.6	-2.4617844.05	-2.35		
17913.77	-2.0617918.82	-2.0317985.39	-1.6318035.26	-1.418042.04	-1.42			
18055.11	-1.0318102.37	.518155.03	2.3518166.26	2.6918188.01	3.35			
18212.88	3.8818261.28	5.318261.35	5.318311.29	5.4518330.93	5.55			
18332.04	5.4518350.57	4.718367.42	4.8218375.82	6.1618384.27	8.16			
18397.86	9.818410.95	8.2918602.33	6.5118605.99	6.4718695.79	5.5			
18733.4	9.5918785.24	6.7618894.82	6.7818923.47	6.9919035.87	6.42			
19052.03	7.1119179.94	11.8919202.02	9.6519359.76	9.1819568.45	8.2			
19663.77	8.0619834.71	6.5819872.32	7.44	19892	8.7419924.59	11.01		
19945.53	9.7719968.75	9.6320195.86	8.8520196.25	8.8520480.67	8.7			
20488.59	8.7320650.65	9.4	20728.7	10.6120780.85	11.1920934.17	14.23		
21074.94	13.621088.69	12.6521096.14	12.1421199.29	10.5321258.89	8.86			
21324.06	8.85	21677.2	9.3821970.34	10.0522261.55	10.4822570.62	11.07		
22859.29	11.5323164.79	11.65						

Manning's n Values		num=	6			
Sta	n Val	Sta	n Val			
0	.05410785.84	.0910879.04	.047	11979.8	.05517112.47	.047
18397.86	.085					

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	10785.84	18397.86		2559	4481.46	2515.69		.1	.3
Blocked Obstructions		num=	3						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
010785.84		7.92	018397.86		-3.4519179.94	23164.79		7.92	

CROSS SECTION OUTPUT						Profile #100-Year Flood		
E.G. Elev (ft)	10.06	Element	Left OB	Channel	Right OB			
Vel Head (ft)	0.02	Wt. n-Val.	0.054	0.048	0.085			
W.S. Elev (ft)	10.04	Reach Len. (ft)	2559.00	4481.46	2515.69			
Crit W.S. (ft)		Flow Area (sq ft)	19732.41	25371.58	4400.79			
E.G. Slope (ft/ft)	0.000131	Area (sq ft)	19732.41	25371.58	4400.79			
Q Total (cfs)	43995.00	Flow (cfs)	9976.61	32677.91	1340.48			
Top Width (ft)	17340.74	Top Width (ft)	9801.01	4591.55	2948.18			
Vel Total (ft/s)	0.89	Avg. Vel. (ft/s)	0.51	1.29	0.30			
Max Chl Dpth (ft)	13.49	Hydr. Depth (ft)	2.01	5.53	1.49			
Conv. Total (cfs)	3836680.0	Conv. (cfs)	870031.6	2849748.0	116899.7			
Length Wtd. (ft)	4020.67	Wetted Per. (ft)	9801.48	4593.68	2948.78			

Min Ch El (ft)	-3.45	Shear (lb/sq ft)	0.02	0.05	0.01
Alpha	1.64	Stream Power (lb/ft s)	0.01	0.06	0.00
Frctn Loss (ft)	0.51	Cum Volume (acre-ft)	8106.35	39280.47	1480.61
C & E Loss (ft)	0.00	Cum SA (acres)	3676.36	10845.44	1063.94

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 7.46923*

INPUT

Description: Interpolated Cross Section at River Mile 7.47

Station Elevation Data		num= 272									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	15.25	111.17	12.82	231.26	12.23	376.97	10.83	519	10.29		
601.83	10.42	683.63	10.59	829.99	7.73	964.47	7.64	1078.88	10.75		
1128.02	7.93	1219.33	8.63	1401.88	8.61	1410.51	8.61	1618.17	6.44		
1737.97	6.56	1878.28	6.43	2009.17	6.36	2147.46	6.64	2158.25	6.66		
2323.03	6.33	2324.11	6.45	2950.97	6.12	3399.82	6.18	3697.88	6.21		
4460.47	5.86	4475.02	5.86	4715.85	6.91	4953.66	7.64	5031.8	6.15		
5214.81	6.32	5578.51	6.31	5604.48	6.85	5624.2	6.29	5714.35	6.3		
5822.86	6.31	5839.84	8.21	5862.44	6.72	5925.59	6.61	6010.59	6.53		
6139.82	6	6263.58	6.16	6445.98	6.45	6580.3	6.45	7284.16	6.03		
7983.51	6.06	8633.7	6.07	9357.66	6.28	9394.16	6.4	9527.11	6.78		
9700.67	7.07	9836.44	10.08	9869.69	7.86	9899.55	8.05	9968.05	8.78		
9986.11	10.87	9991.14	10.07	9996.25	8.4110005.82		8.7210060.99		7.1		
10094.76	6.0210115.75		5.3810144.51		4.9310189.97		4.27	10196	4.11		
10238.73	3.6610272.56		4.1610287.44		3.6910299.12		2.3710310.08		2.97		
10322.89	3.8910336.06		3.8810381.61		4.6310424.28		4.7610472.31		4.91		
10517.69	5.0110552.42		5.1210588.47		5.1310591.38		5.110656.38		4.68		
10747.48	3.9910785.55		3.6810811.08		3.4610840.71		2.9410874.44		2.63		
10923.79	2.4310959.96		2.410969.24		2.3610995.57		2.3510995.59		2.35		
11030.45	2.211036.95		2.1711076.68		1.5911079.16		1.5611120.34		.71		
11120.54	.7111162.76		.4311172.97		.3311204.13		-.01111237.29		-.32		
11246.35	-.4111266.83		-1.1811288.15		2.5511318.66		6.81	11323.3	6.8		
11414.04	6.7211520.26		6.6211615.74		6.4611700.71		6.3911769.76		6.26		
11843.62	6.1411883.47		7.311967.09		9.812006.63		10.9912052.01		11.46		
12113.17	12.0712195.57		12.8612275.04		13.6112363.94		14.6912428.66		15.11		
12450.09	15.3612505.74		15.3512590.53		14.8712663.51		15.0612731.07		14.84		
12820.87	14.7	12935.7	14.7113025.09		14.513093.51		14.0813228.91		13.87		
13405.93	13.8613351.65		13.62133623.37		13.71133625.42		13.713708.66		13.31		
13785.06	13.0513838.64		13.1913959.24		13.0214043.54		12.6614134.33		12.4		
14229.54	12.2114253.58		12.1614265.53		11.7414281.45		10.7414295.03		11.63		
14306.12	11.9114318.21		11.9214350.91		11.8114407.42		11.7114449.77		11.64		
14509.8	11.5414615.93		11.24	14688	11.0714750.15		10.9214845.23		10.65		
14925.01	10.46	15014	10.2515077.91		10.1715146.64		10.15195.67		9.89		
15255.93	9.715333.59		9.6315384.33		9.4715437.24		9.3415486.98		9.22		
15526.58	9.13	15548.5	9.0715574.93		9.0515639.92		8.9315728.32		8.64		
15834.49	8.5815941.93		8.3216045.89		7.9916108.13		7.8416155.67		7.65		
16177	7.4116194.77		6.6316220.39		6.2616228.33		7.3616230.17		7.62		
16237.53	7.5316313.52		7.3516387.67		7.3616480.67		6.6416569.07		6.88		
16817.85	6.2516901.86		5.8116936.97		5.9316990.05		4.0817217.01		5.03		
17467.79	4.7617622.02		2.6417751.17		1.7717782.36		.817804.33		.2		
17855.25	-1.5417871.17		-1.717895.52		-2.3517960.15		-9.2317975.48		-9.23		
18043.49	-3.53	18112.7	-2.9518124.47		-2.7318167.37		-2.1418219.38		-2.03		
18221.82	-1.9218238.99		-1.9518270.14		-1.8918272.28		-1.8918331.59		-1.82		
18415.22	-1.5418421.27		-1.5118501.12		-1.0918560.94		-.8718569.08		-.9		
18584.76	-.5918641.44		.72	18704.6	2.3518718.07		2.6418744.17		3.19		

18773.99	3.5418832.04	4.718832.13	4.718892.04	4.818915.59	4.89
18916.93	4.7718939.15	3.4918959.36	3.3318969.44	4.8618979.57	7.2
18995.88	919008.49	7.6719192.88	6.1619196.42	6.1319282.94	5.27
19319.18	8.9119369.12	6.419474.71	6.4319502.31	6.6919610.61	6.48
19626.19	7.1319749.43	11.48 19770.7	9.5219922.69	9.2320123.77	8.4
20215.61	8.3 20380.3	6.5720416.54	7.2520435.51	8.3620466.91	10.34
20487.09	9.2120509.46	9.0620728.29	8.1120728.66	8.1121002.71	7.9
21010.34	7.9421166.48	8.7521241.69	9.9321291.93	10.4421439.67	13.11
21575.29	12.5221588.54	11.6821595.73	11.2221695.11	9.7921752.54	8.3
21815.33	8.2922155.59	8.9522438.04	9.7922718.62	10.3323016.42	11.06
23294.56	11.6423588.92	11.79			

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.05410005.82	.0910115.75	.04711414.04	.05516936.97	.047		
18995.88	.083						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

10005.82	18995.88	2559	4481.46	2515.69	.1	.3
----------	----------	------	---------	---------	----	----

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
010005.82	7.49	7.49	018995.88	-3.07	19749.43	23588.92	7.49	7.49

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	9.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.054	0.048	0.083
W.S. Elev (ft)	9.54	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	17887.90	28862.02	3913.35
E.G. Slope (ft/ft)	0.000124	Area (sq ft)	17887.90	28862.02	3913.35
Q Total (cfs)	43995.00	Flow (cfs)	8585.89	34277.69	1131.42
Top Width (ft)	17500.94	Top Width (ft)	9151.44	5584.69	2764.81
Vel Total (ft/s)	0.87	Avg. Vel. (ft/s)	0.48	1.19	0.29
Max Chl Dpth (ft)	12.61	Hydr. Depth (ft)	1.95	5.17	1.42
Conv. Total (cfs)	3957630.0	Conv. (cfs)	772355.4	3083496.0	101778.3
Length Wtd. (ft)	4083.64	Wetted Per. (ft)	9151.91	5586.49	2765.30
Min Ch El (ft)	-3.07	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.52	Stream Power (lb/ft s)	0.01	0.05	0.00
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)	7001.32	36490.69	1240.53
C & E Loss (ft)	0.00	Cum SA (acres)	3119.67	10321.98	898.97

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 6.62307*

INPUT

Description: Interpolated Cross Section at River Mile 6.62

Station Elevation Data num= 272

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.68	102.5	11.54	213.23	11.01	347.58	9.77	478.54	9.29
554.92	9.39	630.34	9.55	765.28	7.06	889.28	6.99	994.77	9.71
1040.08	7.25	1124.27	7.87	1292.6	7.87	1300.55	7.87	1492.02	5.97
1602.49	6.07	1731.86	5.96	1852.54	5.89	1980.06	6.13	1990.01	6.15
2141.93	5.84	2142.93	5.94	2720.92	5.55	3134.78	5.64	3409.61	5.69
4112.75	5.29	4126.17	5.29	4348.22	6.25	4567.49	6.93	4639.54	5.63
4808.29	5.82	5143.63	5.75	5167.58	6.22	5185.76	5.72	5268.89	5.72
5368.93	5.71	5384.59	7.37	5405.42	6.07	5463.65	5.96	5542.03	5.89

5661.18	5.45	5775.29	5.59	5943.48	5.85	6067.32	5.87	6716.32	5.4
7361.15	5.48	7960.65	5.52	8628.18	5.81	8661.83	5.92	8784.42	6.25
8944.44	6.51	9069.63	9.14	9100.28	7.19	9127.82	7.35	9190.98	8
9207.63	9.82	9212.27	9.12	9216.98	7.67	9225.81	7.94	9289.37	6.47
9328.28	5.51	9352.46	4.93	9385.6	4.53	9437.98	3.93	9444.92	3.77
9494.15	3.21	9533.12	3.78	9550.27	3.21	9563.73	1.61	9576.36	2.33
9591.12	3.41	9606.29	3.39	9658.77	4.26	9707.93	4.39	9763.27	4.53
9815.55	4.62	9855.56	4.73	9897.1	4.71	9900.46	4.69	9975.34	4.33
10080.31	3.72	10124.17	3.44	10153.58	3.23	10187.72	2.68	10226.59	2.37
10283.44	2.25	10325.11	2.3	10335.8	2.27	10366.14	2.28	10366.17	2.28
10406.33	2.15	10413.81	2.12	10459.6	1.62	10462.46	1.59	10509.9	.87
10510.13	.87	10558.77	.64	10570.54	.55	10606.44	.25	10644.64	-.03
10655.08	-.11	10678.67	-.79	10703.24	2.46	10738.39	6.18	10743.74	6.16
10848.29	6.11	10970.67	6.03	11080.67	5.88	11178.57	5.83	11258.13	5.71
11343.23	5.59	11389.13	6.61	11485.47	8.81	11531.03	9.84	11583.32	10.27
11653.79	10.81	11748.73	11.47	11840.29	12.12	11942.71	13.13	12017.28	13.42
12041.97	13.65	12106.08	13.67	12203.78	13.14	12287.86	13.41	12365.7	13.18
12469.16	13.05	12601.46	13.12	12704.45	12.91	12783.28	12.45	12939.28	12.26
13143.24	12.34	13265.04	12.11	13393.76	12.27	13396.12	12.26	13492.02	11.86
13580.05	11.61	13641.78	11.82	13780.74	11.71	13877.86	11.34	13982.46	11.1
14092.16	10.95	14119.86	10.91	14133.63	10.41	14151.97	9.22	14167.61	10.3
14180.39	10.65	14194.32	10.67	14232	10.56	14297.11	10.48	14345.9	10.44
14415.07	10.36	14537.34	10.09	14620.38	9.94	14691.98	9.81	14801.52	9.56
14893.45	9.39	14995.97	9.21	15069.61	9.16	15148.8	9.02	15205.29	8.91
15274.71	8.74	15364.19	8.71	15422.65	8.56	15483.61	8.45	15540.92	8.34
15586.55	8.26	15611.8	8.21	15642.25	8.21	15717.13	8.11	15818.98	7.84
15941.31	7.84	16065.09	7.62	16184.86	7.31	16256.57	7.17	16311.35	6.98
16335.92	6.7	16356.4	5.79	16385.91	5.37	16395.06	6.69	16397.19	7.01
16405.66	6.91	16493.22	6.74	16578.65	6.81	16685.8	6.02	16787.65	6.39
17074.28	5.82	17171.07	5.43	17211.53	5.54	17272.68	3.91	17534.17	4.74
17823.11	4.49	18000.8	2.63	18149.6	1.86	18185.54	1.01	18210.85	.52
18269.52	-1.06	18287.86	-1.22	18315.92	-1.96	18390.38	-10.08	18403.79	-10.08
18483.12	-3.31	18563.84	-2.67	18577.56	-2.42	18627.6	-1.69	18688.26	-1.53
18691.11	-1.41	18711.13	-1.42	18747.46	-1.33	18749.95	-1.33	18819.13	-1.29
18916.67	-1.02	18923.72	-.99	19016.86	-.56	19086.62	-.33	19096.12	-.38
19114.4	-.14	19180.51	.94	19254.18	2.36	19269.88	2.59	19300.32	3.03
19335.1	3.21	19402.81	4.11	19402.92	4.11	19472.78	4.15	19500.26	4.23
19501.81	4.08	19527.73	2.28	19551.3	1.84	19563.06	3.55	19574.88	6.24
19593.89	8.21	19606.03	7.04	19783.44	5.82	19786.84	5.79	19870.08	5.04
19904.95	8.23	19953.01	6.04	20054.59	6.08	20081.15	6.39	20185.35	6.53
20200.34	7.15	20318.92	11.08	20339.38	9.38	20485.62	9.27	20679.08	8.61
20767.45	8.54	20925.91	6.57	20960.77	7.06	20979.02	7.98	21009.23	9.67
21028.65	8.66	21050.17	8.49	21260.71	7.37	21261.07	7.37	21524.74	7.1
21532.09	7.14	21682.32	8.12	21754.68	9.25	21803.02	9.68	21945.16	11.99
22075.65	11.45	22088.4	10.71	22095.31	10.31	22190.93	9.05	22246.19	7.74
22306.6	7.73	22633.98	8.52	22905.73	9.53	23175.69	10.18	23462.22	11.05
23729.83	11.75	24013.04	11.93						

Manning's n Values		num=	6		n Val		Sta		n Val		Sta	
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta
0	.054	9225.81	.08	9352.46	.047	10848.29	.055	17823.11	.047			
19593.89	.081											

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
9225.81	19593.89		2559	4481.46	2515.69	.1	.3		
Blocked Obstructions									
num= 3									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
0	9225.81	7.07	019593.99	-2.68	20318.92	24013.04		7.07	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	9.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.	0.054	0.048	0.081
W.S. Elev (ft)	9.03	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	16084.09	32126.87	3511.87
E.G. Slope (ft/ft)	0.000120	Area (sq ft)	16084.09	32126.87	3511.87
Q Total (cfs)	43995.00	Flow (cfs)	7418.41	35552.73	1023.86
Top Width (ft)	17638.20	Top Width (ft)	8509.85	6722.36	2405.99
Vel Total (ft/s)	0.85	Avg. Vel. (ft/s)	0.46	1.11	0.29
Max Chl Dpth (ft)	11.71	Hydr. Depth (ft)	1.89	4.78	1.46
Conv. Total (cfs)	4023210.0	Conv. (cfs)	678390.8	3251190.0	93629.1
Length Wtd. (ft)	4133.42	Wetted Per. (ft)	8510.32	6723.99	2406.40
Min Ch El (ft)	-2.68	Shear (lb/sq ft)	0.01	0.04	0.01
Alpha	1.42	Stream Power (lb/ft s)	0.01	0.04	0.00
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	6003.45	33353.42	1026.12
C & E Loss (ft)	0.00	Cum SA (acres)	2600.90	9688.90	749.66

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 5.77692*

INPUT

Description: Interpolated Cross Section at River Mile 5.78

Station Elevation Data		num= 272									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.12	93.84	10.27	195.2	9.8	318.19	8.72	438.08	8.28		
508	8.36	577.05	8.5	700.58	6.38	814.1	6.34	910.67	8.68		
952.15	6.58	1029.22	7.12	1183.31	7.13	1190.59	7.13	1365.88	5.5		
1467	5.58	1585.43	5.48	1695.91	5.43	1812.65	5.63	1821.76	5.64		
1960.84	5.34	1961.75	5.44	2490.88	4.99	2869.74	5.1	3121.33	5.16		
3765.02	4.72	3777.31	4.73	3980.59	5.59	4181.32	6.22	4247.28	5.12		
4401.76	5.32	4708.75	5.19	4730.67	5.59	4747.32	5.16	4823.42	5.14		
4915.01	5.12	4929.34	6.54	4948.41	5.41	5001.72	5.31	5073.46	5.26		
5182.54	4.89	5287.01	5.02	5440.97	5.26	5554.35	5.29	6148.47	4.77		
6738.78	4.9	7287.6	4.98	7898.69	5.35	7929.5	5.45	8041.72	5.73		
8188.21	5.94	8302.82	8.19	8330.88	6.53	8356.09	6.66	8413.91	7.21		
8429.15	8.78	8433.4	8.18	8437.71	6.93	8445.79	7.16	8517.75	5.85		
8561.8	4.99	8589.17	4.49	8626.68	4.13	8685.98	3.6	8693.84	3.43		
8749.57	2.75	8793.69	3.4	8813.11	2.72	8828.34	.85	8842.64	1.68		
8859.34	2.94	8876.52	2.91	8935.94	3.9	8991.58	4.02	9054.24	4.15		
9113.42	4.23	9158.71	4.34	9205.73	4.3	9209.54	4.28	9294.31	3.98		
9413.14	3.44	9462.79	3.19	9496.08	3	9534.73	2.41	9578.73	2.12		
9643.09	2.07	9690.27	2.2	9702.37	2.18	9736.72	2.22	9736.74	2.22		
9782.21	2.1	9790.68	2.08	9842.51	1.64	9845.75	1.62	9899.46	1.03		
9899.71	1.03	9954.78	.84	9968.11	.77	10008.75	.51	10051.99	.26		
10063.81	.18	10090.52	-.41	10118.32	2.37	10158.12	5.54	10164.17	5.53		
10282.53	5.49	10421.07	5.44	10545.61	5.31	10656.43	5.27	10746.5	5.15		
10842.83	5.04	10894.8	5.91	11003.86	7.81	11055.44	8.71	11114.63	9.07		
11194.4	9.53	11301.88	10.09	11405.53	10.63	11521.48	11.57	11605.89	11.73		
11633.85	11.94	11706.43	11.99	11817.02	11.41	11912.21	11.75	12000.33	11.51		
12117.45	11.41	12267.22	11.54	12383.82	11.32	12473.06	10.81	12649.65	10.65		
12880.55	10.82	13018.44	10.59	13164.15	10.83	13166.83	10.82	13275.39	10.41		
13375.04	10.17	13444.93	10.45	13602.23	10.39	13712.18	10.02	13830.6	9.8		
13954.78	9.69	13986.13	9.64	14001.72	9.08	14022.49	7.71	14040.2	8.97		
14054.67	9.39	14070.43	9.42	14113.08	9.31	14186.79	9.26	14242.03	9.23		
14320.33	9.18	14458.75	8.93	14552.75	8.81	14633.81	8.69	14757.82	8.46		

14861.88	8.3214977.95	8.1615061.31	8.1515150.96	8.03	15214.9	7.94
15293.5	7.7815394.79	7.815460.97	7.6515529.98	7.5615594.86		7.47
15646.51	7.4	15675.1	7.3615709.57	7.3615794.34	7.315909.64	7.03
16048.12	7.1116188.25	6.9116323.84	6.6216405.02	6.5116467.03		6.31
16494.85	616518.03	4.9516551.44	4.4716561.79	6.0216564.21		6.39
16573.79	6.2716672.92	6.1316769.63	6.2716890.93	5.417006.23		5.89
17330.71	5.3917440.28	5.0617486.08	5.1417555.31	3.7517851.33		4.45
18178.43	4.2218379.58	2.6218548.04	1.9518588.72	1.2318617.37		.83
18683.78	-.5918704.55	-.7518736.32	-1.5618820.62	-10.9218832.11		-10.92
18922.74	-3.0819014.98	-2.3919030.66	-2.1119087.83	-1.2319157.13		-1.03
19160.39	-.8719183.27	-.8919224.78	-.7719227.63	-.7719306.67		-.77
19418.11	-.519426.18	-.4719532.59	-.0219612.31	.219623.15		.14
19644.04	.3119719.58	1.1719803.75	2.36	19821.7	2.5419856.47	2.87
19896.22	2.8619973.58	3.5	19973.7	3.520053.53	3.520084.92	3.57
20086.7	3.3920116.31	1.0720143.25	.3420156.68	2.2420170.18		5.27
20191.91	7.420203.56	6.41	20374	5.4720377.26	5.4520457.23	4.82
20490.73	7.5620536.89	5.6820634.48	5.7220659.99	6.0920760.09		6.59
20774.49	7.17	20888.4	10.6820908.06	9.2421048.54	9.3221234.39	8.81
21319.28	8.7821471.51	6.56	21505	6.8721522.54	7.5921551.55	9
21570.21	8.121590.88	7.9221793.14	6.6321793.48	6.6322046.78		6.3
22053.83	6.3522198.15	7.4522267.67	8.5722314.11	8.9322450.65		10.87
22576.01	10.3722588.26	9.73	22594.9	9.3922686.76	8.3122739.84	7.18
22797.88	7.1723112.37	8.0823373.43	9.2723632.76	10.0223908.01		11.05
24165.1	11.8524437.16	12.07				

Manning's n Values		num=	6
Sta	n Val	Sta	n Val
0	.054	8445.79	.08
20191.91	.078	8589.17	.047
		10118.32	.055
		17851.33	.047

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
8445.79	20191.91		2559	4481.46	2515.69		.1	.3
Blocked Obstructions		num=	3					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	8445.79	6.64	020191.91	-2.29	20888.424437.16			6.64

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	8.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.054	0.048	0.078
W.S. Elev (ft)	8.53	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	14440.22	35265.98	3205.78
E.G. Slope (ft/ft)	0.000119	Area (sq ft)	14440.22	35265.98	3205.78
Q Total (cfs)	43995.00	Flow (cfs)	6467.99	36552.76	974.25
Top Width (ft)	18238.51	Top Width (ft)	8062.77	8096.22	2079.53
Vel Total (ft/s)	0.83	Avg. Vel. (ft/s)	0.45	1.04	0.30
Max Chl Dpth (ft)	10.82	Hydr. Depth (ft)	1.79	4.36	1.54
Conv. Total (cfs)	4029142.0	Conv. (cfs)	592349.9	3347569.0	89223.9
Length Wtd. (ft)	4169.61	Wetted Per. (ft)	8063.20	8097.83	2079.86
Min Ch El (ft)	-2.29	Shear (lb/sq ft)	0.01	0.03	0.01
Alpha	1.34	Stream Power (lb/ft s)	0.01	0.03	0.00
Frctn Loss (ft)	0.54	Cum Volume (acre-ft)	5106.85	29886.72	832.14
C & E Loss (ft)	0.00	Cum SA (acres)	2114.11	8926.63	620.14

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 4.93076*

INPUT

Description: Interpolated Cross Section at River Mile 4.93

Station Elevation Data		num= 272							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	10.55	85.17	8.99	177.18	8.58	288.81	7.66	397.62	7.28
461.08	7.34	523.75	7.46	635.88	5.71	738.91	5.69	826.56	7.65
864.21	5.9	934.17	6.36	1074.03	6.39	1080.64	6.39	1239.73	5.03
1331.52	5.1	1439.01	5.01	1539.29	4.96	1645.24	5.12	1653.51	5.13
1779.75	4.85	1780.57	4.93	2260.83	4.42	2604.71	4.56	2833.06	4.63
3417.3	4.15	3428.46	4.16	3612.96	4.93	3795.15	5.51	3855.02	4.61
3995.23	4.81	4273.87	4.63	4293.77	4.96	4308.87	4.6	4377.95	4.56
4461.08	4.52	4474.09	5.7	4491.4	4.76	4539.78	4.66	4604.9	4.62
4703.91	4.33	4798.73	4.45	4938.47	4.67	5041.37	4.71	5580.63	4.14
6116.42	4.31	6614.55	4.43	7169.2	4.88	7197.16	4.97	7299.02	5.2
7431.99	5.38	7536.01	7.25	7561.48	5.86	7584.36	5.97	7636.84	6.43
7650.67	7.73	7654.53	7.23	7658.44	6.19	7665.78	6.38	7746.13	5.23
7795.32	4.48	7825.88	4.04	7867.77	3.72	7933.98	3.27	7942.76	3.09
8004.99	2.29	8054.26	3.01	8075.94	2.23	8092.95	.1	8108.91	1.03
8127.57	2.47	8146.75	2.42	8213.1	3.53	8275.24	3.65	8345.2	3.78
8411.28	3.84	8461.86	3.95	8514.37	3.89	8518.61	3.86	8613.27	3.64
8745.96	3.17	8801.41	2.94	8838.58	2.76	8881.74	2.14	8930.88	1.87
9002.74	1.89	9055.42	2.1	9068.94	2.09	9107.29	2.15	9107.32	2.15
9158.09	2.05	9167.55	2.03	9225.43	1.67	9229.04	1.65	9289.01	1.2
9289.3	1.19	9350.79	1.05	9365.67	1	9411.05	.76	9459.34	.55
9472.54	.48	9502.36	-.02	9533.41	2.28	9577.85	4.9	9584.61	4.89
9716.78	4.88	9871.47	4.8510010.54	4.71	10134.3	4.7110234.87	4.7110234.87	4.59	4.59
10342.43	4.4910400.47	5.210522.25	6.810579.85	7.5610645.95	7.88	7.88	7.88	7.88	7.88
10735.02	8.2610855.03	8.7110970.78	9.1511100.25	10.0111194.51	10.04	10.04	10.04	10.04	10.04
11225.73	10.2311306.77	10.3111430.27	9.6711536.55	10.0911634.96	9.84	9.84	9.84	9.84	9.84
11765.74	9.7511932.99	9.9512063.18	9.7412162.83	9.1812360.03	9.04	9.04	9.04	9.04	9.04
12617.86	9.312771.83	9.0712934.54	9.3912937.53	9.3813058.76	8.96	8.96	8.96	8.96	8.96
13170.04	8.7213248.07	9.0713423.73	9.07	13546.5	8.713678.73	8.5	8.5	8.5	8.5
13817.4	8.4213852.41	8.3813869.82	7.7513893.01	6.1913912.78	7.65	7.65	7.65	7.65	7.65
13928.94	8.1213946.54	8.1613994.17	8.0514076.48	8.0314138.16	8.03	8.03	8.03	8.03	8.03
14225.59	814380.16	7.7814485.13	7.6714575.64	7.5814714.12	7.37	7.37	7.37	7.37	7.37
14830.32	7.2514959.92	7.12	15053	7.1415153.12	7.0415224.52	6.97	6.97	6.97	6.97
15312.28	6.81	15425.4	6.8815499.29	6.7415576.35	6.66	15648.8	6.59	6.59	6.59
15706.48	6.53	15738.4	6.5	15776.9	6.5215871.55	6.48	16000.3	6.23	6.23
16154.93	6.37	16311.4	6.2116462.82	5.9316553.47	5.84	16622.7	5.64	5.64	5.64
16653.78	5.316679.66	4.1116716.97	3.5816728.53	5.3516731.22	5.78	5.78	5.78	5.78	5.78
16741.93	5.6416852.62	5.5316960.61	5.7217096.06	4.7817224.81	5.39	5.39	5.39	5.39	5.39
17587.14	4.96	17709.5	4.6817760.63	4.7517837.95	3.5818168.49	4.15	4.15	4.15	4.15
18533.74	3.9518758.37	2.6118946.47	2.04	18991.9	1.4419023.89	1.14	1.14	1.14	1.14
19098.05	-.1219121.24	-.2719156.71	-1.1719250.85	-11.7719260.42	-11.77	-11.77	-11.77	-11.77	-11.77
19362.37	-2.8519466.12	-2.1119483.75	-1.7919548.06	-.7819626.01	-.52	-.52	-.52	-.52	-.52
19629.68	-.34	19655.4	-.36	19702.1	-.21	19705.3	-.2119794.21	-.24	-.24
19919.56	.0119928.63	.0520048.33	.5220137.99	.7320150.19	.66	.66	.66	.66	.66
20173.69	.7620258.65	1.3920353.33	2.3720373.51	2.4920412.63	2.71	2.71	2.71	2.71	2.71
20457.33	2.5120544.35	2.920544.48	2.920634.27	2.8520669.58	2.9	2.9	2.9	2.9	2.9
20671.59	2.7120704.89	-.1420735.19	-1.15	20750.3	.9420765.48	4.31	4.31	4.31	4.31
20789.92	6.6	20801.1	5.7820964.55	5.1220967.69	5.1121044.38	4.59	4.59	4.59	4.59
21076.5	6.8821120.77	5.3221214.37	5.3721238.84	5.7821334.83	6.64	6.64	6.64	6.64	6.64
21348.64	7.1921457.89	10.2721476.74	9.1121611.47	9.3721789.71	9.01	9.01	9.01	9.01	9.01
21871.12	9.0122017.11	6.5622049.23	6.6822066.04	7.2122093.88	8.33	8.33	8.33	8.33	8.33
22111.76	7.5422131.59	7.3622325.57	5.89	22325.9	5.8922568.81	5.5	5.5	5.5	5.5
22575.58	5.5622713.99	6.822780.65	7.8922825.19	8.1822956.15	9.75	9.75	9.75	9.75	9.75
23076.37	9.323088.12	8.7623094.48	8.4723182.58	7.5623233.49	6.62	6.62	6.62	6.62	6.62
23289.14	6.6123590.76	7.6523841.12	9.0124089.84	9.8724353.81	11.04	11.04	11.04	11.04	11.04

24600.36 11.9624861.29 12.21

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.054	7665.78	.08	7825.88	.047	8213.1	.05518946	4.47	.047
20789.92	.076								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 7665.7820789.92 2559 4481.46 2515.69 .1 .3

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	7665.78	6.22	020789.92	-1.921457.8924861.29	6.22			

CROSS SECTION OUTPUT Profile #100-Year Flood

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	8.00				
Vel Head (ft)	0.01	Wt. n-Val.	0.054	0.050	0.076
W.S. Elev (ft)	7.99	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	12562.86	38072.88	2854.70
E.G. Slope (ft/ft)	0.000142	Area (sq ft)	12562.86	38072.88	2854.70
Q Total (cfs)	43995.00	Flow (cfs)	5850.46	37207.29	937.25
Top Width (ft)	18984.90	Top Width (ft)	7416.72	9622.12	1946.06
Vel Total (ft/s)	0.82	Avg. Vel. (ft/s)	0.47	0.98	0.33
Max Chl Dpth (ft)	9.89	Hydr. Depth (ft)	1.69	3.96	1.47
Conv. Total (cfs)	3693814.0	Conv. (cfs)	491203.6	3123919.0	78691.3
Length Wtd. (ft)	4210.74	Wetted Per. (ft)	7417.05	9623.79	1946.31
Min Ch El (ft)	-1.90	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.24	Stream Power (lb/ft s)	0.01	0.03	0.00
Frctn Loss (ft)	0.65	Cum Volume (acre-ft)	4313.68	26114.17	657.14
C & E Loss (ft)	0.00	Cum SA (acres)	1659.42	8015.20	503.89

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 4.08461*

INPUT

Description: Interpolated Cross Section at River Mile 4.08

Station Elevation Data num= 272

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	8.98	76.5	7.71	159.15	7.37	259.42	6.61	357.16	6.28
414.17	6.31	470.46	6.42	571.18	5.04	663.72	5.03	742.46	6.62
776.28	5.23	839.11	5.61	964.74	5.66	970.68	5.65	1113.58	4.56
1196.03	4.61	1292.59	4.53	1382.66	4.49	1477.83	4.62	1485.26	4.62
1598.65	4.36	1599.39	4.42	2030.79	3.86	2339.67	4.01	2544.79	4.11
3069.58	3.58	3079.6	3.59	3245.33	4.27	3408.99	4.8	3462.76	4.1
3588.71	4.31	3838.99	4.07	3856.87	4.33	3870.43	4.03	3932.48	3.99
4007.15	3.92	4018.84	4.86	4034.38	4.1	4077.84	4.01	4136.34	3.99
4225.27	3.77	4310.44	3.88	4435.97	4.08	4528.4	4.13	5012.78	3.51
5494.05	3.73	5941.5	3.88	6439.71	4.42	6464.83	4.5	6556.33	4.68
6675.76	4.81	6769.2	6.3	6792.08	5.19	6812.63	5.28	6859.77	5.64
6872.19	6.69	6875.66	6.29	6879.18	5.45	6885.76	5.61	6974.51	4.61
7028.83	3.96	7062.59	3.6	7108.86	3.32	7181.99	2.93	7191.68	2.76
7260.42	1.83	7314.83	2.63	7338.77	1.75	7357.56	-.66	7375.19	.39
7395.8	1.99	7416.98	1.94	7490.26	3.17	7558.89	3.28	7636.16	3.4
7709.14	3.45	7765.01	3.56	7823	3.47	7827.69	3.45	7932.24	3.29
8078.79	2.9	8140.02	2.69	8181.09	2.53	8228.75	1.87	8283.02	1.61
8362.39	1.72	8420.58	2	8435.51	2.01	8477.86	2.08	8477.89	2.08

8533.98	2	8544.42	1.98	8608.34	1.7	8612.33	1.68	8678.57	1.36
8678.89	1.35	8746.8	1.26	8763.24	1.22	8813.36	1.02	8866.69	.84
8881.27	.78	8914.21	.36	8948.5	2.18	8997.58	4.27	9005.05	4.25
9151.02	4.26	9321.88	4.26	9475.47	4.13	9612.16	4.15	9723.23	4.03
9842.04	3.94	9906.13	4.51	10040.64	5.81	10104.25	6.42	10177.26	6.68
10275.63	6.99	10408.19	7.33	10536.02	7.66	10679.02	8.45	10783.13	8.35
10817.61	8.52	10907.12	8.63	11043.52	7.94	11160.9	8.43	11269.58	8.17
11414.03	8.11	11598.75	8.36	11742.54	8.15	11852.6	7.54	12070.4	7.43
12355.17	7.78	12525.22	7.56	12704.93	7.96	12708.23	7.95	12842.13	7.51
12965.03	7.28	13051.22	7.71	13245.22	7.76	13380.82	7.38	13526.86	7.2
13680.02	7.16	13718.69	7.13	13737.92	6.42	13763.53	4.67	13785.36	6.32
13803.21	6.86	13822.65	6.91	13875.25	6.81	13966.16	6.81	14034.29	6.82
14130.85	6.82	14301.56	6.62	14417.5	6.54	14517.48	6.46	14670.41	6.28
14798.76	6.18	14941.9	6.07	15044.7	6.13	15155.27	6.05	15234.13	5.99
15331.06	5.85	15456	5.97	15537.62	5.83	15622.72	5.77	15702.74	5.71
15766.44	5.66	15801.7	5.64	15844.22	5.67	15948.76	5.67	16090.96	5.42
16261.75	5.64	16434.56	5.51	16601.79	5.25	16701.91	5.17	16778.38	4.97
16812.7	4.61	16841.29	3.27	16882.49	2.68	16895.26	4.68	16898.24	5.16
16910.06	5.01	17032.31	4.92	17151.59	5.18	17301.19	4.17	17443.38	4.89
17843.57	4.54	17978.71	4.31	18035.19	4.35	18120.58	3.42	18485.66	3.86
18889.06	3.68	19137.15	2.61	19344.91	2.14	19395.08	1.65	19430.41	1.45
19512.32	.35	19537.93	.21	19577.11	-.78	19681.08	-12.62	19688.74	-12.62
19801.99	-2.62	19917.25	-1.82	19936.85	-1.48	20008.29	-.32	20094.89	-.02
20098.96	.19	20127.54	.17	20179.42	.36	20182.98	.35	20281.74	.29
20421.01	.53	20431.09	.57	20564.06	1.05	20663.67	1.27	20677.22	1.18
20703.33	1.21	20797.72	1.61	20902.9	2.38	20925.33	2.44	20968.78	2.55
21018.45	2.17	21115.12	2.32	21115.27	2.32	21215.02	2.22	21254.25	2.24
21256.47	2.02	21293.47	-1.35	21327.13	-2.64	21343.92	-.37	21360.79	3.35
21387.94	5.82	21398.64	5.16	21555.11	4.77	21558.11	4.77	21631.53	4.37
21662.28	6.22	21704.66	4.96	21794.25	5.02	21817.68	5.48	21909.58	6.7
21922.79	7.21	22027.37	9.87	22045.42	8.97	22174.39	9.41	22345.02	9.21
22422.96	9.25	22562.71	6.55	22593.46	6.48	22609.56	6.83	22636.2	7.65
22653.32	6.98	22672.3	6.79	22857.99	5.15	22858.31	5.15	23090.85	4.7
23097.33	4.77	23229.83	6.15	23293.64	7.21	23336.28	7.42	23461.64	8.63
23576.73	8.22	23587.97	7.79	23594.07	7.56	23678.4	6.82	23727.13	6.07
23780.42	6.05	24069.14	7.22	24308.82	8.75	24546.91	9.72	24799.61	11.03
25035.63	12.07	25285.41	12.35						

Manning's n Values		num=	6						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.054	6885.76	.07	7108.86	.047	7490.26	.055	19344.91	.047
21387.94	.074								

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	6885.76	21387.94		2559	4481.46	2515.69		.1	.3
Blocked Obstructions		num=	3						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
0	6885.76	5.79	21837.94	25285.41	5.79	021387.94		-1.52	

CROSS SECTION OUTPUT Profile #100-Year Flood					
E.G. Elev (ft)	7.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.054	0.050	0.074
W.S. Elev (ft)	7.35	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	10191.29	40060.42	2382.65
E.G. Slope (ft/ft)	0.000165	Area (sq ft)	10191.29	40060.42	2382.65
Q Total (cfs)	43995.00	Flow (cfs)	4750.17	38431.36	813.47
Top Width (ft)	20084.61	Top Width (ft)	6724.01	11565.23	1795.37
Vel Total (ft/s)	0.84	Avg. Vel. (ft/s)	0.47	0.96	0.34

Max Chl Dpth (ft)	8.87	Hydr. Depth (ft)	1.52	3.46	1.33
Conv. Total (cfs)	3427036.0	Conv. (cfs)	370019.1	2993650.0	63366.3
Length Wtd. (ft)	4101.35	Wetted Per. (ft)	6724.17	11567.07	1795.58
Min Ch El (ft)	-1.52	Shear (lb/sq ft)	0.02	0.04	0.01
Alpha	1.19	Stream Power (lb/ft s)	0.01	0.03	0.00
Frctn Loss (ft)	0.59	Cum Volume (acre-ft)	3645.32	22094.98	505.90
C & E Loss (ft)	0.00	Cum SA (acres)	1244.06	6925.32	395.85

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 3.23846*

INPUT

Description: Interpolated Cross Section at River Mile 3.24

Station	Elevation	Data	num=	272							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	7.41	67.84	6.44	141.12	6.15	230.03	5.55	316.71	5.28		
367.25	5.28	417.17	5.38	506.47	4.36	588.54	4.38	658.35	5.59		
688.34	4.55	744.06	4.85	855.46	4.92	860.72	4.91	987.44	4.09		
1060.54	4.12	1146.16	4.06	1226.03	4.02	1310.42	4.11	1317.01	4.11		
1417.56	3.86	1418.22	3.91	1800.74	3.29	2074.63	3.47	2256.52	3.58		
2721.86	3.01	2730.75	3.02	2877.7	3.61	3022.82	4.09	3070.5	3.59		
3182.18	3.81	3404.11	3.51	3419.96	3.7	3431.99	3.47	3487.01	3.41		
3553.22	3.32	3563.58	4.02	3577.37	3.45	3615.91	3.36	3667.78	3.36		
3746.64	3.21	3822.16	3.31	3933.46	3.49	4015.42	3.55	4444.94	2.89		
4871.69	3.15	5268.45	3.34	5710.23	3.95	5732.5	4.02	5813.63	4.15		
5919.53	4.25	6002.39	5.36	6022.67	4.52	6040.9	4.59	6082.69	4.86		
6093.72	5.64	6096.79	5.34	6099.91	4.72	6105.75	4.83	6202.88	3.99		
6262.35	3.45	6299.3	3.15	6349.94	2.91	6429.99	2.6	6440.6	2.42		
6515.84	1.37	6575.4	2.25	6601.6	1.26	6622.17	-1.42	6641.47	-0.26		
6664.02	1.52	6687.21	1.45	6767.42	2.8	6842.54	2.91	6927.12	3.03		
7007.01	3.06	7068.16	3.17	7131.63	3.06	7136.77	3.04	7251.2	2.94		
7411.62	2.62	7478.64	2.44	7523.59	2.3	7575.77	1.6	7635.17	1.36		
7722.04	1.54	7785.73	1.9	7802.07	1.92	7848.44	2.01	7848.47	2.01		
7909.86	1.95	7921.29	1.94	7991.26	1.72	7995.62	1.72	8068.13	1.52		
8068.48	1.52	8142.81	1.46	8160.8	1.44	8215.66	1.28	8274.05	1.13		
8290	1.08	8326.05	.74	8363.59	2.09	8417.31	3.63	8425.49	3.61		
8585.27	3.65	8772.29	3.67	8940.4	3.55	9090.02	3.58	9211.6	3.47		
9341.64	3.39	9411.8	3.8	9559.03	4.8	9628.66	5.27	9708.57	5.49		
9816.25	5.71	9961.34	5.95	10101.27	6.17	10257.79	6.88	10371.75	6.67		
10409.49	6.81	10507.46	6.94	10656.76	6.21	10785.25	6.77	10904.21	6.5		
11062.33	6.45	11264.51	6.77	11421.91	6.56	11542.38	5.91	11780.78	5.83		
12092.47	6.26	12278.62	6.04	12475.33	6.52	12478.94	6.51	12625.5	6.06		
12760.02	5.83	12854.36	6.32	13066.72	6.44	13215.14	6.06	13375	5.9		
13542.64	5.89	13584.97	5.87	13606.01	5.09	13634.04	3.15	13657.95	4.99		
13677.48	5.59	13698.77	5.66	13756.34	5.55	13855.85	5.58	13930.41	5.62		
14036.11	5.64	14222.97	5.47	14349.88	5.41	14459.31	5.35	14626.71	5.18		
14767.19	5.11	14923.87	5.03	15036.4	5.13	15157.43	5.06	15243.75	5.02		
15349.85	4.89	15486.6	5.05	15575.94	4.93	15669.09	4.88	15756.68	4.83		
15826.41	4.8	15865	4.78	15911.54	4.83	16025.97	4.85	16181.62	4.62		
16368.56	4.91	16557.72	4.81	16740.77	4.56	16850.36	4.51	16934.06	4.31		
16971.62	3.91	17002.91	2.42	17048.02	1.79	17062	4.01	17065.25	4.55		
17078.2	4.39	17212.01	4.32	17342.56	4.63	17506.31	3.55	17661.96	4.39		
18100	4.11	18247.92	3.92	18309.74	3.96	18403.21	3.25	18802.82	3.57		
19244.38	3.41	19515.93	2.59	19743.34	2.23	19798.26	1.86	19836.94	1.76		
19926.59	.83	19954.62	.68	19997.51	-.38	20111.31	-13.46	20117.05	-13.46		
20241.62	-2.39	20368.39	-1.54	20389.94	-1.17	20468.51	.13	20563.77	.49		

20568.25	.7220599.68	.7120656.74	.9220660.66	.9120769.28	.82
20922.46	1.0520933.54	1.09 21079.8	1.5921189.35	1.821204.26	1.7
21232.97	1.6621336.79	1.8321452.48	2.3821477.14	2.3821524.94	2.38
21579.56	1.8321685.89	1.721686.05	1.721795.76	1.5521838.91	1.58
21841.36	1.3321882.06	-2.5721919.07	-4.1321937.54	-1.6821956.09	2.39
21985.95	521996.18	4.5322145.67	4.4322148.53	4.4222218.67	4.14
22248.05	5.5222288.54	4.622374.14	4.6622396.52	5.1822484.32	6.75
22496.95	7.2422596.86	9.4722614.11	8.8322737.32	9.4622900.33	9.41
22974.79	9.4923108.31	6.5523137.69	6.2923153.07	6.4523178.52	6.98
23194.88	6.4323213.01	6.2223390.42	4.4223390.72	4.4123612.89	3.9
23619.08	3.9723745.66	5.523806.63	6.5423847.37	6.6723967.13	7.51
24077.09	7.1524087.83	6.8224093.65	6.6424174.22	6.0824220.78	5.51
24271.69	5.4824547.53	6.7924776.51	8.4825003.98	9.5625245.41	11.02
25470.9	12.1825709.53	12.48			

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.055	6105.75	.07	6349.94	.047	6767.42	.055	18802.82	.047
21985.95	.072								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

6105.75	21985.95	2559	4481.46	2515.69	.1	.3
---------	----------	------	---------	---------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
22974.79	25709.53	5.37	021985.95	-1.13	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	6.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.055	0.050	0.072
W.S. Elev (ft)	6.76	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	18042.35	43933.04	2064.95
E.G. Slope (ft/ft)	0.000123	Area (sq ft)	18042.35	43933.04	2064.95
Q Total (cfs)	43995.00	Flow (cfs)	11209.63	32192.85	592.52
Top Width (ft)	23386.65	Top Width (ft)	6060.50	15630.17	1695.98
Vel Total (ft/s)	0.69	Avg. Vel. (ft/s)	0.62	0.73	0.29
Max Chl Dpth (ft)	7.89	Hydr. Depth (ft)	2.98	2.81	1.22
Conv. Total (cfs)	3958983.0	Conv. (cfs)	1008722.0	2896941.0	53319.3
Length Wtd. (ft)	3996.42	Wetted Per. (ft)	6060.72	15631.69	1696.10
Min Ch El (ft)	-1.13	Shear (lb/sq ft)	0.02	0.02	0.01
Alpha	1.04	Stream Power (lb/ft s)	0.01	0.02	0.00
Frctn Loss (ft)	0.46	Cum Volume (acre-ft)	2816.00	17774.35	377.47
C & E Loss (ft)	0.00	Cum SA (acres)	868.54	5526.39	295.04

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 2.39230*

INPUT Description: Interpolated Cross Section at River Mile 2.39

Station Elevation Data	num=	272									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	5.84	59.17	5.16	123.09	4.94	200.65	4.5	276.25	4.27		
320.33	4.25	363.87	4.34	441.77	3.69	513.35	3.73	574.25	4.56		
600.4	3.88	649	4.1	746.17	4.18	750.76	4.18	861.29	3.61		
925.06	3.63	999.74	3.58	1069.41	3.55	1143.02	3.61	1148.76	3.6		
1236.46	3.37	1237.04	3.4	1570.69	2.73	1809.6	2.93	1968.24	3.05		

2374.14	2.44	2381.89	2.45	2510.07	2.96	2636.65	3.38	2678.24	3.08
2775.65	3.31	2969.23	2.96	2983.06	3.07	2993.55	2.91	3041.54	2.83
3099.29	2.73	3108.33	3.18	3120.36	2.79	3153.97	2.7	3199.22	2.72
3268	2.65	3333.87	2.74	3430.96	2.9	3502.45	2.96	3877.09	2.26
4249.33	2.57	4595.4	2.79	4980.74	3.49	5000.17	3.55	5070.93	3.63
5163.31	3.68	5235.58	4.42	5253.27	3.86	5269.16	3.9	5305.62	4.07
5315.24	4.6	5317.92	4.39	5320.64	3.98	5325.73	4.05	5431.26	3.37
5495.87	2.93	5536.01	2.71	5591.03	2.51	5677.99	2.27	5689.52	2.08
5771.26	.92	5835.96	1.87	5864.44	.77	5886.78	-2.18	5907.75	-.91
5932.25	1.05	5957.44	.97	6044.58	2.43	6126.2	2.54	6218.08	2.65
6304.87	2.68	6371.3	2.78	6440.27	2.64	6445.85	2.63	6570.17	2.59
6744.45	2.35	6817.26	2.2	6866.09	2.07	6922.78	1.34	6987.31	1.11
7081.7	1.36	7150.89	1.8	7168.64	1.83	7219.01	1.94	7219.05	1.94
7285.74	1.9	7298.16	1.89	7374.17	1.75	7378.92	1.75	7457.69	1.68
7458.06	1.68	7538.82	1.67	7558.37	1.66	7617.97	1.54	7681.4	1.42
7698.73	1.37	7737.9	1.13	7778.68	2	7837.04	2.99	7845.92	2.98
8019.51	3.03	8222.69	3.08	8405.34	2.97	8567.88	3.02	8699.97	2.92
8841.25	2.84	8917.47	3.1	9077.42	3.8	9153.06	4.13	9239.88	4.29
9356.87	4.44	9514.49	4.56	9666.51	4.68	9836.56	5.32	9960.37	4.98
10001.37	5.110107.81		5.2610270.01		4.47	10409.6	5.1210538.84		4.84
10710.62	4.810930.27		5.1811101.27		4.9711232.15		4.2711491.15		4.22
11829.78	4.7412032.01		4.5312245.72		5.0812249.64		5.0712408.86		4.6
12555.01	4.3912657.51		4.9512888.21		5.1313049.46		4.7413223.13		4.6
13405.26	4.6313451.24		4.6113474.11		3.7613504.56		1.6413530.53		3.66
13551.76	4.3313574.88		4.4113637.43		4.313745.53		4.3513826.54		4.41
13941.38	4.4614144.38		4.3114282.25		4.2714401.14		4.2314583.01		4.09
14735.63	4.0414905.85		3.99 15028.1		4.1215159.59		4.0815253.37		4.05
15368.63	3.93 15517.2		4.1315614.26		4.0215715.46		3.9915810.62		3.96
15886.37	3.93 15928.3		3.9215978.86		3.9916103.18		4.0316272.28		3.81
16475.37	4.1716680.88		4.116879.75		3.8716998.81		3.8417089.74		3.64
17130.55	3.217164.54		1.5817213.55		.8917228.73		3.3417232.27		3.93
17246.33	3.7617391.71		3.7117533.54		4.0917711.44		2.9317880.54		3.9
18356.43	3.6818517.13		3.5518584.29		3.5718685.84		3.0919119.98		3.27
19599.7	3.1419894.72		2.5820141.77		2.3220201.44		2.0820243.46		2.08
20340.86	1.320371.32		1.15 20417.9		.0120541.54		-14.3120545.37		-14.31
20681.25	-2.1620819.53		-1.2620843.03		-.8520928.74		.5921032.64		.99
21037.53	1.2421071.82		1.2421134.06		1.4821138.33		1.4721256.82		1.34
21423.9	1.5721435.99		1.621595.53		2.1321715.04		2.3321731.29		2.22
21762.61	2.121875.86		2.0622002.05		2.3922028.96		2.3322081.09		2.22
22140.67	1.4922256.66		1.122256.83		1.122376.51		.922423.57		.92
22426.24	.6422470.64		-3.7822511.02		-5.6222531.16		-2.9922551.39		1.42
22583.97	4.222593.72		3.922736.22		4.0822738.96		4.0822805.82		3.91
22833.83	4.8422872.43		4.2422954.03		4.3122975.36		4.8823059.06		6.81
23071.1	7.2623166.34		9.0623182.79		8.6923300.25		9.5123455.65		9.61
23526.63	9.7323653.91		6.5423681.92		6.123696.58		6.0623720.84		6.31
23736.44	5.8723753.72		5.6523922.85		3.6823923.13		3.6824134.93		3.1
24140.83	3.18 24261.5		4.8624319.62		5.8624358.45		5.9224472.63		6.39
24577.45	6.0724587.69		5.8424593.24		5.7324670.05		5.3424714.43		4.95
24762.96	4.9225025.92		6.3625244.21		8.2225461.05		9.4125691.21		11.02
25906.16	12.2826133.65		12.62						

Manning's n Values		num= 6		num= 6		num= 6		num= 6	
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.055	5325.73	.06	5591.03	.047	6044.58	.055	20243.46	.047
22583.97	.069								

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.
	5325.73	22583.97		2559	4481.46	2515.69	.1	.3	
Blocked Obstructions			num=	2					

Sta L	Sta R	Elev	Sta L	Sta R	Elev
022583.97		-0.7423526	6326133.65		4.94

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	6.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.	0.055	0.052	0.069
W.S. Elev (ft)	6.31	Reach Len. (ft)	2559.00	4481.46	2515.69
Crit W.S. (ft)		Flow Area (sq ft)	16608.00	51824.25	2032.39
E.G. Slope (ft/ft)	0.000105	Area (sq ft)	16608.00	51824.25	2032.39
Q Total (cfs)	43995.00	Flow (cfs)	9825.34	33622.87	546.79
Top Width (ft)	24337.03	Top Width (ft)	5325.73	17258.24	1753.06
Vel Total (ft/s)	0.62	Avg. Vel. (ft/s)	0.59	0.65	0.27
Max Chl Dpth (ft)	7.05	Hydr. Depth (ft)	3.12	3.00	1.16
Conv. Total (cfs)	4288111.0	Conv. (cfs)	957657.4	3277159.0	53294.4
Length Wtd. (ft)	4062.03	Wetted Per. (ft)	5326.32	17259.51	1753.14
Min Ch El (ft)	-0.74	Shear (lb/sq ft)	0.02	0.02	0.01
Alpha	1.03	Stream Power (lb/ft s)	0.01	0.01	0.00
Frctn Loss (ft)	0.37	Cum Volume (acre-ft)	1798.21	12848.59	259.16
C & E Loss (ft)	0.00	Cum SA (acres)	534.09	3834.60	195.44

Warning: Divided flow computed for this cross-section.
Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION RIVER: Fish Creek
REACH: Lower Fish Creek RS: 1.54615*

INPUT

Description: Interpolated Cross Section at River Mile 1.55

Station	Elevation	Data	num=	272					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	4.27	50.5	3.88	105.06	3.72	171.26	3.44	235.79	3.27
273.42	3.23	310.58	3.29	377.07	3.02	438.16	3.08	490.14	3.53
512.47	3.2	553.95	3.34	636.89	3.44	640.8	3.44	735.15	3.14
789.57	3.14	853.32	3.11	912.78	3.09	975.61	3.1	980.51	3.1
1055.37	2.88	1055.86	2.89	1340.65	2.16	1544.56	2.38	1679.97	2.53
2026.42	1.87	2033.03	1.89	2142.44	2.3	2250.48	2.67	2285.98	2.57
2369.13	2.8	2534.35	2.4	2546.16	2.44	2555.11	2.34	2596.07	2.25
2645.37	2.13	2653.08	2.35	2663.35	2.14	2692.04	2.05	2730.65	2.09
2789.36	2.09	2845.59	2.18	2928.45	2.31	2989.47	2.38	3309.25	1.63
3626.96	1.98	3922.35	2.25	4251.25	3.02	4267.83	3.07	4328.23	3.1
4407.08	3.12	4468.77	3.47	4483.87	3.19	4497.43	3.21	4528.55	3.29
4536.76	3.55	4539.05	3.45	4541.37	3.24	4545.72	3.28	4659.64	2.75
4729.38	2.42	4772.72	2.26	4832.11	2.1	4926	1.93	4938.44	1.74
5026.68	.46	5096.53	1.48	5127.27	.29	5151.39	-2.94	5174.02	-1.55
5200.47	.57	5227.67	.48	5321.74	2.07	5409.85	2.17	5509.04	2.28
5602.74	2.29	5674.45	2.39	5748.9	2.23	5754.92	2.21	5889.13	2.25
6077.27	2.07	6155.88	1.95	6208.6	1.83	6269.79	1.07	6339.46	.85
6441.35	1.18	6516.05	1.7	6535.21	1.74	6589.58	1.87	6589.62	1.87
6661.62	1.85	6675.03	1.85	6757.09	1.77	6762.21	1.78	6847.24	1.84
6847.65	1.84	6934.83	1.87	6955.93	1.88	7020.28	1.79	7088.75	1.71
7107.46	1.67	7149.75	1.51	7193.77	1.91	7256.78	2.35	7266.36	2.34
7453.76	2.42	7673.1	2.49	7870.27	2.38	8045.74	2.46	8188.33	2.36
8340.85	2.29	8423.13	2.4	8595.81	2.8	8677.47	2.99	8771.19	3.1
8897.48	3.17	9067.65	3.18	9231.76	3.19	9415.33	3.76	9548.98	3.29
9593.25	3.39	9708.16	3.58	9883.25	2.7310033.95		3.4610173.47		3.17
10358.91	3.1510596.04		3.5910780.64		3.3910921.93		2.6411201.53		2.61
11567.09	3.2211785.41		3.0112016.11		3.6412020.34		3.6312192.23		3.15

12350.01	2.9412460.66	3.5712709.71	3.8112883.78	3.4213071.27	3.3
13267.88	3.3613317.52	3.36 13342.2	2.4313375.08	.1213403.12	2.33
13426.03	3.0613450.99	3.1513518.51	3.0513635.22	3.1313722.67	3.21
13846.64	3.2814065.79	3.1614214.62	3.1314342.97	3.12 14539.3	2.99
14704.06	2.9714887.82	2.94 15019.8	3.1115161.74	3.0915262.98	3.07
15387.42	2.96 15547.8	3.2215652.58	3.1115761.83	3.0915864.56	3.08
15946.33	3.07 15991.6	3.0616046.18	3.1416180.39	3.2216362.94	3.01
16582.19	3.4316804.04	3.417018.72	3.1917147.25	3.1717245.42	2.97
17289.47	2.517326.17	.7417379.07	.017395.46	2.6717399.29	3.32
17414.46	3.13 17571.4	3.1117724.52	3.5417916.57	2.3218099.12	3.4
18612.86	3.2518786.34	3.1718858.85	3.1718968.47	2.9319437.14	2.98
19955.01	2.87 20273.5	2.5620540.21	2.4220604.62	2.2920649.98	2.39
20755.13	1.7720788.01	1.63 20838.3	.4120971.77	-15.1520973.68	-15.15
21120.87	-1.9321270.66	-.9821296.13	-.5421388.97	1.0421501.52	1.5
21506.81	1.7721543.96	1.7721611.38	2.0421616.01	2.0321744.36	1.87
21925.35	2.0821938.45	2.1222111.27	2.6622240.72	2.8722258.33	2.74
22292.26	2.5522414.93	2.2822551.62	2.3922580.77	2.2822637.25	2.06
22701.79	1.1422827.43	.522827.62	.522957.25	.2523008.24	.26
23011.13	-.0423059.22	-4.9923102.96	-7.1123124.78	-4.29 23146.7	.46
23181.98	3.423191.25	3.2823326.78	3.7323329.38	3.7423392.97	3.69
23419.6	4.1723456.31	3.8823533.91	3.95 23554.2	4.58 23633.8	6.86
23645.25	7.2823735.83	8.6623751.46	8.5623863.17	9.5524010.96	9.81
24078.46	9.9624199.51	6.5424226.15	5.9124240.09	5.6824263.17	5.64
24278	5.3124294.44	5.0824455.27	2.9424455.55	2.9424656.96	2.3
24662.57	2.3924777.34	4.2124832.61	5.1824869.54	5.1724978.12	5.28
25077.8	5.25087.54	4.8725092.82	4.8125165.87	4.625208.08	4.39
25254.23	4.3625504.31	5.93 25711.9	7.9625918.13	9.25 26137	11.01
26341.43	12.3926557.78	12.76			

Manning's n Values		num=	6								
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.055	4545.72	.06	4832.11	.047	5409.85	.055	20788.01	.047		
23181.98	.067										

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	4545.72	23181.98		2559 4481.46	2515.7		.1	.3

Blocked Obstructions			num=	2			
Sta L	Sta R	Elev	Sta L	Sta R	Elev		
24078.46	26557.78	4.52	023181.98		-.36		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	5.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.00	Wt. n-Val.	0.055	0.053	0.067
W.S. Elev (ft)	5.95	Reach Len. (ft)	2559.00	4481.46	2515.70
Crit W.S. (ft)		Flow Area (sq ft)	15362.60	62107.29	2238.63
E.G. Slope (ft/ft)	0.000078	Area (sq ft)	15362.60	62107.29	2238.63
Q Total (cfs)	43995.00	Flow (cfs)	8246.92	35194.94	553.14
Top Width (ft)	24883.12	Top Width (ft)	4545.72	18636.26	1701.14
Vel Total (ft/s)	0.55	Avg. Vel. (ft/s)	0.54	0.57	0.25
Max Chl Dpth (ft)	6.31	Hydr. Depth (ft)	3.38	3.33	1.32
Conv. Total (cfs)	4985102.0	Conv. (cfs)	934463.7	3987961.0	62676.8
Length Wtd. (ft)	4133.89	Wetted Per. (ft)	4547.44	18637.29	1701.20
Min Ch El (ft)	-0.36	Shear (lb/sq ft)	0.02	0.02	0.01
Alpha	1.02	Stream Power (lb/ft s)	0.01	0.01	0.00
Frctn Loss (ft)	0.32	Cum Volume (acre-ft)	859.12	6987.94	135.83
C & E Loss (ft)	0.00	Cum SA (acres)	244.13	1988.19	95.70

Warning: Divided flow computed for this cross-section.
 Warning: The cross-section end points had to be extended vertically for the computed water surface.

CROSS SECTION RIVER: Fish Creek
 REACH: Lower Fish Creek RS: 0.7

INPUT

Description: Cross Section at River Mile 0.7

Station Elevation Data num= 168									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	2.7	226.5	2.2	527.6	2.7	808.2	2.6	1110.6	1.6
1391.7	2	1678.7	1.3	1962.6	2.3	2230.1	1.4	2476.5	1.8
2741.4	1	3004.6	1.4	3249.3	1.7	3535.5	2.6	3765.7	2.5
3962.9	1.9	4073.2	1.7	4174	1.6	4282.1	0	4357.1	1.1
4390.1	-.2	4416	-3.7	4440.3	-2.2	4468.7	.1	4497.9	0
4598.9	1.7	4693.5	1.8	4800	1.9	4900.6	1.9	4977.6	2
5064	1.8	5208.1	1.9	5410.1	1.8	5494.5	1.7	5551.1	1.6
5616.8	.8	5691.6	.6	5801	1	5881.2	1.6	5960.2	1.8
6037.5	1.8	6140	1.8	6236.8	2	6353.5	2.1	6496.1	2
6686.8	1.7	6888	1.8	7123.5	1.9	7335.2	1.8	7523.6	1.9
7676.7	1.8	7928.8	1.7	8114.2	1.8	8302.5	1.9	8438.1	1.9
8620.8	1.8	8797	1.7	8994.1	2.2	9137.6	1.6	9308.5	1.9
9496.5	1	9658.3	1.8	9808.1	1.5	10007.2	1.5	10261.8	2
10460	1.8	10611.7	1	10911.9	1	11304.4	1.7	11538.8	1.5
11786.5	2.2	11975.6	1.7	12145	1.5	12263.8	2.2	12531.2	2.5
12718.1	2.1	12919.4	2	13130.5	2.1	13183.8	2.1	13210.3	1.1
13245.6	-1.4	13275.7	1	13300.3	1.8	13327.1	1.9	13399.6	1.8
13524.9	1.9	13618.8	2	13751.9	2.1	13987.2	2	14147	2
14284.8	2	14495.6	1.9	14672.5	1.9	14869.8	1.9	15011.5	2.1
15163.9	2.1	15272.6	2.1	15406.2	2	15578.4	2.3	15690.9	2.2
15808.2	2.2	15918.5	2.2	16006.3	2.2	16054.9	2.2	16113.5	2.3
16257.6	2.4	16453.6	2.2	16689	2.7	16927.2	2.7	17157.7	2.5
17295.7	2.5	17401.1	2.3	17448.4	1.8	17487.8	-.1	17544.6	-.9
17562.2	2	17566.3	2.7	17582.6	2.5	17751.1	2.5	17915.5	3
18121.7	1.7	18317.7	2.9	21007.8	2.5	21056.5	2.7	21204.7	2.1
21258.7	.8	21402	-16	21560.5	-1.7	21721.8	-.7	21849.2	1.5
21970.4	2	21976.1	2.3	22016.1	2.3	22088.7	2.6	22231.9	2.4
22426.8	2.6	22627	3.2	22766.4	3.4	22821.9	3	22954	2.5
23101.2	2.4	23193.4	1.9	23262.9	.8	23398.4	-.1	23538	-.4
23592.9	-.4	23647.8	-6.2	23694.9	-8.6	23718.4	-5.6	23742	-.5
23780	2.6	23919.8	3.4	24113.8	3.6	24219.4	7.3	24426.1	9.6
24630.3	10.2	24783.6	5.3	24987.7	2.2	25179	1.5	25345.6	4.5
25587.4	3.9	25745.5	3.8	25982.7	5.5	26179.6	7.7	26375.2	9.1
26582.8	11	26776.7	12.5	26981.9	12.9				

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.065	226.5	.055	4174	.047	4598.9	.055	5551.1	.047
5881.2	.055	21204.7	.047	21976.1	.055	23101.2	.047	23780	.065

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 3765.7 23780 0 0 0 .1 .3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	23780	.3	24630.3	26981.9	4.09

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft) 5.64 Element Left OB Channel Right OB

Vel Head (ft)	0.01	Wt. n-Val.	0.055	0.053	0.065
W.S. Elev (ft)	5.63	Reach Len. (ft)			
Crit W.S. (ft)	2.33	Flow Area (sq ft)	13885.91	73738.91	2465.17
E.G. Slope (ft/ft)	0.000075	Area (sq ft)	13885.91	73738.91	2465.17
Q Total (cfs)	51116.00	Flow (cfs)	7702.35	42747.75	665.90
Top Width (ft)	25392.96	Top Width (ft)	3765.70	20014.30	1612.97
Vel Total (ft/s)	0.57	Avg. Vel. (ft/s)	0.55	0.58	0.27
Max Chl Dpth (ft)	5.33	Hydr. Depth (ft)	3.69	3.68	1.53
Conv. Total (cfs)	5901393.0	Conv. (cfs)	889244.3	4935270.0	76878.6
Length Wtd. (ft)		Wetted Per. (ft)	3768.64	20014.88	1613.03
Min Ch El (ft)	0.30	Shear (lb/sq ft)	0.02	0.02	0.01
Alpha	1.02	Stream Power (lb/ft s)	0.01	0.01	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 31.0

INPUT

Description: Cross Section at River Mile 31.0

Station Elevation Data		num= 44	
Sta	Elev	Sta	Elev
0	81.7	144.5	74.5
2191.4	66	2212	54.7
2564.2	60.9	2689.5	67.1
3315.7	65.6	3583.7	66.3
4570.6	70.8	4895.6	71.5
5682.3	64.6	6239.5	63.2
7014.9	64.2	7039.2	71.8
8057.3	80.2	8380.6	79.3
9634.2	79.8	9960	79

Manning's n Values		num= 4	
Sta	n Val	Sta	n Val
0	.05	2191.4	.014
		2564.2	.1
		2740.3	.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coef	Contr.	Expan.
	2191.4	2564.2		1164.9	2386.5	1005.25	.1	.3

Blocked Obstructions		num= 2	
Sta L	Sta R	Elev	Sta R
0	1929.9	60.43	2689.5
			10558.5
			60.43

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	65.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.		0.014	0.053
W.S. Elev (ft)	64.77	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)		2523.78	2090.20
E.G. Slope (ft/ft)	0.000257	Area (sq ft)		2523.78	2090.20
Q Total (cfs)	16455.00	Flow (cfs)		15343.12	1111.88
Top Width (ft)	2176.55	Top Width (ft)		370.55	1806.00
Vel Total (ft/s)	3.57	Avg. Vel. (ft/s)		6.08	0.53
Max Chl Dpth (ft)	11.77	Hydr. Depth (ft)		6.81	1.16
Conv. Total (cfs)	1027081.0	Conv. (cfs)		957680.0	69400.6
Length Wtd. (ft)	2326.04	Wetted Per. (ft)		373.33	1806.37
Min Ch El (ft)	53.00	Shear (lb/sq ft)		0.11	0.02

Alpha	2.71	Stream Power (lb/ft s)	0.66	0.01
Frctn Loss (ft)	0.61	Cum Volume (acre-ft)	3296.19	10715.45
C & E Loss (ft)	0.01	Cum SA (acres)	1870.40	1053.87

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 30.54*

INPUT
 Description: Interpolated Cross Section at River Mile 30.54

Station	Elevation	Data	num=	83
Sta	Elev	Sta	Elev	Sta
0	81.09	100.97	76.53	157.34
448.61	72.04	519.5	71.42	596.87
1161.91	67.98	1256.59	67.86	1270.12
1468.6	67.61	1569.57	67.57	1673.32
1961.72	67.14	2053.78	67.05	2101.36
2276.27	66.06	2300.11	65.94	2309.12
2352.33	65.43	2386.09	65.19	2390.02
2414.27	53.91	2428.99	53.07	2438.21
2556.23	57.01	2580.63	58.23	2647.49
2874.35	66.36	2922.81	71.47	2956.38
3471.69	64.81	3727.34	65.48	3960.01
4668.77	69.79	4978.8	70.47	5030.5
5482.02	64.43	5603.71	63.66	5729.25
6464.53	62.54	6624.98	65.02	6649.21
7134.37	77.2	7450.89	78.45	7719.7
8303.22	78.77	8574.04	79.06	8881.1
9809.84	78.51	10101.93	79.37	10380.76

Manning's n Values	num=	3
Sta	n Val	Sta
0	.05	2386.09

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
2386.09	2754.82	1164.9	2386.5	1005.25	.1	.3	

Blocked Obstructions	num=	2			
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	2137.67	59.7955	2874.3351	10380.76	59.7955

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	64.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.014	0.060	
W.S. Elev (ft)	64.07	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	2549.15	888.01	
E.G. Slope (ft/ft)	0.000270	Area (sq ft)	2549.15	888.01	
Q Total (cfs)	16455.00	Flow (cfs)	16126.24	328.76	
Top Width (ft)	1630.99	Top Width (ft)	366.29	1264.70	
Vel Total (ft/s)	4.79	Avg. Vel. (ft/s)	6.33	0.37	
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	6.96	0.70	
Conv. Total (cfs)	1002152.0	Conv. (cfs)	982129.6	20022.1	
Length Wtd. (ft)	2368.18	Wetted Per. (ft)	368.58	1264.92	
Min Ch El (ft)	52.29	Shear (lb/sq ft)	0.12	0.01	
Alpha	1.71	Stream Power (lb/ft s)	0.74	0.00	
Frctn Loss (ft)	0.62	Cum Volume (acre-ft)	3296.19	10576.48	4326.42
C & E Loss (ft)	0.00	Cum SA (acres)	1870.40	1033.69	1599.30

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 30.08*

INPUT

Description: Interpolated Cross Section at River Mile 30.08

Station	Elevation	Data	num=	83	Sta	Elev	Sta	Elev	Sta	Elev
0	80.49	109.21	75.97	170.18	73.67	228.89	73.35	387.76	72.27	
485.22	71.62	561.89	70.87	645.57	70.2	726.15	69.6	1068.4	67.5	
1256.71	67.35	1359.12	67.23	1373.75	67.27	1460.82	67.01	1490.3	66.98	
1588.43	66.96	1697.64	66.98	1809.86	66.88	1910.03	66.8	2016.44	66.55	
2121.78	66.53	2221.36	66.46	2272.82	66.33	2343.5	65.9	2440.16	65.5	
2462	65.51	2487.78	65.39	2497.54	65.45	2523.37	65.06	2537.74	64.93	
2544.27	64.67	2580.79	64.38	2585.45	62.54	2592.59	59.71	2610.8	53.45	
2614.2	53.28	2631.66	52.46	2642.59	51.82	2645.76	51.58	2693.33	53.03	
2755.87	56.07	2779.16	57.25	2842.99	58.02	2945.44	59.93	3056.53	65.49	
3059.19	65.62	3105.31	70.44	3137.27	64.75	3365.05	63.05	3417.55	63.21	
3627.69	64.02	3870.99	64.66	4092.41	64.41	4314.11	64.07	4555.59	66.97	
4766.94	68.78	5061.99	69.43	5111.2	64.85	5280.55	64.4	5407.43	64.61	
5540.91	64.32	5656.72	63.63	5776.19	64.5	6282.04	63.5	6465.46	62.82	
6475.96	62.78	6628.66	65.14	6651.72	62.53	6985.99	64.54	7008.05	71.38	
7113.45	76.7	7414.67	77.9	7670.5	78.37	7932.33	79.03	8039.17	78.75	
8225.83	78.24	8483.57	78.51	8775.81	79.15	9033.09	79.79	9363.91	78.72	
9659.68	78.01	9937.67	78.83	10203.03	83.61					

Manning's n Values	num=	3
Sta	n Val	Sta
0	.06	2580.79
	.014	2945.44
		.06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
2580.79	2945.44	1164.9	2386.5	1005.25	.1	.3	

Blocked Obstructions	num=	2
Sta L	Sta R	Elev
0	2345.44	59.161
	3059.17	10203.03
		59.161

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	64.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.		0.014	0.060
W.S. Elev (ft)	63.45	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)		2596.50	306.60
E.G. Slope (ft/ft)	0.000256	Area (sq ft)		2596.50	306.60
Q Total (cfs)	16455.00	Flow (cfs)		16347.16	107.84
Top Width (ft)	984.17	Top Width (ft)		362.29	621.88
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		6.30	0.35
Max Chl Dpth (ft)	11.87	Hydr. Depth (ft)		7.17	0.49
Conv. Total (cfs)	1027478.0	Conv. (cfs)		1020744.0	6733.7
Length Wtd. (ft)	2378.77	Wetted Per. (ft)		364.25	622.03
Min Ch El (ft)	51.58	Shear (lb/sq ft)		0.11	0.01
Alpha	1.23	Stream Power (lb/ft s)		0.72	0.00
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	3296.19	10435.53	4312.63
C & E Loss (ft)	0.01	Cum SA (acres)	1870.40	1013.73	1577.53

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 29.62*

INPUT

Description: Interpolated Cross Section at River Mile 29.62

Station	Elevation	Data	num=	83
Sta	Elev	Sta	Elev	Sta Elev
0	79.88	117.44	75.42	183.01
521.82	71.2	604.28	70.33	694.27
1351.52	66.73	1461.65	66.59	1477.39
1708.26	66.3	1825.71	66.39	1946.39
2281.85	65.93	2388.94	65.86	2444.29
2647.73	64.95	2675.46	64.85	2685.95
2736.22	63.91	2775.48	63.57	2780.87
2814.14	52.65	2834.33	51.84	2846.98
2955.51	55.12	2977.7	56.28	3038.48
3244.04	64.88	3287.82	69.42	3318.15
3783.68	63.22	4014.63	63.85	4224.82
4865.11	67.77	5145.19	68.4	5191.89
5599.8	64.22	5709.73	63.59	5823.14
6487.39	63.02	6632.34	65.25	6654.23
7092.52	76.2	7378.46	77.35	7621.31
8148.45	77.7	8393.11	77.97	8670.51
9509.53	77.52	9773.4	78.31	10025.29

Manning's n Values	num=	3
Sta n Val	Sta n Val	Sta n Val
0	.06	2775.48
	.014	3136.06
		.06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
2775.48	3136.06	1164.9	2386.5	1005.25	.1	.3	

Blocked Obstructions	num=	2
Sta L	Sta R	Elev
0	2553.21	58.5265
	3244.0051	10025.29
		58.5265

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	63.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.		0.014	0.060
W.S. Elev (ft)	62.89	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)		2665.30	190.40
E.G. Slope (ft/ft)	0.000233	Area (sq ft)		2665.30	190.40
Q Total (cfs)	16455.00	Flow (cfs)		16378.70	76.30
Top Width (ft)	681.95	Top Width (ft)		358.64	323.31
Vel Total (ft/s)	5.76	Avg. Vel. (ft/s)		6.15	0.40
Max Chl Dpth (ft)	12.02	Hydr. Depth (ft)		7.43	0.59
Conv. Total (cfs)	1078863.0	Conv. (cfs)		1073861.0	5002.4
Length Wtd. (ft)	2379.70	Wetted Per. (ft)		360.37	323.41
Min Ch El (ft)	50.87	Shear (lb/sq ft)		0.11	0.01
Alpha	1.13	Stream Power (lb/ft s)		0.66	0.00
Frctn Loss (ft)	0.57	Cum Volume (acre-ft)	3296.19	10291.39	4306.90
C & E Loss (ft)	0.01	Cum SA (acres)	1870.40	993.98	1566.62

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 29.16*

INPUT

Description: Interpolated Cross Section at River Mile 29.16

Station Elevation Data num= 83									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	79.28	125.68	74.86	195.85	72.84	263.42	72.58	446.26	71.44
558.42	70.77	646.67	69.78	742.97	68.96	835.71	68.29	1229.6	66.3
1446.33	66.1	1564.19	65.96	1581.02	66.05	1681.23	65.62	1715.15	65.6
1828.1	65.64	1953.78	65.79	2082.93	65.7	2198.22	65.65	2320.68	65.24
2441.92	65.32	2556.52	65.26	2615.75	65.07	2697.09	64.57	2808.33	64.26
2833.47	64.39	2863.14	64.31	2874.37	64.47	2904.09	63.82	2920.64	63.64
2928.16	63.15	2970.18	62.76	2976.3	60.84	2985.68	57.87	3009.6	52.19
3014.07	52.03	3036.99	51.23	3051.36	50.48	3055.52	50.16	3098.57	51.47
3155.15	54.18	3176.23	55.31	3233.98	56.18	3326.68	58.96	3426.49	64.02
3428.89	64.14	3470.32	68.39	3499.04	63.3	3703.69	61.6	3750.87	61.7
3939.67	62.43	4158.28	63.03	4357.22	62.82	4556.42	62.53	4773.39	65.13
4963.28	66.76	5228.38	67.37	5272.59	63.29	5424.76	62.91	5538.75	63.71
5658.68	64.11	5762.74	63.56	5870.09	64.4	6324.59	63.79	6489.39	63.3
6498.82	63.26	6636.02	65.37	6656.74	63.06	6957.08	64.88	6976.9	70.96
7071.6	75.7	7342.25	76.8	7572.11	77.25	7807.35	77.86	7903.36	77.62
8071.07	77.17	8302.64	77.43	8565.21	78.01	8796.38	78.58	9093.62	77.65
9359.37	77.02	9609.13	77.76	9847.56	82.02				

Manning's n Values num= 3						
Sta	n Val	Sta	n Val	Sta	n Val	
0	.06	2970.18	.015	3326.68	.06	

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	2970.18	3326.68		1164.9	2386.5	1005.25	.1	.3

Blocked Obstructions num= 2						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	
0	2760.98	57.892	3428.84	9847.56	57.892	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	62.89	Element	Left OB	Channl	Right OB
Vel Head (ft)	0.56	Wt. n-Val.		0.015	0.060
W.S. Elev (ft)	62.34	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)		2728.91	229.68
E.G. Slope (ft/ft)	0.000243	Area (sq ft)		2728.91	229.68
Q Total (cfs)	16455.00	Flow (cfs)		16369.30	85.70
Top Width (ft)	722.00	Top Width (ft)		355.15	366.85
Vel Total (ft/s)	5.56	Avg. Vel. (ft/s)		6.00	0.37
Max Chl Dpth (ft)	12.18	Hydr. Depth (ft)		7.68	0.63
Conv. Total (cfs)	1055051.0	Conv. (cfs)		1049556.0	5495.0
Length Wtd. (ft)	2378.80	Wetted Per. (ft)		356.71	366.94
Min Ch El (ft)	50.16	Shear (lb/sq ft)		0.12	0.01
Alpha	1.16	Stream Power (lb/ft s)		0.70	0.00
Frctn Loss (ft)	0.59	Cum Volume (acre-ft)	3296.19	10143.62	4302.05
C & E Loss (ft)	0.01	Cum SA (acres)	1870.40	974.43	1558.66

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 28.7*

INPUT

Description: Interpolated Cross Section at River Mile 28.7

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	78.67	133.92	74.31	208.69	72.43	280.69	72.19	475.51	71.02
595.03	70.35	689.06	69.23	791.67	68.35	890.49	67.63	1310.2	65.7
1541.13	65.48	1666.72	65.32	1684.66	65.44	1791.43	64.92	1827.58	64.9
1947.93	64.98	2081.85	65.2	2219.46	65.12	2342.31	65.07	2472.8	64.59
2601.99	64.71	2724.1	64.66	2787.21	64.44	2873.89	63.9	2992.41	63.65
3019.2	63.84	3050.82	63.76	3062.78	63.97	3094.46	63.2	3112.09	62.99
3120.1	62.39	3164.88	61.95	3171.72	59.98	3182.23	56.94	3209	51.57
3214	51.4	3239.66	50.61	3255.75	49.82	3260.4	49.45	3301.18	50.68
3354.79	53.24	3374.76	54.34	3429.47	55.26	3517.3	58.48	3611.47	63.29
3613.73	63.4	3652.83	67.36	3679.92	62.57	3873.02	60.87	3917.53	60.94
4095.66	61.64	4301.92	62.21	4489.63	62.03	4677.57	61.77	4882.29	64.21
5061.45	65.75	5311.58	66.33	5353.29	62.52	5496.86	62.16	5604.42	63.26
5717.57	64	5815.75	63.52	5917.03	64.35	6345.86	63.94	6501.35	63.54
6510.25	63.5	6639.7	65.49	6659.25	63.32	6942.62	65.05	6961.32	70.75
7050.67	75.2	7306.03	76.25	7522.91	76.69	7744.87	77.27	7835.45	77.05
7993.68	76.64	8212.18	76.89	8459.92	77.43	8678.02	77.98	8958.47	77.11
9209.21	76.53	9444.87	77.23	9669.83	81.22				

Manning's n Values					
Sta	n Val	Sta	n Val	Sta	n Val
0	.07	3164.88	.016	3517.3	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	3164.88	3517.3		1164.9	2386.5	1005.25	.1	.3

Blocked Obstructions					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	2968.75	57.25753613	6759669.825	57.2575	

CROSS SECTION OUTPUT Profile #100-Year Flood

	E.G. Elev (ft)	62.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53		Wt. n-Val.		0.016	0.060
W.S. Elev (ft)	61.76		Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)			Flow Area (sq ft)		2781.49	273.68
E.G. Slope (ft/ft)	0.000256		Area (sq ft)		2781.49	273.68
Q Total (cfs)	16455.00		Flow (cfs)		16357.33	97.67
Top Width (ft)	781.97		Top Width (ft)		351.75	430.22
Vel Total (ft/s)	5.39		Avg. Vel. (ft/s)		5.88	0.36
Max Chl Dpth (ft)	12.31		Hydr. Depth (ft)		7.91	0.64
Conv. Total (cfs)	1028606.0		Conv. (cfs)		1022501.0	6105.3
Length Wtd. (ft)	2378.49		Wetted Per. (ft)		353.19	430.31
Min Ch El (ft)	49.45		Shear (lb/sq ft)		0.13	0.01
Alpha	1.19		Stream Power (lb/ft s)		0.74	0.00
Frctn Loss (ft)	0.63		Cum Volume (acre-ft)	3296.19	9992.68	4296.24
C & E Loss (ft)	0.00		Cum SA (acres)	1870.40	955.06	1549.46

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 28.24*

INPUT

Description: Interpolated Cross Section at River Mile 28.24

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	78.07	142.16	73.76	221.53	72.01	297.96	71.8	504.77	70.61

631.63	69.93	731.45	68.68	840.38	67.73	945.27	66.98	1390.8	65.11
1635.94	64.86	1769.25	64.69	1788.3	64.83	1901.64	64.23	1940.01	64.21
2067.76	64.32	2209.92	64.61	2356	64.53	2486.4	64.49	2624.92	63.94
2762.05	64.1	2891.68	64.07	2958.67	63.8	3050.68	63.23	3176.5	63.03
3204.93	63.28	3238.5	63.22	3251.2	63.48	3284.82	62.58	3303.53	62.35
3312.04	61.63	3359.57	61.14	3367.15	59.13	3378.77	56.02	3408.4	50.94
3413.94	50.77	3442.33	50	3460.13	49.15	3465.28	48.74	3503.8	49.9
3554.44	52.3	3573.29	53.36	3624.97	54.35	3707.92	57.99	3796.45	62.56
3798.58	62.65	3835.33	66.33	3860.8	61.85	4042.34	60.15	4084.18	60.18
4251.66	60.85	4445.57	61.39	4622.04	61.23	4798.72	61	4991.18	63.3
5159.62	64.74	5394.77	65.3	5433.99	61.74	5568.96	61.42	5670.08	62.82
5776.46	63.9	5868.76	63.49	5963.98	64.3	6367.13	64.09	6513.31	63.77
6521.68	63.74	6643.38	65.61	6661.76	63.58	6928.17	65.22	6945.75	70.55
7029.75	74.71	7269.82	75.7	7473.71	76.12	7682.38	76.69	7767.54	76.49
7916.3	76.11	8121.71	76.34	8354.62	76.86	8559.67	77.38	8823.33	76.57
9059.05	76.04	9280.6	76.69	9492.09	80.43				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .07 3359.57 .017 3707.92 .07

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 3359.57 3707.92 1164.9 2386.5 1005.25 .1 .3
 Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 3176.52 56.623 3798.51 9492.09 56.623

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	61.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.		0.017	0.070
W.S. Elev (ft)	61.14	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)		2814.61	314.78
E.G. Slope (ft/ft)	0.000274	Area (sq ft)		2814.61	314.78
Q Total (cfs)	16455.00	Flow (cfs)		16361.90	93.10
Top Width (ft)	942.02	Top Width (ft)		348.33	593.69
Vel Total (ft/s)	5.26	Avg. Vel. (ft/s)		5.81	0.30
Max Chl Dpth (ft)	12.40	Hydr. Depth (ft)		8.08	0.53
Conv. Total (cfs)	993710.5	Conv. (cfs)		988088.1	5622.4
Length Wtd. (ft)	2378.56	Wetted Per. (ft)		349.68	593.78
Min Ch El (ft)	48.74	Shear (lb/sq ft)		0.14	0.01
Alpha	1.22	Stream Power (lb/ft s)		0.80	0.00
Frctn Loss (ft)	0.68	Cum Volume (acre-ft)	3296.19	9839.38	4289.45
C & E Loss (ft)	0.00	Cum SA (acres)	1870.40	935.88	1537.65

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 27.78*

INPUT

Description: Interpolated Cross Section at River Mile 27.78

Station Elevation Data num= 83									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 77.46 150.4 73.2 234.37 71.6 315.22 71.42 534.02 70.19									
668.24 69.5 773.84 68.13 889.08 67.11 1000.05 66.32 1471.4 64.51									
1730.75 64.23 1871.78 64.05 1891.93 64.22 2011.84 63.53 2052.44 63.52									
2187.59 63.66 2337.99 64.01 2492.54 63.94 2630.49 63.91 2777.04 63.28									

2922.12	63.5	3059.26	63.47	3130.13	63.17	3227.48	62.57	3360.59	62.41
3390.67	62.73	3426.18	62.67	3439.61	62.99	3475.18	61.96	3494.98	61.7
3503.98	60.87	3554.26	60.33	3562.57	58.28	3575.32	55.1	3607.79	50.32
3613.87	50.15	3645	49.39	3664.51	48.48	3670.16	48.03	3706.41	49.12
3754.08	51.35	3771.82	52.39	3820.46	53.43	3898.54	57.51	3981.44	61.83
3983.43	61.91	4017.84	65.3	4041.69	61.12	4211.66	59.42	4250.84	59.43
4407.65	60.06	4589.21	60.57	4754.44	60.44	4919.88	60.24	5100.08	62.38
5257.79	63.73	5477.97	64.27	5514.69	60.97	5641.06	60.68	5735.74	62.37
5835.35	63.79	5921.77	63.45	6010.93	64.25	6388.41	64.24	6525.28	64.01
6533.11	63.98	6647.06	65.72	6664.27	63.85	6913.71	65.39	6930.17	70.34
7008.82	74.21	7233.61	75.15	7424.51	75.56	7619.89	76.1	7699.63	75.93
7838.92	75.58	8031.25	75.8	8249.32	76.29	8441.31	76.77	8688.18	76.03
8908.9	75.54	9116.33	76.16	9314.35	79.64				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .07 3554.26 .018 3898.54 .07

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 3554.26 3898.54 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 3384.29 55.98853983.3459314.354 55.9885

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	60.97	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.070	0.018	0.070
W.S. Elev (ft)	60.45	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	0.65	2821.56	332.75
E.G. Slope (ft/ft)	0.000300	Area (sq ft)	0.65	2821.56	332.75
Q Total (cfs)	16455.00	Flow (cfs)	0.04	16358.89	96.08
Top Width (ft)	1042.39	Top Width (ft)	11.02	344.28	687.08
Vel Total (ft/s)	5.22	Avg. Vel. (ft/s)	0.06	5.80	0.29
Max Chl Dpth (ft)	12.42	Hydr. Depth (ft)	0.06	8.20	0.48
Conv. Total (cfs)	950062.2	Conv. (cfs)	2.1	944512.8	5547.3
Length Wtd. (ft)	2378.49	Wetted Per. (ft)	11.02	345.54	687.17
Min Ch El (ft)	48.03	Shear (lb/sq ft)	0.00	0.15	0.01
Alpha	1.23	Stream Power (lb/ft s)	0.00	0.89	0.00
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	3296.18	9684.99	4281.98
C & E Loss (ft)	0.00	Cum SA (acres)	1870.26	916.91	1522.87

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 27.32*

INPUT

Description: Interpolated Cross Section at River Mile 27.32

Station Elevation Data num= 83									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 76.86 158.64 72.65 247.2 71.18 332.49 71.03 563.27 69.78									
704.84 69.08 816.23 67.58 937.78 66.5 1054.83 65.67 1552 63.91									
1825.55 63.61 1974.31 63.42 1995.57 63.61 2122.05 62.84 2164.86 62.82									
2307.42 63 2466.06 63.42 2629.07 63.35 2774.59 63.33 2929.16 62.63									
3082.19 62.89 3226.84 62.87 3301.6 62.54 3404.27 61.9 3544.67 61.8									
3576.4 62.17 3613.86 62.13 3628.03 62.5 3665.54 61.34 3686.43 61.05									
3695.92 60.11 3748.96 59.52 3758 57.43 3771.86 54.17 3807.19 49.69									

3813.8	49.52	3847.67	48.77	3868.9	47.81	3875.04	47.32	3909.03	48.33
3953.72	50.41	3970.36	51.42	4015.96	52.51	4089.16	57.02	4166.42	61.09
4168.27	61.17	4200.35	64.27	4222.57	60.4	4380.98	58.7	4417.5	58.67
4563.64	59.26	4732.85	59.76	4886.85	59.64	5041.03	59.47	5208.98	61.46
5355.97	62.73	5561.17	63.23	5595.39	60.19	5713.17	59.93	5801.41	61.92
5894.24	63.68	5974.78	63.42	6057.87	64.2	6409.68	64.39	6537.24	64.25
6544.54	64.22	6650.74	65.84	6666.78	64.11	6899.25	65.56	6914.6	70.13
6987.9	73.71	7197.39	74.6	7375.32	75	7557.41	75.52	7631.72	75.36
7761.53	75.04	7940.78	75.26	8144.02	75.72	8322.96	76.17	8553.03	75.49
8758.74	75.05	8952.07	75.63	9136.62	78.84				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .07 3748.96 .018 4089.16 .07

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 3748.96 4089.16 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 3592.06 55.354 4168.18 9136.62 55.354

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	60.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.070	0.018	0.070
W.S. Elev (ft)	59.74	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	2.26	2821.16	352.99
E.G. Slope (ft/ft)	0.000295	Area (sq ft)	2.26	2821.16	352.99
Q Total (cfs)	16455.00	Flow (cfs)	0.19	16360.25	94.56
Top Width (ft)	1167.44	Top Width (ft)	20.18	340.20	807.06
Vel Total (ft/s)	5.18	Avg. Vel. (ft/s)	0.08	5.80	0.27
Max Chl Dpth (ft)	12.42	Hydr. Depth (ft)	0.11	8.29	0.44
Conv. Total (cfs)	957420.1	Conv. (cfs)	11.2	951907.1	5501.8
Length Wtd. (ft)	2378.57	Wetted Per. (ft)	20.18	341.40	807.14
Min Ch El (ft)	47.32	Shear (lb/sq ft)	0.00	0.15	0.01
Alpha	1.25	Stream Power (lb/ft s)	0.00	0.88	0.00
Frctn Loss (ft)	0.70	Cum Volume (acre-ft)	3296.14	9530.42	4274.07
C & E Loss (ft)	0.00	Cum SA (acres)	1869.84	898.16	1505.63

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 26.86*

INPUT

Description: Interpolated Cross Section at River Mile 26.86

Station Elevation Data num= 83									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 76.25 166.88 72.09 260.04 70.77 349.76 70.65 592.52 69.36									
741.45 68.66 858.62 67.03 986.48 65.88 1109.61 65.01 1632.6 63.31									
1920.36 62.99 2076.85 62.78 2099.2 63 2232.25 62.14 2277.29 62.13									
2427.25 62.35 2594.13 62.83 2765.61 62.77 2918.68 62.76 3081.28 61.98									
3242.26 62.28 3394.42 62.27 3473.06 61.9 3581.06 61.23 3728.76 61.18									
3762.13 61.61 3801.53 61.59 3816.44 62.01 3855.91 60.72 3877.88 60.41									
3887.86 59.35 3943.65 58.71 3953.42 56.58 3968.41 53.25 4006.59 49.06									
4013.74 48.89 4050.34 48.16 4073.28 47.14 4079.92 46.61 4111.65 47.55									
4153.36 49.47 4168.89 50.44 4211.45 51.59 4279.78 56.53 4351.4 60.36									
4353.12 60.43 4382.85 63.25 4403.46 59.67 4550.31 57.97 4584.16 57.92									

4719.64	58.47	4876.5	58.94	5019.25	58.85	5162.19	58.7	5317.88	60.54
5454.14	61.72	5644.36	62.2	5676.08	59.41	5785.27	59.19	5867.07	61.47
5953.13	63.57	6027.79	63.38	6104.82	64.15	6430.95	64.54	6549.2	64.49
6555.97	64.46	6654.42	65.96	6669.29	64.37	6884.8	65.73	6899.02	69.92
6966.97	73.21	7161.18	74.05	7326.12	74.44	7494.92	74.93	7563.81	74.8
7684.15	74.51	7850.32	74.71	8038.73	75.14	8204.6	75.56	8417.89	74.95
8608.58	74.56	8787.8	75.09	8958.88	78.04				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .08 3943.65 .018 4279.78 .07

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 3943.65 4279.78 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 3799.83 54.71954353.0158958.885 54.7195

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	59.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.080	0.018	0.070
W.S. Elev (ft)	59.05	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	5.10	2821.07	385.38
E.G. Slope (ft/ft)	0.000291	Area (sq ft)	5.10	2821.07	385.38
Q Total (cfs)	16455.00	Flow (cfs)	0.50	16360.82	93.68
Top Width (ft)	1148.26	Top Width (ft)	29.82	336.13	782.31
Vel Total (ft/s)	5.12	Avg. Vel. (ft/s)	0.10	5.80	0.24
Max Chl Dpth (ft)	12.44	Hydr. Depth (ft)	0.17	8.39	0.49
Conv. Total (cfs)	965096.7	Conv. (cfs)	29.2	959573.1	5494.3
Length Wtd. (ft)	2378.58	Wetted Per. (ft)	29.82	337.29	782.39
Min Ch El (ft)	46.61	Shear (lb/sq ft)	0.00	0.15	0.01
Alpha	1.27	Stream Power (lb/ft s)	0.00	0.88	0.00
Frctn Loss (ft)	0.69	Cum Volume (acre-ft)	3296.04	9375.86	4265.55
C & E Loss (ft)	0.00	Cum SA (acres)	1869.17	879.63	1487.29

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 26.4*

INPUT

Description: Interpolated Cross Section at River Mile 26.4

Station Elevation Data num= 83									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 75.65 175.11 71.54 272.88 70.35 367.03 70.26 621.78 68.95									
778.05 68.23 901.01 66.49 1035.18 65.27 1164.39 64.35 1713.2 62.71									
2015.17 62.36 2179.38 62.15 2202.84 62.39 2342.46 61.45 2389.72 61.44									
2547.08 61.69 2722.2 62.23 2902.14 62.18 3062.77 62.18 3233.4 61.33									
3402.32 61.67 3562 61.68 3644.52 61.27 3757.86 60.57 3912.84 60.57									
3947.87 61.06 3989.21 61.04 4004.85 61.52 4046.27 60.1 4069.32 59.76									
4079.8 58.59 4138.35 57.9 4148.85 55.72 4164.95 52.33 4205.99 48.44									
4213.67 48.27 4253.01 47.54 4277.66 46.48 4284.8 45.9 4314.26 46.76									
4353 48.53 4367.42 49.47 4406.95 50.68 4470.4 56.05 4536.38 59.63									
4537.97 59.69 4565.36 62.22 4584.34 58.95 4719.63 57.25 4750.82 57.16									
4875.63 57.68 5020.14 58.12 5151.66 58.05 5283.34 57.94 5426.77 59.63									
5552.31 60.71 5727.56 61.17 5756.78 58.64 5857.37 58.44 5932.73 61.03									
6012.01 63.47 6080.8 63.34 6151.77 64.1 6452.22 64.68 6561.17 64.72									

6567.4	64.71	6658.1	66.08	6671.8	64.64	6870.34	65.9	6883.45	69.71
6946.05	72.71	7124.97	73.5	7276.92	73.87	7432.43	74.35	7495.9	74.24
7606.77	73.98	7759.85	74.17	7933.43	74.57	8086.25	74.96	8282.74	74.41
8458.42	74.06	8623.53	74.56	8781.15	77.25				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .08 4138.35 .018 4470.4 .08

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 4138.35 4470.4 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 4007.6 54.085 4537.85 8781.15 54.085

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	58.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.080	0.018	0.080
W.S. Elev (ft)	58.37	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	9.46	2821.17	418.75
E.G. Slope (ft/ft)	0.000286	Area (sq ft)	9.46	2821.17	418.75
Q Total (cfs)	16455.00	Flow (cfs)	1.14	16360.24	93.62
Top Width (ft)	1104.65	Top Width (ft)	40.08	332.05	732.52
Vel Total (ft/s)	5.06	Avg. Vel. (ft/s)	0.12	5.80	0.22
Max Chl Dpth (ft)	12.47	Hydr. Depth (ft)	0.24	8.50	0.57
Conv. Total (cfs)	973079.9	Conv. (cfs)	67.2	967476.2	5536.6
Length Wtd. (ft)	2377.90	Wetted Per. (ft)	40.08	333.19	732.59
Min Ch El (ft)	45.90	Shear (lb/sq ft)	0.00	0.15	0.01
Alpha	1.30	Stream Power (lb/ft s)	0.00	0.88	0.00
Frctn Loss (ft)	0.67	Cum Volume (acre-ft)	3295.85	9221.30	4256.27
C & E Loss (ft)	0.00	Cum SA (acres)	1868.24	861.33	1469.81

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 25.94*

INPUT

Description: Interpolated Cross Section at River Mile 25.94

Station	Elevation	Data	num=	83	Sta	Elev	Sta	Elev	Sta	Elev
0	75.04	183.35	70.99	285.72	69.94	384.29	69.87	651.03	68.53	
814.66	67.81	943.4	65.94	1083.88	64.65	1219.17	63.7	1793.8	62.11	
2109.97	61.74	2281.91	61.51	2306.48	61.78	2452.66	60.75	2502.15	60.74	
2666.92	61.03	2850.27	61.64	3038.68	61.59	3206.86	61.6	3385.52	60.67	
3562.39	61.07	3729.58	61.08	3815.98	60.64	3934.65	59.9	4096.93	59.95	
4133.6	60.5	4176.89	60.5	4193.27	61.02	4236.63	59.48	4260.77	59.12	
4271.74	57.84	4333.04	57.09	4344.27	54.87	4361.5	51.41	4405.39	47.81	
4413.6	47.64	4455.68	46.93	4482.05	45.81	4489.68	45.19	4516.88	45.98	
4552.64	47.58	4565.95	48.5	4602.44	49.76	4661.02	55.57	4721.36	58.89	
4722.81	58.95	4747.86	61.19	4765.22	58.22	4888.95	56.52	4917.48	56.4	
5031.62	56.89	5163.79	57.3	5284.07	57.26	5404.49	57.17	5535.67	58.71	
5650.48	59.7	5810.75	60.13	5837.48	57.86	5929.48	57.7	5998.4	60.58	
6070.9	63.36	6133.81	63.31	6198.71	64.05	6473.5	64.83	6573.13	64.96	
6578.83	64.95	6661.78	66.2	6674.31	64.9	6855.89	66.07	6867.87	69.5	
6925.12	72.21	7088.75	72.95	7227.72	73.31	7369.95	73.76	7427.99	73.67	
7529.38	73.45	7669.39	73.63	7828.13	74	7967.89	74.36	8147.6	73.88	

8308.26 73.57 8459.27 74.02 8603.42 76.46

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .08 4333.04 .018 4661.02 .08

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
4333.04 4661.02 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions num= 2
Sta L Sta R Elev Sta L Sta R Elev
0 4215.37 53.45054722.6858603.415 53.4505

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	58.22	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.080	0.018	0.080
W.S. Elev (ft)	57.71	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	15.62	2823.93	454.17
E.G. Slope (ft/ft)	0.000280	Area (sq ft)	15.62	2823.93	454.17
Q Total (cfs)	16455.00	Flow (cfs)	2.22	16344.39	108.39
Top Width (ft)	1070.13	Top Width (ft)	50.53	327.98	691.62
Vel Total (ft/s)	5.00	Avg. Vel. (ft/s)	0.14	5.79	0.24
Max Chl Dpth (ft)	12.52	Hydr. Depth (ft)	0.31	8.61	0.66
Conv. Total (cfs)	983615.8	Conv. (cfs)	132.6	977004.2	6478.9
Length Wtd. (ft)	2376.44	Wetted Per. (ft)	50.53	329.13	691.69
Min Ch El (ft)	45.19	Shear (lb/sq ft)	0.01	0.15	0.01
Alpha	1.33	Stream Power (lb/ft s)	0.00	0.87	0.00
Frctn Loss (ft)	0.66	Cum Volume (acre-ft)	3295.51	9066.66	4246.20
C & E Loss (ft)	0.00	Cum SA (acres)	1867.03	843.25	1453.38

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
REACH: Lower Judy Creek RS: 25.48*

INPUT
Description: Interpolated Cross Section at River Mile 25.48

Station	Elevation	Data	num=	83							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	74.44	191.59	70.43	298.56	69.52	401.56	69.49	680.28	68.12		
851.26	67.39	985.79	65.39	1132.59	64.03	1273.95	63.04	1874.4	61.51		
2204.78	61.11	2384.44	60.88	2410.11	61.17	2562.86	60.06	2614.58	60.05		
2786.75	60.37	2978.34	61.05	3175.21	61	3350.96	61.02	3537.64	60.02		
3722.46	60.46	3897.16	60.48	3987.44	60	4111.45	59.23	4281.01	59.33		
4319.33	59.95	4364.57	59.95	4381.68	60.53	4427	58.86	4452.22	58.47		
4463.68	57.08	4527.74	56.28	4539.7	54.02	4558.04	50.48	4604.79	47.18		
4613.54	47.01	4658.35	46.31	4686.43	45.14	4694.56	44.48	4719.5	45.2		
4752.28	46.64	4764.48	47.52	4797.94	48.84	4851.64	55.08	4906.35	58.16		
4907.66	58.21	4930.37	60.16	4946.11	57.5	5058.28	55.8	5084.13	55.65		
5187.62	56.09	5307.43	56.48	5416.47	56.46	5525.65	56.4	5644.57	57.79		
5748.65	58.69	5893.95	59.1	5918.18	57.08	6001.58	56.95	6064.06	60.13		
6129.79	63.25	6186.83	63.27	6245.66	64	6494.77	64.98	6585.09	65.2		
6590.26	65.19	6665.46	66.31	6676.82	65.17	6841.43	66.24	6852.29	69.29		
6904.2	71.71	7052.54	72.4	7178.52	72.75	7307.46	73.18	7360.08	73.11		
7452	72.92	7578.92	73.09	7722.84	73.42	7849.54	73.75	8012.45	73.34		
8158.11	73.07	8295	73.49	8425.68	75.66						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.09 4527.74	.018 4851.64		.08	

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
4527.74 4851.64 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions num= 2
Sta L Sta R Elev Sta L Sta R Elev
0 4423.14 52.816 4907.52 8425.68 52.816

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	57.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.	0.090	0.018	0.080
W.S. Elev (ft)	57.06	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	24.47	2830.20	494.79
E.G. Slope (ft/ft)	0.000273	Area (sq ft)	24.47	2830.20	494.79
Q Total (cfs)	16455.00	Flow (cfs)	3.57	16325.19	126.24
Top Width (ft)	1102.92	Top Width (ft)	62.61	323.90	716.41
Vel Total (ft/s)	4.91	Avg. Vel. (ft/s)	0.15	5.77	0.26
Max Chl Dpth (ft)	12.58	Hydr. Depth (ft)	0.39	8.74	0.69
Conv. Total (cfs)	996607.8	Conv. (cfs)	216.0	988745.8	7645.9
Length Wtd. (ft)	2374.73	Wetted Per. (ft)	62.61	325.09	716.49
Min Ch El (ft)	44.48	Shear (lb/sq ft)	0.01	0.15	0.01
Alpha	1.37	Stream Power (lb/ft s)	0.00	0.85	0.00
Frctn Loss (ft)	0.64	Cum Volume (acre-ft)	3294.98	8911.77	4235.25
C & E Loss (ft)	0.00	Cum SA (acres)	1865.51	825.39	1437.13

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
REACH: Lower Judy Creek RS: 25.02*

INPUT

Description: Interpolated Cross Section at River Mile 25.02

Station	Elevation	Data	num=	83					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	73.83	199.83	69.88	311.4	69.11	418.83	69.1	709.53	67.7
887.87	66.96	1028.18	64.84	1181.29	63.42	1328.74	62.39	1955	60.91
2299.58	60.49	2486.97	60.24	2513.75	60.56	2673.07	59.36	2727	59.35
2906.58	59.71	3106.41	60.45	3311.75	60.41	3495.05	60.44	3689.76	59.37
3882.53	59.85	4064.74	59.88	4158.91	59.37	4288.24	58.57	4465.1	58.72
4505.07	59.39	4552.25	59.41	4570.1	60.04	4617.36	58.24	4643.67	57.82
4655.62	56.32	4722.44	55.47	4735.12	53.17	4754.58	49.56	4804.19	46.56
4813.47	46.39	4861.02	45.7	4890.81	44.47	4899.44	43.77	4922.11	44.41
4951.92	45.7	4963.02	46.55	4993.44	47.92	5042.26	54.6	5091.33	57.43
5092.5	57.47	5112.88	59.13	5126.99	56.77	5227.6	55.07	5250.79	54.89
5343.61	55.3	5451.08	55.67	5548.88	55.67	5646.8	55.64	5753.47	56.88
5846.82	57.68	5977.14	58.07	5998.88	56.31	6073.68	56.21	6129.72	59.69
6188.68	63.15	6239.84	63.24	6292.61	63.95	6516.04	65.13	6597.06	65.44
6601.69	65.43	6669.14	66.43	6679.33	65.43	6826.97	66.41	6836.72	69.08
6883.27	71.21	7016.32	71.85	7129.33	72.19	7244.97	72.59	7292.17	72.55
7374.61	72.38	7488.46	72.54	7617.54	72.85	7731.18	73.15	7877.3	72.8
8007.95	72.58	8130.73	72.95	8247.95	74.86				

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .09 4722.44 .018 5042.26 .08

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 4722.44 5042.26 1164.9 2386.5 1005.25 .1 .3
 Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 0 4630.91 52.18155092.3558247.945 52.1815

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	56.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.	0.090	0.018	0.080
W.S. Elev (ft)	56.43	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	36.09	2837.66	536.07
E.G. Slope (ft/ft)	0.000265	Area (sq ft)	36.09	2837.66	536.07
Q Total (cfs)	16455.00	Flow (cfs)	6.38	16303.29	145.34
Top Width (ft)	1067.58	Top Width (ft)	67.73	319.82	680.03
Vel Total (ft/s)	4.83	Avg. Vel. (ft/s)	0.18	5.75	0.27
Max Chl Dpth (ft)	12.66	Hydr. Depth (ft)	0.53	8.87	0.79
Conv. Total (cfs)	1010692.0	Conv. (cfs)	391.6	1001373.0	8927.0
Length Wtd. (ft)	2373.56	Wetted Per. (ft)	67.74	321.06	680.11
Min Ch El (ft)	43.77	Shear (lb/sq ft)	0.01	0.15	0.01
Alpha	1.40	Stream Power (lb/ft s)	0.00	0.84	0.00
Frctn Loss (ft)	0.62	Cum Volume (acre-ft)	3294.17	8756.51	4223.35
C & E Loss (ft)	0.00	Cum SA (acres)	1863.77	807.76	1421.02

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 24.56*

INPUT

Description: Interpolated Cross Section at River Mile 24.56
 Station Elevation Data num= 83

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	73.23	208.07	69.32	324.23	68.69	436.1	68.72	738.79	67.29
924.47	66.54	1070.56	64.29	1229.99	62.8	1383.52	61.73	2035.6	60.31
2394.39	59.87	2589.51	59.61	2617.38	59.96	2783.27	58.67	2839.43	58.66
3026.41	59.05	3234.48	59.86	3448.29	59.83	3639.14	59.87	3841.88	58.72
4042.59	59.24	4232.32	59.29	4330.37	58.74	4465.03	57.9	4649.19	58.1
4690.8	58.84	4739.93	58.86	4758.51	59.55	4807.72	57.62	4835.11	57.18
4847.56	55.56	4917.13	54.66	4930.55	52.31	4951.13	48.64	5003.59	45.93
5013.4	45.76	5063.69	45.09	5095.2	43.81	5104.32	43.06	5124.73	43.63
5151.56	44.76	5161.55	45.58	5188.93	47.01	5232.88	54.11	5276.31	56.7
5277.35	56.73	5295.38	58.1	5307.87	56.05	5396.92	54.34	5417.45	54.14
5499.6	54.51	5594.72	54.85	5681.28	54.87	5767.96	54.87	5862.36	55.96
5944.99	56.67	6060.34	57.04	6079.57	55.53	6145.78	55.47	6195.39	59.24
6247.57	63.04	6292.85	63.2	6339.55	63.9	6537.31	65.28	6609.02	65.67
6613.12	65.67	6672.82	66.55	6681.84	65.69	6812.52	66.58	6821.14	68.87
6862.35	70.71	6980.11	71.3	7080.13	71.62	7182.49	72.01	7224.26	71.98
7297.23	71.85	7397.99	72	7512.24	72.28	7612.83	72.55	7742.16	72.26
7857.79	72.09	7966.47	72.42	8070.21	74.07				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .09 4917.13 .018 5232.88 .09

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 4917.13 5232.88 1164.9 2386.5 1005.25 .1 .3
 Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	4838.68	51.547	5277.19	8070.21	51.547

CROSS SECTION OUTPUT Profile #100-Year Flood

Element	Left OB	Channel	Right OB
E.G. Elev (ft)	56.33		
Vel Head (ft)	0.50	0.018	0.090
W.S. Elev (ft)	55.83	2386.50	1005.25
Crit W.S. (ft)			
E.G. Slope (ft/ft)	0.000257	2847.77	576.25
Q Total (cfs)	16455.00	2847.77	576.25
Top Width (ft)	1022.07	10.46	148.21
Vel Total (ft/s)	4.74	71.62	634.70
Max Chl Dpth (ft)	12.77	0.21	0.26
Conv. Total (cfs)	1025627.0	0.70	0.91
Length Wtd. (ft)	2372.36	651.7	9237.7
Min Ch El (ft)	43.06	71.64	634.80
Alpha	1.45	0.01	0.01
Frctn Loss (ft)	0.60	0.00	0.00
C & E Loss (ft)	0.00	3293.02	4210.52
		1861.91	1405.85

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 24.1*

INPUT

Description: Interpolated Cross Section at River Mile 24.1

Station	Elevation	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.62	216.31	68.77	337.07	68.28	453.36	68.33	768.04	66.87
961.08	66.12	1112.95	63.74	1278.69	62.18	1438.3	61.08	2116.2	59.71
2489.2	59.24	2692.04	58.97	2721.02	59.35	2893.48	57.97	2951.86	57.97
3146.24	58.39	3362.55	59.27	3584.82	59.24	3783.24	59.29	3994	58.06
4202.66	58.64	4399.9	58.69	4501.83	58.11	4641.83	57.23	4833.27	57.48
4876.53	58.28	4927.61	58.32	4946.93	59.06	4998.08	57	5026.56	56.53
5039.5	54.8	5111.82	53.85	5125.97	51.46	5147.68	47.71	5202.99	45.3
5213.33	45.13	5266.35	44.47	5299.58	43.14	5309.2	42.35	5327.34	42.85
5351.2	43.81	5360.08	44.61	5384.42	46.09	5423.5	53.62	5461.29	55.96
5462.2	55.99	5477.89	57.08	5488.76	55.32	5566.25	53.62	5584.11	53.38
5655.59	53.72	5738.36	54.03	5813.69	54.08	5889.11	54.11	5971.26	55.04
6043.16	55.66	6143.53	56	6160.27	54.75	6217.89	54.72	6261.05	58.79
6306.46	62.93	6345.86	63.17	6386.5	63.85	6558.59	65.43	6620.98	65.91
6624.56	65.91	6676.5	66.67	6684.35	65.96	6798.06	66.75	6805.57	68.66
6841.42	70.21	6943.9	70.75	7030.93	71.06	7120	71.42	7156.35	71.42
7219.85	71.32	7307.53	71.46	7406.94	71.7	7494.47	71.94	7607.01	71.72
7707.63	71.59	7802.2	71.89	7892.47	73.28				

Sta	n Val	Sta	n Val	Sta	n Val
0	.09	5111.82	.018	5423.5	.09

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
5111.82	5423.5	1164.9	2386.5	1005.25	.1	.3	

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	5046.45	50.91255462	0257892.475	50.9125	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	55.74	Element	Left OB	Chamel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.090	0.018	0.090
W.S. Elev (ft)	55.24	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	66.97	2862.73	611.15
E.G. Slope (ft/ft)	0.000248	Area (sq ft)	66.97	2862.73	611.15
Q Total (cfs)	16455.00	Flow (cfs)	16.06	16273.62	165.32
Top Width (ft)	985.40	Top Width (ft)	75.62	311.68	598.10
Vel Total (ft/s)	4.65	Avg. Vel. (ft/s)	0.24	5.68	0.27
Max Chl Dpth (ft)	12.89	Hydr. Depth (ft)	0.89	9.18	1.02
Conv. Total (cfs)	1044736.0	Conv. (cfs)	1019.4	1033221.0	10496.3
Length Wtd. (ft)	2370.60	Wetted Per. (ft)	75.65	313.15	598.22
Min Ch El (ft)	42.35	Shear (lb/sq ft)	0.01	0.14	0.02
Alpha	1.48	Stream Power (lb/ft s)	0.00	0.80	0.00
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	3291.45	8444.34	4196.82
C & E Loss (ft)	0.00	Cum SA (acres)	1859.94	773.16	1391.62

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 23.64*

INPUT

Description: Interpolated Cross Section at River Mile 23.64

Station Elevation Data num= 83

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	72.02	224.55	68.22	349.91	67.86	470.63	67.94	797.29	66.46
997.68	65.69	1155.34	63.19	1327.39	61.57	1493.08	60.42	2196.8	59.11
2584	58.62	2794.57	58.34	2824.66	58.74	3003.68	57.28	3064.29	57.27
3266.07	57.73	3490.62	58.67	3721.36	58.65	3927.33	58.71	4146.12	57.41
4362.73	58.03	4567.48	58.09	4673.29	57.47	4818.62	56.57	5017.36	56.87
5062.27	57.72	5115.29	57.78	5135.34	58.57	5188.45	56.38	5218.01	55.88
5231.44	54.04	5306.52	53.04	5321.4	50.61	5344.22	46.79	5402.39	44.68
5413.27	44.51	5469.02	43.86	5503.97	42.47	5514.08	41.64	5529.96	42.06
5550.84	42.87	5558.61	43.63	5579.92	45.17	5614.12	53.14	5646.27	55.23
5647.04	55.24	5660.39	56.05	5669.64	54.6	5735.57	52.89	5750.77	52.62
5811.59	52.93	5882.01	53.21	5946.1	53.29	6010.26	53.34	6080.16	54.12
6141.33	54.65	6226.73	54.97	6240.97	53.98	6289.99	53.98	6326.71	58.34
6365.35	62.83	6398.87	63.13	6433.45	63.8	6579.86	65.57	6632.95	66.15
6635.99	66.15	6680.18	66.78	6686.86	66.22	6783.61	66.92	6789.99	68.45
6820.5	69.71	6907.68	70.2	6981.73	70.5	7057.51	70.84	7088.44	70.85
7142.46	70.79	7217.06	70.92	7301.65	71.13	7376.12	71.34	7471.87	71.18
7557.48	71.1	7637.93	71.35	7714.74	72.48				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.1	5306.52	.018	5614.12	.09

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 5306.52 5614.12 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	5254.22	50.278	5646.86	7714.74	50.278

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	55.17	Element	Left OB	Channel	Right OB
----------------	-------	---------	---------	---------	----------

Vel Head (ft)	0.49	Wt. n-Val.	0.100	0.018	0.090
W.S. Elev (ft)	54.68	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	86.99	2879.44	641.42
E.G. Slope (ft/ft)	0.000239	Area (sq ft)	86.99	2879.44	641.42
Q Total (cfs)	16455.00	Flow (cfs)	21.15	16253.14	180.71
Top Width (ft)	955.85	Top Width (ft)	79.74	307.60	568.51
Vel Total (ft/s)	4.56	Avg. Vel. (ft/s)	0.24	5.64	0.28
Max Chl Dpth (ft)	13.04	Hydr. Depth (ft)	1.09	9.36	1.13
Conv. Total (cfs)	1065100.0	Conv. (cfs)	1369.2	1052034.0	11697.1
Length Wtd. (ft)	2368.80	Wetted Per. (ft)	79.79	309.25	568.66
Min Ch El (ft)	41.64	Shear (lb/sq ft)	0.02	0.14	0.02
Alpha	1.51	Stream Power (lb/ft s)	0.00	0.78	0.00
Frctn Loss (ft)	0.55	Cum Volume (acre-ft)	3289.39	8287.05	4182.37
C & E Loss (ft)	0.00	Cum SA (acres)	1857.86	756.20	1378.16

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 23.18*

INPUT

Description: Interpolated Cross Section at River Mile 23.18

Station Elevation Data	num=	83
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
0 71.42 232.78 67.66 362.75 67.45 487.9 67.56 826.54 66.04		
1034.29 65.27 1197.73 62.65 1376.09 60.95 1547.86 59.77 2277.4 58.52		
2678.81 58 2897.1 57.7 2928.29 58.13 3113.89 56.58 3176.72 56.58		
3385.91 57.08 3618.69 58.08 3857.89 58.06 4071.42 58.13 4298.24 56.76		
4522.8 57.42 4735.06 57.49 4844.75 56.84 4995.42 55.9 5201.44 56.25		
5248 57.17 5302.96 57.23 5323.76 58.07 5378.81 55.76 5409.46 55.24		
5423.38 53.28 5501.21 52.23 5516.82 49.76 5540.77 45.87 5601.79 44.05		
5613.2 43.88 5671.69 43.24 5708.35 41.8 5718.96 40.93 5732.58 41.28		
5750.48 41.93 5757.15 42.66 5775.42 44.25 5804.74 52.66 5831.25 54.5		
5831.89 54.5 5842.9 55.02 5850.53 53.87 5904.89 52.17 5917.43 51.87		
5967.58 52.13 6025.65 52.39 6078.5 52.49 6131.42 52.57 6189.06 53.21		
6239.5 53.64 6309.93 53.94 6321.67 53.2 6362.09 53.23 6392.38 57.9		
6424.23 62.72 6451.88 63.1 6480.39 63.75 6601.13 65.72 6644.91 66.39		
6647.42 66.39 6683.86 66.9 6689.37 66.49 6769.15 67.09 6774.42 68.24		
6799.57 69.21 6871.47 69.65 6932.53 69.94 6995.03 70.25 7020.53 70.29		
7065.08 70.26 7126.6 70.37 7196.35 70.56 7257.76 70.73 7336.72 70.64		
7407.32 70.61 7473.67 70.82 7537 71.69		

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
0 .1 5501.21 .018 5804.74 .09		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 5501.21 5804.74 1164.9 2386.5 1005.25 .1 .3

Blocked Obstructions	num=	2
Sta L Sta R Elev Sta L Sta R Elev		
0 5461.99 49.64355831.6957537.005 49.6435		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	54.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.100	0.018	0.090
W.S. Elev (ft)	54.14	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	110.45	2900.10	674.71

E.G. Slope (ft/ft)	0.000229	Area (sq ft)	110.45	2900.10	674.71
Q Total (cfs)	16455.00	Flow (cfs)	29.78	16229.26	195.96
Top Width (ft)	928.06	Top Width (ft)	83.94	303.53	540.59
Vel Total (ft/s)	4.47	Avg. Vel. (ft/s)	0.27	5.60	0.29
Max Chl Dpth (ft)	13.21	Hydr. Depth (ft)	1.32	9.55	1.25
Conv. Total (cfs)	1088407.0	Conv. (cfs)	1969.5	1073476.0	12961.9
Length Wtd. (ft)	2367.45	Wetted Per. (ft)	84.01	305.44	540.79
Min Ch El (ft)	40.93	Shear (lb/sq ft)	0.02	0.14	0.02
Alpha	1.55	Stream Power (lb/ft s)	0.01	0.76	0.01
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)	3286.75	8128.73	4167.18
C & E Loss (ft)	0.00	Cum SA (acres)	1855.67	739.46	1365.36

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 22.72*

INPUT

Description: Interpolated Cross Section at River Mile 22.72

Station Elevation Data		num= 83									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	70.81	241.02	67.11	375.59	67.03	505.17	67.17	855.8	65.63		
1070.89	64.85	1240.12	62.1	1424.8	60.33	1602.64	59.11	2358	57.92		
2773.62	57.37	2999.64	57.07	3031.93	57.52	3224.09	55.89	3289.14	55.89		
3505.74	56.42	3746.76	57.49	3994.43	57.48	4215.51	57.56	4450.36	56.11		
4682.86	56.81	4902.64	56.9	5016.22	56.21	5172.21	55.23	5385.53	55.63		
5433.73	56.61	5490.64	56.69	5512.17	57.58	5569.17	55.14	5600.9	54.59		
5615.32	52.52	5695.91	51.42	5712.25	48.9	5737.31	44.95	5801.19	43.43		
5813.13	43.25	5874.36	42.63	5912.73	41.14	5923.84	40.22	5935.19	40.5		
5950.12	40.99	5955.68	41.69	5970.91	43.34	5995.36	52.17	6016.24	53.77		
6016.74	53.76	6025.4	53.99	6031.41	53.15	6074.22	51.44	6084.08	51.11		
6123.57	51.34	6169.3	51.58	6210.91	51.7	6252.57	51.81	6297.95	52.29		
6337.67	52.63	6393.12	52.9	6402.37	52.43	6434.19	52.49	6458.04	57.45		
6483.12	62.61	6504.89	63.06	6527.34	63.7	6622.4	65.87	6656.87	66.62		
6658.85	66.63	6687.54	67.02	6691.88	66.75	6754.7	67.26	6758.84	68.04		
6778.65	68.72	6835.26	69.1	6883.34	69.37	6932.54	69.67	6952.62	69.73		
6987.7	69.72	7036.13	69.83	7091.05	69.98	7139.4	70.13	7201.57	70.11		
7257.16	70.11	7309.4	70.28	7359.27	70.89						

Manning's n Values		num= 3					
Sta	n Val	Sta	n Val	Sta	n Val		
0	.1	5695.91	.018	5995.36	.1		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
5695.91	5995.36	1164.9	2386.5	1005.25	.1	.3

Blocked Obstructions		num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev		
0	5669.76	49.009	6016.53	7359.27	49.009		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	54.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.	0.100	0.018	0.100
W.S. Elev (ft)	53.62	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	137.45	2921.82	662.59
E.G. Slope (ft/ft)	0.000219	Area (sq ft)	137.45	2921.82	662.59
Q Total (cfs)	16455.00	Flow (cfs)	40.58	16218.77	195.65
Top Width (ft)	818.30	Top Width (ft)	88.27	299.45	430.57

Vel Total (ft/s)	4.42	Avg. Vel. (ft/s)	0.30	5.55	0.30
Max Chl Dpth (ft)	13.40	Hydr. Depth (ft)	1.56	9.76	1.54
Conv. Total (cfs)	1111760.0	Conv. (cfs)	2741.9	1095799.0	13218.7
Length Wtd. (ft)	2367.09	Wetted Per. (ft)	88.36	301.73	430.84
Min Ch El (ft)	40.22	Shear (lb/sq ft)	0.02	0.13	0.02
Alpha	1.55	Stream Power (lb/ft s)	0.01	0.74	0.01
Frctn Loss (ft)	0.51	Cum Volume (acre-ft)	3283.44	7969.24	4151.75
C & E Loss (ft)	0.00	Cum SA (acres)	1853.37	722.94	1354.16

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 22.26*

INPUT

Description: Interpolated Cross Section at River Mile 22.26

Station Elevation Data	num=	83
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
0 70.21 249.26 66.55 388.42 66.62 522.43 66.79 885.05 65.21		
1107.5 64.42 1282.51 61.55 1473.5 59.72 1657.42 58.46 2438.6 57.32		
2868.42 56.75 3102.17 56.43 3135.56 56.91 3334.3 55.19 3401.57 55.19		
3625.57 55.76 3874.83 56.89 4130.96 56.89 4359.61 56.98 4602.48 55.45		
4842.93 56.21 5070.22 56.3 5187.68 55.57 5349.01 54.57 5569.61 55.02		
5619.47 56.06 5678.32 56.14 5700.59 57.09 5759.54 54.52 5792.35 53.95		
5807.26 51.76 5890.6 50.61 5907.67 48.05 5933.85 44.02 6000.59 42.8		
6013.07 42.63 6077.03 42.01 6117.12 40.47 6128.72 39.51 6137.81 39.71		
6149.76 40.04 6154.21 40.71 6166.4 42.42 6185.98 51.69 6201.22 53.03		
6201.58 53.02 6207.91 52.96 6212.29 52.42 6243.54 50.72 6250.74 50.36		
6279.57 50.55 6312.94 50.76 6343.31 50.9 6373.73 51.04 6406.85 51.37		
6435.84 51.62 6476.32 51.87 6483.07 51.65 6506.3 51.74 6523.7 57		
6542.01 62.51 6557.9 63.02 6574.29 63.65 6643.68 66.02 6668.84 66.86		
6670.28 66.87 6691.22 67.14 6694.39 67.01 6740.24 67.43 6743.27 67.83		
6757.72 68.22 6799.04 68.55 6834.14 68.81 6870.05 69.08 6884.71 69.16		
6910.31 69.19 6945.67 69.29 6985.76 69.41 7021.05 69.53 7066.43 69.57		
7107 69.62 7145.13 69.75 7181.53 70.1		

Manning's n Values	num=	3
Sta n Val Sta n Val Sta n Val		
0 .11 5890.6 .018 6185.98 .1		

Bank Sta: Left Right Lengths: Left Channel Right	Coeff Contr.	Expan.
5890.6 6185.98 1164.9 2386.5 1005.25	.1	.3

Blocked Obstructions	num=	2
Sta L Sta R Elev Sta L Sta R Elev		
0 5877.53 48.37456201.3657181.535 48.3745		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	53.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.46	Wt. n-Val.	0.110	0.018	0.100
W.S. Elev (ft)	53.12	Reach Len. (ft)	1164.90	2386.50	1005.25
Crit W.S. (ft)		Flow Area (sq ft)	167.78	2945.54	587.78
E.G. Slope (ft/ft)	0.000210	Area (sq ft)	167.78	2945.54	587.78
Q Total (cfs)	16455.00	Flow (cfs)	48.76	16218.49	187.75
Top Width (ft)	712.89	Top Width (ft)	92.62	295.38	324.89
Vel Total (ft/s)	4.45	Avg. Vel. (ft/s)	0.29	5.51	0.32
Max Chl Dpth (ft)	13.61	Hydr. Depth (ft)	1.81	9.97	1.81
Conv. Total (cfs)	1135683.0	Conv. (cfs)	3365.5	1119360.0	12958.0

Length Wtd. (ft)	2368.93	Wetted Per. (ft)	92.72	298.22	325.25
Min Ch El (ft)	39.51	Shear (lb/sq ft)	0.02	0.13	0.02
Alpha	1.51	Stream Power (lb/ft s)	0.01	0.71	0.01
Frctn Loss (ft)	0.55	Cum Volume (acre-ft)	3279.36	7808.52	4137.32
C & E Loss (ft)	0.01	Cum SA (acres)	1850.95	706.65	1345.44

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 21.8

INPUT

Description: Cross Section at River Mile 21.8

Station Elevation Data		num=	44							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	69.6	257.5	66	539.7	66.4	914.3	64.8	1144.1	64	
1324.9	61	1522.2	59.1	1712.2	57.8	3204.7	55.8	3239.2	56.3	
3444.5	54.5	3514	54.5	3745.4	55.1	4002.9	56.3	4267.5	56.3	
4503.7	56.4	4754.6	54.8	5003	55.6	5237.8	55.7	5525.8	53.9	
5753.7	54.4	5805.2	55.5	5866	55.6	5889	56.6	5949.9	53.9	
5983.8	53.3	5999.2	51	6085.3	49.8	6103.1	47.2	6130.4	43.1	
6213	42	6279.7	41.4	6321.5	39.8	6333.6	38.8	6349.4	39.1	
6361.9	41.5	6376.6	51.2	6386.2	52.3	6417.4	49.6	6578.4	51	
6600.9	62.4	6680.8	67.1	6816.8	68.6	7003.8	69.3			

Manning's n Values		num=	5							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	
0	.05	5805.2	.11	6085.3	.018	6376.6	.1	6578.4	.05	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
6085.3	6376.6	1459.47	2420.88	1416	.1	.3	

Blocked Obstructions		num=	2				
Sta L	Sta R	Elev	Sta L	Sta R	Elev		
0	6085.3	47.74	6386.2	7003.8	47.74		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	53.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.56	Wt. n-Val.	0.110	0.018	0.100
W.S. Elev (ft)	52.46	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	184.93	2917.87	404.71
E.G. Slope (ft/ft)	0.000254	Area (sq ft)	184.93	2917.87	404.71
Q Total (cfs)	17888.00	Flow (cfs)	61.58	17674.78	151.64
Top Width (ft)	591.90	Top Width (ft)	95.91	291.30	204.69
Vel Total (ft/s)	5.10	Avg. Vel. (ft/s)	0.33	6.06	0.37
Max Chl Dpth (ft)	13.66	Hydr. Depth (ft)	1.93	10.02	1.98
Conv. Total (cfs)	1123241.0	Conv. (cfs)	3867.0	1109852.0	9521.8
Length Wtd. (ft)	2410.36	Wetted Per. (ft)	96.02	295.02	205.23
Min Ch El (ft)	38.80	Shear (lb/sq ft)	0.03	0.16	0.03
Alpha	1.39	Stream Power (lb/ft s)	0.01	0.95	0.01
Frctn Loss (ft)	0.60	Cum Volume (acre-ft)	3274.64	7647.90	4125.87
C & E Loss (ft)	0.00	Cum SA (acres)	1848.43	690.57	1339.33

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 21.3294*

INPUT

Description: Interpolated Cross Section at River Mile 21.33

Station Elevation Data num= 118

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	68.96	10.62	68.78	185.52	66.51	263.52	65.49	351.63	65.59
511.96	65.67	552.31	65.68	699.09	64.94	871.13	64.03	935.67	63.76
1093.27	63.22	1170.84	62.96	1297.98	61.01	1355.86	60.13	1521.15	58.68
1557.77	58.37	1728.64	57.35	1752.21	57.2	2181.86	56.65	2357.5	56.46
2442.31	56.72	2617.8	56.42	2834.88	56.1	3015.2	55.86	3273.23	55.5
3279.59	55.49	3314.89	56	3519.47	54.53	3524.99	54.48	3596.11	54.49
3647.94	54.61	3832.92	55.06	3839.68	55.09	4057.58	56	4096.44	56.15
4307.4	56.06	4367.22	56	4488.31	55.91	4608.94	55.84	4704.52	55.18
4821.7	54.51	4865.7	54.23	5119.91	54.85	5135.32	54.85	5360.2	55.01
5392.77	54.84	5477.36	54.52	5654.93	53.35	5710.05	53.41	5867.15	54.04
5888.15	53.92	5922.82	54.33	5940.85	54.68	6003.08	54.76	6026.61	55.69
6088.94	53.14	6089.73	53.12	6123.63	52.72	6128.7	52.05	6139.39	50.53
6172.06	49.97	6181.8	49.83	6186.41	49.63	6193.59	49.48	6198.72	49.46
6224.86	49.05	6227.5	48.96	6245.15	46.47	6267.42	43.24	6272.21	42.55
6319.55	41.85	6354.09	41.43	6366.34	41.33	6381.46	41.08	6415.45	40.7
6420.21	40.63	6427.08	40.33	6438.72	39.84	6450.36	39.34	6461.64	38.85
6462	38.82	6473.64	37.87	6481.03	38.04	6488.42	38.23	6489.79	38.28
6499.2	40.16	6502.57	40.89	6503.34	41.38	6507.41	44.11	6517.61	50.3
6520.58	50.83	6523.1	51.04	6531.67	51.72	6547.42	50.94	6577.37	49.3
6595.33	49.42	6622.05	50.05	6647.16	50.31	6694.94	50.69	6743.11	51.01
6794.79	51.35	6813.23	51.49	6843.9	61.55	6846.19	62.29	6893.29	64.03
6942.47	65.74	6963.24	66.53	6990.23	66.72	7042.01	67.15	7089.18	67.49
7139.63	67.83	7162.46	68.01	7188.54	68.1	7239.81	68.24	7288.74	68.42
7338	68.5	7388.68	68.62	7436.41	68.99				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .11 6227.5 .018 6517.61 .1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 6227.5 6517.61 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	52.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.56	Wt. n-Val.	0.110	0.018	0.100
W.S. Elev (ft)	51.87	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	193.06	2937.54	374.40
E.G. Slope (ft/ft)	0.000248	Area (sq ft)	193.06	2937.54	374.40
Q Total (cfs)	17888.00	Flow (cfs)	64.66	17721.15	102.19
Top Width (ft)	684.41	Top Width (ft)	97.53	290.11	296.78
Vel Total (ft/s)	5.10	Avg. Vel. (ft/s)	0.33	6.03	0.27
Max Chl Dpth (ft)	14.00	Hydr. Depth (ft)	1.98	10.13	1.26
Conv. Total (cfs)	1136483.0	Conv. (cfs)	4108.2	1125882.0	6492.3
Length Wtd. (ft)	2412.49	Wetted Per. (ft)	97.64	293.63	297.00
Min Ch El (ft)	37.87	Shear (lb/sq ft)	0.03	0.15	0.02
Alpha	1.38	Stream Power (lb/ft s)	0.01	0.93	0.01
Frctn Loss (ft)	0.59	Cum Volume (acre-ft)	3268.31	7485.19	4113.21
C & E Loss (ft)	0.00	Cum SA (acres)	1845.19	674.42	1331.18

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 20.8588*

INPUT

Description: Interpolated Cross Section at River Mile 20.86

Station Elevation Data num= 118
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

0	68.32	10.86	68.1	189.76	65.95	269.53	64.98	359.66	65.05
523.65	65	564.92	64.96	715.05	64.09	891.03	62.99	957.03	62.72
1118.24	62.17	1197.57	61.92	1327.62	60.08	1386.82	59.26	1555.89	57.92
1593.34	57.64	1768.12	56.75	1792.22	56.61	2231.68	56.06	2411.33	55.91
2498.08	56.54	2677.57	56.16	2899.62	55.82	3084.05	55.58	3347.97	55.18
3354.47	55.19	3390.59	55.69	3599.83	54.51	3605.48	54.47	3678.23	54.47
3731.23	54.59	3920.44	55.03	3927.36	55.06	4150.23	55.89	4189.98	56.01
4405.76	55.83	4466.94	55.7	4590.8	55.47	4714.18	55.27	4811.94	54.56
4931.8	53.94	4976.81	53.65	5236.82	54.11	5252.58	54.1	5482.59	54.33
5515.91	54.17	5602.43	54.06	5784.05	52.79	5840.43	52.8	6001.12	53.72
6022.6	53.44	6058.06	53.54	6076.51	53.87	6140.15	53.92	6164.23	54.79
6227.97	52.37	6228.79	52.36	6263.46	52.15	6268.64	51.54	6279.58	50.07
6312.99	49.38	6322.95	49.23	6327.67	48.89	6335.02	48.7	6340.26	48.72
6367	48.27	6369.7	48.12	6387.19	45.74	6409.27	42.66	6414.01	42
6460.94	41.24	6495.17	40.86	6507.32	40.77	6522.31	40.42	6555.99	39.96
6560.71	39.86	6567.53	39.53	6579.06	38.99	6590.6	38.44	6601.78	37.9
6602.14	37.87	6613.67	36.94	6621.22	37.13	6628.78	37.38	6630.18	37.47
6639.8	39.46	6643.25	40.28	6644.03	40.77	6648.19	43.59	6658.61	49.4
6662.53	50.22	6665.85	50.45	6677.14	51.14	6697.89	50.51	6737.35	49
6761	49.13	6796.2	50.23	6829.28	50.61	6892.22	51.07	6955.68	51.44
7023.76	51.81	7048.05	51.99	7088.46	61.49	7091.48	62.18	7153.53	63.76
7218.32	65.21	7245.67	65.95	7281.24	66.14	7349.45	66.61	7411.59	66.94
7478.04	67.24	7508.13	67.43	7542.48	67.53	7610.02	67.68	7674.48	67.91
7739.38	67.95	7806.13	68.06	7869.01	68.68				

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .1 6369.7 .018 6658.61 .09

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
6369.7 6658.61 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	51.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.55	Wt. n-Val.	0.100	0.018	0.090
W.S. Elev (ft)	51.29	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	203.06	2961.38	255.29
E.G. Slope (ft/ft)	0.000240	Area (sq ft)	203.06	2961.38	255.29
Q Total (cfs)	17888.00	Flow (cfs)	75.37	17749.90	62.73
Top Width (ft)	659.43	Top Width (ft)	99.20	288.91	271.32
Vel Total (ft/s)	5.23	Avg. Vel. (ft/s)	0.37	5.99	0.25
Max Chl Dpth (ft)	14.35	Hydr. Depth (ft)	2.05	10.25	0.94
Conv. Total (cfs)	1153632.0	Conv. (cfs)	4860.7	1144726.0	4045.4
Length Wtd. (ft)	2413.47	Wetted Per. (ft)	99.31	292.26	271.49
Min Ch El (ft)	36.94	Shear (lb/sq ft)	0.03	0.15	0.01
Alpha	1.30	Stream Power (lb/ft s)	0.01	0.91	0.00
Frctn Loss (ft)	0.57	Cum Volume (acre-ft)	3261.67	7321.27	4102.97
C & E Loss (ft)	0.00	Cum SA (acres)	1841.89	658.33	1321.94

CROSS SECTION RIVER: Judy Creek
REACH: Lower Judy Creek RS: 20.3882*

INPUT

Description: Interpolated Cross Section at River Mile 20.39

Station Elevation Data num= 118									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 67.68 11.11 67.42 193.99 65.4 275.55 64.47 367.69 64.51									

535.34	64.32	577.53	64.24	731.02	63.25	910.92	61.95	978.4	61.68
1143.2	61.13	1224.31	60.89	1357.26	59.14	1417.78	58.39	1590.62	57.16
1628.91	56.91	1807.59	56.15	1832.23	56.01	2281.5	55.47	2465.16	55.36
2553.85	56.37	2737.35	55.91	2964.35	55.54	3152.9	55.29	3422.72	54.87
3429.36	54.88	3466.28	55.39	3680.2	54.49	3685.97	54.45	3760.34	54.46
3814.53	54.57	4007.97	54.99	4015.03	55.02	4242.88	55.77	4283.52	55.86
4504.11	55.59	4566.67	55.4	4693.28	55.04	4819.42	54.71	4919.37	53.93
5041.9	53.37	5087.91	53.08	5353.73	53.36	5369.85	53.35	5604.99	53.64
5639.05	53.51	5727.5	53.59	5913.18	52.24	5970.82	52.2	6135.1	53.41
6157.05	52.96	6193.3	52.75	6212.16	53.05	6277.23	53.08	6301.84	53.88
6367.01	51.61	6367.84	51.59	6403.28	51.57	6408.58	51.03	6419.76	49.6
6453.92	48.8	6464.11	48.64	6468.93	48.16	6476.44	47.92	6481.8	47.99
6509.14	47.48	6511.9	47.28	6529.23	45.01	6551.11	42.07	6555.82	41.45
6602.33	40.64	6636.26	40.29	6648.29	40.21	6663.16	39.75	6696.54	39.21
6701.22	39.08	6707.97	38.73	6719.41	38.15	6730.84	37.55	6741.92	36.95
6742.27	36.92	6753.71	36.01	6761.42	36.23	6769.14	36.54	6770.58	36.65
6780.4	38.76	6783.92	39.66	6784.73	40.16	6788.97	43.08	6799.62	48.5
6804.49	49.61	6808.6	49.86	6822.61	50.57	6848.35	50.09	6897.32	48.71
6926.68	48.84	6970.36	50.42	7011.4	50.91	7089.51	51.46	7168.26	51.87
7252.74	52.27	7282.88	52.48	7333.03	61.43	7336.76	62.08	7413.77	63.5
7494.16	64.68	7528.11	65.38	7572.24	65.56	7656.89	66.07	7734	66.38
7816.46	66.64	7853.8	66.84	7896.42	66.96	7980.23	67.12	8060.22	67.4
8140.75	67.4	8223.59	67.51	8301.62	68.36				

Manning's n Values num= 3
 Sta n Val Sta n Val
 0 .1 6511.9 .018 6799.62 .09

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 6511.9 6799.62 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	51.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.100	0.018	0.090
W.S. Elev (ft)	50.72	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	214.50	2988.73	203.05
E.G. Slope (ft/ft)	0.000232	Area (sq ft)	214.50	2988.73	203.05
Q Total (cfs)	17888.00	Flow (cfs)	80.17	17755.62	52.21
Top Width (ft)	584.79	Top Width (ft)	100.92	287.72	196.14
Vel Total (ft/s)	5.25	Avg. Vel. (ft/s)	0.37	5.94	0.26
Max Chl Dpth (ft)	14.71	Hydr. Depth (ft)	2.13	10.39	1.04
Conv. Total (cfs)	1174649.0	Conv. (cfs)	5264.6	1165956.0	3428.2
Length Wtd. (ft)	2413.47	Wetted Per. (ft)	101.04	290.92	196.35
Min Ch El (ft)	36.01	Shear (lb/sq ft)	0.03	0.15	0.01
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.88	0.00
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	3254.68	7155.93	4095.52
C & E Loss (ft)	0.00	Cum SA (acres)	1838.54	642.30	1314.35

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 19.9176*

INPUT

Description: Interpolated Cross Section at River Mile 19.92

Station Elevation Data num= 118										
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev										
0 67.04 11.35 66.74 198.23 64.84 281.57 63.96 375.72 63.98										
547.03 63.65 590.15 63.52 746.98 62.4 930.81 60.91 999.76 60.64										

1168.17	60.08	1251.04	59.85	1386.9	58.21	1448.74	57.52	1625.35	56.4
1664.48	56.19	1847.06	55.54	1872.24	55.42	2331.33	54.88	2518.99	54.82
2609.61	56.19	2797.12	55.66	3029.08	55.26	3221.75	55.01	3497.46	54.56
3504.25	54.58	3541.97	55.08	3760.56	54.47	3766.46	54.43	3842.46	54.44
3897.83	54.55	4095.49	54.96	4102.71	54.98	4335.53	55.65	4377.06	55.72
4602.47	55.36	4666.39	55.09	4795.77	54.6	4924.67	54.15	5026.79	53.31
5152	52.8	5199.02	52.5	5470.64	52.62	5487.11	52.59	5727.38	52.95
5762.19	52.84	5852.57	53.13	6042.3	51.69	6101.2	51.59	6269.07	53.09
6291.51	52.48	6328.54	51.97	6347.82	52.23	6414.3	52.24	6439.45	52.98
6506.04	50.84	6506.9	50.83	6543.11	51	6548.53	50.52	6559.95	49.14
6594.86	48.21	6605.27	48.04	6610.2	47.43	6617.87	47.14	6623.34	47.25
6651.28	46.7	6654.1	46.44	6671.28	44.28	6692.96	41.49	6697.63	40.9
6743.72	40.03	6777.35	39.72	6789.27	39.66	6804	39.08	6837.09	38.47
6841.72	38.31	6848.49	37.93	6859.75	37.3	6871.08	36.65	6882.06	36
6882.41	35.97	6893.74	35.08	6901.62	35.33	6909.5	35.69	6910.97	35.84
6921	38.05	6924.6	39.05	6925.42	39.55	6929.75	42.57	6940.62	47.6
6946.44	49	6951.35	49.27	6968.08	49.99	6998.82	49.66	7057.3	48.41
7092.35	48.55	7144.51	50.6	7193.52	51.21	7286.79	51.85	7380.83	52.31
7481.72	52.73	7517.71	52.98	7577.59	61.37	7582.05	61.97	7674.01	63.23
7770.01	64.16	7810.54	64.8	7863.25	64.97	7964.32	65.53	8056.4	65.83
8154.88	66.04	8199.46	66.25	8250.37	66.39	8350.45	66.56	8445.96	66.89
8542.12	66.85	8641.05	66.95	8734.22	68.05				

Manning's n Values num= 3
 Sta n Val Sta n Val
 0 .1 6654.1 .019 6940.62 .09

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 6654.1 6940.62 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	50.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.100	0.019	0.090
W.S. Elev (ft)	50.15	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	225.54	3013.72	190.55
E.G. Slope (ft/ft)	0.000250	Area (sq ft)	225.54	3013.72	190.55
Q Total (cfs)	17888.00	Flow (cfs)	89.49	17749.17	49.34
Top Width (ft)	581.43	Top Width (ft)	102.50	286.52	192.41
Vel Total (ft/s)	5.22	Avg. Vel. (ft/s)	0.40	5.89	0.26
Max Chl Dpth (ft)	15.07	Hydr. Depth (ft)	2.20	10.52	0.99
Conv. Total (cfs)	1132232.0	Conv. (cfs)	5664.5	1123444.0	3123.2
Length Wtd. (ft)	2413.12	Wetted Per. (ft)	102.64	289.60	192.65
Min Ch El (ft)	35.08	Shear (lb/sq ft)	0.03	0.16	0.02
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.96	0.00
Frctn Loss (ft)	0.63	Cum Volume (acre-ft)	3247.30	6989.14	4089.12
C & E Loss (ft)	0.00	Cum SA (acres)	1835.13	626.35	1308.03

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 19.4470*

INPUT

Description: Interpolated Cross Section at River Mile 19.45

Station Elevation Data num= 118									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 66.39 11.59 66.06 202.47 64.28 287.59 63.45 383.75 63.44									
558.72 62.98 602.76 62.8 762.94 61.56 950.7 59.87 1021.13 59.61									
1193.13 59.04 1277.78 58.81 1416.54 57.28 1479.7 56.65 1660.09 55.64									

1700.05	55.46	1886.53	54.94	1912.25	54.82	2381.15	54.29	2572.82	54.27
2665.38	56.02	2856.9	55.41	3093.81	54.98	3290.6	54.72	3572.2	54.25
3579.13	54.27	3617.66	54.78	3840.93	54.45	3846.95	54.41	3924.57	54.43
3981.13	54.53	4183.01	54.92	4190.39	54.95	4428.18	55.53	4470.59	55.57
4700.83	55.12	4766.11	54.79	4898.26	54.16	5029.91	53.59	5134.21	52.69
5262.1	52.23	5310.12	51.93	5587.55	51.87	5604.37	51.84	5849.78	52.27
5885.33	52.18	5977.65	52.67	6171.43	51.14	6231.59	50.98	6403.04	52.78
6425.96	52	6463.79	51.18	6483.47	51.42	6551.38	51.4	6577.06	52.07
6645.08	50.08	6645.95	50.07	6682.94	50.42	6688.47	50.01	6700.14	48.67
6735.79	47.63	6746.42	47.45	6751.46	46.7	6759.29	46.36	6764.89	46.52
6793.42	45.91	6796.3	45.59	6813.32	43.55	6834.81	40.91	6839.43	40.35
6885.11	39.42	6918.43	39.15	6930.25	39.1	6944.85	38.41	6977.64	37.72
6982.23	37.54	6988.86	37.12	7000.09	36.45	7011.32	35.75	7022.2	35.05
7022.55	35.01	7033.78	34.15	7041.82	34.43	7049.86	34.85	7051.36	35.02
7061.6	37.35	7065.27	38.44	7066.11	38.94	7070.53	42.05	7081.63	46.7
7088.39	48.39	7094.1	48.68	7113.55	49.41	7149.29	49.23	7217.27	48.11
7258.02	48.26	7318.66	50.79	7375.64	51.51	7484.08	52.24	7593.41	52.74
7710.69	53.19	7752.54	53.47	7822.15	61.31	7827.34	61.86	7934.24	62.97
8045.85	63.63	8092.98	64.23	8154.25	64.39	8271.76	64.99	8378.81	65.27
8493.29	65.45	8545.13	65.67	8604.31	65.82	8720.66	66	8831.71	66.39
8943.5	66.3	9058.51	66.39	9166.83	67.74				

Manning's n Values num= 3
Sta n Val Sta n Val Sta n Val
0 .09 6796.3 .02 7081.63 .09

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
6796.3 7081.63 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	50.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.090	0.020	0.090
W.S. Elev (ft)	49.52	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	230.69	3022.34	165.63
E.G. Slope (ft/ft)	0.000272	Area (sq ft)	230.69	3022.34	165.63
Q Total (cfs)	17888.00	Flow (cfs)	107.08	17742.01	38.91
Top Width (ft)	595.33	Top Width (ft)	103.52	285.33	206.48
Vel Total (ft/s)	5.23	Avg. Vel. (ft/s)	0.46	5.87	0.23
Max Chl Dpth (ft)	15.37	Hydr. Depth (ft)	2.23	10.59	0.80
Conv. Total (cfs)	1084426.0	Conv. (cfs)	6491.5	1075576.0	2358.7
Length Wtd. (ft)	2413.19	Wetted Per. (ft)	103.68	288.30	206.75
Min Ch El (ft)	34.15	Shear (lb/sq ft)	0.04	0.18	0.01
Alpha	1.25	Stream Power (lb/ft s)	0.02	1.05	0.00
Frctn Loss (ft)	0.65	Cum Volume (acre-ft)	3239.66	6821.41	4083.33
C & E Loss (ft)	0.00	Cum SA (acres)	1831.68	610.46	1301.55

CROSS SECTION RIVER: Judy Creek
REACH: Lower Judy Creek RS: 18.9764*

INPUT

Description: Interpolated Cross Section at River Mile 18.98

Station Elevation Data num= 118									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 65.75 11.83 65.38 206.7 63.72 293.6 62.94 391.78 62.9									
570.41 62.31 615.37 62.07 778.91 60.71 970.59 58.83 1042.49 58.57									
1218.1 57.99 1304.51 57.77 1446.18 56.35 1510.66 55.78 1694.82 54.88									
1735.62 54.73 1926.01 54.34 1952.26 54.23 2430.97 53.69 2626.65 53.72									

2721.15	55.84	2916.67	55.16	3158.54	54.69	3359.45	54.44	3646.94	53.93
3654.02	53.96	3693.36	54.47	3921.29	54.42	3927.44	54.4	4006.69	54.42
4064.43	54.51	4270.53	54.89	4278.06	54.91	4520.83	55.41	4564.13	55.42
4799.18	54.89	4865.83	54.49	5000.74	53.72	5135.15	53.02	5241.64	52.06
5372.2	51.66	5421.23	51.35	5704.45	51.13	5721.63	51.09	5972.17	51.58
6008.46	51.51	6102.72	52.2	6300.55	50.58	6361.97	50.38	6537.01	52.46
6560.41	51.52	6599.03	50.39	6619.13	50.6	6688.45	50.56	6714.68	51.17
6784.12	49.31	6785	49.3	6822.77	49.84	6828.42	49.5	6840.33	48.21
6876.73	47.04	6887.58	46.85	6892.72	45.96	6900.72	45.58	6906.43	45.78
6935.56	45.13	6938.5	44.75	6955.37	42.82	6976.66	40.32	6981.24	39.79
7026.51	38.81	7059.52	38.58	7071.23	38.54	7085.69	37.75	7118.18	36.98
7122.73	36.77	7129.31	36.32	7140.43	35.61	7151.56	34.86	7162.34	34.1
7162.69	34.06	7173.81	33.22	7182.02	33.52	7190.22	34	7191.75	34.21
7202.2	36.64	7205.94	37.83	7206.8	38.33	7211.31	41.54	7222.64	45.8
7230.34	47.79	7236.85	48.09	7259.02	48.83	7299.76	48.8	7377.25	47.81
7423.7	47.97	7492.82	50.97	7557.76	51.81	7681.36	52.63	7805.98	53.17
7939.67	53.65	7987.36	53.97	8066.71	61.25	8072.63	61.75	8194.48	62.71
8321.7	63.1	8375.41	63.66	8445.25	63.81	8579.2	64.45	8701.22	64.71
8831.71	64.85	8890.79	65.08	8958.25	65.25	9090.87	65.45	9217.45	65.88
9344.88	65.75	9475.96	65.83	9599.44	67.43				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .09 6938.5 .02 7222.64 .08

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 6938.5 7222.64 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	49.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.090	0.020	0.080
W.S. Elev (ft)	48.87	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	234.46	3025.85	130.99
E.G. Slope (ft/ft)	0.000270	Area (sq ft)	234.46	3025.85	130.99
Q Total (cfs)	17888.00	Flow (cfs)	109.03	17750.86	28.11
Top Width (ft)	610.05	Top Width (ft)	104.22	284.14	221.69
Vel Total (ft/s)	5.27	Avg. Vel. (ft/s)	0.47	5.87	0.21
Max Chl Dpth (ft)	15.65	Hydr. Depth (ft)	2.25	10.65	0.59
Conv. Total (cfs)	1089187.0	Conv. (cfs)	6638.5	1080836.0	1711.6
Length Wtd. (ft)	2413.60	Wetted Per. (ft)	104.40	287.03	221.99
Min Ch El (ft)	33.22	Shear (lb/sq ft)	0.04	0.18	0.01
Alpha	1.23	Stream Power (lb/ft s)	0.02	1.04	0.00
Frctn Loss (ft)	0.65	Cum Volume (acre-ft)	3231.87	6653.34	4078.51
C & E Loss (ft)	0.00	Cum SA (acres)	1828.20	594.63	1294.59

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 18.5058*

INPUT

Description: Interpolated Cross Section at River Mile 18.51

Station Elevation Data		num= 118							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	65.11	12.08	64.7	210.94	63.17	299.62	62.43	399.81	62.37
582.1	61.63	627.98	61.35	794.87	59.86	990.48	57.79	1063.86	57.53
1243.06	56.95	1331.25	56.73	1475.82	55.42	1541.62	54.91	1729.56	54.11
1771.19	54	1965.48	53.73	1992.27	53.63	2480.79	53.1	2680.48	53.17
2776.92	55.66	2976.45	54.91	3223.28	54.41	3428.3	54.15	3721.68	53.62

3728.91	53.66	3769.05	54.17	4001.66	54.4	4007.93	54.38	4088.8	54.4
4147.72	54.49	4358.05	54.85	4365.74	54.87	4613.48	55.29	4657.67	55.28
4897.54	54.65	4965.55	54.19	5103.23	53.28	5240.39	52.46	5349.06	51.44
5482.3	51.09	5532.33	50.78	5821.36	50.38	5838.89	50.33	6094.57	50.89
6131.6	50.85	6227.79	51.74	6429.68	50.03	6492.36	49.77	6670.98	52.15
6694.86	51.04	6734.27	49.6	6754.78	49.78	6825.53	49.72	6852.29	50.26
6923.15	48.55	6924.06	48.54	6962.6	49.27	6968.36	48.99	6980.52	47.74
7017.66	46.46	7028.74	46.25	7033.98	45.23	7042.14	44.8	7047.97	45.05
7077.7	44.34	7080.7	43.91	7097.41	42.09	7118.51	39.74	7123.05	39.24
7167.9	38.2	7200.61	38.01	7212.21	37.98	7226.54	37.08	7258.73	36.24
7263.24	35.99	7269.75	35.52	7280.78	34.76	7291.8	33.96	7302.49	33.15
7302.82	33.11	7313.85	32.29	7322.22	32.62	7330.58	33.16	7332.14	33.39
7342.8	35.94	7346.62	37.22	7347.49	37.72	7352.09	41.03	7363.64	44.9
7372.29	47.18	7379.6	47.5	7404.48	48.26	7450.22	48.38	7537.22	47.52
7589.37	47.69	7666.97	51.16	7739.89	52.11	7878.65	53.02	8018.56	53.6
8168.64	54.11	8222.19	54.46	8311.28	61.19	8317.92	61.64	8454.72	62.44
8597.54	62.57	8657.85	63.08	8736.26	63.23	8886.63	63.91	9023.63	64.16
9170.13	64.26	9236.46	64.49	9312.19	64.69	9461.08	64.89	9603.19	65.37
9746.25	65.2	9893.42	65.28	10032.04	67.12				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .09 7080.7 .02 7363.64 .08

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 7080.7 7363.64 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	48.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.090	0.020	0.080
W.S. Elev (ft)	48.22	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	239.27	3031.86	94.52
E.G. Slope (ft/ft)	0.000267	Area (sq ft)	239.27	3031.86	94.52
Q Total (cfs)	17888.00	Flow (cfs)	111.62	17756.40	19.98
Top Width (ft)	562.85	Top Width (ft)	104.89	282.94	175.01
Vel Total (ft/s)	5.31	Avg. Vel. (ft/s)	0.47	5.86	0.21
Max Chl Dpth (ft)	15.93	Hydr. Depth (ft)	2.28	10.72	0.54
Conv. Total (cfs)	1095654.0	Conv. (cfs)	6836.8	1087594.0	1223.5
Length Wtd. (ft)	2413.46	Wetted Per. (ft)	105.09	285.77	175.34
Min Ch El (ft)	32.29	Shear (lb/sq ft)	0.04	0.18	0.01
Alpha	1.21	Stream Power (lb/ft s)	0.02	1.03	0.00
Frctn Loss (ft)	0.64	Cum Volume (acre-ft)	3223.93	6485.01	4074.85
C & E Loss (ft)	0.00	Cum SA (acres)	1824.70	578.88	1288.14

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 18.0352*

INPUT

Description: Interpolated Cross Section at River Mile 18.04

Station Elevation Data num= 118									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 64.47 12.32 64.02 215.17 62.61 305.64 61.91 407.84 61.83									
593.79 60.96 640.59 60.63 810.83 59.02 1010.38 56.75 1085.22 56.49									
1268.02 55.9 1357.98 55.69 1505.45 54.49 1572.58 54.04 1764.29 53.35									
1806.76 53.27 2004.95 53.13 2032.28 53.03 2530.61 52.51 2734.32 52.63									

2832.69	55.49	3036.22	54.66	3288.01	54.13	3497.15	53.87	3796.43	53.31
3803.79	53.35	3844.74	53.87	4082.02	54.38	4088.42	54.36	4170.92	54.39
4231.02	54.48	4445.57	54.81	4453.42	54.83	4706.14	55.17	4751.21	55.13
4995.9	54.42	5065.28	53.89	5205.72	52.84	5345.63	51.9	5456.48	50.81
5592.4	50.52	5643.44	50.2	5938.27	49.64	5956.15	49.58	6216.97	50.2
6254.74	50.18	6352.86	51.27	6558.81	49.48	6622.74	49.16	6804.95	51.83
6829.31	50.56	6869.52	48.81	6890.44	48.97	6962.6	48.88	6989.9	49.35
7062.19	47.78	7063.11	47.78	7102.43	48.69	7108.3	48.48	7120.7	47.28
7158.59	45.87	7169.89	45.66	7175.24	44.5	7183.57	44.02	7189.52	44.31
7219.84	43.56	7222.9	43.07	7239.46	41.36	7260.36	39.15	7264.85	38.69
7309.29	37.59	7341.69	37.45	7353.19	37.42	7367.39	36.41	7399.28	35.49
7403.74	35.22	7410.2	34.72	7421.12	33.92	7432.04	33.07	7442.63	32.2
7442.96	32.16	7453.88	31.36	7462.41	31.72	7470.95	32.31	7472.54	32.58
7483.4	35.24	7487.29	36.6	7488.18	37.1	7492.87	40.52	7504.65	44
7514.24	46.57	7522.35	46.91	7549.95	47.68	7600.69	47.95	7697.2	47.22
7755.04	47.4	7841.12	51.34	7922.01	52.41	8075.93	53.4	8231.13	54.03
8397.62	54.57	8457.02	54.96	8555.84	61.13	8563.21	61.54	8714.96	62.18
8873.39	62.05	8940.28	62.51	9027.26	62.64	9194.07	63.37	9346.03	63.6
9508.55	63.66	9582.12	63.91	9666.13	64.12	9831.29	64.33	9988.93	64.86
10147.62	64.65	10310.88	64.72	10464.65	66.81				

Manning's n Values num= 3
 Sta n Val Sta n Val
 0 .08 7222.9 .02 7504.65 .08

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 7222.9 7504.65 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	48.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.080	0.020	0.080
W.S. Elev (ft)	47.60	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	245.58	3041.25	63.74
E.G. Slope (ft/ft)	0.000262	Area (sq ft)	245.58	3041.25	63.74
Q Total (cfs)	17888.00	Flow (cfs)	129.52	17745.13	13.36
Top Width (ft)	541.20	Top Width (ft)	105.46	281.75	153.99
Vel Total (ft/s)	5.34	Avg. Vel. (ft/s)	0.53	5.83	0.21
Max Chl Dpth (ft)	16.24	Hydr. Depth (ft)	2.33	10.79	0.41
Conv. Total (cfs)	1105171.0	Conv. (cfs)	8002.0	1096344.0	825.2
Length Wtd. (ft)	2413.02	Wetted Per. (ft)	105.69	284.55	154.35
Min Ch El (ft)	31.36	Shear (lb/sq ft)	0.04	0.17	0.01
Alpha	1.18	Stream Power (lb/ft s)	0.02	1.02	0.00
Frctn Loss (ft)	0.63	Cum Volume (acre-ft)	3215.81	6316.25	4072.28
C & E Loss (ft)	0.00	Cum SA (acres)	1821.17	563.18	1282.79

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 17.5647*

INPUT

Description: Interpolated Cross Section at River Mile 17.56

Station Elevation Data	num= 118										
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	63.83	12.56	63.34	219.41	62.05	311.65	61.4	415.87	61.29		
605.48	60.29	653.2	59.91	826.79	58.17	1030.27	55.71	1106.59	55.45		
1292.99	54.86	1384.72	54.66	1535.09	53.55	1603.54	53.17	1799.03	52.59		

1842.33	52.54	2044.42	52.53	2072.29	52.44	2580.43	51.92	2788.15	52.08
2888.45	55.31	3096	54.41	3352.74	53.85	3566	53.58	3871.17	53
3878.68	53.04	3920.44	53.56	4162.39	54.36	4168.91	54.34	4253.03	54.37
4314.32	54.46	4533.1	54.78	4541.09	54.8	4798.79	55.05	4844.75	54.99
5094.25	54.18	5165	53.59	5308.2	52.41	5450.87	51.34	5563.91	50.19
5702.5	49.95	5754.54	49.63	6055.18	48.89	6073.41	48.83	6339.36	49.52
6377.88	49.52	6477.93	50.81	6687.93	48.93	6753.12	48.56	6938.93	51.52
6963.76	50.08	7004.76	48.02	7026.09	48.15	7099.68	48.04	7127.52	48.45
7201.22	47.02	7202.17	47.01	7242.25	48.12	7248.25	47.98	7260.89	46.81
7299.53	45.28	7311.05	45.06	7316.51	43.76	7324.99	43.24	7331.06	43.58
7361.98	42.78	7365.1	42.23	7381.5	40.63	7402.21	38.57	7406.66	38.14
7450.68	36.98	7482.78	36.88	7494.17	36.87	7508.23	35.74	7539.82	34.75
7544.25	34.45	7550.64	33.92	7561.46	33.07	7572.28	32.17	7582.77	31.25
7583.1	31.21	7593.92	30.44	7602.61	30.82	7611.31	31.46	7612.93	31.76
7624	34.53	7627.97	35.99	7628.87	36.49	7633.65	40	7645.65	43.1
7656.19	45.96	7665.1	46.32	7695.42	47.1	7751.16	47.52	7857.17	46.92
7920.71	47.11	8015.27	51.52	8104.13	52.71	8273.22	53.79	8443.71	54.46
8626.59	55.02	8691.85	55.45	8800.4	61.07	8808.49	61.43	8975.2	61.91
9149.24	61.52	9222.72	61.93	9318.27	62.06	9501.51	62.83	9668.44	63.05
9846.96	63.07	9927.79	63.32	10020.07	63.55	10201.5	63.77	10374.67	64.36
10549	64.11	10728.34	64.16	10897.25	66.49				

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 0 .08 7365.1 .02 7645.65 .07

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 7365.1 7645.65 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	47.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.080	0.020	0.070
W.S. Elev (ft)	46.98	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	253.91	3054.79	42.77
E.G. Slope (ft/ft)	0.000256	Area (sq ft)	253.91	3054.79	42.77
Q Total (cfs)	17888.00	Flow (cfs)	134.94	17739.60	13.46
Top Width (ft)	462.90	Top Width (ft)	106.06	280.55	76.29
Vel Total (ft/s)	5.34	Avg. Vel. (ft/s)	0.53	5.81	0.31
Max Chl Dpth (ft)	16.54	Hydr. Depth (ft)	2.39	10.89	0.56
Conv. Total (cfs)	1116912.0	Conv. (cfs)	8425.3	1107646.0	840.6
Length Wtd. (ft)	2412.09	Wetted Per. (ft)	106.33	283.33	76.69
Min Ch El (ft)	30.44	Shear (lb/sq ft)	0.04	0.17	0.01
Alpha	1.17	Stream Power (lb/ft s)	0.02	1.00	0.00
Frctn Loss (ft)	0.61	Cum Volume (acre-ft)	3207.44	6146.85	4070.54
C & E Loss (ft)	0.00	Cum SA (acres)	1817.63	547.56	1279.05

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 17.0941*

INPUT

Description: Interpolated Cross Section at River Mile 17.09

Station Elevation Data num= 118									
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 63.19 12.8 62.66 223.65 61.5 317.67 60.89 423.9 60.76									
617.17 59.61 665.82 59.19 842.76 57.32 1050.16 54.68 1127.95 54.41									

1317.95	53.81	1411.45	53.62	1564.73	52.62	1634.5	52.3	1833.76	51.83
1877.9	51.81	2083.89	51.92	2112.3	51.84	2630.25	51.33	2841.98	51.53
2944.22	55.13	3155.77	54.16	3417.47	53.57	3634.85	53.3	3945.91	52.69
3953.57	52.74	3996.13	53.26	4242.75	54.34	4249.4	54.33	4335.14	54.36
4397.62	54.44	4620.62	54.74	4628.77	54.76	4891.44	54.93	4938.29	54.84
5192.61	53.95	5264.72	53.29	5410.69	51.97	5556.12	50.77	5671.33	49.57
5812.6	49.38	5865.65	49.06	6172.09	48.15	6190.67	48.07	6461.76	48.83
6501.02	48.85	6603	50.35	6817.06	48.37	6883.51	47.95	7072.9	51.2
7098.21	49.6	7140	47.23	7161.75	47.33	7236.75	47.2	7265.13	47.54
7340.26	46.26	7341.22	46.25	7382.08	47.54	7388.19	47.47	7401.08	46.34
7440.46	44.7	7452.2	44.47	7457.77	43.03	7466.42	42.46	7472.6	42.84
7504.12	41.99	7507.3	41.39	7523.55	39.9	7544.06	37.99	7548.47	37.59
7592.07	36.37	7623.87	36.31	7635.15	36.31	7649.08	35.07	7680.37	34.01
7684.75	33.68	7691.09	33.11	7701.8	32.22	7712.52	31.27	7722.91	30.3
7723.24	30.26	7733.95	29.51	7742.81	29.92	7751.67	30.62	7753.32	30.94
7764.6	33.83	7768.64	35.38	7769.56	35.88	7774.43	39.49	7786.66	42.2
7798.14	45.35	7807.85	45.73	7840.89	46.52	7901.63	47.09	8017.15	46.62
8086.39	46.82	8189.43	51.71	8286.25	53.01	8470.5	54.18	8656.28	54.89
8855.57	55.48	8926.67	55.95	9044.96	61.02	9053.78	61.32	9235.43	61.65
9425.08	60.99	9505.16	61.36	9609.27	61.48	9808.94	62.29	9990.85	62.49
10185.38	62.47	10273.45	62.73	10374.01	62.98	10571.72	63.21	10760.41	63.85
10950.38	63.55	1145.79	63.61	11329.86	66.18				

Manning's n Values num= 3
 Sta n Val Sta n Val
 0 .07 7507.3 .02 7786.66 .07

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 7507.3 7786.66 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	46.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.	0.070	0.020	0.070
W.S. Elev (ft)	46.39	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	265.46	3073.72	47.17
E.G. Slope (ft/ft)	0.000249	Area (sq ft)	265.46	3073.72	47.17
Q Total (cfs)	17888.00	Flow (cfs)	162.07	17710.54	15.39
Top Width (ft)	447.34	Top Width (ft)	119.37	279.36	48.61
Vel Total (ft/s)	5.28	Avg. Vel. (ft/s)	0.61	5.76	0.33
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	2.22	11.00	0.97
Conv. Total (cfs)	1133482.0	Conv. (cfs)	10269.4	1122237.0	975.5
Length Wtd. (ft)	2410.94	Wetted Per. (ft)	119.69	282.15	49.05
Min Ch El (ft)	29.51	Shear (lb/sq ft)	0.03	0.17	0.01
Alpha	1.18	Stream Power (lb/ft s)	0.02	0.98	0.00
Frctn Loss (ft)	0.59	Cum Volume (acre-ft)	3198.74	5976.56	4069.08
C & E Loss (ft)	0.00	Cum SA (acres)	1813.85	532.00	1277.02

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 16.6235*

INPUT

Description: Interpolated Cross Section at River Mile 16.62

Station Elevation Data		num= 118							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.55	13.05	61.98	227.88	60.94	323.69	60.38	431.92	60.22

628.86	58.94	678.43	58.47	858.72	56.48	1070.05	53.64	1149.32	53.37
1342.92	52.77	1438.19	52.58	1594.37	51.69	1665.46	51.43	1868.49	51.07
1913.47	51.08	2123.37	51.32	2152.31	51.25	2680.07	50.74	2895.81	50.98
2999.99	54.96	3215.55	53.91	3482.21	53.29	3703.7	53.01	4020.65	52.37
4028.45	52.43	4071.82	52.95	4323.11	54.32	4329.89	54.31	4417.26	54.34
4480.91	54.42	4708.14	54.71	4716.44	54.72	4984.09	54.81	5031.83	54.7
5290.96	53.71	5364.44	52.98	5513.18	51.53	5661.36	50.21	5778.76	48.94
5922.7	48.81	5976.75	48.48	6289	47.4	6307.93	47.32	6584.15	48.14
6624.16	48.19	6728.07	49.88	6946.18	47.82	7013.89	47.34	7206.87	50.89
7232.66	49.12	7275.24	46.44	7297.4	46.51	7373.83	46.36	7402.74	46.64
7479.3	45.49	7480.27	45.48	7521.91	46.97	7528.14	46.96	7541.27	45.88
7581.4	44.11	7593.36	43.87	7599.03	42.3	7607.85	41.68	7614.14	42.11
7646.26	41.21	7649.5	40.55	7665.59	39.17	7685.91	37.4	7690.27	37.04
7733.46	35.76	7764.95	35.74	7776.13	35.75	7789.92	34.41	7820.92	33.26
7825.26	32.9	7831.53	32.31	7842.15	31.38	7852.76	30.38	7863.05	29.35
7863.37	29.31	7873.99	28.58	7883.01	29.01	7892.03	29.77	7893.71	30.13
7905.2	33.12	7909.31	34.77	7910.25	35.27	7915.22	38.98	7927.66	41.3
7940.09	44.75	7950.6	45.14	7986.36	45.95	8052.09	46.67	8177.12	46.32
8252.06	46.53	8363.58	51.89	8468.37	53.31	8667.79	54.57	8868.85	55.32
9084.55	55.94	9161.5	56.44	9289.53	60.96	9299.07	61.21	9495.67	61.39
9700.93	60.46	9787.59	60.79	9900.28	60.91	10116.38	61.74	10313.26	61.93
10523.8	61.87	10619.12	62.15	10727.95	62.41	10941.93	62.65	11146.15	63.34
11351.75	63.11	11563.25	63.05	11762.46	65.87				

Manning's n Values num= 3
 Sta n Val Sta n Val
 0 .07 7649.5 .02 7927.66 .07

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 7649.5 7927.66 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	46.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.070	0.020	0.070
W.S. Elev (ft)	45.81	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	282.89	3098.22	53.65
E.G. Slope (ft/ft)	0.000241	Area (sq ft)	282.89	3098.22	53.65
Q Total (cfs)	17888.00	Flow (cfs)	173.19	17697.00	17.81
Top Width (ft)	468.91	Top Width (ft)	138.21	278.16	52.54
Vel Total (ft/s)	5.21	Avg. Vel. (ft/s)	0.61	5.71	0.33
Max Chl Dpth (ft)	17.23	Hydr. Depth (ft)	2.05	11.14	1.02
Conv. Total (cfs)	1152652.0	Conv. (cfs)	11160.1	1140344.0	1147.6
Length Wtd. (ft)	2410.00	Wetted Per. (ft)	138.58	280.98	53.03
Min Ch El (ft)	28.58	Shear (lb/sq ft)	0.03	0.17	0.02
Alpha	1.19	Stream Power (lb/ft s)	0.02	0.95	0.01
Frctn Loss (ft)	0.57	Cum Volume (acre-ft)	3189.56	5805.05	4067.44
C & E Loss (ft)	0.00	Cum SA (acres)	1809.54	516.51	1275.38

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 16.1529*

INPUT

Description: Interpolated Cross Section at River Mile 16.15

Station Elevation Data num= 118
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev

0	61.91	13.29	61.3	232.12	60.38	329.71	59.87	439.95	59.68
640.55	58.27	691.04	57.75	874.68	55.63	1089.94	52.6	1170.68	52.33
1367.88	51.72	1464.92	51.54	1624.01	50.76	1696.42	50.56	1903.23	50.31
1949.05	50.36	2162.84	50.72	2192.32	50.65	2729.89	50.15	2949.64	50.44
3055.76	54.78	3275.32	53.65	3546.94	53.01	3772.55	52.73	4095.39	52.06
4103.34	52.13	4147.52	52.65	4403.48	54.3	4410.38	54.29	4499.37	54.33
4564.21	54.4	4795.66	54.67	4804.12	54.69	5076.74	54.7	5125.37	54.55
5389.32	53.48	5464.16	52.68	5615.67	51.09	5766.6	49.65	5886.18	48.32
6032.8	48.25	6087.85	47.91	6405.91	46.65	6425.19	46.57	6706.55	47.46
6747.3	47.52	6853.14	49.42	7075.31	47.27	7144.28	46.73	7340.84	50.57
7367.12	48.64	7410.49	45.65	7433.06	45.7	7510.91	45.52	7540.35	45.73
7618.33	44.73	7619.33	44.72	7661.74	46.39	7668.08	46.45	7681.46	45.41
7722.33	43.53	7734.52	43.28	7740.29	41.56	7749.27	40.9	7755.69	41.37
7788.4	40.42	7791.7	39.71	7807.64	38.44	7827.75	36.82	7832.08	36.49
7874.85	35.15	7906.04	35.17	7917.1	35.19	7930.77	33.74	7961.46	32.52
7965.76	32.13	7971.98	31.51	7982.49	30.53	7993	29.48	8003.19	28.4
8003.51	28.36	8014.02	27.65	8023.21	28.11	8032.39	28.93	8034.1	29.31
8045.8	32.42	8049.99	34.16	8050.94	34.66	8056	38.46	8068.67	40.4
8082.04	44.14	8093.35	44.55	8131.83	45.37	8202.56	46.24	8337.1	46.03
8417.73	46.24	8537.73	52.08	8650.49	53.6	8865.07	54.96	9081.43	55.75
9313.52	56.4	9396.33	56.94	9534.09	60.9	9544.36	61.1	9755.91	61.12
9976.77	59.94	10070.03	60.21	10191.28	60.31	10423.82	61.21	10635.66	61.38
10862.21	61.28	10964.78	61.56	11081.89	61.84	11312.14	62.09	11531.89	62.84
11753.12	62.45	11980.71	62.49	12195.07	65.56				

Manning's n Values	num=	3
Sta n Val	Sta n Val	Sta n Val
0 .07	7791.7 .02	8068.67 .06

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
7791.7	8068.67	1459.47	2420.88	1416	.1	.3	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	45.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.49	Wt. n-Val.	0.070	0.020	0.060
W.S. Elev (ft)	45.26	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	308.99	3128.85	62.04
E.G. Slope (ft/ft)	0.000231	Area (sq ft)	308.99	3128.85	62.04
Q Total (cfs)	17888.00	Flow (cfs)	187.70	17675.98	24.31
Top Width (ft)	497.65	Top Width (ft)	162.77	276.97	57.90
Vel Total (ft/s)	5.11	Avg. Vel. (ft/s)	0.61	5.65	0.39
Max Chl Dpth (ft)	17.61	Hydr. Depth (ft)	1.90	11.30	1.07
Conv. Total (cfs)	1176304.0	Conv. (cfs)	12343.3	1162362.0	1598.9
Length Wtd. (ft)	2407.91	Wetted Per. (ft)	163.21	279.83	58.43
Min Ch El (ft)	27.65	Shear (lb/sq ft)	0.03	0.16	0.02
Alpha	1.21	Stream Power (lb/ft s)	0.02	0.91	0.01
Frctn Loss (ft)	0.54	Cum Volume (acre-ft)	3179.64	5632.01	4065.56
C & E Loss (ft)	0.00	Cum SA (acres)	1804.50	501.08	1273.58

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 15.6823*

INPUT
 Description: Interpolated Cross Section at River Mile 15.68
 Station Elevation Data num= 118

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.26	13.53	60.62	236.36	59.83	335.72	59.36	447.98	59.15
652.24	57.59	703.65	57.03	890.65	54.79	1109.83	51.56	1192.05	51.29
1392.84	50.68	1491.66	50.5	1653.65	49.83	1727.38	49.69	1937.96	49.55
1984.62	49.63	2202.31	50.11	2232.33	50.06	2779.72	49.56	3003.47	49.89
3111.53	54.61	3335.1	53.4	3611.67	52.73	3841.4	52.44	4170.13	51.75
4178.23	51.82	4223.21	52.34	4483.84	54.28	4490.87	54.27	4581.49	54.32
4647.51	54.38	4883.18	54.64	4891.8	54.65	5169.39	54.58	5218.91	54.4
5487.68	53.24	5563.89	52.38	5718.15	50.65	5871.84	49.09	5993.6	47.7
6142.9	47.68	6198.96	47.33	6522.82	45.91	6542.46	45.81	6828.95	46.77
6870.44	46.86	6978.21	48.96	7204.43	46.72	7274.66	46.13	7474.81	50.26
7501.57	48.16	7545.73	44.86	7568.71	44.88	7647.98	44.68	7677.97	44.83
7757.37	43.96	7758.38	43.96	7801.57	45.81	7808.02	45.94	7821.65	44.95
7863.26	42.94	7875.67	42.68	7881.55	40.83	7890.7	40.12	7897.23	40.64
7930.54	39.64	7933.9	38.86	7949.68	37.71	7969.6	36.24	7973.89	35.94
8016.24	34.54	8047.13	34.6	8058.08	34.63	8071.62	33.07	8102.01	31.77
8106.27	31.36	8112.42	30.71	8122.83	29.68	8133.24	28.58	8143.33	27.44
8143.65	27.4	8154.06	26.72	8163.41	27.21	8172.75	28.08	8174.49	28.5
8186.4	31.72	8190.66	33.55	8191.64	34.05	8196.78	37.95	8209.68	39.5
8224	43.53	8236.1	43.96	8277.3	44.79	8353.03	45.81	8497.07	45.73
8583.41	45.95	8711.89	52.26	8832.61	53.9	9062.36	55.35	9294	56.18
9542.5	56.86	9631.16	57.43	9778.65	60.84	9789.65	6110016.15	60.86	
10252.62	59.4110352.46		59.6410482.28		59.7310731.25		60.6610958.07	60.82	
11200.63	60.6811310.45		60.9711435.83		61.2711682.35		61.5311917.63	62.33	
12154.5	61.912398.17		61.9312627.68		65.25				

Manning's n Values num= 3
 Sta n Val Sta n Val
 0 .06 7933.9 .02 8209.68 .06

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 7933.9 8209.68 1459.47 2420.88 1416 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	45.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.	0.060	0.020	0.060
W.S. Elev (ft)	44.73	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	347.66	3165.17	72.40
E.G. Slope (ft/ft)	0.000220	Area (sq ft)	347.66	3165.17	72.40
Q Total (cfs)	17888.00	Flow (cfs)	239.86	17619.57	28.57
Top Width (ft)	563.85	Top Width (ft)	223.64	275.78	64.43
Vel Total (ft/s)	4.99	Avg. Vel. (ft/s)	0.69	5.57	0.39
Max Chl Dpth (ft)	18.01	Hydr. Depth (ft)	1.55	11.48	1.12
Conv. Total (cfs)	1206210.0	Conv. (cfs)	16173.8	1188110.0	1926.5
Length Wtd. (ft)	2405.07	Wetted Per. (ft)	224.14	278.71	65.00
Min Ch El (ft)	26.72	Shear (lb/sq ft)	0.02	0.16	0.02
Alpha	1.23	Stream Power (lb/ft s)	0.01	0.87	0.01
Frctn Loss (ft)	0.54	Cum Volume (acre-ft)	3168.64	5457.12	4063.38
C & E Loss (ft)	0.00	Cum SA (acres)	1798.02	485.72	1271.59

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 15.2117*

INPUT
 Description: Interpolated Cross Section at River Mile 15.21

Station Elevation Data num= 118									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	60.62	13.77	59.94	240.59	59.27	341.74	58.85	456.01	58.61
663.93	56.92	716.26	56.31	906.61	53.94	1129.73	50.52	1213.41	50.26
1417.81	49.63	1518.39	49.46	1683.28	48.9	1758.34	48.81	1972.7	48.78
2020.19	48.9	2241.78	49.51	2272.34	49.46	2829.54	48.97	3057.31	49.34
3167.3	54.43	3394.87	53.15	3676.4	52.44	3910.25	52.16	4244.88	51.44
4253.11	51.51	4298.9	52.04	4564.21	54.26	4571.36	54.26	4663.6	54.3
4730.81	54.36	4970.7	54.6	4979.47	54.61	5262.05	54.46	5312.45	54.26
5586.03	53.01	5663.61	52.08	5820.64	50.21	5977.08	48.52	6101.03	47.07
6253	47.11	6310.06	46.76	6639.73	45.16	6659.72	45.06	6951.34	46.08
6993.58	46.19	7103.29	48.49	7333.56	46.16	7405.05	45.52	7608.78	49.94
7636.02	47.68	7680.97	44.07	7704.37	44.06	7785.06	43.84	7815.58	43.92
7896.4	43.2	7897.44	43.19	7941.39	45.24	7947.97	45.43	7961.83	44.48
8004.2	42.36	8016.83	42.09	8022.81	40.1	8032.12	39.34	8038.77	39.9
8072.68	38.85	8076.1	38.02	8091.73	36.98	8111.45	35.65	8115.7	35.39
8157.63	33.93	8188.21	34.03	8199.06	34.07	8212.46	32.4	8242.56	31.03
8246.77	30.59	8252.87	29.91	8263.17	28.84	8273.48	27.69	8283.47	26.49
8283.79	26.45	8294.09	25.79	8303.6	26.31	8313.12	27.24	8314.89	27.68
8327	31.01	8331.34	32.93	8332.33	33.43	8337.56	37.44	8350.68	38.6
8365.95	42.92	8378.85	43.37	8422.77	44.21	8503.5	45.38	8657.05	45.43
8749.08	45.67	8886.04	52.45	9014.74	54.2	9259.64	55.73	9506.58	56.61
9771.47	57.32	9865.98	57.93	10023.21	60.78	10034.93	60.89	10276.39	60.59
10528.46	58.88	10634.9	59.07	10773.29	59.15	11038.69	60.12	11280.48	60.27
11539.05	60.09	11656.11	60.39	11789.78	60.71	12052.56	60.98	12303.38	61.82
12555.88	61.35	12815.63	61.37	13060.28	64.94				

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
0	.06	8076.1	.021	8350.68	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	8076.1	8350.68		1459.47	2420.88	1416	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	44.65				
Vel Head (ft)	0.46	Wt. n-Val.	0.060	0.021	0.060
W.S. Elev (ft)	44.19	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	427.47	3200.90	83.68
E.G. Slope (ft/ft)	0.000231	Area (sq ft)	427.47	3200.90	83.68
Q Total (cfs)	17888.00	Flow (cfs)	282.06	17571.07	34.87
Top Width (ft)	693.87	Top Width (ft)	348.06	274.58	71.22
Vel Total (ft/s)	4.82	Avg. Vel. (ft/s)	0.66	5.49	0.42
Max Chl Dpth (ft)	18.40	Hydr. Depth (ft)	1.23	11.66	1.17
Conv. Total (cfs)	1176825.0	Conv. (cfs)	18556.4	1155974.0	2294.3
Length Wtd. (ft)	2402.12	Wetted Per. (ft)	348.64	277.60	71.84
Min Ch El (ft)	25.79	Shear (lb/sq ft)	0.02	0.17	0.02
Alpha	1.27	Stream Power (lb/ft s)	0.01	0.91	0.01
Frctn Loss (ft)	0.57	Cum Volume (acre-ft)	3155.65	5280.22	4060.84
C & E Loss (ft)	0.00	Cum SA (acres)	1788.45	470.43	1269.39

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 14.7411*

INPUT

Description: Interpolated Cross Section at River Mile 14.74

Station Elevation Data num= 118									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	59.98	14.02	59.26	244.83	58.71	347.76	58.34	464.04	58.07
675.62	56.25	728.87	55.59	922.57	53.09	1149.62	49.48	1234.78	49.22
1442.77	48.59	1545.13	48.43	1712.92	47.96	1789.3	47.94	2007.43	48.02
2055.76	48.17	2281.26	48.91	2312.35	48.87	2879.36	48.38	3111.14	48.79
3223.06	54.25	3454.65	52.9	3741.14	52.16	3979.1	51.87	4319.62	51.12
4328	51.21	4374.59	51.73	4644.57	54.24	4651.85	54.24	4745.72	54.29
4814.1	54.34	5058.23	54.56	5067.15	54.57	5354.7	54.34	5405.98	54.11
5684.39	52.77	5763.33	51.78	5923.13	49.78	6082.32	47.96	6208.45	46.45
6363.1	46.54	6421.17	46.18	6756.64	44.42	6776.98	44.31	7073.74	45.4
7116.72	45.53	7228.36	48.03	7462.69	45.61	7535.43	44.91	7742.76	49.63
7770.47	47.21	7816.21	43.28	7840.02	43.25	7922.13	43	7953.19	43.01
8035.44	42.43	8036.49	42.43	8081.22	44.66	8087.91	44.92	8102.02	44.02
8145.13	41.77	8157.99	41.49	8164.08	39.37	8173.55	38.56	8180.31	39.17
8214.82	38.07	8218.3	37.18	8233.77	36.25	8253.3	35.07	8257.5	34.84
8299.02	33.32	8329.3	33.46	8340.04	33.52	8353.31	31.74	8383.11	30.29
8387.28	29.81	8393.31	29.1	8403.52	27.99	8413.72	26.79	8423.61	25.54
8423.92	25.5	8434.13	24.86	8443.8	25.4	8453.48	26.39	8455.28	26.87
8467.6	30.31	8472.01	32.32	8473.02	32.82	8478.34	36.93	8491.69	37.7
8507.9	42.32	8521.6	42.78	8568.24	43.64	8653.96	44.96	8817.02	45.13
8914.75	45.38	9060.19	52.63	9196.86	54.5	9456.93	56.12	9719.15	57.04
10000.45	57.78	10100.81	58.42	10267.78	60.72	10280.22	60.78	10536.62	60.33
10804.31	58.35	10917.33	58.49	11064.29	58.57	11346.13	59.58	11602.88	59.71
11877.47	59.49	12001.78	59.81	12143.72	60.14	12422.78	60.42	12689.12	61.31
12957.25	60.81	13233.08	60.82	13492.89	64.62				

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
0	.06	8218.3	.022	8491.69	.06

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	8218.3	8491.69		1459.47	2420.88	1416	.1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	44.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.060	0.022	0.060
W.S. Elev (ft)	43.62	Reach Len. (ft)	1459.47	2420.88	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	507.36	3226.23	92.64
E.G. Slope (ft/ft)	0.000244	Area (sq ft)	507.36	3226.23	92.64
Q Total (cfs)	17888.00	Flow (cfs)	337.16	17510.07	40.77
Top Width (ft)	706.04	Top Width (ft)	356.95	273.39	75.70
Vel Total (ft/s)	4.68	Avg. Vel. (ft/s)	0.66	5.43	0.44
Max Chl Dpth (ft)	18.76	Hydr. Depth (ft)	1.42	11.80	1.22
Conv. Total (cfs)	1145126.0	Conv. (cfs)	21584.1	1120932.0	2609.7
Length Wtd. (ft)	2396.26	Wetted Per. (ft)	357.59	276.52	76.37
Min Ch El (ft)	24.86	Shear (lb/sq ft)	0.02	0.18	0.02
Alpha	1.32	Stream Power (lb/ft s)	0.01	0.96	0.01
Frctn Loss (ft)	0.60	Cum Volume (acre-ft)	3139.99	5101.62	4057.98
C & E Loss (ft)	0.01	Cum SA (acres)	1776.64	455.20	1267.00

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 14.2705*

INPUT

Description: Interpolated Cross Section at River Mile 14.27

Station Elevation Data num= 118									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	59.34	14.26	58.58	249.06	58.16	353.78	57.83	472.07	57.54
687.31	55.57	741.49	54.87	938.54	52.25	1169.51	48.44	1256.14	48.18
1467.74	47.54	1571.86	47.39	1742.56	47.03	1820.26	47.07	2042.17	47.26
2091.33	47.44	2320.73	48.3	2352.37	48.27	2929.18	47.79	3164.97	48.25
3278.83	54.08	3514.42	52.65	3805.87	51.88	4047.95	51.59	4394.36	50.81
4402.89	50.9	4450.29	51.43	4724.94	54.22	4732.35	54.22	4827.83	54.27
4897.4	54.32	5145.75	54.53	5154.82	54.54	5447.35	54.22	5499.52	53.97
5782.74	52.54	5863.05	51.48	6025.61	49.34	6187.56	47.4	6315.88	45.82
6473.2	45.97	6532.27	45.61	6873.54	43.67	6894.24	43.55	7196.13	44.71
7239.86	44.86	7353.43	47.56	7591.81	45.06	7665.82	44.31	7876.73	49.31
7904.92	46.73	7951.46	42.49	7975.68	42.43	8059.21	42.16	8090.81	42.11
8174.48	41.67	8175.55	41.66	8221.05	44.09	8227.86	44.41	8242.21	43.55
8286.07	41.19	8299.14	40.9	8305.34	38.63	8314.97	37.78	8321.86	38.43
8356.96	37.28	8360.5	36.34	8375.82	35.52	8395.15	34.48	8399.31	34.29
8440.41	32.71	8470.39	32.89	8481.02	32.96	8494.15	31.07	8523.65	29.54
8527.78	29.04	8533.75	28.3	8543.86	27.15	8553.96	25.9	8563.75	24.59
8564.06	24.55	8574.17	23.93	8584	24.5	8593.84	25.55	8595.67	26.05
8608.2	29.6	8612.69	31.71	8613.71	32.21	8619.12	36.41	8632.69	36.8
8649.85	41.71	8664.35	42.19	8713.71	43.06	8804.43	44.53	8977	44.84
9080.43	45.09	9234.35	52.82	9378.98	54.8	9654.21	56.51	9931.73	57.47
10229.42	58.2410335.64	58.9210512.34	60.6610525.51	60.6710796.86	60.06				
11080.15	57.8311199.77	57.9211355.29	57.9811653.56	59.0411925.29	59.16				
12215.88	58.912347.44	59.2112497.66	59.5712792.99	59.8613074.86	60.81				
13358.62	60.2513650.54	60.2613925.49	64.31						

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
0	.05	8360.5	.023	8632.69	.05

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
8360.5	8632.69	1459.47	2420.89	1416	.1		.3

CROSS SECTION OUTPUT Profile #100-Year Flood

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	43.47				
Vel Head (ft)	0.43	Wt. n-Val.	0.050	0.023	0.050
W.S. Elev (ft)	43.04	Reach Len. (ft)	1459.47	2420.89	1416.00
Crit W.S. (ft)		Flow Area (sq ft)	584.40	3247.26	101.15
E.G. Slope (ft/ft)	0.000255	Area (sq ft)	584.40	3247.26	101.15
Q Total (cfs)	17888.00	Flow (cfs)	478.15	17353.96	55.89
Top Width (ft)	716.72	Top Width (ft)	364.72	272.19	79.82
Vel Total (ft/s)	4.55	Avg. Vel. (ft/s)	0.82	5.34	0.55
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	1.60	11.93	1.27
Conv. Total (cfs)	1120138.0	Conv. (cfs)	29941.7	1086697.0	3499.7
Length Wtd. (ft)	2391.07	Wetted Per. (ft)	365.45	275.44	80.52
Min Ch El (ft)	23.93	Shear (lb/sq ft)	0.03	0.19	0.02
Alpha	1.34	Stream Power (lb/ft s)	0.02	1.00	0.01
Frctn Loss (ft)	0.70	Cum Volume (acre-ft)	3121.70	4921.74	4054.83
C & E Loss (ft)	0.01	Cum SA (acres)	1764.55	440.04	1264.47

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 13.8

INPUT

Description: Cross Section at River Mile 13.8

Station Elevation Data num= 79											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.7	14.5	57.9	253.3	57.6	480.1	57	699	54.9		
954.5	51.4	1189.4	47.4	1492.7	46.5	1772.2	46.1	2076.9	46.5		
2360.2	47.7	2979	47.2	3218.8	47.7	3334.6	53.9	3574.2	52.4		
3870.6	51.6	4116.8	51.3	4469.1	50.5	4805.3	54.2	4980.7	54.3		
5242.5	54.5	5540	54.1	5881.1	52.3	6128.1	48.9	6423.3	45.2		
6583.3	45.4	7011.5	42.8	7363	44.2	7478.5	47.1	7796.2	43.7		
8010.7	49	8086.7	41.7	8314.6	40.9	8367.8	43.9	8427	40.6		
8440.3	40.3	8446.6	37.9	8456.4	37	8463.4	37.7	8499.1	36.5		
8502.7	35.5	8537	33.9	8581.8	32.1	8622	32.4	8635	30.4		
8664.2	28.8	8674.2	27.5	8684.2	26.3	8694.2	25	8704.2	23.6		
8714.2	23	8724.2	23.6	8734.2	24.7	8748.8	28.9	8754.4	31.6		
8759.9	35.9	8773.7	35.9	8791.8	41.1	8807.1	41.6	8954.9	44.1		
9246.1	44.8	9408.5	53	9561.1	55.1	9851.5	56.9	10144.3	57.9		
10458.4	58.7	10756.9	60.6	11057.1	59.8	11356	57.3	11646.3	57.4		
11961	58.5	12247.7	58.6	12554.3	58.3	12851.6	59	13163.2	59.3		
13460.6	60.3	13760	59.7	14068	59.7	14358.1	64				

Manning's n Values num= 6											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.05	2360.2	.04	5881.1	.05	8502.7	.024	8773.7	.05		
8954.9	.04										

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	8502.7	8773.7		1530.69	2280.69	1205.25	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	42.76				
Vel Head (ft)	0.51	Wt. n-Val.	0.050	0.024	0.050
W.S. Elev (ft)	42.26	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	592.92	3215.02	94.68
E.G. Slope (ft/ft)	0.000329	Area (sq ft)	592.92	3215.02	94.68
Q Total (cfs)	19248.00	Flow (cfs)	551.76	18635.52	60.72
Top Width (ft)	706.50	Top Width (ft)	363.22	271.00	72.28
Vel Total (ft/s)	4.93	Avg. Vel. (ft/s)	0.93	5.80	0.64
Max Chl Dpth (ft)	19.26	Hydr. Depth (ft)	1.63	11.86	1.31
Conv. Total (cfs)	1060593.0	Conv. (cfs)	30402.6	1026844.0	3345.8
Length Wtd. (ft)	2256.94	Wetted Per. (ft)	364.01	274.40	73.03
Min Ch El (ft)	23.00	Shear (lb/sq ft)	0.03	0.24	0.03
Alpha	1.34	Stream Power (lb/ft s)	0.03	1.40	0.02
Frctn Loss (ft)	0.74	Cum Volume (acre-ft)	3101.98	4742.16	4051.64
C & E Loss (ft)	0.00	Cum SA (acres)	1752.35	424.95	1262.00

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 13.375*

INPUT

Description: Interpolated Cross Section at River Mile 13.38

Station Elevation Data num= 161											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
1106.32	58.32	1120.99	57.55	1285.91	57.16	1362.51	57.01	1509.14	56.52		

1591.89	56.29	1746.05	54.88	1813.28	54.29	2026.51	51.62	2071.69	51.02
2259.66	47.91	2309.26	47.13	2513.09	46.56	2616.01	46.23	2792.52	45.9
2898.69	45.75	3206.86	46.09	3493.38	47.18	4119.23	46.63	4361.76	47.07
4478.87	52.87	4721.2	51.43	5019.29	50.65	5020.97	50.64	5075.67	50.59
5269.97	50.42	5317.72	50.34	5582.01	49.63	5626.28	49.52	5859.31	51.79
5966.31	52.87	6108.45	52.94	6143.71	52.95	6377.97	53.11	6408.49	53.14
6629.59	52.92	6709.37	52.8	7054.35	51.03	7304.16	47.78	7409.89	46.52
7602.72	44.27	7656.9	44.33	7764.54	44.46	8197.62	42.03	8493.93	43.14
8553.12	43.39	8669.93	46.16	8699.18	45.88	8944.57	43.3	8991.25	42.84
9126.89	45.95	9208.19	47.7	9224.95	46.19	9285.05	40.86	9407.27	40.51
9515.55	40.07	9534.33	41.04	9569.35	42.94	9629.23	39.96	9642.68	39.71
9649.05	37.47	9658.96	36.64	9666.04	37.31	9691.07	36.58	9702.15	36.17
9705.79	35.21	9738.53	33.43	9750.54	32.85	9774.83	31.57	9781.3	31.29
9802.24	31.35	9819.68	31.44	9832.09	29.54	9837.62	29.23	9859.97	28.03
9869.52	26.81	9872.32	26.48	9879.07	25.68	9888.61	24.46	9898.16	23.14
9907.71	22.58	9910.53	22.73	9913.42	22.87	9916.25	23.01	9918.85	23.15
9919.74	23.19	9921.71	23.35	9924.59	23.58	9927.42	23.85	9930.27	24.27
9931.78	24.52	9933.33	25	9943.42	27.29	9949.35	28.63	9952.39	29.78
9956.09	31.17	9961.89	34.71	9962.71	35.21	9969.19	35.28	9979.31	35.91
9998.05	40.7810011.74		41.1910013.89		41.2310035.69		41.410069.37		41.87
10104.57	42.5610128.59		42.6410166.91		42.9610187.28		42.8610222.48		43.11
10357.2	43.4910468.38		43.8810488.08		44.8110636.51		51.5410671.49		51.97
10794.5	53.49	10852.6	53.8111057.45		54.9111095.15		55.1611101.25		55.18
11333.7	55.8511384.19		56.411398.28		56.4711477.75		56.811640.72		57.24
11723.47	57.4411791.52		57.84	11979.5	58.98	12032.5	59.2712191.43		58.84
12343.29	58.5512371.67		58.3512586.92		56.9512652.74		56.412777.42		56.35
12953.29	56.4412974.66		56.5113179.78		57.3713279.09		57.7513376.76		57.86
13574.74	57.9513575.91		57.9513774.23		57.8513893.33		57.7713969.96		57.94
14183.68	58.5614201.12		58.614361.74		58.7514523.72		58.9614597.42		59.22
14774.23	59.7914831.61		59.9314860.97		59.8614919.99		59.6315072.04		59.43
15141.58	59.315286.23		59.3115460.45		59.3815471.04		59.5315646.58		61.99
15760.79	63.58								

Manning's n Values num= 3
 Sta n Val Sta n Val
 1106.32 .05 9705.79 .024 9979.31 .05

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 9705.79 9979.31 1530.69 2280.69 1205.25 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	42.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.	0.050	0.024	0.050
W.S. Elev (ft)	41.52	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	593.94	3229.41	72.66
E.G. Slope (ft/ft)	0.000329	Area (sq ft)	593.94	3229.41	72.66
Q Total (cfs)	19248.00	Flow (cfs)	520.37	18685.77	41.86
Top Width (ft)	712.32	Top Width (ft)	373.62	273.52	65.18
Vel Total (ft/s)	4.94	Avg. Vel. (ft/s)	0.88	5.79	0.58
Max Chl Dpth (ft)	18.94	Hydr. Depth (ft)	1.59	11.81	1.11
Conv. Total (cfs)	1060668.0	Conv. (cfs)	28675.2	1029686.0	2306.6
Length Wtd. (ft)	2258.97	Wetted Per. (ft)	374.32	276.33	65.81
Min Ch El (ft)	22.58	Shear (lb/sq ft)	0.03	0.24	0.02
Alpha	1.33	Stream Power (lb/ft s)	0.03	1.39	0.01
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	3081.13	4573.46	4049.33
C & E Loss (ft)	0.00	Cum SA (acres)	1739.41	410.69	1260.10

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 12.95*

INPUT

Description: Interpolated Cross Section at River Mile 12.95

Station Elevation Data		num= 161							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
2212.65	57.94	2227.48	57.2	2394.26	56.63	2471.72	56.42	2620	55.83
2703.68	55.59	2859.57	54.22	2927.56	53.69	3143.19	51.24	3188.87	50.63
3378.96	47.59	3429.12	46.86	3635.24	46.33	3739.32	45.96	3917.82	45.56
4025.19	45.4	4336.82	45.67	4626.57	46.65	5259.45	46.06	5504.71	46.44
5623.15	51.83	5868.2	50.46	6169.64	49.69	6171.35	49.69	6226.66	49.64
6423.15	49.55	6471.43	49.48	6738.7	48.66	6783.47	48.54	7019.11	50.54
7127.32	51.55	7271.06	51.6	7306.71	51.61	7543.61	51.74	7574.47	51.78
7798.07	51.64	7878.74	51.51	8227.61	49.76	8480.23	46.65	8587.15	45.45
8782.15	43.34	8836.94	43.4	8945.79	43.52	9383.73	41.27	9683.38	42.31
9743.23	42.57	9861.36	45.22	9890.95	44.98	10139.09	42.41	10186.29	41.98
10323.47	44.89	10405.68	46.41	10422.62	44.97	10483.41	40.02	10607	39.75
10716.49	39.24	10735.49	40.13	10770.9	41.97	10831.45	39.32	10845.05	39.11
10851.5	37.04	10861.52	36.29	10868.68	36.93	10893.99	36.31	10905.19	35.83
10908.88	34.91	10940.07	32.95	10951.51	32.31	10974.64	30.78	10980.81	30.48
11000.75	30.43	11017.37	30.48	11029.19	28.68	11034.45	28.38	11055.74	27.25
11064.84	26.11	11067.5	25.81	11073.93	25.06	11083.02	23.91	11092.12	22.68
11101.21	22.15	11104.52	22.31	11107.89	22.46	11111.2	22.61	11114.24	22.74
11115.28	22.77	11117.58	22.92	11120.95	23.13	11124.26	23.39	11127.6	23.97
11129.35	24.34	11131.17	24.92	11142.97	27.11	11149.89	28.36	11153.45	29.44
11157.77	30.74	11164.56	34.05	11165.51	34.53	11173.09	34.66	11184.92	35.91
11204.3	40.46	11218.45	40.84	11220.68	40.87	11243.22	40.84	11278.05	41.23
11314.45	42.05	11339.29	41.81	11378.91	41.81	11399.98	41.57	11436.38	41.99
11575.69	42.44	11690.67	42.96	11711.03	43.85	11864.53	50.09	11900.7	50.47
12027.9	51.88	12087.98	52.18	12299.81	53.13	12338.8	53.41	12345.11	53.44
12585.48	54.01	12637.69	54.95	12652.26	55.04	12734.44	55.51	12902.96	55.98
12988.53	56.18	13058.9	56.57	13253.29	57.69	13308.1	57.94	13472.45	57.48
13629.49	57.31	13658.83	57.12	13881.42	56.07	13949.49	55.51	14078.41	55.35
14260.27	55.48	14282.38	55.55	14494.49	56.57	14597.19	57.01	14698.19	57.18
14902.91	57.31	14904.12	57.3	15109.2	57.29	15232.36	57.23	15311.6	57.41
15532.61	58.17	15550.65	58.21	15716.73	58.36	15884.24	58.62	15960.46	58.9
16143.29	59.46	16202.63	59.56	16232.99	59.48	16294.02	59.13	16451.26	59.02
16523.16	58.91	16672.74	58.92	16852.9	59.07	16863.85	59.21	17045.38	61.61
17163.47	63.16								

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
2212.65	.0510908.88		.02311184.92
			.049

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	10908.88	11184.92	1530.69	2280.69	1205.25	.1		.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	41.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.050	0.023	0.049
W.S. Elev (ft)	40.81	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	603.29	3242.41	53.12
E.G. Slope (ft/ft)	0.000303	Area (sq ft)	603.29	3242.41	53.12
Q Total (cfs)	19248.00	Flow (cfs)	479.07	18730.35	38.58
Top Width (ft)	694.71	Top Width (ft)	386.29	276.04	32.38

Vel Total (ft/s)	4.94	Avg. Vel. (ft/s)	0.79	5.78	0.73
Max Chl Dpth (ft)	18.66	Hydr. Depth (ft)	1.56	11.75	1.64
Conv. Total (cfs)	1105840.0	Conv. (cfs)	27523.5	1076100.0	2216.7
Length Wtd. (ft)	2260.01	Wetted Per. (ft)	386.91	278.48	32.91
Min Ch El (ft)	22.15	Shear (lb/sq ft)	0.03	0.22	0.03
Alpha	1.33	Stream Power (lb/ft s)	0.02	1.27	0.02
Frctn Loss (ft)	0.68	Cum Volume (acre-ft)	3060.09	4404.03	4047.59
C & E Loss (ft)	0.00	Cum SA (acres)	1726.05	396.31	1258.75

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 12.525*

INPUT

Description: Interpolated Cross Section at River Mile 12.53

Station Elevation Data		num= 161									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
3318.97	57.56	3333.97	56.85	3502.61	56.1	3580.92	55.83	3730.85	55.13		
3815.47	54.88	3973.1	53.56	4041.84	53.08	4259.87	50.85	4306.06	50.25		
4498.27	47.27	4548.98	46.59	4757.4	46.09	4862.64	45.68	5043.12	45.21		
5151.68	45.05	5466.78	45.26	5759.75	46.13	6399.68	45.49	6647.67	45.81		
6767.42	50.8	7015.2	49.49	7319.99	48.73	7321.72	48.73	7377.65	48.7		
7576.32	48.67	7625.14	48.63	7895.38	47.69	7940.65	47.55	8178.92	49.3		
8288.33	50.22	8433.67	50.25	8469.72	50.26	8709.25	50.38	8740.46	50.42		
8966.54	50.36	9048.11	50.21	9400.86	48.49	9656.29	45.53	9764.4	44.39		
9961.57	42.41	10016.97	42.46	10127.03	42.58	10569.85	40.51	10872.83	41.48		
10933.35	41.76	11052.8	44.28	11082.71	44.07	11333.61	41.51	11381.34	41.12		
11520.04	43.82	11603.17	45.11	11620.3	43.75	11681.76	39.19	11806.73	38.99		
11917.44	38.42	11936.64	39.22	11972.46	41.01	12033.68	38.68	12047.43	38.52		
12053.95	36.61	12064.08	35.93	12071.32	36.54	12096.92	36.01	12108.24	35.5		
12111.96	34.62	12141.6	32.48	12152.47	31.76	12174.45	29.98	12180.31	29.67		
12199.26	29.51	12215.05	29.52	12226.28	27.83	12231.29	27.54	12251.51	26.48		
12260.16	25.42	12262.69	25.13	12268.8	24.44	12277.44	23.37	12286.08	22.22		
12294.72	21.73	12298.5	21.91	12302.36	22.05	12306.15	22.18	12309.63	22.33		
12310.82	22.36	12313.45	22.49	12317.31	22.67	12321.1	22.93	12324.92	23.67		
12326.93	24.16	12329	24.85	12342.51	26.91	12350.44	28.09	12354.51	29.1		
12359.46	30.31	12367.23	33.39	12368.31	33.84	12376.99	34.04	12390.54	35.92		
12410.55	40.14	12425.17	40.49	12427.47	40.51	12450.76	40.28	12486.73	40.59		
12524.33	41.53	12549.99	41.97	12590.92	40.67	12612.68	40.28	12650.28	40.87		
12794.18	41.38	12912.95	42.04	12933.99	42.91	13092.54	48.63	13129.91	48.97		
13261.3	50.27	13323.36	50.55	13542.18	51.35	13582.45	51.67	13588.97	51.7		
13837.26	52.18	13891.19	53.49	13906.24	53.61	13991.13	54.22	14165.21	54.73		
14253.6	54.92	14326.29	55.29	14527.08	56.4	14583.7	56.61	14753.47	56.12		
14915.68	56.04	14946	55.91	15175.92	55.18	15246.23	54.6	15379.4	54.35		
15567.26	54.52	15590.09	54.59	15809.2	55.77	15915.28	56.26	16019.61	56.5		
16231.08	56.65	16232.33	56.65	16444.17	56.72	16571.39	56.71	16653.24	56.89		
16881.54	57.77	16900.17	57.81	17071.73	57.96	17244.76	58.29	17323.49	58.58		
17512.34	59.14	17573.64	59.19	17605	59.09	17668.05	58.62	17830.46	58.61		
17904.74	58.51	18059.25	58.54	18245.35	58.75	18256.66	58.89	18444.17	61.23		
18566.16	62.74										

Manning's n Values		num= 3			
Sta	n Val	Sta	n Val	Sta	n Val
3318.97	.051	12111.96	.023	12390.54	.049

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
12111.96	12390.54	1530.69	2280.69	1205.25	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	40.63	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.050	0.023	0.049
W.S. Elev (ft)	40.13	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	627.66	3257.22	42.06
E.G. Slope (ft/ft)	0.000302	Area (sq ft)	627.66	3257.22	42.06
Q Total (cfs)	19248.00	Flow (cfs)	475.70	18736.42	35.88
Top Width (ft)	700.79	Top Width (ft)	402.24	278.58	19.97
Vel Total (ft/s)	4.90	Avg. Vel. (ft/s)	0.76	5.75	0.85
Max Chl Dpth (ft)	18.40	Hydr. Depth (ft)	1.56	11.69	2.11
Conv. Total (cfs)	1107775.0	Conv. (cfs)	27377.6	1078333.0	2065.1
Length Wtd. (ft)	2260.28	Wetted Per. (ft)	402.79	280.79	20.41
Min Ch El (ft)	21.73	Shear (lb/sq ft)	0.03	0.22	0.04
Alpha	1.34	Stream Power (lb/ft s)	0.02	1.26	0.03
Frctn Loss (ft)	0.68	Cum Volume (acre-ft)	3038.47	4233.88	4046.27
C & E Loss (ft)	0.00	Cum SA (acres)	1712.20	381.79	1258.02

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 12.1*

INPUT

Description: Interpolated Cross Section at River Mile 12.1

Station Elevation Data		num= 161							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4425.3	57.17	4440.46	56.51	4610.95	55.57	4690.13	55.23	4841.71	54.44
4927.25	54.18	5086.62	52.9	5156.12	52.47	5376.55	50.46	5423.25	49.87
5617.57	46.95	5668.84	46.32	5879.55	45.85	5985.95	45.41	6168.42	44.86
6278.17	44.7	6596.74	44.85	6892.94	45.6	7539.91	44.92	7790.62	45.17
7911.69	49.77	8162.2	48.52	8470.35	47.78	8472.09	47.78	8528.64	47.75
8729.5	47.8	8778.85	47.77	9052.07	46.72	9097.84	46.57	9338.73	48.05
9449.34	48.89	9596.28	48.91	9632.73	48.92	9874.89	49.01	9906.44	49.06
10135.02	49.08	10217.49	48.92	10574.11	47.21	10832.36	44.41	10941.66	43.32
11140.99	41.49	11197	41.53	11308.28	41.64	11755.97	39.74	12062.28	40.65
12123.47	40.94	12244.23	43.34	12274.47	43.17	12528.13	40.62	12576.39	40.26
12716.62	42.76	12800.65	43.81	12817.98	42.53	12880.11	38.35	13006.46	38.23
13118.39	37.59	13137.8	38.31	13174.01	40.05	13235.9	38.04	13249.81	37.92
13256.4	36.17	13266.64	35.57	13273.96	36.15	13299.84	35.73	13311.29	35.17
13315.05	34.33	13343.13	32.01	13353.43	31.22	13374.26	29.18	13379.82	28.86
13397.77	28.61	13412.73	28.56	13423.38	26.97	13428.12	26.69	13447.29	25.71
13455.47	24.73	13457.87	24.46	13463.66	23.82	13471.85	22.83	13480.04	21.76
13488.23	21.31	13492.49	21.48	13496.84	21.64	13501.1	21.77	13505.02	21.92
13506.36	21.94	13509.32	22.06	13513.67	22.21	13517.93	22.48	13522.24	23.37
13524.5	23.98	13526.84	24.78	13542.06	26.71	13550.98	27.82	13555.57	28.76
13561.14	29.88	13569.89	32.73	13571.12	33.16	13580.89	33.43	13596.15	35.93
13616.8	39.82	13631.89	40.15	13634.26	40.13	13658.29	39.72	13695.41	39.95
13734.21	41.01	13760.69	40.13	13802.93	39.52	13825.38	38.99	13864.18	39.75
14012.68	40.33	14135.23	41.12	14156.94	41.95	14320.56	47.17	14359.11	47.47
14494.7	48.67	14558.74	48.91	14784.54	49.58	14826.09	49.92	14832.82	49.97
15089.04	50.34	15144.69	52.04	15160.23	52.18	15247.82	52.92	15427.46	53.47
15518.66	53.67	15593.67	54.01	15800.88	55.11	15859.3	55.28	16034.49	54.77
16201.88	54.79	16233.16	54.68	16470.41	54.31	16542.97	53.71	16680.39	53.36
16874.25	53.56	16897.81	53.63	17123.9	54.97	17233.37	55.51	17341.03	55.82
17559.25	56.17	17560.54	56.17	17779.15	56.16	17910.42	56.17	17994.89	56.36
18230.46	57.37	18249.69	57.41	18426.73	57.56	18605.28	57.95	18686.52	58.25

18881.4	58.8118944.66	58.8218977.02	58.7119042.07	58.1219209.68	58.2
19286.32	58.1219445.76	58.15 19637.8	58.4319649.47	58.5619842.96	60.85
19968.85	62.33				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
4425.3	.0513315.05		.0313343.13		.02313596.15		.049

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
13315.05	13596.15	1530.69	2280.69	1205.25	.1		.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	39.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.050	0.023	0.049
W.S. Elev (ft)	39.46	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	660.07	3266.56	43.56
E.G. Slope (ft/ft)	0.000300	Area (sq ft)	660.07	3266.56	43.56
Q Total (cfs)	19248.00	Flow (cfs)	481.25	18739.54	27.20
Top Width (ft)	765.18	Top Width (ft)	421.17	281.10	62.91
Vel Total (ft/s)	4.85	Avg. Vel. (ft/s)	0.73	5.74	0.62
Max Chl Dpth (ft)	18.16	Hydr. Depth (ft)	1.57	11.62	0.69
Conv. Total (cfs)	1112183.0	Conv. (cfs)	27807.7	1082803.0	1571.8
Length Wtd. (ft)	2260.26	Wetted Per. (ft)	421.66	283.20	63.25
Min Ch El (ft)	21.30	Shear (lb/sq ft)	0.03	0.22	0.01
Alpha	1.36	Stream Power (lb/ft s)	0.02	1.24	0.01
Frctn Loss (ft)	0.65	Cum Volume (acre-ft)	3015.84	4063.10	4045.09
C & E Loss (ft)	0.00	Cum SA (acres)	1697.73	367.13	1256.88

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 11.675*

INPUT

Description: Interpolated Cross Section at River Mile 11.68

Station	Elevation	Data	num=	161					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
5531.62	56.79	5546.95	56.16	5719.3	55.04	5799.34	54.64	5952.57	53.74
6039.04	53.47	6200.14	52.24	6270.4	51.87	6493.23	50.07	6540.44	49.49
6736.87	46.63	6788.7	46.05	7001.71	45.61	7109.26	45.14	7293.72	44.52
7404.66	44.35	7726.7	44.43	8026.12	45.08	8680.13	44.35	8933.58	44.54
9055.97	48.73	9309.2	47.55	9620.7	46.82	9622.47	46.82	9679.62	46.8
9882.67	46.92	9932.57	46.91	10208.75	45.76	10255.02	45.59	10498.53	46.81
10610.35	47.57	10758.89	47.57	10795.73	47.57	11040.53	47.64	11072.43	47.7
11303.49	47.81	11386.86	47.62	11747.37	45.94	12008.42	43.29	12118.91	42.25
12320.42	40.56	12377.04	40.59	12489.52	40.71	12942.09	38.97	13251.73	39.82
13313.59	40.13	13435.66	42.41	13466.23	42.26	13722.66	39.73	13771.44	39.4
13913.19	41.71	13998.14	42.52	14015.65	41.31	14078.47	37.51	14206.19	37.47
14319.33	36.76	14338.96	37.41	14375.56	39.09	14438.13	37.41	14452.19	37.33
14458.84	35.74	14469.2	35.22	14476.6	35.77	14502.76	35.44	14514.33	34.83
14518.14	34.03	14544.67	31.54	14554.4	30.68	14574.07	28.38	14579.32	28.05
14596.28	27.68	14610.42	27.61	14620.47	26.11	14624.95	25.84	14643.06	24.94
14650.79	24.03	14653.06	23.79	14658.53	23.19	14666.26	22.28	14674	21.3
14681.73	20.88	14686.47	21.07	14691.31	21.23	14696.05	21.36	14700.41	21.51
14701.9	21.53	14705.2	21.63	14710.03	21.75	14714.77	22.02	14719.56	23.07
14722.08	23.81	14724.68	24.71	14741.6	26.52	14751.53	27.56	14756.63	28.43
14762.83	29.46	14772.56	32.07	14773.92	32.47	14784.79	32.81	14801.76	35.93

14823.06	39.5114838.61	39.814841.05	39.7714865.82	39.16 14904.1	39.32
14944.1	40.4914971.39	39.2915014.94	38.3815038.08	37.715078.08	38.63
15231.17	39.2815357.52	40.2 15379.9	40.9915548.57	45.7215588.32	45.98
15728.1	47.0615794.12	47.28 16026.9	47.8116069.74	48.1816076.68	48.23
16340.82	48.516398.19	50.5916414.21	50.7516504.51	51.63 16689.7	52.22
16783.73	52.4116861.06	52.7417074.67	53.81 17134.9	53.95 17315.5	53.41
17488.07	53.5417520.32	53.4517764.91	53.4217839.71	52.817981.38	52.36
18181.24	52.618205.53	52.6718438.61	54.1818551.47	54.7718662.45	55.15
18887.42	55.3518888.75	55.3519114.12	55.619249.46	55.6319336.53	55.83
19579.39	56.9719599.21	57.0119781.72	57.17 19965.8	57.6120049.55	57.93
20250.46	58.4820315.67	58.4520349.03	58.32 20416.1	57.6220588.89	57.79
20667.9	57.7220832.28	57.7621030.25	58.1221042.28	58.2421241.76	60.47
21371.54	61.91				

Manning's n Values		num=	4
Sta	n Val	Sta	n Val
5531.62	.0514518.14	.0314544.67	.02214801.76
			.048

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	14518.14	1414801.76		1530.69	2280.69	1205.25	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	39.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.49	Wt. n-Val.	0.050	0.022	0.048
W.S. Elev (ft)	38.82	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	706.84	3274.96	77.40
E.G. Slope (ft/ft)	0.000275	Area (sq ft)	706.84	3274.96	77.40
Q Total (cfs)	19248.00	Flow (cfs)	483.74	18733.24	31.02
Top Width (ft)	873.80	Top Width (ft)	445.19	283.62	145.00
Vel Total (ft/s)	4.74	Avg. Vel. (ft/s)	0.68	5.72	0.40
Max Chl Dpth (ft)	17.94	Hydr. Depth (ft)	1.59	11.55	0.53
Conv. Total (cfs)	1161537.0	Conv. (cfs)	29191.8	1130473.0	1871.9
Length Wtd. (ft)	2258.08	Wetted Per. (ft)	445.61	285.68	145.26
Min Ch El (ft)	20.88	Shear (lb/sq ft)	0.03	0.20	0.01
Alpha	1.42	Stream Power (lb/ft s)	0.02	1.12	0.00
Frctn Loss (ft)	0.62	Cum Volume (acre-ft)	2991.82	3891.85	4043.41
C & E Loss (ft)	0.00	Cum SA (acres)	1682.51	352.35	1254.00

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 11.25*

INPUT
 Description: Interpolated Cross Section at River Mile 11.25

Station	Elevation	Data	num=	161					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
6637.95	56.41	6653.44	55.81	6827.64	54.51	6908.54	54.05	7063.42	53.05
7150.83	52.77	7313.67	51.59	7384.68	51.26	7609.91	49.68	7657.62	49.1
7856.17	46.31	7908.56	45.78	8123.86	45.38	8232.57	44.87	8419.02	44.17
8531.16	44	8856.66	44.02	9159.31	44.56	9820.36	43.78	10076.53	43.91
10200.24	47.7	10456.2	46.58	10771.06	45.87	10772.84	45.86	10830.61	45.86
11035.85	46.04	11086.28	46.06	11365.44	44.79	11412.21	44.61	11658.34	45.56
11771.36	46.24	11921.5	46.23	11958.74	46.23	12206.18	46.27	12238.41	46.34
12471.96	46.52	12556.23	46.33	12920.62	44.67	13184.48	42.16	13296.16	41.18
13499.84	39.63	13557.07	39.65	13670.77	39.76	14128.2	38.21	14441.18	38.99
14503.7	39.31	14627.09	41.46	14657.99	41.36	14917.18	38.83	14966.48	38.53

15109.76	40.6315195.63	41.2215213.33	40.0915276.82	36.6715405.91	36.71
15520.28	35.9315540.12	36.4915577.11	38.1215640.36	36.7615654.56	36.73
15661.29	35.3115671.76	34.8615679.24	35.3815705.68	35.1615717.38	34.5
15721.22	33.74 15746.2	31.0615755.36	30.1315773.89	27.5815778.82	27.24
15794.79	26.76 15808.1	26.6515817.56	25.2515821.78	24.9915838.83	24.16
15846.11	23.3415848.24	23.1215853.39	22.5715860.67	21.7415867.96	20.85
15875.24	20.4515880.46	20.6515885.78	20.82 15891	20.94 15895.8	21.1
15897.45	21.1115901.07	21.215906.39	21.2915911.61	21.5615916.88	22.78
15919.65	23.6215922.52	24.6315941.15	26.3315952.08	27.2915957.69	28.09
15964.51	29.0315975.23	31.4115976.73	31.7915988.69	32.1916007.38	35.94
16029.31	39.1916045.32	39.4616047.85	39.416073.36	38.616112.78	38.68
16153.98	39.9816182.09	38.4616226.94	37.2316250.79	36.416291.99	37.51
16449.66	38.23 16579.8	39.2816602.85	40.0416776.59	44.2616817.53	44.48
16961.5	45.45 17029.5	45.6417269.27	46.0317313.39	46.4317320.54	46.49
17592.6	46.6717651.69	49.1317668.19	49.32 17761.2	50.3317951.95	50.96
18048.8	51.1518128.44	51.4618348.46	52.52 18410.5	52.6218596.52	52.06
18774.27	52.2918807.48	52.2319059.41	52.5319136.46	51.919282.38	51.36
19488.22	51.6319513.24	51.7119753.32	53.3819869.56	54.0219983.88	54.47
20215.59	54.720216.96	54.720449.09	55.0320588.49	55.120678.17	55.3
20928.32	56.5820948.74	56.6121136.72	56.7721326.31	57.2721412.58	57.61
21619.52	58.1621686.69	58.0821721.05	57.9421790.13	57.12 21968.1	57.38
22049.48	57.3222218.79	57.38 22422.7	57.822435.09	57.9222640.55	60.09
22774.22	61.49				

Manning's n Values	num=	4
Sta n Val Sta	n Val Sta	n Val Sta
6637.95 .0515721.22	.04 15746.2	.02216007.38 .048

Bank Sta: Left Right	Lengths: Left Channel Right	Coeff Contr.	Expan.
15721.2216007.38	1530.69 2280.69 1205.25	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	38.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.050	0.022	0.048
W.S. Elev (ft)	38.21	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	780.28	3287.99	173.34
E.G. Slope (ft/ft)	0.000274	Area (sq ft)	780.28	3287.99	173.34
Q Total (cfs)	19248.00	Flow (cfs)	535.57	18645.08	67.35
Top Width (ft)	1028.35	Top Width (ft)	472.98	286.16	269.21
Vel Total (ft/s)	4.54	Avg. Vel. (ft/s)	0.69	5.67	0.39
Max Chl Dpth (ft)	17.76	Hydr. Depth (ft)	1.65	11.49	0.64
Conv. Total (cfs)	1162949.0	Conv. (cfs)	32358.7	1126521.0	4069.4
Length Wtd. (ft)	2251.77	Wetted Per. (ft)	473.35	288.26	269.42
Min Ch El (ft)	20.45	Shear (lb/sq ft)	0.03	0.20	0.01
Alpha	1.51	Stream Power (lb/ft s)	0.02	1.11	0.00
Frctn Loss (ft)	0.61	Cum Volume (acre-ft)	2965.70	3720.04	4039.94
C & E Loss (ft)	0.00	Cum SA (acres)	1666.38	337.43	1248.27

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 10.825*

INPUT

Description: Interpolated Cross Section at River Mile 10.83

Station Elevation Data	num=	161
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		

7744.27	56.03	7759.93	55.46	7935.99	53.98	8017.75	53.46	8174.28	52.35
8262.62	52.06	8427.19	50.93	8498.96	50.65	8726.59	49.29	8774.81	48.72
8975.48	45.99	9028.42	45.51	9246.01	45.14	9355.88	44.6	9544.31	43.82
9657.65	43.65	9986.62	43.61	10292.49	44.03	10960.58	43.21	11219.49	43.28
11344.51	46.67	11603.2	45.61	11921.41	44.91	11923.21	44.91	11981.6	44.91
12189.02	45.17	12239.99	45.21	12522.12	43.82	12569.39	43.62	12818.14	44.31
12932.37	44.91	13084.11	44.88	13121.74	44.88	13371.82	44.91	13404.4	44.98
13640.44	45.23	13725.6	45.03	14093.87	43.41	14360.55	41.04	14473.42	40.11
14679.26	38.7	14737.1	38.72	14852.01	38.82	15314.32	37.44	15630.64	38.16
15693.82	38.51	15818.52	40.53	15849.75	40.45	16111.7	37.94	16161.53	37.67
16306.34	39.57	16393.12	39.93	16411.01	38.87	16475.17	35.84	16605.64	35.95
16721.23	35.11	16741.28	35.58	16778.67	37.16	16842.58	36.12	16856.94	36.14
16863.74	34.88	16874.32	34.51	16881.88	35	16908.6	34.87	16920.42	34.17
16924.31	33.44	16947.73	30.59	16956.32	29.59	16973.7	26.78	16978.33	26.42
16993.3	25.85	17005.78	25.69	17014.66	24.39	17018.61	24.14	17034.6	23.39
17041.43	22.65	17043.43	22.45	17048.26	21.95	17055.09	21.21	17061.91	20.39
17068.74	20.03	17074.44	20.24	17080.25	20.41	17085.95	20.53	17091.19	20.69
17092.99	20.71	17096.94	20.77	17102.75	20.83	17108.45	21.11	17114.2	22.48
17117.23	23.44	17120.36	24.56	17140.69	26.14	17152.62	27.02	17158.75	27.75
17166.2	28.61	17177.89	30.75	17179.53	31.11	17192.59	31.57	17212.99	35.94
17235.56	38.87	17252.04	39.11	17254.64	39.03	17280.89	38.04	17321.46	38.04
17363.86	39.46	17392.79	37.62	17438.95	36.09	17463.49	35.11	17505.89	36.39
17668.16	37.17	17802.08	38.36	17825.8	39.08	18004.6	42.81	18046.73	42.98
18194.9	43.84	18264.88	44.01	18511.63	44.26	18557.04	44.69	18564.39	44.75
18844.38	44.83	18905.19	47.68	18922.17	47.89	19017.89	49.04	19214.19	49.7
19313.86	49.89	19395.83	50.19	19622.26	51.23	19686.1	51.29	19877.54	50.7
20060.46	51.03	20094.64	51.01	20353.91	51.65	20433.2	51.20	20583.37	50.37
20795.21	50.67	20820.96	50.75	21068.03	52.58	21187.65	53.28	21305.3	53.79
21543.76	54.05	21545.18	54.05	21784.06	54.47	21927.52	54.57	22019.81	54.77
22277.25	56.18	22298.26	56.21	22491.72	56.37	22686.83	56.94	22775.61	57.29
22988.58	57.83	23057.7	57.71	23093.06	57.56	23164.15	56.62	23347.31	56.98
23431.06	56.93	23605.3	56.99	23815.15	57.48	23827.9	57.62	24039.35	59.71
24176.91	61.07								

Manning's n Values		num= 4	
Sta	n Val	Sta	n Val
7744.27	.0516924	31	.047

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
16924.31	17212.99	1530.69	2280.69	1205.25		.1		.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	38.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.	0.050	0.022	0.047
W.S. Elev (ft)	37.61	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	876.93	3296.88	321.04
E.G. Slope (ft/ft)	0.000270	Area (sq ft)	876.93	3296.88	321.04
Q Total (cfs)	19248.00	Flow (cfs)	621.00	18465.84	161.17
Top Width (ft)	1249.09	Top Width (ft)	622.21	288.68	338.20
Vel Total (ft/s)	4.28	Avg. Vel. (ft/s)	0.71	5.60	0.50
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	1.41	11.42	0.95
Conv. Total (cfs)	1170829.0	Conv. (cfs)	37774.3	1123251.0	9803.7
Length Wtd. (ft)	2241.24	Wetted Per. (ft)	622.54	290.87	338.37
Min Ch El (ft)	20.03	Shear (lb/sq ft)	0.02	0.19	0.02
Alpha	1.64	Stream Power (lb/ft s)	0.02	1.07	0.01
Frctn Loss (ft)	0.60	Cum Volume (acre-ft)	2936.58	3547.65	4033.11
C & E Loss (ft)	0.01	Cum SA (acres)	1647.14	322.39	1239.87

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 10.4*

INPUT

Description: Interpolated Cross Section at River Mile 10.4

Station Elevation Data		num= 161									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
8850.6	55.65	8866.42	55.11	9044.33	53.45	9126.96	52.87	9285.14	51.66		
9374.41	51.36	9540.71	50.27	9613.24	50.05	9843.27	48.91	9892	48.34		
10094.78	45.67	10148.28	45.24	10368.17	44.9	10479.2	44.33	10669.61	43.48		
10784.14	43.31	1116.58	43.19	11425.67	43.51	12100.81	42.64	12362.44	42.65		
12488.79	45.63	12750.2	44.64	13071.76	43.95	13073.58	43.95	13132.59	43.97		
13342.2	44.29	13393.7	44.35	13678.81	42.85	13726.57	42.64	13977.95	43.07		
14093.38	43.59	14246.72	43.54	14284.75	43.54	14537.46	43.54	14570.38	43.62		
14808.91	43.95	14894.97	43.74	15267.12	42.13	15536.61	39.92	15650.67	39.04		
15858.69	37.77	15917.13	37.78	16033.25	37.88	16500.44	36.68	16820.09	37.33		
16883.94	37.68	17009.95	39.59	17041.51	39.55	17306.22	37.05	17356.58	36.81		
17502.91	38.51	17590.61	38.63	17608.68	37.65	17673.53	35	17805.37	35.19		
17922.17	34.28	17942.43	34.67	17980.22	36.21	18044.81	35.48	18059.32	35.54		
18066.19	34.44	18076.88	34.15	18084.52	34.61	18111.52	34.58	18123.47	33.84		
18127.4	33.15	18149.27	30.12	18157.29	29.05	18173.51	25.99	18177.83	25.61		
18191.81	24.93	18203.46	24.73	18211.75	23.54	18215.44	23.29	18230.37	22.62		
18236.75	21.95	18238.61	21.77	18243.12	21.33	18249.5	20.65	18255.87	19.93		
18262.25	19.61	18268.42	19.82	18274.72	19.99	18280.9	20.11	18286.58	20.28		
18288.53	20.28	18292.81	20.34	18299.11	20.37	18305.29	20.65	18311.53	22.18		
18314.8	23.26	18318.19	24.49	18340.24	25.94	18353.17	26.75	18359.81	27.41		
18367.88	28.17	18380.56	30.09	18382.34	30.42	18396.49	30.95	18418.6	35.95		
18441.81	38.55	18458.76	38.77	18461.43	38.66	18488.43	37.48	18530.14	37.4		
18573.74	38.94	18603.49	36.79	18650.96	34.95	18676.19	33.82	18719.79	35.26		
18886.65	36.12	19024.37	37.44	19048.76	38.13	19232.62	41.35	19275.94	41.48		
19428.3	42.23	19500.26	42.37	19753.99	42.49	19800.69	42.94	19808.25	43.01		
20096.16	42.99	20158.69	46.23	20176.15	46.46	20274.58	47.75	20476.44	48.45		
20578.93	48.63	20663.21	48.91	20896.05	49.94	20961.7	49.96	21158.56	49.35		
21346.65	49.78	21381.8	49.79	21648.41	50.77	21729.94	50.12	21884.36	49.37		
22102.2	49.71	21218.67	49.79	22382.73	51.78	22505.74	52.53	22626.72	53.12		
22871.93	53.42	22873.39	53.42	23119.03	53.91	23266.55	54.03	23361.46	54.24		
23626.18	55.78	23647.78	55.81	23846.72	55.97	24047.35	56.62	24138.64	56.97		
24357.63	57.51	24428.71	57.34	24465.08	57.17	24538.18	56.11	24726.52	56.57		
24812.64	56.53	24991.81	56.6	25207.6	57.17	25220.71	57.28	25438.14	59.33		
25579.6	60.65										

Manning's n Values		num= 4							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
8850.6	.05	18127.4	.06	18149.27	.022	18418.6	.047		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coef	Contr.	Expan.
	18127.4	18418.6		1530.69	2280.69	1205.25	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	37.48	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.050	0.022	0.047
W.S. Elev (ft)	37.04	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	1029.27	3303.72	505.76
E.G. Slope (ft/ft)	0.000264	Area (sq ft)	1029.27	3303.72	505.76
Q Total (cfs)	19248.00	Flow (cfs)	728.73	18209.69	309.58

Top Width (ft)	1569.48	Top Width (ft)	886.24	291.20	392.04
Vel Total (ft/s)	3.98	Avg. Vel. (ft/s)	0.71	5.51	0.61
Max Chl Dpth (ft)	17.44	Hydr. Depth (ft)	1.16	11.35	1.29
Conv. Total (cfs)	1183911.0	Conv. (cfs)	44823.1	1120046.0	19041.7
Length Wtd. (ft)	2226.37	Wetted Per. (ft)	886.52	293.54	392.20
Min Ch El (ft)	19.60	Shear (lb/sq ft)	0.02	0.19	0.02
Alpha	1.82	Stream Power (lb/ft s)	0.01	1.02	0.01
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	2903.09	3374.86	4021.67
C & E Loss (ft)	0.01	Cum SA (acres)	1620.63	307.21	1229.77

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 9.975*

INPUT

Description: Interpolated Cross Section at River Mile 9.98

Station	Elevation	Data	num=	161					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
9956.92	55.27	9972.91	54.76	10152.68	52.92	10236.17	52.28	10396	50.96
10486.2	50.65	10654.24	49.61	10727.52	49.44	10959.94	48.52	11009.19	47.96
11214.08	45.35	11268.14	44.97	11490.32	44.66	11602.51	44.05	11794.91	43.13
11910.64	42.94	12246.54	42.78	12558.86	42.98	13241.04	42.07	13505.4	42.02
13633.06	44.6	13897.2	43.68	14222.12	43.14	14223.96	43.14	14283.58	43.02
14495.37	43.42	14547.41	43.49	14835.5	41.88	14883.76	41.66	15137.76	41.82
15254.39	42.26	15409.33	42.21	15447.76	42.19	15703.1	42.17	15736.37	42.26
15977.38	42.67	16064.34	42.44	16440.38	40.86	16712.68	38.79	16827.92	37.98
17038.11	36.84	17097.17	36.85	17214.5	36.94	17686.55	35.91	18009.54	36.5
18074.05	36.87	18201.38	38.65	18233.27	38.64	18500.74	36.15	18551.62	35.95
18699.48	37.44	18788.09	37.33	18806.36	36.44	18871.88	34.16	19005.1	34.43
19123.12	33.45	19143.59	33.76	19181.77	35.23	19247.03	34.84	19261.7	34.95
19268.64	34.01	19279.44	33.79	19287.16	34.22	19314.45	34.31	19326.52	33.5
19330.49	32.86	19350.8	29.65	19358.25	28.51	19373.32	25.19	19377.34	24.8
19390.32	24.02	19401.15	23.77	19408.85	22.68	19412.28	22.44	19426.14	21.85
19432.06	21.26	19433.8	21.11	19437.99	20.71	19443.91	20.11	19449.83	19.47
19455.76	19.18	19462.41	19.41	19469.2	19.58	19475.85	19.71	19481.97	19.87
19484.07	19.87	19488.69	19.91	19495.47	19.91	19502.13	20.19	19508.85	21.88
19512.38	23.08	19516.03	24.41	19539.78	25.75	19553.71	26.48	19560.88	27.07
19569.57	27.74	19583.23	29.43	19585.14	29.73	19600.39	30.33	19624.21	35.96
19648.06	38.23	19665.47	38.42	19668.22	38.31	19695.96	36.92	19738.82	36.77
19783.62	38.42	19814.19	35.95	19862.96	33.81	19888.89	32.53	19933.69	34.14
20105.14	35.07	20246.65	36.52	20271.71	37.18	20460.63	39.89	20505.15	39.98
20661.7	40.62	20735.64	40.74	20996.36	40.71	21044.33	41.2	21052.1	41.27
21347.94	41.16	21412.19	44.77	21430.13	45.03	21531.27	46.45	21738.68	47.19
21843.99	47.37	21930.6	47.63	22169.84	48.64	22237.3	48.63	22439.57	47.99
22632.85	48.53	22668.97	48.56	22942.91	49.88	23026.68	49.22	23185.35	48.37
23409.19	48.75	23436.39	48.83	23697.44	50.98	23823.84	51.78	23948.14	52.44
24200.1	52.75	24201.6	52.75	24454	53.34	24605.58	53.5	24703.1	53.71
24975.1	55.38	24997.3	55.41	25201.71	55.58	25407.87	56.26	25501.68	56.65
25726.69	57.18	25799.73	56.96	25837.09	56.79	25912.21	55.61	26105.73	56.16
26194.22	56.14	26378.32	56.21	26600.05	56.85	26613.52	56.95	26836.94	58.95
26982.29	60.23								

Manning's n Values	num=	4
Sta	n Val	Sta
9956.92	.0519330.49	19350.8
		.02219624.21
		.047

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

19330.4919624.21 1530.69 2280.69 1205.25 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	36.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.	0.050	0.022	0.047
W.S. Elev (ft)	36.48	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	1288.29	3308.52	725.77
E.G. Slope (ft/ft)	0.000255	Area (sq ft)	1288.29	3308.52	725.77
Q Total (cfs)	19248.00	Flow (cfs)	877.80	17855.74	514.47
Top Width (ft)	1968.36	Top Width (ft)	1234.34	293.72	440.30
Vel Total (ft/s)	3.62	Avg. Vel. (ft/s)	0.68	5.40	0.71
Max Chl Dpth (ft)	17.30	Hydr. Depth (ft)	1.04	11.26	1.65
Conv. Total (cfs)	1204379.0	Conv. (cfs)	54925.2	1117262.0	32191.0
Length Wtd. (ft)	2204.69	Wetted Per. (ft)	1234.57	296.25	440.47
Min Ch El (ft)	19.18	Shear (lb/sq ft)	0.02	0.18	0.03
Alpha	2.07	Stream Power (lb/ft s)	0.01	0.96	0.02
Frctn Loss (ft)	0.55	Cum Volume (acre-ft)	2862.37	3201.76	4004.63
C & E Loss (ft)	0.01	Cum SA (acres)	1583.37	291.89	1218.25

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 9.55000*

INPUT

Description: Interpolated Cross Section at River Mile 9.55

Station	Elevation	Data	num=	161					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
11063.25	54.89	11079.4	54.4111261.02	52.3911345.37	51.6911506.85	50.27			
11597.98	49.9511767.76	48.9511841.79	48.9511841.79	48.8312076.62	48.1312126.37	47.57			
12333.38	45.03	12388	44.712612.47	44.4312725.82	43.7812920.21	42.78			
13037.13	42.59	13376.5	42.3613692.04	42.4614381.26	41.514648.35	41.39			
14777.33	43.57	15044.2	42.7115372.47	42.0415374.33	42.0415434.57	42.08			
15648.55	42.5415701.13	42.6315992.18	40.9116040.94	40.6816297.56	40.58				
16415.4	40.9316571.94	40.8616610.76	40.8516868.74	40.816902.36	40.9				
17145.86	41.3917233.71	41.1517613.63	39.5917888.74	37.6718005.18	36.91				
18217.53	35.91	18277.2	35.9118395.74	35.9918872.67	35.1519198.99	35.68			
19264.17	36.0519392.82	37.7119425.03	37.7319695.27	35.2619746.67	35.09				
19896.06	36.3819985.58	36.0420004.04	35.2220070.23	33.3220204.83	33.67				
20324.07	32.6220344.75	32.8620383.32	34.2720449.26	34.220464.07	34.35				
20471.09	33.58	20482	33.44	20489.8	33.8420517.37	34.0120529.56	33.17		
20533.57	32.5620552.34	29.1720559.21	27.9620573.13	24.3920576.84	23.99				
20588.83	23.120598.83	22.8120605.94	21.8220609.11	21.5920621.91	21.07				
20627.38	20.5720628.98	20.4320632.85	20.0920638.32	19.5720643.79	19.01				
20649.26	18.7520656.39	18.9920663.67	19.17	20670.8	19.2820677.36	19.46			
20679.61	19.4620684.56	19.4820691.83	19.4520698.96	19.7420706.17	21.59				
20709.96	22.920713.87	24.3420739.33	25.5620754.26	26.2120761.94	26.73				
20771.26	27.3120785.89	28.7620787.95	29.0520804.29	29.7120829.82	35.96				
20854.31	37.9120872.19	38.0720875.01	37.9320903.49	36.3620947.51	36.13				
20993.51	37.9121024.89	35.1221074.97	32.6621101.59	31.2421147.59	33.02				
21323.64	34.0221468.93	35.621494.67	36.2221688.65	38.4321734.36	38.49				
21895.1	39.0221971.02	39.1122238.72	38.9422287.98	39.4622295.96	39.53				
22599.72	39.3222665.69	43.3222684.11	43.6222787.96	45.1623000.93	45.94				
23109.06	46.1223197.98	46.3623443.64	47.35	23512.9	47.323720.59	46.63			
23919.04	47.2823956.13	47.3424237.41	4924323.43	48.324486.35	47.38				
24716.17	47.79	24744.1	47.8625012.15	50.1925141.93	51.0425269.56	51.76			
25528.27	52.125529.81	52.125788.97	52.7825944.61	52.9726044.74	53.18				

26324.03	54.9926346.83	55.0126556.71	55.1826768.39	55.9226864.71	56.33
27095.75	56.8627170.74	56.5927209.11	56.427286.23	55.1127484.94	55.75
27575.8	55.7427764.83	55.83 27992.5	56.5328006.33	56.6328235.73	58.57
28384.97	59.81				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
11063.25	.0520533.57		.0720552.34		.02220829.82		.046

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 20533.5720829.82 1530.69 2280.69 1205.25 .1 .3

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
020533.57	16.920829.8228384.97	16.9			

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	36.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.050	0.022	0.046
W.S. Elev (ft)	35.96	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	1722.99	3318.71	988.96
E.G. Slope (ft/ft)	0.000241	Area (sq ft)	1722.99	3318.71	988.96
Q Total (cfs)	19248.00	Flow (cfs)	1115.92	17316.36	815.72
Top Width (ft)	2514.08	Top Width (ft)	1749.51	296.24	468.33
Vel Total (ft/s)	3.19	Avg. Vel. (ft/s)	0.65	5.22	0.82
Max Chl Dpth (ft)	17.21	Hydr. Depth (ft)	0.98	11.20	2.11
Conv. Total (cfs)	1240415.0	Conv. (cfs)	71914.2	1115933.0	52568.2
Length Wtd. (ft)	2170.31	Wetted Per. (ft)	1749.73	299.02	468.51
Min Ch El (ft)	18.75	Shear (lb/sq ft)	0.01	0.17	0.03
Alpha	2.41	Stream Power (lb/ft s)	0.01	0.87	0.03
Frctn Loss (ft)	0.62	Cum Volume (acre-ft)	2809.46	3028.27	3980.91
C & E Loss (ft)	0.02	Cum SA (acres)	1530.95	276.45	1205.68

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 9.12500*

INPUT

Description: Interpolated Cross Section at River Mile 9.13

Station	Elevation	Data	num=	161					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
12169.57	54.5112185.89		54.0712369.37		51.8512454.58		51.0912617.71		49.57
12709.77	49.2412881.28		48.2912956.07		48.23 13193.3		47.7413243.56		47.19
13452.69	44.713507.87		44.4313734.63		44.1913849.13		43.5114045.51		42.43
14163.62	42.2414506.46		41.9514825.23		41.9415521.49		40.9315791.31		40.76
15921.61	42.53 16191.2		41.7416522.83		41.08 16524.7		41.0816585.55		41.13
16801.72	41.6616854.84		41.7817148.87		39.9417198.12		39.6917457.37		39.33
17576.41	39.6117734.55		39.5117773.77		39.518034.39		39.4418068.34		39.54
18314.33	40.1118403.08		39.8518786.88		38.31 19064.8		36.5519182.43		35.84
19396.96	34.9919457.23		34.9819576.99		35.0520058.79		34.3820388.44		34.85
20454.29	35.2420584.25		36.7720616.79		36.8320889.79		34.3720941.72		34.23
21092.63	35.3221183.07		34.7421201.71		3421268.59		32.4821404.55		32.9
21525.01	31.7921545.91		31.9521584.87		33.3121651.48		33.5621666.45		33.76
21673.54	33.1521684.56		33.0821692.44		33.4521720.29		33.7321732.61		32.84
21736.66	32.2721753.87		28.721760.18		27.4221772.94		23.5921776.34		23.18
21787.34	22.1821796.51		21.8521803.03		20.9621805.94		20.7421817.68		20.3
21822.7	19.8721824.17		19.7621827.72		19.4721832.73		19.0221837.75		18.55

21842.77	18.3321850.38	18.5821858.14	18.7621865.75	18.8721872.75	19.05
21875.15	19.0421880.43	19.05 21888.2	18.99 21895.8	19.2821903.49	21.29
21907.53	22.7221911.71	24.2721938.87	25.36 21954.8	25.94 21963	26.39
21972.94	26.8821988.56	28.121990.75	28.3622008.19	29.0922035.44	35.97
22060.56	37.5922078.91	37.73 22081.8	37.5622111.03	35.822156.19	35.49
22203.39	37.3922235.59	34.2822286.98	31.5122314.29	29.9522361.49	31.9
22542.13	32.9622691.22	34.6822717.62	35.2722916.66	36.9722963.56	36.99
23128.5	37.41 23206.4	37.4723481.08	37.1723531.63	37.7123539.82	37.79
23851.5	37.4823919.19	41.8723938.09	42.1724044.65	43.8724263.17	44.68
24374.12	44.8624465.37	45.0824717.43	46.06 24788.5	45.9725001.61	45.28
25205.24	46.0325243.29	46.12 25531.9	48.1225620.17	47.425787.34	46.38
26023.16	46.8326051.82	46.926326.86	49.3926460.02	50.2926590.99	51.09
26856.44	51.4526858.02	51.4527123.94	52.2227283.64	52.4327386.38	52.65
27672.96	54.5927696.35	54.6127911.71	54.7828128.91	55.5928227.74	56.01
28464.81	56.5328541.76	56.2228581.12	56.0228660.26	54.6128864.15	55.34
28957.38	55.3429151.34	55.4429384.95	56.2229399.14	56.3129634.53	58.2
29787.66	59.39				

Manning's n Values num= 4

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
12169.57	.0521736.66	.0821753.87	.02222035.44	.046			

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

21736.66	22035.44	1530.69	2280.69	1205.25	.1	.3
----------	----------	---------	---------	---------	----	----

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
021736.66	18.622035.44	29787.66	18.6		

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	35.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.	0.050	0.027	0.046
W.S. Elev (ft)	35.37	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	2278.17	3303.64	1245.46
E.G. Slope (ft/ft)	0.000329	Area (sq ft)	2278.17	3303.64	1245.46
Q Total (cfs)	19248.00	Flow (cfs)	1470.65	16445.91	1331.44
Top Width (ft)	2926.31	Top Width (ft)	2124.26	296.42	505.63
Vel Total (ft/s)	2.82	Avg. Vel. (ft/s)	0.65	4.98	1.07
Max Chl Dpth (ft)	17.04	Hydr. Depth (ft)	1.07	11.15	2.46
Conv. Total (cfs)	1060468.0	Conv. (cfs)	81025.4	906086.8	73355.3
Length Wtd. (ft)	2131.39	Wetted Per. (ft)	2124.45	299.43	505.86
Min Ch El (ft)	18.33	Shear (lb/sq ft)	0.02	0.23	0.05
Alpha	2.68	Stream Power (lb/ft s)	0.01	1.13	0.05
Frctn Loss (ft)	0.74	Cum Volume (acre-ft)	2739.16	2854.90	3950.00
C & E Loss (ft)	0.01	Cum SA (acres)	1462.89	260.93	1192.21

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 8.70000*

INPUT

Description: Interpolated Cross Section at River Mile 8.7

Station Elevation Data	num=	161							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
13275.9	54.1213292.38	53.7213477.71	51.3213563.79	50.513728.57	48.88				
13821.56	48.5413994.81	47.6314070.35	47.6214309.98	47.3514360.75	46.81				

14571.99	44.3814627.73	44.1614856.78	43.9514972.44	43.24 15170.8	42.09
15290.11	41.8915636.42	41.5415958.41	41.4116661.72	40.3616934.27	40.12
17065.88	41.5 17338.2	40.7717673.18	40.1317675.08	40.1317736.54	40.18
17954.9	40.7918008.55	40.9218305.55	38.9718355.31	38.7118617.17	38.08
18737.42	38.2818897.16	38.1718936.78	38.1619200.03	38.0719234.33	38.18
19482.8	38.8319572.45	38.5519960.14	37.0420240.87	35.4320359.68	34.77
20576.38	34.0620637.27	34.0420758.23	34.1121244.91	33.6221577.89	34.02
21644.41	34.4221775.68	35.8321808.55	35.9222084.31	33.4722136.77	33.37
22289.2	34.2522380.56	33.4422399.39	32.7822466.94	31.6522604.28	32.14
22725.96	30.9622747.06	31.0422786.43	32.3522853.71	32.9222868.83	33.17
22875.98	32.7122887.12	32.7222895.08	33.0622923.21	33.4422935.66	32.5
22939.75	31.98 22955.4	28.2322961.14	26.8722972.75	22.7922975.85	22.37
22985.86	21.27 22994.2	20.8923000.13	20.123002.77	19.923013.45	19.53
23018.02	19.1823019.36	19.0923022.58	18.8523027.15	18.4823031.71	18.09
23036.27	17.923044.36	18.1623052.61	18.35 23060.7	18.4623068.14	18.64
23070.69	18.6323076.31	18.6223084.55	18.5423092.64	18.8323100.81	20.99
23105.11	22.5423109.54	24.1923138.42	25.1723155.35	25.6723164.06	26.05
23174.63	26.4523191.23	27.4423193.55	27.6823212.09	28.4823241.05	35.97
23266.81	37.2823285.63	37.3823288.59	37.223318.56	35.2423364.87	34.85
23413.27	36.8723446.29	33.4423498.98	30.3723526.99	28.6623575.39	30.78
23760.62	31.91 23913.5	33.7623940.58	34.3224144.68	35.5224192.77	35.49
24361.9	35.824441.78	35.8424723.45	35.3924775.28	35.9724783.67	36.06
25103.28	35.6525172.69	40.4125192.07	40.7425301.34	42.5725525.42	43.42
25639.19	43.625732.76	43.825991.22	44.77 26064.1	44.6426282.63	43.92
26491.43	44.7726530.45	44.89 26826.4	47.2326916.91	46.527088.33	45.39
27330.15	45.8427359.54	45.9427641.56	48.5927778.12	49.5427912.41	50.41
28184.62	50.828186.23	50.8128458.91	51.6528622.67	51.928728.03	52.12
29021.89	54.1929045.87	54.2129266.71	54.3929489.43	55.2529590.77	55.68
29833.87	56.229912.77	55.8529953.14	55.6430034.29	54.1130243.36	54.93
30338.96	54.9530537.85	55.05 30777.4	55.930791.95	55.9931033.32	57.82
31190.35	58.97				

Manning's n Values	num=	4	
Sta n Val Sta n Val Sta n Val			
13275.9 .0522939.75	.0822961.14	.02323241.05	.046

Bank Sta: Left Right	Lengths: Left Channel Right	Coeff Contr.	Expan.
22939.7523241.05	1530.69 2280.69 1205.25	.1	.3

Blocked Obstructions	num=	2
Sta L Sta R Elev	Sta L Sta R Elev	
022939.75	20.323241.0531190.35	20.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	34.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.	0.050	0.029	0.046
W.S. Elev (ft)	34.65	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	2618.37	3241.01	1450.82
E.G. Slope (ft/ft)	0.000369	Area (sq ft)	2618.37	3241.01	1450.82
Q Total (cfs)	19248.00	Flow (cfs)	1857.20	15698.61	1692.19
Top Width (ft)	3117.57	Top Width (ft)	2258.90	296.21	562.46
Vel Total (ft/s)	2.63	Avg. Vel. (ft/s)	0.71	4.84	1.17
Max Chl Dpth (ft)	16.75	Hydr. Depth (ft)	1.16	10.94	2.58
Conv. Total (cfs)	1002283.0	Conv. (cfs)	96708.1	817459.5	88115.8
Length Wtd. (ft)	2100.89	Wetted Per. (ft)	2259.07	299.48	562.74
Min Ch El (ft)	17.90	Shear (lb/sq ft)	0.03	0.25	0.06
Alpha	2.78	Stream Power (lb/ft s)	0.02	1.21	0.07
Frctn Loss (ft)	0.80	Cum Volume (acre-ft)	2653.13	2683.57	3912.69
C & E Loss (ft)	0.00	Cum SA (acres)	1385.88	245.42	1177.43

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 8.27500*

INPUT

Description: Interpolated Cross Section at River Mile 8.28

Station	Elevation	Data	num=	161							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
14382.22	53.7414398.87	53.3714586.06	50.79	14673	49.9114839.43	48.18					
14933.35	47.8315108.33	46.9815184.63	47.0115426.66		46.9615477.93	46.42					
15691.29	44.0615747.59	43.8915978.94	43.7116095.76		42.97 16296.1	41.74					
16416.61	41.5416766.38	41.12 17091.6	40.8917801.94		39.7918077.22	39.49					
18210.15	40.47 18485.2	39.818823.54	39.1718825.45		39.1718887.53	39.24					
19108.07	39.9119162.26	40.0719462.24	38.0119512.49		37.7319776.98	36.84					
19898.43	36.9520059.77	36.8320099.78	36.8120365.67		36.720400.31	36.81					
20651.28	37.5420741.82	37.2621133.39	35.7721416.93		34.321536.94	33.7					
21755.8	33.13 21817.3	33.1121939.47	33.1722431.02		32.8522767.34	33.19					
22834.52	33.6122967.11	34.8923000.31	35.0223278.83		32.5823331.81	32.51					
23485.78	33.1923578.05	32.1523597.07	31.5623665.29		30.8123804.01	31.38					
23926.91	30.1423948.22	30.1323987.98	31.3824055.94		32.29 24071.2	32.57					
24078.43	32.2824089.69	32.3724097.72	32.6824126.13		33.16 24138.7	32.17					
24142.83	31.6824156.94	27.7524162.11	26.3324172.56		21.9924175.35	21.56					
24184.37	20.3524191.88	19.9324197.22	19.25 24199.6		19.0524209.22	18.75					
24213.34	18.4924214.54	18.4224217.45	18.2324221.56		17.9424225.67	17.63					
24229.78	17.4824238.35	17.7524247.08	17.9324255.65		18.0424263.53	18.23					
24266.23	18.2124272.18	18.1924280.92	18.0824289.48		18.3724298.13	20.69					
24302.68	22.3624307.38	24.1224337.96	24.98 24355.9		25.424365.12	25.72					
24376.31	26.03 24393.9	26.7824396.36	26.9924415.99		27.8624446.66	35.98					
24473.06	36.9624492.34	37.0424495.38	36.8324526.09		34.6824573.55	34.21					
24623.15	36.3524656.99	32.6124710.99	29.2224739.69		27.3724789.29	29.66					
24979.12	30.8625135.78	32.8425163.53	33.3625372.69		34.0625421.98	33.99					
25595.3	34.1925677.16	34.225965.81	33.6226018.93		34.2226027.53	34.32					
26355.06	33.8126426.19	38.9626446.05	39.3126558.03		41.2826787.66	42.17					
26904.26	42.3427000.14	42.5327265.02	43.48 27339.7		43.3127563.64	42.57					
27777.62	43.5227817.61	43.67 28120.9	46.3528213.65		45.628389.32	44.39					
28637.13	44.9128667.25	44.9828956.27	47.7929096.21		48.829233.83	49.73					
29512.79	50.1529514.44	50.1629793.88	51.09 29961.7		51.3730069.67	51.59					
30370.81	53.7930395.39	53.82 30621.7	53.9930849.95		54.91 30953.8	55.36					
31202.92	55.8831283.79	55.4831325.15	55.2531408.31		53.6131622.57	54.53					
31720.54	54.5531924.36	54.6632169.85	55.5832184.76		55.6732432.11	57.44					
32593.04	58.56										

Manning's n Values	num=	4					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
14382.22	.0524142.83	.0924162.11	.02324446.66	.045			

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 24142.8324446.66 1530.69 2280.69 1205.25 .1 .3

Blocked Obstructions	num=	2			
Sta L	Sta R	Elev	Sta L	Sta R	Elev
024142.83	2224446.66	32593.04			22

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	34.15	Element	Left OB	Channel	Right OB
----------------	-------	---------	---------	---------	----------

Vel Head (ft)	0.29	Wt. n-Val.	0.050	0.029	0.045
W.S. Elev (ft)	33.86	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	2832.43	3152.28	1665.52
E.G. Slope (ft/ft)	0.000394	Area (sq ft)	2832.43	3152.28	1665.52
Q Total (cfs)	19248.00	Flow (cfs)	2111.63	15160.38	1975.99
Top Width (ft)	3502.57	Top Width (ft)	2365.68	295.82	841.07
Vel Total (ft/s)	2.52	Avg. Vel. (ft/s)	0.75	4.81	1.19
Max Chl Dpth (ft)	16.38	Hydr. Depth (ft)	1.20	10.66	1.98
Conv. Total (cfs)	969311.6	Conv. (cfs)	106339.9	763462.8	99508.9
Length Wtd. (ft)	2078.39	Wetted Per. (ft)	2365.83	299.43	841.38
Min Ch El (ft)	17.48	Shear (lb/sq ft)	0.03	0.26	0.05
Alpha	2.91	Stream Power (lb/ft s)	0.02	1.25	0.06
Frctn Loss (ft)	0.86	Cum Volume (acre-ft)	2557.36	2516.20	3869.58
C & E Loss (ft)	0.00	Cum SA (acres)	1304.62	229.92	1158.01

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 7.85000*

INPUT

Description: Interpolated Cross Section at River Mile 7.85

Station	Elevation	Data	num=	161	Sta	Elev	Sta	Elev	Sta	Elev
15488.55	53.3615505.36	53.0215694.41	50.26	15782.2	49.3215950.28	47.49				
16045.14	47.1316221.85	46.3216298.91	46.41	16543.34	46.5816595.12	46.04				
16810.59	43.7416867.45	43.6217101.09	43.48	17219.07	42.7	17421.4	41.39			
17543.1	41.1917896.34	40.7118224.78	40.36	18942.17	39.2219220.18	38.86				
19354.43	39.43	19632.2	38.83	19973.89	38.21	19975.82	38.22	20038.52	38.29	
20261.25	39.04	20315.97	39.21	210618.93	37.04	20669.68	36.75	20936.79	35.59	
21059.44	35.62	21222.38	35.49	21262.79	35.46	21531.31	35.33	21566.3	35.45	
21819.75	36.26	21911.2	35.96	22306.64	34.52	22592.99	33.18	22714.19	32.64	
22935.22	32.22	22997.33	32.17	23120.72	32.23	23617.14	32.09	23956.79	32.36	
24024.64	32.79	24158.54	33.95	24192.07	34.11	24473.35	31.69	24526.86	31.65	
24682.35	32.13	24775.54	30.85	24794.74	30.34	24863.64	29.97	25003.74	30.62	
25127.85	29.31	25149.38	29.22	25189.53	30.42	25258.16	31.65	25273.58	31.98	
25280.88	31.85	25292.25	32.01	25300.36	32.29	25329.05	32.87	25341.75	31.84	
25345.92	31.39	25358.47	27.28	25363.07	25.79	25372.38	21.22	25374.86	20.75	
25382.88	19.43	25389.56	18.98	25394.31	18.39	25396.43	18.2	25405	17.98	
25408.65	17.79	25409.73	17.74	25412.31	17.62	25415.97	17.39	25419.63	17.17	
25423.29	17.05	25432.33	17.33	25441.55	17.52	25450.6	17.63	25458.92	17.82	
25461.77	17.82	25468.05	17.76	25477.28	17.62	25486.32	17.91	25495.45	20.4	
25500.26	22.18	25505.22	24.05	25537.51	24.79	25556.44	25.14	25566.18	25.38	
25578	25.62	25596.56	26.12	25599.16	26.32	25619.89	27.24	25652.27	35.99	
25679.31	36.64	25699.06	36.69	25702.17	36.46	25733.63	34.12	25782.23	33.58	
25833.03	35.84	25867.7	31.77	25923	28.08	25952.39	26.08	26003.2	28.54	
26197.61	29.81	26358.07	31.92	26386.49	32.41	26600.71	32.62	26651.18	32.5	
26828.7	32.58	26912.54	32.57	27208.17	31.85	27262.57	32.48	27271.38	32.58	
27606.84	31.97	27679.7	37.51	27700.04	37.88	27814.72	39.99	28049.91	40.91	
28169.32	41.08	28267.53	41.25	28538.81	42.18	28615.3	41.98	28844.66	41.21	
29063.82	42.27	29104.77	42.45	29415.4	45.47	29510.39	44.72	29690.31	43.39	
29944.12	43.95	29974.96	44.02	30270.98	47	30414.3	48.05	30555.25	49.05	
30840.96	49.53	30842.65	49.51	31128.86	50.53	31300.73	50.83	31411.31	51.06	
31719.74	53.43	31744.92	53.42	31976.7	53.59	32210.47	54.57	32316.83	55.04	
32571.98	55.55	32654.8	55.11	32697.17	54.87	32782.34	53.13	33001.78	54.12	
33102.12	54.16	33310.87	54.28	33562.3	55.26	33577.57	55.34	33830.91	57.06	
33995.72	58.14									

Manning's n Values num= 4
 Sta n Val Sta n Val Sta n Val Sta n Val
 15488.55 .0525345.92 .125363.07 .02325652.27 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 25345.9225652.27 1530.69 2280.69 1205.25 .1 .3

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 025345.92 23.725652.2733995.72 23.7

CROSS SECTION OUTPUT Profile #100-Year Flood

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	33.28				
Vel Head (ft)	0.28	Wt. n-Val.	0.050	0.030	0.045
W.S. Elev (ft)	33.00	Reach Len. (ft)	1530.69	2280.69	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	2891.79	3036.20	2522.96
E.G. Slope (ft/ft)	0.000438	Area (sq ft)	2891.79	3036.20	2522.96
Q Total (cfs)	19248.00	Flow (cfs)	2264.92	14769.69	2213.39
Top Width (ft)	4497.16	Top Width (ft)	2438.80	295.27	1763.09
Vel Total (ft/s)	2.28	Avg. Vel. (ft/s)	0.78	4.86	0.88
Max Chl Dpth (ft)	15.95	Hydr. Depth (ft)	1.19	10.28	1.43
Conv. Total (cfs)	919842.1	Conv. (cfs)	108238.0	705828.3	105775.8
Length Wtd. (ft)	2015.48	Wetted Per. (ft)	2438.94	299.29	1763.48
Min Ch El (ft)	17.05	Shear (lb/sq ft)	0.03	0.28	0.04
Alpha	3.53	Stream Power (lb/ft s)	0.03	1.35	0.03
Frctn Loss (ft)	0.79	Cum Volume (acre-ft)	2456.78	2354.20	3811.64
C & E Loss (ft)	0.03	Cum SA (acres)	1220.21	214.45	1121.99

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 7.42500*

INPUT

Description: Interpolated Cross Section at River Mile 7.43

Station	Elevation	Data	num=	161					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
16594.87	52.9816611.85	52.6716802.75	49.7316891.41	48.7317061.14	46.79				
17156.93	46.4217335.38	45.6617413.19	45.817660.02	46.1917712.31	45.66				
17929.89	43.4217987.31	43.3518223.24	43.2418342.38	42.42 18546.7	41.05				
18669.59	40.84 19026.3	40.2919357.96	39.84 20082.4	38.6520363.13	38.23				
20498.7	38.4 20779.2	37.8621124.24	37.26 21126.2	37.2621189.51	37.35				
21414.42	38.1621469.69	38.3621775.61	36.0721826.86	35.7622096.59	34.35				
22220.45	34.322384.99	34.1422425.79	34.1222696.96	33.9722732.28	34.09				
22988.22	34.9823080.57	34.6723479.89	33.2323769.06	32.0623891.44	31.57				
24114.65	31.2724177.37	31.2424301.96	31.2924803.26	31.3225146.24	31.53				
25214.76	31.9825349.97	33.0125383.84	33.2125667.88	30.7925721.91	30.79				
25878.92	31.0625973.02	29.5625992.42	29.12 26062	29.1326203.47	29.86				
26328.8	28.4826350.54	28.3126391.08	29.4626460.39	31.0126475.96	31.38				
26483.33	31.4226494.81	31.65 26503	31.926531.98	32.5926544.79	31.5				
26549.01	31.09 26560	26.8126564.03	25.2426572.19	20.426574.36	19.94				
26581.39	18.5226587.24	18.0226591.41	17.5326593.27	17.3526600.77	17.21				
26603.97	17.126604.91	17.0726607.18	16.9826610.38	16.8526613.59	16.71				
26616.79	16.6326626.31	16.9226636.03	17.1126645.55	17.2126654.31	17.41				
26657.31	17.3826663.93	17.3326673.64	17.1626683.16	17.4626692.78	20.1				
26697.83	2226703.06	23.9726737.05	24.5926756.99	24.8726767.24	25.04				

26779.68	25.1726799.23	25.4626801.97	25.6226823.79	26.6226857.88	35.99
26885.57	36.3226905.78	36.3526908.96	36.126941.16	33.5626990.91	32.94
27042.92	35.32 27078.4	30.94 27135	26.94 27165.1	24.79 27217.1	27.42
27416.1	28.7527580.35	3127609.44	31.4527828.72	31.1527880.39	31
28062.1	30.9728147.92	30.9328450.53	30.0728506.22	30.7328515.24	30.84
28858.62	30.14 28933.2	36.0528954.02	36.4529071.41	38.6929312.15	39.66
29434.39	39.8229534.91	39.98 29812.6	40.89 29890.9	40.6530125.68	39.86
30350.01	41.0230391.94	41.22 30709.9	44.5830807.14	43.8 30991.3	42.4
31251.11	42.9931282.68	43.0631585.69	46.2 31732.4	47.3131876.68	48.38
32169.13	48.8532170.86	48.8632463.83	49.9632639.76	50.332752.96	50.53
33068.67	5333094.44	53.02 33331.7	53.233570.98	54.2433679.86	54.72
33941.04	55.2334025.81	54.7434069.18	54.4834156.37	52.634380.98	53.71
34483.71	53.7634697.38	53.8934954.75	54.9534970.39	55.02 35229.7	56.68
35398.41	57.72				

Manning's n Values	num=	4		
Sta n Val Sta	n Val Sta	n Val Sta		
16594.87	.0526549.01	.126564.03	.02326857.88	.044

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
26549.01	26857.88	1530.69	2280.7	1205.25	.1	.3	
Blocked Obstructions	num=	2					
Sta L Sta R Elev	Sta L Sta R Elev						
026549.01	25.426857.8835398.41	25.4					

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	32.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.20	Wt. n-Val.	0.050	0.029	0.044
W.S. Elev (ft)	32.27	Reach Len. (ft)	1530.69	2280.70	1205.25
Crit W.S. (ft)		Flow Area (sq ft)	3317.25	2954.41	3869.02
E.G. Slope (ft/ft)	0.000345	Area (sq ft)	3317.25	2954.41	3869.02
Q Total (cfs)	19248.00	Flow (cfs)	2416.26	12816.32	4015.42
Top Width (ft)	4685.09	Top Width (ft)	2571.94	295.33	1817.82
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.73	4.34	1.04
Max Chl Dpth (ft)	15.64	Hydr. Depth (ft)	1.29	10.00	2.13
Conv. Total (cfs)	1036163.0	Conv. (cfs)	130072.9	689931.3	216158.9
Length Wtd. (ft)	1869.71	Wetted Per. (ft)	2572.08	299.89	1818.26
Min Ch El (ft)	16.63	Shear (lb/sq ft)	0.03	0.21	0.05
Alpha	3.56	Stream Power (lb/ft s)	0.02	0.92	0.05
Frctn Loss (ft)	0.70	Cum Volume (acre-ft)	2347.69	2197.37	3723.21
C & E Loss (ft)	0.03	Cum SA (acres)	1132.17	198.99	1072.45

Warning: Divided flow computed for this cross-section.
 Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 7.0

INPUT
 Description: Cross Section at River Mile 7.0

Station Elevation Data	num=	87							
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
17701.2	52.6	17911.1	49.2	18172	46.1	18448.9	45	18776.7	45.8
19049.2	43.1	19345.4	43	19672	40.7	22274.6	36.3	22340.5	36.4
22623.4	37.5	22932.3	35.1	23256.4	33.1	23547.6	32.8	23862.6	32.6
24156.7	33.7	25068.7	30.5	25357.4	30.3	26335.7	30.7	26575.6	32.3
26862.4	29.9	27075.5	30	27190.1	27.9	27403.2	29.1	27551.7	27.4

27734.9	32.3	27752.1	30.8	27765	24.7	27772	19.6	27779.9	17.6
27790.1	16.5	27800.1	16.4	27810.3	16.2	27820.3	16.5	27830.5	16.7
27840.5	16.8	27849.7	17	27859.8	16.9	27870	16.7	27880	17
27890.1	19.8	27900.9	23.9	27936.6	24.4	27968.3	24.7	28001.9	24.8
28027.7	26	28063.5	36	28112.5	36	28148.7	33	28199.6	32.3
28252.8	34.8	28289.1	30.1	28377.8	23.5	28431	26.3	28634.6	27.7
28832.4	30.5	29109.6	29.5	29383.3	29.3	29692.9	28.3	29759.1	29.1
30110.4	28.3	30186.7	34.6	30328.1	37.4	30574.4	38.4	30802.3	38.7
31086.4	39.6	31406.7	38.5	31679.1	40	32004.4	43.7	32292.3	41.4
32590.4	42.1	32900.4	45.4	33198.1	47.7	33497.3	48.2	33798.8	49.4
34094.6	50	34417.6	52.6	34686.7	52.8	35042.9	54.4	35310.1	54.9
35441.2	54.1	35530.4	52.1	35760.2	53.3	36083.9	53.5	36363.2	54.7
36628.5	56.3	36801.1	57.3						

Manning's n Values		num=		9					
Sta	n Val	Sta	n Val	Sta	n Val				
17701.2	.04	18448.9	.05	19672	.04	25068.7	.05	27752.1	.11
27765	.024	28027.7	.11	28289.1	.05	28832.4	.04		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	27752.1	28063.5	1574.27	2316.18	1729.73		.1	.3

Blocked Obstructions		num=		2	
Sta L	Sta R	Elev	Sta L	Sta R	Elev
17701.2	27734.9	27.11	28112.5	36801.1	27.11

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	31.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.050	0.038	0.044
W.S. Elev (ft)	31.64	Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	4077.13	2895.29	5226.88
E.G. Slope (ft/ft)	0.000401	Area (sq ft)	4077.13	2895.29	5226.88
Q Total (cfs)	20760.00	Flow (cfs)	3456.20	10125.43	7178.37
Top Width (ft)	4965.53	Top Width (ft)	2796.17	295.78	1873.58
Vel Total (ft/s)	1.70	Avg. Vel. (ft/s)	0.85	3.50	1.37
Max Chl Dpth (ft)	15.44	Hydr. Depth (ft)	1.46	9.79	2.79
Conv. Total (cfs)	1036347.0	Conv. (cfs)	172534.8	505465.1	358346.8
Length Wtd. (ft)	2047.26	Wetted Per. (ft)	2796.31	301.07	1873.96
Min Ch El (ft)	16.20	Shear (lb/sq ft)	0.04	0.24	0.07
Alpha	2.33	Stream Power (lb/ft s)	0.03	0.84	0.10
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	2217.77	2044.23	3597.37
C & E Loss (ft)	0.01	Cum SA (acres)	1037.85	183.51	1021.38

Warning: Divided flow computed for this cross-section.

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 6.39818*

INPUT

Description: Interpolated Cross Section at River Mile 6.40

Station Elevation Data		num=		133	
Sta	Elev	Sta	Elev	Sta	Elev
17637.45	49.9117832.37	46.8218074.65	4418331.79	42.9918636.19	43.72
18889.24	41.26 19164.3	41.1719467.59	39.0721884.42	35.0521945.62	35.14
22208.33	36.1322495.18	33.9522796.15	32.1323066.56	31.8523359.08	31.67
23632.18	32.6624479.09	29.7524747.18	29.5625655.66	29.9225878.43	31.37
26144.76	29.1826281.38	29.2426342.65	29.326449.07	27.4326646.96	28.61

26784.86	27.1226954.99	31.6426970.96	30.2926976.04	2826979.83	26.26
26981.96	25.3726985.41	23.9826985.52	23.9426985.62	23.88 26992.7	19.6
26993.41	19.1826995.97	18.6426999.79	17.8627002.33	17.3127006.87	16.86
27009.62	16.5327013.84	16.0427013.96	16.0327021.04	15.8527022.99	15.83
27025.12	15.8127028.13	15.7727030.96	15.6327036.63	15.4727046.47	15.83
27052.09	15.98 27056.5	16.0627066.33	16.1627067.55	16.1827075.38	16.38
27083.01	16.3327085.31	16.3227095.34	16.1527098.46	16.2427105.18	16.5
27113.92	18.9327115.11	19.2527125.73	23.2327129.38	23.327144.83	23.68
27150.09	23.8727160.84	24.0227184.41	24.2527192.02	24.3227225.06	24.44
27250.44	25.6 27253.8	26.5127267.71	30.3527285.64	35.4127314.13	35.32
27326.05	35.3627334.08	35.3727338.25	35.0527369.86	32.4627380.78	32.3
27420.17	31.7727472.76	34.1527508.64	29.67 27648.9	25.9127850.15	27.18
28045.67	29.7328319.67	28.8228590.21	28.6428896.23	27.7328961.67	28.45
29308.91	27.7329384.33	33.45 29524.1	3629767.55	36.9129992.82	37.18
30273.64	3830590.24	37 30859.5	38.3631181.04	41.7331465.62	39.64
31760.27	40.27 32066.7	44.21 32109.7	44.5332153.43	44.9532203.52	45.93
32242.21	46.3232360.96	47.2832656.71	47.9332716.57	48.232954.73	49.12
33049.95	49.3133247.11	49.7333440.57	51.2733566.38	52.2533832.37	52.45
33877.7	52.6434143.36	53.834184.45	53.9834204.98	54.0334331.39	54.26
34448.57	54.4634457.39	54.4134578.16	53.7134666.33	51.8134842.59	52.72
34893.48	52.98 35155.3	53.1535213.44	53.1935469.59	54.2635489.52	54.37
35587	55.0235751.75	56.0335922.36	57.04		

Manning's n Values	num=	3
Sta n Val	Sta n Val	Sta n Val
17637.45	.0526970.96	.02327285.64 .046

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
26970.96	27285.64	1574.27	2316.18	1729.73	.1	.3	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	31.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.050	0.023	0.046
W.S. Elev (ft)	30.77	Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	3350.26	2836.88	4643.18
E.G. Slope (ft/ft)	0.000290	Area (sq ft)	3350.26	2836.88	4643.18
Q Total (cfs)	20760.00	Flow (cfs)	2193.21	13852.56	4714.23
Top Width (ft)	4727.23	Top Width (ft)	2579.86	298.23	1849.14
Vel Total (ft/s)	1.92	Avg. Vel. (ft/s)	0.65	4.88	1.02
Max Chl Dpth (ft)	15.30	Hydr. Depth (ft)	1.30	9.51	2.51
Conv. Total (cfs)	1220091.0	Conv. (cfs)	128897.9	814132.1	277060.9
Length Wtd. (ft)	2103.51	Wetted Per. (ft)	2579.96	303.01	1849.40
Min Ch El (ft)	15.47	Shear (lb/sq ft)	0.02	0.17	0.05
Alpha	4.41	Stream Power (lb/ft s)	0.02	0.83	0.05
Frctn Loss (ft)	0.60	Cum Volume (acre-ft)	2083.56	1891.84	3401.41
C & E Loss (ft)	0.00	Cum SA (acres)	940.71	167.72	947.46

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 5.79636*

INPUT

Description: Interpolated Cross Section at River Mile 5.80

Station Elevation Data	num=	134		
Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev
17573.71	47.2217753.64	44.43 17977.3	41.8918214.67	40.9918495.68 41.63

18729.28	39.42	18983.2	39.3319263.17	37.4421494.24	33.7921550.74	33.87
21793.25	34.7722058.06		32.822335.89	31.1622585.52	30.922855.55	30.73
23107.67	31.6323889.48		28.9924136.97	28.8224975.61	29.1325181.27	30.44
25427.12	28.4725553.25		28.52 25609.8	28.625708.04	26.9725890.72	28.11
26018.03	26.8426175.07		30.9926189.82	29.7726195.48	27.33 26199.7	25.44
26202.07	24.5626205.91		23.2226206.03	23.1826206.14	23.1326214.03	19.15
26214.83	18.7626217.68		18.2626221.93	17.5426224.76	17.0226229.81	16.55
26232.87	16.1526237.58		15.5726237.71	15.56 26245.6	15.2626247.77	15.25
26250.14	15.2326253.49		15.1826256.65	14.9626262.96	14.7426272.63	15.16
26278.16	15.34 26282.5		15.4226292.16	15.5126293.36	15.5426301.06	15.75
26308.56	15.7426310.83		15.7326320.69	15.5926323.75	15.6926330.36	16
26338.95	18.3926340.12		18.7126350.57	22.5626354.15	22.6526369.35	23.18
26374.51	23.4926385.09		23.6426408.26	23.8726415.74	23.9526448.22	24.07
26473.17	25.1926476.48		26.0626490.16	29.7926507.79	34.8126535.95	34.63
26547.73	34.7126555.66		34.7426559.78	34.4426591.02	31.9226601.81	31.75
26640.74	31.2426692.72		33.5126728.18	29.2326814.83	23.23 26866.8	25.52
27065.7	26.6627258.94		28.9527529.73	28.1427797.11	27.9728099.56	27.15
28164.23	27.8128507.42		27.1528581.96	32.31 28720.1	34.628960.71	35.42
29183.35	35.6629460.88		36.429773.79	35.5 30039.9	36.7330357.69	39.75
30638.94	37.8730930.15		38.4531232.99	43.01 31275.5	43.3231318.71	43.83
31368.22	45.3931406.46		45.8631523.82	46.8531816.11	47.6731875.28	47.96
32110.65	48.8532204.76		49.0332399.62	49.4732590.82	50.9732715.16	51.91
32978.04	52.0933022.84		52.28 33285.4	53.3833326.02	53.57 33346.3	53.61
33471.23	53.8433587.05		54.0233595.77	53.9733715.12	53.3233802.26	51.52
33976.46	52.4134026.75		52.6634285.52	52.8434342.98	52.8734596.14	53.92
34615.83	54.0334712.17		54.75 34875	55.7735043.62	56.78	

Manning's n Values num= 3
 Sta n Val Sta n Val
 17573.71 .0526189.82 .02326507.79 .048

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 26189.8226507.79 1574.27 2316.18 1729.73 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	30.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.050	0.023	0.048
W.S. Elev (ft)	30.17	Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	3356.53	2858.46	4871.94
E.G. Slope (ft/ft)	0.000282	Area (sq ft)	3356.53	2858.46	4871.94
Q Total (cfs)	20760.00	Flow (cfs)	2136.56	13758.49	4864.96
Top Width (ft)	4664.81	Top Width (ft)	2532.50	301.67	1830.65
Vel Total (ft/s)	1.87	Avg. Vel. (ft/s)	0.64	4.81	1.00
Max Chl Dpth (ft)	15.43	Hydr. Depth (ft)	1.33	9.48	2.66
Conv. Total (cfs)	1235756.0	Conv. (cfs)	127180.2	818985.0	289590.6
Length Wtd. (ft)	2109.65	Wetted Per. (ft)	2532.59	306.07	1831.09
Min Ch El (ft)	14.74	Shear (lb/sq ft)	0.02	0.16	0.05
Alpha	4.46	Stream Power (lb/ft s)	0.01	0.79	0.05
Frctn Loss (ft)	0.59	Cum Volume (acre-ft)	1962.37	1740.42	3212.49
C & E Loss (ft)	0.00	Cum SA (acres)	848.33	151.77	874.40

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 5.19454*

INPUT

Description: Interpolated Cross Section at River Mile 5.19

Station Elevation Data num= 134									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17509.96	44.5317674.92	42.0517879.95	39.7918097.56	38.9818355.17	39.55				
18569.32	37.5818802.09	37.519058.76	35.8121104.07	32.5421155.86	32.61				
21378.18	33.421620.94	31.6521875.64	30.1822104.48	29.9622352.03	29.8				
22583.15	30.5923299.87	28.2423526.75	28.0824295.57	28.35 24484.1	29.5				
24709.49	27.7524825.11	27.824876.96	27.8924967.02	26.525134.49	27.62				
25251.19	26.5525395.16	30.3325408.68	29.2625414.92	26.6625419.57	24.62				
25422.18	23.7425426.41	22.4625426.55	22.4325426.67	22.3825435.37	18.69				
25436.24	18.3425439.39	17.8725444.06	17.2325447.19	16.7225452.76	16.25				
25456.13	15.7825461.31	15.1125461.46	15.125470.16	14.6825472.55	14.66				
25475.17	14.6425478.86	14.625482.34	14.2925489.29	14.01 25498.8	14.49				
25504.24	14.7125508.49	14.79 25518	14.8725519.17	14.8925526.74	15.13				
25534.11	15.1625536.34	15.1525546.03	15.0425549.04	15.1425555.54	15.49				
25563.98	17.8525565.14	18.16 25575.4	21.8925578.92	2225593.86	22.69				
25598.94	23.1225609.33	23.26 25632.1	23.4925639.46	23.5725671.39	23.71				
25695.91	24.7925699.16	25.62 25712.6	29.2425729.94	34.2225757.76	33.95				
25769.4	34.0725777.24	34.1225781.31	33.8425812.18	31.3925822.85	31.2				
25861.32	30.7225912.68	32.8625947.72	28.826033.35	23.0926084.71	25.13				
26281.25	26.15 26472.2	28.18 26739.8	27.4527004.02	27.31 27302.9	26.58				
27366.8	27.1627705.93	26.5827779.59	31.1627916.09	33.228153.86	33.93				
28373.87	34.1528648.13	34.828957.33	34 29220.3	35.0929534.33	37.78				
29812.26	36.1130100.03	36.6230399.29	41.8230441.29	42.11 30484	42.7				
30532.92	44.84 30570.7	45.430686.68	46.4330975.52	47.431033.98	47.72				
31266.57	48.5731359.58	48.7431552.13	49.231741.07	50.6731863.94	51.56				
32123.72	51.7432167.99	51.9232427.44	52.9632467.57	53.1532487.62	53.2				
32611.07	53.4232725.52	53.5932734.14	53.5432852.08	52.9332938.19	51.23				
33110.34	52.0933160.03	52.3333415.74	52.5233472.52	52.5633722.69	53.57				
33742.14	53.733837.35	54.4833998.25	55.534164.88	56.51					

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
17509.96	.0525408.68		.02225729.94		.05

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	25408.68	25729.94		1574.27	2316.18	1729.73	.1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

	E.G. Elev (ft)	29.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26		Wt. n-Val.	0.050	0.022	0.050
W.S. Elev (ft)	29.56		Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)			Flow Area (sq ft)	3331.84	2875.39	4796.20
E.G. Slope (ft/ft)	0.000275		Area (sq ft)	3331.84	2875.39	4796.20
Q Total (cfs)	20760.00		Flow (cfs)	2004.23	14236.93	4518.84
Top Width (ft)	4589.30		Top Width (ft)	2471.63	305.03	1812.65
Vel Total (ft/s)	1.89		Avg. Vel. (ft/s)	0.60	4.95	0.94
Max Chl Dpth (ft)	15.55		Hydr. Depth (ft)	1.35	9.43	2.65
Conv. Total (cfs)	1252518.0		Conv. (cfs)	120921.6	858960.4	272636.2
Length Wtd. (ft)	2117.57		Wetted Per. (ft)	2471.71	309.13	1813.03
Min Ch El (ft)	14.01		Shear (lb/sq ft)	0.02	0.16	0.05
Alpha	4.79		Stream Power (lb/ft s)	0.01	0.79	0.04
Frctn Loss (ft)	0.58		Cum Volume (acre-ft)	1841.51	1587.98	3020.53
C & E Loss (ft)	0.00		Cum SA (acres)	757.90	135.64	802.07

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 4.59272*

INPUT
 Description: Interpolated Cross Section at River Mile 4.59

Station Elevation Data		num= 134	
Sta	Elev	Sta	Elev
17446.22	41.8417596.19	39.66	17782.6
18409.36	35.7418620.99	35.6618854.35	34.1920713.89
20963.11	32.0321183.81	30.521415.38	29.2121623.44
22058.64	29.5622710.26	27.4822916.54	27.3523615.53
23991.85	27.0324096.97	27.0724144.11	27.1924225.99
24484.35	26.2724615.25	29.6724627.54	28.7524634.36
24642.29	22.9224646.92	21.724647.06	21.67 24647.2
24657.66	17.9224661.09	17.4924666.21	16.9224669.62
24679.39	15.424685.05	14.6424685.21	14.6324694.71
24700.19	14.0624704.22	14.0224708.02	13.6224715.63
24730.31	14.0724734.49	14.1524743.83	14.2324744.99
24759.67	14.5724761.85	14.5724771.38	14.4824774.34
24789.01	17.3224790.15	17.6224800.23	21.2224803.69
24823.36	22.7424833.57	22.8824855.95	23.1224863.18
24918.65	24.3824921.84	25.1724935.05	28.6824952.08
24991.07	33.4324998.82	33.4925002.84	33.2425033.35
25081.89	30.1925132.64	32.2225167.26	28.3625251.87
25496.8	25.6325685.47	27.4125949.87	26.7726210.93
26569.37	26.5226904.45	26.0126977.22	30.0227112.09
27564.39	32.6327835.37	33.228140.88	32.5 28400.7
28985.57	34.35 29269.9	34.7929565.59	40.6329607.09
29697.62	44.329734.95	44.9529849.54	4630134.92
30422.5	48.2930514.39	48.4630704.64	48.9430891.32
31269.39	51.3931313.13	51.5631569.48	52.5531609.13
31750.92	53 31864	53.1531872.51	53.131989.04
32244.21	51.7832293.31	52.0132545.96	52.2132602.06
32868.46	53.3732962.53	54.2133121.51	55.2333286.14
			56.25

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
17446.22	.0524627.54	.02224952.08	.052

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coef	Contr.	Expan.
	24627.54	2424952.08		1574.27	2316.18	1729.73	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

	E.G. Elev (ft)	29.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.	0.050	0.022	0.052	
W.S. Elev (ft)	28.98	Reach Len. (ft)	1574.27	2316.18	1729.73	
Crit W.S. (ft)		Flow Area (sq ft)	3389.69	2903.74	4784.30	
E.G. Slope (ft/ft)	0.000273	Area (sq ft)	3389.69	2903.74	4784.30	
Q Total (cfs)	20760.00	Flow (cfs)	2111.68	14312.78	4335.54	
Top Width (ft)	4671.50	Top Width (ft)	2566.24	308.55	1796.70	
Vel Total (ft/s)	1.87	Avg. Vel. (ft/s)	0.62	4.93	0.91	
Max Chl Dpth (ft)	15.70	Hydr. Depth (ft)	1.32	9.41	2.66	
Conv. Total (cfs)	1257482.0	Conv. (cfs)	127909.5	866958.8	262613.8	
Length Wtd. (ft)	2117.67	Wetted Per. (ft)	2566.32	312.43	1797.04	
Min Ch El (ft)	13.28	Shear (lb/sq ft)	0.02	0.16	0.05	
Alpha	4.83	Stream Power (lb/ft s)	0.01	0.78	0.04	
Frctn Loss (ft)	0.57	Cum Volume (acre-ft)	1720.05	1434.33	2830.31	
C & E Loss (ft)	0.00	Cum SA (acres)	666.86	119.33	730.41	

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 3.99090*

INPUT

Description: Interpolated Cross Section at River Mile 3.99

Station Elevation Data		num= 134		Elev Sta		Elev Sta		Elev Sta	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17382.47	39.1517517.46	37.2817685.25	35.5817863.33	34.9618074.15	35.38				
18249.4	33.918439.89	33.8318649.93	32.5620323.71	30.0320366.09	30.08				
20548.03	30.6720746.69	29.3420955.13	28.24 21142.4	28.0621344.98	27.94				
21534.12	28.5222120.65	26.7322306.32	26.6122935.48	26.7823089.77	27.64				
23274.21	26.3223368.83	26.3523411.26	26.4923484.96	25.5723622.01	26.63				
23717.51	25.9923835.33	29.02 23846.4	28.2323853.79	25.3223859.31	22.97				
23862.4	22.123867.42	20.9423867.58	20.9123867.72	20.8723878.03	17.77				
23879.07	17.5 23882.8	17.123888.34	16.623892.04	16.1423898.65	15.63				
23902.64	15.0323908.79	14.1823908.96	14.1623919.27	13.523922.11	13.49				
23925.21	13.4723929.58	13.4423933.71	12.9423941.96	12.5523951.13	13.15				
23956.38	13.4423960.49	13.5123969.66	13.58 23970.8	13.61 23978.1	13.89				
23985.22	13.9823987.37	13.9823996.72	13.9323999.63	14.0324005.89	14.49				
24014.04	16.7824015.16	17.0724025.07	20.5524028.46	20.724042.88	21.7				
24047.79	22.3624057.82	22.5 24079.8	22.7424086.89	22.8124117.72	22.98				
24141.39	23.9824144.53	24.72 24157.5	28.1224174.23	33.0424201.38	32.59				
24212.75	32.78 24220.4	32.8624224.38	32.6324254.51	30.3124264.91	30.1				
24302.47	29.66 24352.6	31.57 24386.8	27.9324470.38	22.8224520.51	24.35				
24712.36	25.1124898.74	26.6425159.94	26.0925417.83	25.9825709.56	25.44				
25771.94	25.8726102.96	25.4426174.85	28.8726308.09	30.426540.17	30.95				
26754.91	31.1127022.61	31.627324.42	31.27581.09	31.8227887.62	33.84				
28158.89	32.5828439.78	32.9628731.89	39.4428772.88	39.6928814.56	40.46				
28862.32	43.76 28899.2	44.49 29012.4	45.5829294.33	46.8729351.39	47.24				
29578.42	48.01 29669.2	48.1729857.15	48.6730041.57	50.07 30161.5	50.87				
30415.06	51.0430458.27	51.230711.52	52.1330750.69	52.3230770.26	52.37				
30890.76	52.5831002.47	52.7131010.88	52.67 31126	52.1531210.05	50.65				
31378.08	51.4731426.59	51.6931676.18	51.89 31731.6	51.9431975.79	52.87				
31994.78	53.03 32087.7	53.9432244.76	54.97 32407.4	55.99					

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
17382.47	.05 23846.4	.02224174.23	.053

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	23846.4	24174.23	1574.27	2316.18	1729.73	.1		.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	28.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.	0.050	0.022	0.053
W.S. Elev (ft)	28.41	Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	3580.37	2935.16	4791.42
E.G. Slope (ft/ft)	0.000266	Area (sq ft)	3580.37	2935.16	4791.42
Q Total (cfs)	20760.00	Flow (cfs)	2221.79	14301.35	4236.86
Top Width (ft)	4917.30	Top Width (ft)	2822.19	312.10	1783.02
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.62	4.87	0.88
Max Chl Dpth (ft)	15.86	Hydr. Depth (ft)	1.27	9.40	2.69
Conv. Total (cfs)	1272112.0	Conv. (cfs)	136144.7	876344.7	259622.6
Length Wtd. (ft)	2114.95	Wetted Per. (ft)	2822.25	315.81	1783.30

Min Ch El (ft)	12.55	Shear (lb/sq ft)	0.02	0.15	0.04
Alpha	4.91	Stream Power (lb/ft s)	0.01	0.75	0.04
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1594.10	1279.10	2640.19
C & E Loss (ft)	0.00	Cum SA (acres)	569.50	102.83	659.33

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 3.38909*

INPUT

Description: Interpolated Cross Section at River Mile 3.39

Station Elevation Data		num= 134							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17318.73	36.4517438.74	34.9	17587.9	33.4717746.22	32.9617933.64				33.3
18089.44	32.0618258.79	31.9918445.52		30.9319933.54	28.7819971.21				28.82
20132.96	29.320309.57	28.1920494.87		27.2720661.36	27.1120841.46				27
21009.61	27.4921531.04	25.98	21696.1	25.8722255.44	25.99	22392.6			26.71
22556.58	25.622640.69	25.6222678.41		25.7922743.94	25.122865.77				26.14
22950.68	25.7123055.42	28.3623065.26		27.7223073.23	24.6423079.18				22.15
23082.51	21.2923087.92	20.1823088.09		20.1523088.25	20.1223099.37				17.32
23100.49	17.08	23104.5	16.7223110.48	16.2923114.47	15.85	23121.6			15.32
23125.9	14.6523132.53	13.7223132.71		13.723143.83	12.9123146.88				12.9
23150.23	12.8923154.95	12.85	23159.4	12.2723168.29	11.83	23177.3			12.47
23182.45	12.823186.49	12.8723195.49		12.9423196.61	12.9623203.78				13.26
23210.77	13.3923212.88	13.423222.07		13.3723224.92	13.4823231.07				13.99
23239.08	16.2423240.17	16.53	23249.9	19.8923253.24	20.05	23267.4			21.2
23272.21	21.9823282.06	22.1323303.64		22.3623310.61	22.4423340.88				22.62
23364.12	23.5723367.21	24.2723379.95		27.5623396.37	32.44	23423.2			31.9
23434.42	32.1423441.98	32.2323445.91		32.0323475.67	29.7723485.95				29.55
23523.04	29.1323572.56	30.9323606.34		27.49	23688.9				23.95
23927.91	24.5924112.01	25.86	24370	25.4124624.74	25.3224912.89				24.86
24974.51	25.2325301.47	24.8625372.48		27.7325504.09	2925733.32				29.45
25945.44	29.5926209.85	3026507.96		29.526761.49	30.1827064.26				31.86
27332.21	30.8227609.66	31.1427898.18		38.2427938.68	38.4827979.85				39.33
28027.02	43.2228063.44	44.0428175.26		45.1528453.73	46.6	28510.1			47
28734.35	47.7428824.01	47.8929009.65		48.4129191.81	49.7729310.28				50.52
29560.73	50.6829603.42	50.8429853.56		51.7129892.25	51.9129911.58				51.96
30030.6	52.1630140.95	52.2730149.25		52.2330262.96	51.7730345.98				50.37
30511.95	51.1530559.86	51.37	30806.4	51.5830861.14	51.6231102.33				52.52
31121.09	52.731212.88	53.6731368.01		54.731528.65	55.73				

Manning's n Values		num= 3			
Sta	n Val	Sta	n Val	Sta	n Val
17318.73	.0523065.26		.02323396.37		.055

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
23065.2623396.37		1574.27	2316.18	1729.73	.1	.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	28.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.050	0.023	0.055
W.S. Elev (ft)	27.84	Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	3763.87	2963.73	4793.07
E.G. Slope (ft/ft)	0.000281	Area (sq ft)	3763.87	2963.73	4793.07
Q Total (cfs)	20760.00	Flow (cfs)	2368.34	14188.63	4203.03
Top Width (ft)	4752.18	Top Width (ft)	2655.91	315.62	1780.65

Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.63	4.79	0.88
Max Chl Dpth (ft)	16.01	Hydr. Depth (ft)	1.42	9.39	2.69
Conv. Total (cfs)	1237549.0	Conv. (cfs)	141182.0	845814.6	250551.9
Length Wtd. (ft)	2112.48	Wetted Per. (ft)	2655.96	319.21	1780.89
Min Ch El (ft)	11.83	Shear (lb/sq ft)	0.02	0.16	0.05
Alpha	4.89	Stream Power (lb/ft s)	0.02	0.78	0.04
Frctn Loss (ft)	0.59	Cum Volume (acre-ft)	1461.39	1122.27	2449.90
C & E Loss (ft)	0.00	Cum SA (acres)	470.51	86.14	588.58

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 2.78727*

INPUT

Description: Interpolated Cross Section at River Mile 2.79

Station Elevation Data		num=	134							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
17254.98	33.7617360.01	32.5117490.55	31.3717629.11	30.9517793.13	31.22					
17929.47	30.2218077.69	30.16 18241.1	29.319543.36	27.5219576.33	27.56					
19717.89	27.9419872.45	27.0420034.62	26.2920180.32	26.1620337.94	26.07					
20485.1	26.4520941.43	25.2221085.89	25.1321575.39	25.2121695.43	25.78					
21838.94	24.8821912.55	24.921945.57	25.0922002.91	24.6322109.54	25.64					
22183.84	25.4322275.51	27.722284.12	27.222292.67	23.9722299.04	21.33					
22302.62	20.4722308.43	19.4222308.61	19.422308.78	19.37 22320.7	16.86					
22321.9	16.6622326.21	16.3322332.62	15.97 22336.9	15.5522344.54	15.02					
22349.16	14.2822356.27	13.2522356.46	13.2322368.39	12.3322371.66	12.32					
22375.25	12.322380.31	12.2722385.08	11.622394.62	11.122403.47	11.8					
22408.52	12.1722412.48	12.2322421.33	12.2922422.42	12.3222429.46	12.64					
22436.32	12.822438.39	12.8122447.41	12.8222450.21	12.9322456.25	13.49					
22464.11	15.7122465.19	15.9822474.74	19.2222478.01	19.422491.91	20.71					
22496.63	21.61 22506.3	21.7522527.49	21.9822534.33	22.0622564.04	22.25					
22586.86	23.1722589.89	23.8322602.39	27.0122618.52	31.8522645.01	31.22					
22656.1	31.4922663.56	31.622667.44	31.4222696.83	29.2322706.98	29					
22743.62	28.622792.52	30.2822825.88	27.0622907.41	22.5522956.32	23.56					
23143.46	24.0723325.27	25.0923580.07	24.7323831.65	24.6524116.22	24.29					
24177.07	24.5824499.98	24.2924570.11	26.5824700.09	27.624926.48	27.96					
25135.96	28.07 25397.1	28.425691.51	28.25941.89	28.55 26240.9	29.89					
26505.53	29.0526779.53	29.3127064.48	37.0527104.47	37.2727145.13	38.21					
27191.71	42.6827227.69	43.5827338.12	44.7327613.14	46.3427668.81	46.76					
27890.27	47.4627978.82	47.6128162.16	48.1428342.06	49.4728459.06	50.18					
28706.41	50.3328748.56	50.48 28995.6	51.329033.81	51.49 29052.9	51.54					
29170.45	51.7429279.42	51.8329287.62	51.7929399.92	51.3829481.91	50.08					
29645.82	50.8429693.14	51.0529936.62	51.2729990.68	51.3130228.88	52.17					
30247.4	52.3630338.05	53.430491.26	54.4430649.91	55.47						

Manning's n Values		num=	3			
Sta	n Val	Sta	n Val	Sta	n Val	
17254.98	.0522284.12		.02322618.52		.057	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
22284.12	222618.52	1574.27	2316.18	1729.73	.1		.3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	27.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.050	0.023	0.057
W.S. Elev (ft)	27.25	Reach Len. (ft)	1574.27	2316.18	1729.73

Crit W.S. (ft)		Flow Area (sq ft)	3824.00	2988.82	4797.88
E.G. Slope (ft/ft)	0.000279	Area (sq ft)	3824.00	2988.82	4797.88
Q Total (cfs)	20760.00	Flow (cfs)	2573.15	14219.28	3967.58
Top Width (ft)	4571.93	Top Width (ft)	2421.48	319.07	1831.38
Vel Total (ft/s)	1.79	Avg. Vel. (ft/s)	0.67	4.76	0.83
Max Chl Dpth (ft)	16.15	Hydr. Depth (ft)	1.58	9.37	2.62
Conv. Total (cfs)	1243625.0	Conv. (cfs)	154143.9	851804.3	237677.1
Length Wtd. (ft)	2121.56	Wetted Per. (ft)	2421.52	322.58	1831.57
Min Ch El (ft)	11.10	Shear (lb/sq ft)	0.03	0.16	0.05
Alpha	4.91	Stream Power (lb/ft s)	0.02	0.77	0.04
Frctn Loss (ft)	0.62	Cum Volume (acre-ft)	1324.27	964.02	2259.47
C & E Loss (ft)	0.00	Cum SA (acres)	378.76	69.26	516.86

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 2.18545*

INPUT

Description: Interpolated Cross Section at River Mile 2.19

Station Elevation Data		num= 134		Elev Sta		Elev Sta		Elev Sta	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17191.24	31.0717281.28	30.1317393.21	29.2617511.99	28.9417652.62	29.13				
17769.51	28.3817896.58	28.3318036.69	27.6719153.18	26.2719181.45	26.29				
19302.81	26.5719435.33	25.8919574.36	25.3219699.29	25.2219834.42	25.14				
19960.58	25.4120351.82	24.4720475.67	24.3920895.35	24.4320998.27	24.84				
21121.3	24.1721184.42	24.1721212.72	24.3921261.88	24.17 21353.3	25.15				
21417	25.15 21495.6	27.0521502.97	26.6921512.11	23.321518.91	20.51				
21522.73	19.6521528.93	18.6521529.12	18.64 21529.3	18.6221542.03	16.4				
21543.31	16.2421547.91	15.9521554.76	15.6621559.33	15.2621567.48	14.71				
21572.42	13.9 21580	12.7921580.22	12.7621592.95	11.7421596.44	11.73				
21600.28	11.7121605.68	11.6921610.77	10.9321620.96	10.3721629.63	11.13				
21634.6	11.5321638.48	11.5921647.16	11.6521648.23	11.6721655.14	12.02				
21661.87	12.2121663.91	12.2321672.76	12.26 21675.5	12.3821681.43	12.99				
21689.14	15.17 21690.2	15.4421699.57	18.5521702.78	18.7521716.42	20.21				
21721.06	21.2321730.55	21.3721751.34	21.621758.05	21.6821787.21	21.89				
21809.6	22.7621812.57	23.3821824.84	26.4521840.66	31.2621866.82	30.54				
21877.77	30.8521885.14	30.9721888.97	30.8221917.99	28.6921928.02	28.45				
21964.19	28.0722012.48	29.6422045.43	26.6222125.93	22.4122174.22	23.17				
22359.01	23.5522538.54	24.3222790.13	24.0523038.55	23.9923319.56	23.72				
23379.64	23.9423698.49	23.7223767.74	25.4423896.08	26.224119.63	26.47				
24326.48	26.5524584.34	26.824875.05	26.525122.29	26.9125417.54	27.92				
25678.85	27.2925949.41	27.4826230.78	35.8626270.27	36.0726310.42	37.08				
26356.41	42.1426391.94	43.1326500.98	44.326772.54	46.0726827.51	46.52				
27046.2	47.1827133.63	47.3227314.67	47.8827492.31	49.1627607.84	49.83				
27852.08	49.98 27893.7	50.1128137.64	50.8828175.37	51.0828194.22	51.13				
28310.29	51.32 28417.9	51.39 28426	51.3628536.88	50.9928617.85	49.79				
28779.7	50.5328826.42	50.7329066.83	50.9529120.22	5129355.43	51.83				
29373.72	52.0329463.23	53.1329614.51	54.1729771.17	55.21					

Manning's n Values		num= 3	
Sta	n Val	Sta	n Val
17191.24	.0521502.97	.02321840.66	.059

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	21502.97	21840.66	1574.27	2316.18	1729.73	.1	.3	

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	26.87	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.	0.050	0.023	0.059
W.S. Elev (ft)	26.60	Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	3718.08	2993.53	4814.77
E.G. Slope (ft/ft)	0.000306	Area (sq ft)	3718.08	2993.53	4814.77
Q Total (cfs)	20760.00	Flow (cfs)	2465.31	14857.44	3437.25
Top Width (ft)	5383.53	Top Width (ft)	2583.35	322.09	2478.09
Vel Total (ft/s)	1.80	Avg. Vel. (ft/s)	0.66	4.96	0.71
Max Chl Dpth (ft)	16.23	Hydr. Depth (ft)	1.44	9.29	1.94
Conv. Total (cfs)	1186096.0	Conv. (cfs)	140852.2	848860.8	196383.1
Length Wtd. (ft)	2129.74	Wetted Per. (ft)	2583.38	325.54	2478.24
Min Ch El (ft)	10.37	Shear (lb/sq ft)	0.03	0.18	0.04
Alpha	5.48	Stream Power (lb/ft s)	0.02	0.87	0.03
Frctn Loss (ft)	0.65	Cum Volume (acre-ft)	1187.99	804.97	2068.62
C & E Loss (ft)	0.00	Cum SA (acres)	288.32	52.22	431.30

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 1.58363*

INPUT

Description: Interpolated Cross Section at River Mile 1.58
 Station Elevation Data num= 134

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17127.49	28.3817202.55	27.7517295.86	27.1617394.88	26.9317512.11	27.05				
17609.55	26.5417715.48	26.4917832.28	26.04 18763	25.0218786.57	25.03				
18887.74	25.218998.21	24.7419114.11	24.3519218.24	24.2719330.89	24.2				
19436.07	24.3819762.21	23.7219865.46	23.6520215.31	23.64 20301.1	23.91				
20403.66	23.4520456.28	23.4520479.87	23.6820520.85	23.720597.06	24.66				
20650.17	24.8620715.68	26.3920721.83	26.1820731.54	22.6320738.78	19.68				
20742.84	18.8320749.43	17.8920749.64	17.8820749.83	17.8620763.36	15.94				
20764.73	15.8220769.62	15.56 20776.9	15.3520781.76	14.9720790.43	14.4				
20795.68	13.5320803.74	12.3320803.97	12.29 20817.5	11.1520821.22	11.14				
20825.3	11.1320831.04	11.1120836.46	10.2620847.29	9.64 20855.8	10.46				
20860.67	10.920864.48	10.9620872.99	11.0120874.05	11.0320880.82	11.4				
20887.43	11.6220889.42	11.65 20898.1	11.71 20900.8	11.8220906.61	12.48				
20914.18	14.6320915.21	14.89 20924.4	17.8820927.55	18.120940.94	19.72				
20945.48	20.8520954.79	20.9920975.19	21.2320981.77	21.321010.37	21.53				
21032.34	22.3621035.25	22.9321047.29	25.8921062.81	30.6721088.63	29.86				
21099.44	30.2121106.72	30.35 21110.5	30.2221139.16	28.1621149.05	27.9				
21184.76	27.5521232.44	28.9921264.97	26.1921344.45	22.2721392.12	22.78				
21574.56	23.0421751.81	23.55 22000.2	23.3622245.46	23.3322522.89	23.15				
22582.21	23.29 22897	23.1522965.38	24.2923092.08	24.823312.79	24.98				
23517	25.0423771.58	25.2 24058.6	2524302.69	25.2724594.19	25.95				
24852.17	25.5325119.29	25.6525397.08	34.6725436.06	34.86 25475.7	35.96				
25521.11	41.5925556.19	42.6725663.84	43.8825931.95	45.825986.22	46.28				
26202.12	46.926288.45	47.0426467.18	47.6126642.56	48.8626756.62	49.48				
26997.75	49.6327038.85	49.7527279.68	50.4627316.93	50.6627335.54	50.72				
27450.13	50.927556.37	50.9627564.37	50.9227673.85	50.627753.78	49.5				
27913.57	50.22 27959.7	50.428197.05	50.6428249.76	50.6928481.98	51.48				
28500.04	51.728588.41	52.8628737.77	53.928892.43	54.94					

Manning's n Values	num=	3
Sta n Val	Sta n Val	Sta n Val
17127.49 .0520721.83	.02321062.81	.061

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 20721.8321062.81 1574.27 2316.18 1729.73 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	26.22	Element			
Vel Head (ft)	0.27	Wt. n-Val.	0.050	0.023	0.061
W.S. Elev (ft)	25.95	Reach Len. (ft)	1574.27	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	3895.19	3000.18	6020.90
E.G. Slope (ft/ft)	0.000305	Area (sq ft)	3895.19	3000.18	6020.90
Q Total (cfs)	20760.00	Flow (cfs)	2528.73	14786.77	3444.51
Top Width (ft)	6966.65	Top Width (ft)	2782.90	325.03	3858.72
Vel Total (ft/s)	1.61	Avg. Vel. (ft/s)	0.65	4.93	0.57
Max Chl Dpth (ft)	16.31	Hydr. Depth (ft)	1.40	9.23	1.56
Conv. Total (cfs)	1189133.0	Conv. (cfs)	144845.5	846986.6	197301.3
Length Wtd. (ft)	2097.19	Wetted Per. (ft)	2782.93	328.44	3858.83
Min Ch El (ft)	9.64	Shear (lb/sq ft)	0.03	0.17	0.03
Alpha	6.74	Stream Power (lb/ft s)	0.02	0.86	0.02
Frctn Loss (ft)	0.54	Cum Volume (acre-ft)	1050.41	645.62	1853.48
C & E Loss (ft)	0.03	Cum SA (acres)	191.35	35.01	305.48

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: .981819*

INPUT

Description: Interpolated Cross Section at River Mile 0.98

Station Elevation Data num= 134

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
17063.75	25.6917123.83	25.3617198.51	25.0517277.77	24.9317371.59	24.97				
17449.59	24.717534.38	24.6617627.86	24.4218372.82	23.7618391.69	23.77				
18472.67	23.8418561.08	23.5918653.85	23.3818737.21	23.3218827.37	23.27				
18911.55	23.34 19172.6	22.9619255.24	22.9219535.27	22.8619603.93	22.98				
19686.03	22.7319728.14	22.7219747.02	22.9819779.83	23.2319840.82	24.16				
19883.33	24.5819935.77	25.7319940.69	25.6619950.98	21.9619958.65	18.86				
19962.95	18.0219969.94	17.1319970.15	17.1219970.36	17.11 19984.7	15.49				
19986.14	15.419991.32	15.1819999.04	15.0320004.19	14.6820013.38	14.1				
20018.93	13.1520027.48	11.8620027.72	11.8320042.06	10.57 20046	10.56				
20050.32	10.5420056.41	10.5220062.14	9.5920073.62	8.9120081.96	9.79				
20086.74	10.2620090.48	10.3220098.82	10.3620099.86	10.38 20106.5	10.77				
20112.98	11.0320114.93	11.0620123.45	11.1520126.09	11.2720131.79	11.98				
20139.21	14.120140.22	14.3420149.24	17.2120152.33	17.4520165.45	19.22				
20169.91	20.4820179.04	20.6120199.03	20.8520205.49	20.9320233.54	21.16				
20255.07	21.9520257.93	22.4920269.73	25.3420284.96	30.0720310.45	29.17				
20321.12	29.56 20328.3	29.7220332.03	29.6120360.32	27.6220370.09	27.35				
20405.34	27.02 20452.4	28.3520484.51	25.7520562.96	22.1420610.02	22.39				
20790.11	22.5220965.08	22.7721210.27	22.6821452.37	22.6621726.22	22.57				
21784.78	22.6522095.51	22.57 22163	23.1522288.08	23.422505.94	23.49				
22707.53	23.5222958.82	23.623242.14	23.523483.09	23.6423770.83	23.97				
24025.49	23.7624289.16	23.8324563.37	33.4724601.86	33.6524640.99	34.83				
24685.81	41.0524720.43	42.22 24826.7	43.4525091.36	45.5425144.93	46.04				
25358.04	46.6325443.26	46.75255619.69	47.3525792.81	48.5625905.39	49.14				
26143.42	49.2726183.99	49.3926421.72	50.0526458.49	50.2526476.86	50.3				
26589.98	50.4826694.84	50.5226702.74	50.49 26810.8	50.2126889.71	49.21				
27047.44	49.927092.97	50.0827327.27	50.32 27379.3	50.3727608.52	51.13				
27626.35	51.3627713.58	52.5927861.02	53.6428013.69	54.68					

Manning's n Values num= 3
 Sta n Val Sta n Val
 17063.75 .0519940.69 .02320284.96 .063

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 19940.6920284.96 1574.28 2316.18 1729.73 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

E.G. Elev (ft)	25.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.	0.050	0.023	0.063
W.S. Elev (ft)	25.48	Reach Len. (ft)	1574.28	2316.18	1729.73
Crit W.S. (ft)		Flow Area (sq ft)	4783.94	3065.55	8690.35
E.G. Slope (ft/ft)	0.000212	Area (sq ft)	4783.94	3065.55	8690.35
Q Total (cfs)	20760.00	Flow (cfs)	2941.94	12679.32	5138.73
Top Width (ft)	6998.34	Top Width (ft)	2823.39	329.02	3845.94
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)	0.61	4.14	0.59
Max Chl Dpth (ft)	16.57	Hydr. Depth (ft)	1.69	9.32	2.26
Conv. Total (cfs)	1425864.0	Conv. (cfs)	202062.1	870856.6	352944.8
Length Wtd. (ft)	2032.19	Wetted Per. (ft)	2823.41	332.47	3846.05
Min Ch El (ft)	8.91	Shear (lb/sq ft)	0.02	0.12	0.03
Alpha	6.72	Stream Power (lb/ft s)	0.01	0.50	0.02
Frctn Loss (ft)	0.35	Cum Volume (acre-ft)	893.58	484.36	1561.40
C & E Loss (ft)	0.02	Cum SA (acres)	90.04	17.62	152.51

Warning: Divided flow computed for this cross-section.

CROSS SECTION RIVER: Judy Creek
 REACH: Lower Judy Creek RS: 0.38

INPUT

Description: Interpolated Cross Section at River Mile 0.38

Station Elevation Data	num=	87
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev		
17000 23 19000 2219159.55 25.1519170.42 21.2919178.52 18.04		
19183.06 17.219190.44 16.3719190.88 16.3619206.03 15.0319213.03 14.79		
19221.18 14.7219236.32 13.7919242.19 12.7819251.47 11.3619266.62 9.98		
19270.78 9.9719281.77 9.9419287.83 8.9219299.95 8.1819308.13 9.12		
19312.81 9.6319316.48 9.6819324.66 9.7219325.67 9.7419332.18 10.15		
19338.53 10.4419340.45 10.4819348.79 10.619351.38 10.7219356.97 11.48		
19364.24 13.5619365.24 13.819374.07 16.54 19377.1 16.819389.96 18.73		
19394.33 20.119403.28 20.2319422.88 20.4719429.21 20.55 19456.7 20.8		
19477.81 21.5519480.61 22.0419492.18 24.78 19507.1 29.4819532.26 28.49		
19542.79 28.9219549.88 29.0919553.56 29.0119581.48 27.0819591.12 26.8		
19625.91 26.4919672.36 27.719704.05 25.3219781.48 2223459.04 22		
23729.67 32.2823767.65 32.4423806.27 33.7123850.51 40.5123884.68 41.76		
23989.56 43.0324250.76 45.2724303.63 45.824513.97 46.3524598.07 46.47		
24772.2 47.0824943.06 48.2625054.18 48.79 25289.1 48.9225329.13 49.03		
25563.76 49.6325600.05 49.8325618.18 49.8925729.82 50.0625833.32 50.08		
25841.11 50.0525947.77 49.8226025.64 48.9226181.31 49.5926226.25 49.76		
26457.49 50.0126508.84 50.0626735.07 50.7826752.67 51.0326838.76 52.32		
26984.27 53.3727134.95 54.42		

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val
 17000 .0519159.55 .023 19507.1 .065

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 19159.55 19507.1 0 0 0 .1 .3

CROSS SECTION OUTPUT Profile #100-Year Flood

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	25.27	Wt. n-Val.	0.050	0.023	0.065
Vel Head (ft)	0.09	Reach Len. (ft)	3694.00	3694.00	3694.00
W.S. Elev (ft)	25.18	Flow Area (sq ft)	5619.46	3186.24	11951.67
Crit W.S. (ft)		Area (sq ft)	5619.46	3186.24	11951.67
E.G. Slope (ft/ft)	0.000137	Flow (cfs)	3696.93	10767.11	6824.97
Q Total (cfs)	21289.00	Top Width (ft)	2159.55	333.90	3835.52
Top Width (ft)	6328.97	Avg. Vel. (ft/s)	0.66	3.38	0.57
Vel Total (ft/s)	1.03	Hydr. Depth (ft)	2.60	9.54	3.12
Max Chl Dpth (ft)	17.00	Conv. (cfs)	315726.3	919537.1	582868.7
Conv. Total (cfs)	1818132.0	Wetted Per. (ft)	2161.76	337.48	3835.65
Length Wtd. (ft)	3694.00	Shear (lb/sq ft)	0.02	0.08	0.03
Min Ch El (ft)	8.18	Stream Power (lb/ft s)	0.01	0.27	0.02
Alpha	5.66	Cum Volume (acre-ft)	705.59	318.15	1151.56
Frctn Loss (ft)	0.66	Cum SA (acres)			
C & E Loss (ft)	0.01				

Warning: Divided flow computed for this cross-section.

Warning: The cross-section end points had to be extended vertically for the computed water surface.

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than 1.4. This may indicate the need for additional cross sections.

SUMMARY OF MANNING'S N VALUES

River:Fish Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n13	n14	n15
Upper Fish Creek	43.3	.04	.027	.07	.04											
Upper Fish Creek	42.3916*	.04	.027	.07	.042											
Upper Fish Creek	41.4833*	.041	.027	.07	.043											
Upper Fish Creek	40.575*	.041	.027	.07	.043											
Upper Fish Creek	39.6666*	.042	.027	.07	.044											
Upper Fish Creek	38.7583*	.042	.027	.07	.045											
Upper Fish Creek	37.85*	.043	.028	.046												
Upper Fish Creek	36.9416*	.043	.028	.046												
Upper Fish Creek	36.0333*	.043	.028	.047												
Upper Fish Creek	35.125*	.044	.028	.048												
Upper Fish Creek	34.2166*	.044	.028	.048												
Upper Fish Creek	33.3083*	.045	.028	.049												
Upper Fish Creek	32.4	.04	.055	.07	.028	.05	.04	.05	.04							
Upper Fish Creek	31.6071*	.047	.07	.028	.055											
Upper Fish Creek	30.8142*	.05	.07	.027	.054											
Upper Fish Creek	30.0214*	.052	.07	.027	.057											
Upper Fish Creek	29.2285*	.054	.07	.027	.059											
Upper Fish Creek	28.4357*	.056	.07	.027	.061											
Upper Fish Creek	27.6428*	.059	.07	.027	.063											
Upper Fish Creek	26.85	.061	.027	.065												
Lower Fish Creek	26.09	.063	.07	.021	.067											
Lower Fish Creek	25.1	.05	.04	.05	.04	.05	.04	.07	.04	.05	.07	.021	.07	.04	.06	.04
Lower Fish Creek	24.2625*	.064	.08	.022	.068											
Lower Fish Creek	23.425*	.062	.08	.021	.066											
Lower Fish Creek	22.5875*	.06	.08	.021	.064											
Lower Fish Creek	21.75*	.058	.09	.021	.063											
Lower Fish Creek	20.9125*	.056	.1	.021	.061											
Lower Fish Creek	20.075*	.054	.1	.021	.059											
Lower Fish Creek	19.2375*	.052	.1	.021	.057											
Lower Fish Creek	18.4	.05	.07	.04	.05	.11	.02	.07	.05	.07	.05					
Lower Fish Creek	17.5714*	.054	.11	.021	.055											
Lower Fish Creek	16.7428*	.053	.11	.021	.064											
Lower Fish Creek	15.9142*	.052	.11	.022	.069											
Lower Fish Creek	15.0857*	.051	.11	.022	.073											
Lower Fish Creek	14.2571*	.049	.11	.022	.078											
Lower Fish Creek	13.4285*	.048	.11	.022	.082											
Lower Fish Creek	12.6	.047	.11	.022	.11	.087										
Lower Fish Creek	11.7	.11	.045	.05	.045	.09	.11	.047	.09	.05	.047	.11	.09	.11	.045	
Lower Fish Creek	10.8538*	.053	.11	.047	.055	.047	.092									
Lower Fish Creek	10.0076*	.053	.1	.047	.055	.047	.09									
Lower Fish Creek	9.16153*	.053	.1	.047	.055	.047	.087									
Lower Fish Creek	8.31538*	.054	.09	.047	.055	.047	.085									
Lower Fish Creek	7.46923*	.054	.09	.047	.055	.047	.083									
Lower Fish Creek	6.62307*	.054	.08	.047	.055	.047	.081									
Lower Fish Creek	5.77692*	.054	.08	.047	.055	.047	.078									
Lower Fish Creek	4.93076*	.054	.08	.047	.055	.047	.076									
Lower Fish Creek	4.08461*	.054	.07	.047	.055	.047	.074									
Lower Fish Creek	3.23846*	.055	.07	.047	.055	.047	.072									
Lower Fish Creek	2.39230*	.055	.06	.047	.055	.047	.069									
Lower Fish Creek	1.54615*	.055	.06	.047	.055	.047	.067									
Lower Fish Creek	0.7	.065	.055	.047	.055	.047	.055	.047	.055	.047	.065					

River:Judy Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9
Lower Judy Creek	31.0	.05	.014	.1	.05					
Lower Judy Creek	30.54*	.05	.014	.06						
Lower Judy Creek	30.08*	.06	.014	.06						
Lower Judy Creek	29.62*	.06	.014	.06						
Lower Judy Creek	29.16*	.06	.015	.06						

Lower Judy Creek	28.7*	.07	.016	.06						
Lower Judy Creek	28.24*	.07	.017	.07						
Lower Judy Creek	27.78*	.07	.018	.07						
Lower Judy Creek	27.32*	.07	.018	.07						
Lower Judy Creek	26.86*	.08	.018	.07						
Lower Judy Creek	26.4*	.08	.018	.08						
Lower Judy Creek	25.94*	.08	.018	.08						
Lower Judy Creek	25.48*	.09	.018	.08						
Lower Judy Creek	25.02*	.09	.018	.08						
Lower Judy Creek	24.56*	.09	.018	.09						
Lower Judy Creek	24.1*	.09	.018	.09						
Lower Judy Creek	23.64*	.1	.018	.09						
Lower Judy Creek	23.18*	.1	.018	.09						
Lower Judy Creek	22.72*	.1	.018	.1						
Lower Judy Creek	22.26*	.11	.018	.1						
Lower Judy Creek	21.8	.05	.11	.018	.1	.05				
Lower Judy Creek	21.3294*	.11	.018	.1						
Lower Judy Creek	20.8588*	.1	.018	.09						
Lower Judy Creek	20.3882*	.1	.018	.09						
Lower Judy Creek	19.9176*	.1	.019	.09						
Lower Judy Creek	19.4470*	.09	.02	.09						
Lower Judy Creek	18.9764*	.09	.02	.08						
Lower Judy Creek	18.5058*	.09	.02	.08						
Lower Judy Creek	18.0352*	.08	.02	.08						
Lower Judy Creek	17.5647*	.08	.02	.07						
Lower Judy Creek	17.0941*	.07	.02	.07						
Lower Judy Creek	16.6235*	.07	.02	.07						
Lower Judy Creek	16.1529*	.07	.02	.06						
Lower Judy Creek	15.6823*	.06	.02	.06						
Lower Judy Creek	15.2117*	.06	.021	.06						
Lower Judy Creek	14.7411*	.06	.022	.06						
Lower Judy Creek	14.2705*	.05	.023	.05						
Lower Judy Creek	13.8	.05	.04	.05	.024	.05	.04			
Lower Judy Creek	13.375*	.05	.024	.05						
Lower Judy Creek	12.95*	.05	.023	.049						
Lower Judy Creek	12.525*	.05	.023	.049						
Lower Judy Creek	12.1*	.05	.03	.023	.049					
Lower Judy Creek	11.675*	.05	.03	.022	.048					
Lower Judy Creek	11.25*	.05	.04	.022	.048					
Lower Judy Creek	10.825*	.05	.05	.022	.047					
Lower Judy Creek	10.4*	.05	.06	.022	.047					
Lower Judy Creek	9.975*	.05	.06	.022	.047					
Lower Judy Creek	9.5500*	.05	.07	.022	.046					
Lower Judy Creek	9.12500*	.05	.08	.022	.046					
Lower Judy Creek	8.70000*	.05	.08	.023	.046					
Lower Judy Creek	8.27500*	.05	.09	.023	.045					
Lower Judy Creek	7.85000*	.05	.1	.023	.045					
Lower Judy Creek	7.42500*	.05	.1	.023	.044					
Lower Judy Creek	7.0	.04	.05	.04	.05	.11	.024	.11	.05	.04
Lower Judy Creek	6.39818*	.05	.023	.046						
Lower Judy Creek	5.79636*	.05	.023	.048						
Lower Judy Creek	5.19454*	.05	.022	.05						
Lower Judy Creek	4.59272*	.05	.022	.052						
Lower Judy Creek	3.99090*	.05	.022	.053						
Lower Judy Creek	3.38909*	.05	.023	.055						
Lower Judy Creek	2.78727*	.05	.023	.057						
Lower Judy Creek	2.18545*	.05	.023	.059						
Lower Judy Creek	1.58363*	.05	.023	.061						
Lower Judy Creek	.981819*	.05	.023	.063						
Lower Judy Creek	0.38	.05	.023	.065						

SUMMARY OF REACH LENGTHS

River: Fish Creek

Reach	River Sta.	Left	Channel	Right
-------	------------	------	---------	-------

Upper Fish Creek	43.3	1903.5	4751.08	1745.42
Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171
Upper Fish Creek	29.2285*	2464.43	4273.14	2171
Upper Fish Creek	28.4357*	2464.43	4273.14	2171
Upper Fish Creek	27.6428*	2464.43	4273.14	2171
Upper Fish Creek	26.85	0	0	0
Lower Fish Creek	26.09	3700	4769	4679
Lower Fish Creek	25.1	2028.75	4406.38	2370.38
Lower Fish Creek	24.2625*	2028.75	4406.38	2370.38
Lower Fish Creek	23.425*	2028.75	4406.38	2370.38
Lower Fish Creek	22.5875*	2028.75	4406.38	2370.38
Lower Fish Creek	21.75*	2028.75	4406.38	2370.38
Lower Fish Creek	20.9125*	2028.75	4406.38	2370.38
Lower Fish Creek	20.075*	2028.75	4406.38	2370.38
Lower Fish Creek	19.2375*	2028.75	4406.38	2370.38
Lower Fish Creek	18.4	3217.29	4349	2885.43
Lower Fish Creek	17.5714*	3217.29	4349	2885.43
Lower Fish Creek	16.7428*	3217.29	4349	2885.43
Lower Fish Creek	15.9142*	3217.29	4349	2885.43
Lower Fish Creek	15.0857*	3217.29	4349	2885.43
Lower Fish Creek	14.2571*	3217.29	4349	2885.43
Lower Fish Creek	13.4285*	3217.29	4349	2885.43
Lower Fish Creek	12.6	1090	5078	2467
Lower Fish Creek	11.7	2559	4481.46	2515.69
Lower Fish Creek	10.8538*	2559	4481.46	2515.69
Lower Fish Creek	10.0076*	2559	4481.46	2515.69
Lower Fish Creek	9.16153*	2559	4481.46	2515.69
Lower Fish Creek	8.31538*	2559	4481.46	2515.69
Lower Fish Creek	7.46923*	2559	4481.46	2515.69
Lower Fish Creek	6.62307*	2559	4481.46	2515.69
Lower Fish Creek	5.77692*	2559	4481.46	2515.69
Lower Fish Creek	4.93076*	2559	4481.46	2515.69
Lower Fish Creek	4.08461*	2559	4481.46	2515.69
Lower Fish Creek	3.23846*	2559	4481.46	2515.69
Lower Fish Creek	2.39230*	2559	4481.46	2515.69
Lower Fish Creek	1.54615*	2559	4481.46	2515.7
Lower Fish Creek	0.7	0	0	0

River: Judy Creek

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	31.0	1164.9	2386.5	1005.25

Lower Judy Creek	30.54*	1164.9	2386.5	1005.25
Lower Judy Creek	30.08*	1164.9	2386.5	1005.25
Lower Judy Creek	29.62*	1164.9	2386.5	1005.25
Lower Judy Creek	29.16*	1164.9	2386.5	1005.25
Lower Judy Creek	28.7*	1164.9	2386.5	1005.25
Lower Judy Creek	28.24*	1164.9	2386.5	1005.25
Lower Judy Creek	27.78*	1164.9	2386.5	1005.25
Lower Judy Creek	27.32*	1164.9	2386.5	1005.25
Lower Judy Creek	26.86*	1164.9	2386.5	1005.25
Lower Judy Creek	26.4*	1164.9	2386.5	1005.25
Lower Judy Creek	25.94*	1164.9	2386.5	1005.25
Lower Judy Creek	25.48*	1164.9	2386.5	1005.25
Lower Judy Creek	25.02*	1164.9	2386.5	1005.25
Lower Judy Creek	24.56*	1164.9	2386.5	1005.25
Lower Judy Creek	24.1*	1164.9	2386.5	1005.25
Lower Judy Creek	23.64*	1164.9	2386.5	1005.25
Lower Judy Creek	23.18*	1164.9	2386.5	1005.25
Lower Judy Creek	22.72*	1164.9	2386.5	1005.25
Lower Judy Creek	22.26*	1164.9	2386.5	1005.25
Lower Judy Creek	21.8	1459.47	2420.88	1416
Lower Judy Creek	21.3294*	1459.47	2420.88	1416
Lower Judy Creek	20.8588*	1459.47	2420.88	1416
Lower Judy Creek	20.3882*	1459.47	2420.88	1416
Lower Judy Creek	19.9176*	1459.47	2420.88	1416
Lower Judy Creek	19.4470*	1459.47	2420.88	1416
Lower Judy Creek	18.9764*	1459.47	2420.88	1416
Lower Judy Creek	18.5058*	1459.47	2420.88	1416
Lower Judy Creek	18.0352*	1459.47	2420.88	1416
Lower Judy Creek	17.5647*	1459.47	2420.88	1416
Lower Judy Creek	17.0941*	1459.47	2420.88	1416
Lower Judy Creek	16.6235*	1459.47	2420.88	1416
Lower Judy Creek	16.1529*	1459.47	2420.88	1416
Lower Judy Creek	15.6823*	1459.47	2420.88	1416
Lower Judy Creek	15.2117*	1459.47	2420.88	1416
Lower Judy Creek	14.7411*	1459.47	2420.88	1416
Lower Judy Creek	14.2705*	1459.47	2420.89	1416
Lower Judy Creek	13.8	1530.69	2280.69	1205.25
Lower Judy Creek	13.375*	1530.69	2280.69	1205.25
Lower Judy Creek	12.95*	1530.69	2280.69	1205.25
Lower Judy Creek	12.525*	1530.69	2280.69	1205.25
Lower Judy Creek	12.1*	1530.69	2280.69	1205.25
Lower Judy Creek	11.675*	1530.69	2280.69	1205.25
Lower Judy Creek	11.25*	1530.69	2280.69	1205.25
Lower Judy Creek	10.825*	1530.69	2280.69	1205.25
Lower Judy Creek	10.4*	1530.69	2280.69	1205.25
Lower Judy Creek	9.975*	1530.69	2280.69	1205.25
Lower Judy Creek	9.55000*	1530.69	2280.69	1205.25
Lower Judy Creek	9.12500*	1530.69	2280.69	1205.25
Lower Judy Creek	8.70000*	1530.69	2280.69	1205.25
Lower Judy Creek	8.27500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.85000*	1530.69	2280.69	1205.25
Lower Judy Creek	7.42500*	1530.69	2280.7	1205.25
Lower Judy Creek	7.0	1574.27	2316.18	1729.73
Lower Judy Creek	6.39818*	1574.27	2316.18	1729.73
Lower Judy Creek	5.79636*	1574.27	2316.18	1729.73
Lower Judy Creek	5.19454*	1574.27	2316.18	1729.73
Lower Judy Creek	4.59272*	1574.27	2316.18	1729.73
Lower Judy Creek	3.99090*	1574.27	2316.18	1729.73
Lower Judy Creek	3.38909*	1574.27	2316.18	1729.73

Lower Judy Creek	2.78727*	1574.27	2316.18	1729.73
Lower Judy Creek	2.18545*	1574.27	2316.18	1729.73
Lower Judy Creek	1.58363*	1574.27	2316.18	1729.73
Lower Judy Creek	.981819*	1574.28	2316.18	1729.73
Lower Judy Creek	0.38	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Fish Creek

Reach	River Sta.	Contr.	Expan.
Upper Fish Creek	43.3	.1	.3
Upper Fish Creek	42.3916*	.1	.3
Upper Fish Creek	41.4833*	.1	.3
Upper Fish Creek	40.575*	.1	.3
Upper Fish Creek	39.6666*	.1	.3
Upper Fish Creek	38.7583*	.1	.3
Upper Fish Creek	37.85*	.1	.3
Upper Fish Creek	36.9416*	.1	.3
Upper Fish Creek	36.0333*	.1	.3
Upper Fish Creek	35.125*	.1	.3
Upper Fish Creek	34.2166*	.1	.3
Upper Fish Creek	33.3083*	.1	.3
Upper Fish Creek	32.4	.1	.3
Upper Fish Creek	31.6071*	.1	.3
Upper Fish Creek	30.8142*	.1	.3
Upper Fish Creek	30.0214*	.1	.3
Upper Fish Creek	29.2285*	.1	.3
Upper Fish Creek	28.4357*	.1	.3
Upper Fish Creek	27.6428*	.1	.3
Upper Fish Creek	26.85	.1	.3
Lower Fish Creek	26.09	.1	.3
Lower Fish Creek	25.1	.1	.3
Lower Fish Creek	24.2625*	.1	.3
Lower Fish Creek	23.425*	.1	.3
Lower Fish Creek	22.5875*	.1	.3
Lower Fish Creek	21.75*	.1	.3
Lower Fish Creek	20.9125*	.1	.3
Lower Fish Creek	20.075*	.1	.3
Lower Fish Creek	19.2375*	.1	.3
Lower Fish Creek	18.4	.1	.3
Lower Fish Creek	17.5714*	.1	.3
Lower Fish Creek	16.7428*	.1	.3
Lower Fish Creek	15.9142*	.1	.3
Lower Fish Creek	15.0857*	.1	.3
Lower Fish Creek	14.2571*	.1	.3
Lower Fish Creek	13.4285*	.1	.3
Lower Fish Creek	12.6	.1	.3
Lower Fish Creek	11.7	.1	.3
Lower Fish Creek	10.8538*	.1	.3
Lower Fish Creek	10.0076*	.1	.3
Lower Fish Creek	9.16153*	.1	.3
Lower Fish Creek	8.31538*	.1	.3
Lower Fish Creek	7.46923*	.1	.3
Lower Fish Creek	6.62307*	.1	.3
Lower Fish Creek	5.77692*	.1	.3
Lower Fish Creek	4.93076*	.1	.3
Lower Fish Creek	4.08461*	.1	.3
Lower Fish Creek	3.23846*	.1	.3
Lower Fish Creek	2.39230*	.1	.3
Lower Fish Creek	1.54615*	.1	.3
Lower Fish Creek	0.7	.1	.3

River: Judy Creek

Reach	River Sta.	Contr.	Expan.
Lower Judy Creek	31.0	.1	.3
Lower Judy Creek	30.54*	.1	.3
Lower Judy Creek	30.08*	.1	.3
Lower Judy Creek	29.62*	.1	.3
Lower Judy Creek	29.16*	.1	.3
Lower Judy Creek	28.7*	.1	.3
Lower Judy Creek	28.24*	.1	.3
Lower Judy Creek	27.78*	.1	.3
Lower Judy Creek	27.32*	.1	.3
Lower Judy Creek	26.86*	.1	.3
Lower Judy Creek	26.4*	.1	.3
Lower Judy Creek	25.94*	.1	.3
Lower Judy Creek	25.48*	.1	.3
Lower Judy Creek	25.02*	.1	.3
Lower Judy Creek	24.56*	.1	.3
Lower Judy Creek	24.1*	.1	.3
Lower Judy Creek	23.64*	.1	.3
Lower Judy Creek	23.18*	.1	.3
Lower Judy Creek	22.72*	.1	.3
Lower Judy Creek	22.26*	.1	.3
Lower Judy Creek	21.8	.1	.3
Lower Judy Creek	21.3294*	.1	.3
Lower Judy Creek	20.8588*	.1	.3
Lower Judy Creek	20.3882*	.1	.3
Lower Judy Creek	19.9176*	.1	.3
Lower Judy Creek	19.4470*	.1	.3
Lower Judy Creek	18.9764*	.1	.3
Lower Judy Creek	18.5058*	.1	.3
Lower Judy Creek	18.0352*	.1	.3
Lower Judy Creek	17.5647*	.1	.3
Lower Judy Creek	17.0941*	.1	.3
Lower Judy Creek	16.6235*	.1	.3
Lower Judy Creek	16.1529*	.1	.3
Lower Judy Creek	15.6823*	.1	.3
Lower Judy Creek	15.2117*	.1	.3
Lower Judy Creek	14.7411*	.1	.3
Lower Judy Creek	14.2705*	.1	.3
Lower Judy Creek	13.8	.1	.3
Lower Judy Creek	13.375*	.1	.3
Lower Judy Creek	12.95*	.1	.3
Lower Judy Creek	12.525*	.1	.3
Lower Judy Creek	12.1*	.1	.3
Lower Judy Creek	11.675*	.1	.3
Lower Judy Creek	11.25*	.1	.3
Lower Judy Creek	10.825*	.1	.3
Lower Judy Creek	10.4*	.1	.3
Lower Judy Creek	9.975*	.1	.3
Lower Judy Creek	9.55000*	.1	.3
Lower Judy Creek	9.12500*	.1	.3
Lower Judy Creek	8.70000*	.1	.3
Lower Judy Creek	8.27500*	.1	.3
Lower Judy Creek	7.85000*	.1	.3
Lower Judy Creek	7.42500*	.1	.3
Lower Judy Creek	7.0	.1	.3
Lower Judy Creek	6.39818*	.1	.3

Lower Judy Creek	5.79636*	.1	.3
Lower Judy Creek	5.19454*	.1	.3
Lower Judy Creek	4.59272*	.1	.3
Lower Judy Creek	3.99090*	.1	.3
Lower Judy Creek	3.38909*	.1	.3
Lower Judy Creek	2.78727*	.1	.3
Lower Judy Creek	2.18545*	.1	.3
Lower Judy Creek	1.58363*	.1	.3
Lower Judy Creek	.981819*	.1	.3
Lower Judy Creek	0.38	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Fish Creek	Lower Fish Creek	0.7	51116.00	0.30	5.63	2.33	5.64	0.000075	0.58	90089.99	25392.96	0.05	
Fish Creek	Lower Fish Creek	1.54615*	43995.00	-0.36	5.95		5.95	0.000078	0.57	79708.52	24883.12	0.05	
Fish Creek	Lower Fish Creek	2.39230*	43995.00	-0.74	6.31		6.31	0.000105	0.65	70464.64	24337.03	0.07	
Fish Creek	Lower Fish Creek	3.23846*	43995.00	-1.13	6.76		6.77	0.000123	0.73	64040.34	23386.65	0.08	
Fish Creek	Lower Fish Creek	4.08461*	43995.00	-1.52	7.35		7.36	0.000165	0.96	52634.36	20084.61	0.09	
Fish Creek	Lower Fish Creek	4.93076*	43995.00	-1.90	7.99		8.00	0.000142	0.98	53490.44	18984.90	0.09	
Fish Creek	Lower Fish Creek	5.77692*	43995.00	-2.29	8.53		8.55	0.000119	1.04	52911.98	18238.51	0.09	
Fish Creek	Lower Fish Creek	6.62307*	43995.00	-2.68	9.03		9.05	0.000120	1.11	51722.82	17638.20	0.09	
Fish Creek	Lower Fish Creek	7.46923*	43995.00	-3.07	9.54		9.55	0.000124	1.19	50663.28	17500.94	0.09	
Fish Creek	Lower Fish Creek	8.31538*	43995.00	-3.45	10.04		10.06	0.000131	1.29	49504.77	17340.74	0.10	
Fish Creek	Lower Fish Creek	9.16153*	43995.00	-3.84	10.59		10.61	0.000147	1.39	48279.86	17427.86	0.10	
Fish Creek	Lower Fish Creek	10.0076*	43995.00	-4.23	11.16		11.19	0.000159	1.55	47681.57	17842.75	0.11	
Fish Creek	Lower Fish Creek	10.8538*	43995.00	-4.61	11.78		11.81	0.000184	1.74	45845.66	16219.50	0.12	
Fish Creek	Lower Fish Creek	11.7	43995.00	-5.00	12.42		12.44	0.000191	1.81	45082.09	16170.42	0.12	
Fish Creek	Lower Fish Creek	12.6	43995.00	-5.80	12.80		12.89	0.000128	3.52	43658.42	15595.90	0.20	
Fish Creek	Lower Fish Creek	13.4285*	43249.00	-5.83	13.35		13.43	0.000163	3.41	40464.89	14736.60	0.19	
Fish Creek	Lower Fish Creek	14.2571*	43249.00	-5.86	13.97		14.07	0.000178	3.68	39330.70	14903.72	0.21	
Fish Creek	Lower Fish Creek	15.0857*	43249.00	-5.89	14.63		14.74	0.000188	3.87	37366.24	13693.14	0.22	
Fish Creek	Lower Fish Creek	15.9142*	43249.00	-5.91	15.32		15.44	0.000190	3.97	36090.60	12766.24	0.23	
Fish Creek	Lower Fish Creek	16.7428*	43249.00	-5.94	16.01		16.15	0.000185	4.15	34951.81	11681.02	0.24	
Fish Creek	Lower Fish Creek	17.5714*	43249.00	-5.97	16.70		16.84	0.000183	4.19	33802.66	11044.73	0.24	
Fish Creek	Lower Fish Creek	18.4	43249.00	-6.00	17.37		17.52	0.000172	4.29	32446.63	10484.65	0.25	
Fish Creek	Lower Fish Creek	19.2375*	42101.00	-4.42	17.97		18.16	0.000206	4.65	27785.27	9064.95	0.26	
Fish Creek	Lower Fish Creek	20.075*	42101.00	-2.84	18.82		19.14	0.000326	5.50	22155.87	8126.92	0.30	
Fish Creek	Lower Fish Creek	20.9125*	42101.00	-1.26	19.89		20.16	0.000235	5.17	22892.98	6276.08	0.27	
Fish Creek	Lower Fish Creek	21.75*	42101.00	0.32	20.69		20.94	0.000197	5.00	25565.00	6639.19	0.26	
Fish Creek	Lower Fish Creek	22.5875*	42101.00	1.90	21.44		21.63	0.000197	4.61	28131.29	7073.85	0.24	
Fish Creek	Lower Fish Creek	23.425*	42101.00	3.48	22.10		22.29	0.000189	4.67	30131.28	8015.56	0.24	
Fish Creek	Lower Fish Creek	24.2625*	42101.00	5.06	22.76		22.95	0.000192	4.72	32011.29	8500.70	0.25	
Fish Creek	Lower Fish Creek	25.1	42101.00	6.64	23.41		23.61	0.000205	4.53	33354.37	8699.36	0.24	
Fish Creek	Lower Fish Creek	26.09	42051.00	7.89	24.38		24.60	0.000222	5.13	30545.09	8673.61	0.27	
Fish Creek	Upper Fish Creek	26.85	24798.00	6.88	25.30		25.52	0.000248	4.43	16291.54	6589.69	0.23	
Fish Creek	Upper Fish Creek	27.6428*	24499.00	7.84	26.22		26.40	0.000225	4.09	15966.81	5476.72	0.21	
Fish Creek	Upper Fish Creek	28.4357*	24499.00	8.80	26.97		27.07	0.000151	3.33	19447.49	4831.67	0.17	
Fish Creek	Upper Fish Creek	29.2285*	24499.00	9.76	27.45		27.51	0.000116	2.86	22543.86	5107.78	0.14	
Fish Creek	Upper Fish Creek	30.0214*	24499.00	10.72	27.80		27.84	0.000090	2.60	25164.88	5396.53	0.13	
Fish Creek	Upper Fish Creek	30.8142*	24499.00	11.68	28.06		28.09	0.000073	2.35	27450.20	5642.07	0.12	
Fish Creek	Upper Fish Creek	31.6071*	24499.00	12.64	28.27		28.30	0.000064	2.13	29432.55	5898.70	0.11	
Fish Creek	Upper Fish Creek	32.4	24499.00	13.60	28.45		28.47	0.000053	1.95	30942.56	6162.48	0.10	
Fish Creek	Upper Fish Creek	33.3083*	24119.00	14.03	28.63		28.68	0.000098	2.66	23451.27	5834.69	0.14	
Fish Creek	Upper Fish Creek	34.2166*	24119.00	14.45	29.02		29.11	0.000178	3.50	17315.15	5359.21	0.18	
Fish Creek	Upper Fish Creek	35.125*	24119.00	14.88	29.72		29.89	0.000267	4.24	13367.85	4761.39	0.23	
Fish Creek	Upper Fish Creek	36.0333*	24119.00	15.30	30.72		30.94	0.000304	4.58	11329.31	4168.39	0.24	
Fish Creek	Upper Fish Creek	36.9416*	24119.00	15.73	31.87		32.12	0.000304	4.67	10338.33	3576.52	0.24	
Fish Creek	Upper Fish Creek	37.85*	24119.00	16.15	33.05		33.31	0.000290	4.65	9854.46	2976.11	0.24	
Fish Creek	Upper Fish Creek	38.7583*	24119.00	16.58	34.22		34.47	0.000283	4.51	9576.83	2816.09	0.23	
Fish Creek	Upper Fish Creek	39.6666*	24119.00	17.00	35.34		35.58	0.000257	4.37	9238.19	2554.74	0.22	
Fish Creek	Upper Fish Creek	40.575*	24119.00	17.43	36.38		36.62	0.000240	4.27	8849.98	2282.06	0.21	
Fish Creek	Upper Fish Creek	41.4833*	24119.00	17.85	37.37		37.60	0.000226	4.18	8505.13	1985.24	0.20	
Fish Creek	Upper Fish Creek	42.3916*	24119.00	18.28	38.31		38.51	0.000200	3.95	9749.39	3366.24	0.19	
Fish Creek	Upper Fish Creek	43.3	24119.00	18.70	39.09		39.21	0.000140	3.30	12612.63	2816.98	0.16	
Judy Creek	Lower Judy Creek	0.38	21289.00	8.18	25.18		25.27	0.000137	3.38	20757.38	6328.97	0.19	
Judy Creek	Lower Judy Creek	.981819*	20760.00	8.91	25.48		25.65	0.000212	4.14	16539.84	6998.34	0.24	
Judy Creek	Lower Judy Creek	1.58363*	20760.00	9.64	25.95		26.22	0.000305	4.93	12916.26	6966.65	0.29	

Judy Creek	Lower	Judy Creek	2.18545*	20760.00	10.37	26.60	26.87	0.000306	4.96	11526.37	5383.53	0.29
Judy Creek	Lower	Judy Creek	2.78727*	20760.00	11.10	27.25	27.49	0.000279	4.76	11610.70	4571.93	0.27
Judy Creek	Lower	Judy Creek	3.38909*	20760.00	11.83	27.84	28.08	0.000281	4.79	11520.66	4752.18	0.28
Judy Creek	Lower	Judy Creek	3.99090*	20760.00	12.55	28.41	28.67	0.000266	4.87	11306.95	4917.30	0.28
Judy Creek	Lower	Judy Creek	4.59272*	20760.00	13.28	28.98	29.25	0.000273	4.93	11077.73	4671.50	0.28
Judy Creek	Lower	Judy Creek	5.19454*	20760.00	14.01	29.56	29.82	0.000275	4.95	11003.43	4589.30	0.28
Judy Creek	Lower	Judy Creek	5.79636*	20760.00	14.74	30.17	30.41	0.000282	4.81	11086.93	4664.81	0.28
Judy Creek	Lower	Judy Creek	6.39818*	20760.00	15.47	30.77	31.02	0.000290	4.88	10830.32	4727.23	0.28
Judy Creek	Lower	Judy Creek	7.0	20760.00	16.20	31.64	31.74	0.000401	3.50	12199.29	4965.53	0.20
Judy Creek	Lower	Judy Creek	7.42500*	19248.00	16.63	32.27	32.47	0.000345	4.34	10140.68	4685.09	0.24
Judy Creek	Lower	Judy Creek	7.85000*	19248.00	17.05	33.00	33.28	0.000438	4.86	8450.95	4497.16	0.27
Judy Creek	Lower	Judy Creek	8.27500*	19248.00	17.48	33.86	34.15	0.000394	4.81	7650.23	3502.57	0.26
Judy Creek	Lower	Judy Creek	8.70000*	19248.00	17.90	34.65	34.95	0.000369	4.84	7310.20	3117.57	0.26
Judy Creek	Lower	Judy Creek	9.12500*	19248.00	18.33	35.37	35.71	0.000329	4.98	6827.26	2926.31	0.26
Judy Creek	Lower	Judy Creek	9.55000*	19248.00	18.75	35.96	36.34	0.000241	5.22	6030.66	2514.08	0.27
Judy Creek	Lower	Judy Creek	9.975*	19248.00	19.18	36.48	36.90	0.000255	5.40	5322.57	1968.36	0.28
Judy Creek	Lower	Judy Creek	10.4*	19248.00	19.60	37.04	37.48	0.000264	5.51	4838.75	1569.48	0.29
Judy Creek	Lower	Judy Creek	10.825*	19248.00	20.03	37.61	38.08	0.000270	5.60	4494.84	1249.09	0.29
Judy Creek	Lower	Judy Creek	11.25*	19248.00	20.45	38.21	38.69	0.000274	5.67	4241.61	1028.35	0.29
Judy Creek	Lower	Judy Creek	11.675*	19248.00	20.88	38.82	39.31	0.000275	5.72	4059.21	873.80	0.30
Judy Creek	Lower	Judy Creek	12.1*	19248.00	21.30	39.46	39.96	0.000300	5.74	3970.19	765.18	0.30
Judy Creek	Lower	Judy Creek	12.525*	19248.00	21.73	40.13	40.63	0.000302	5.75	3926.93	700.79	0.30
Judy Creek	Lower	Judy Creek	12.95*	19248.00	22.15	40.81	41.31	0.000303	5.78	3898.82	694.71	0.30
Judy Creek	Lower	Judy Creek	13.375*	19248.00	22.58	41.52	42.03	0.000329	5.79	3896.01	712.32	0.30
Judy Creek	Lower	Judy Creek	13.8	19248.00	23.00	42.26	42.76	0.000329	5.80	3902.62	706.50	0.30
Judy Creek	Lower	Judy Creek	14.2705*	17888.00	23.93	43.04	43.47	0.000255	5.34	3932.81	716.72	0.27
Judy Creek	Lower	Judy Creek	14.7411*	17888.00	24.86	43.62	44.07	0.000244	5.43	3826.24	706.04	0.28
Judy Creek	Lower	Judy Creek	15.2117*	17888.00	25.79	44.19	44.65	0.000231	5.49	3712.05	693.87	0.28
Judy Creek	Lower	Judy Creek	15.6823*	17888.00	26.72	44.73	45.20	0.000220	5.57	3585.23	563.85	0.29
Judy Creek	Lower	Judy Creek	16.1529*	17888.00	27.65	45.26	45.75	0.000231	5.65	3499.88	497.65	0.30
Judy Creek	Lower	Judy Creek	16.6235*	17888.00	28.58	45.81	46.31	0.000241	5.71	3434.76	468.91	0.30
Judy Creek	Lower	Judy Creek	17.0941*	17888.00	29.51	46.39	46.90	0.000249	5.76	3386.35	447.34	0.31
Judy Creek	Lower	Judy Creek	17.5647*	17888.00	30.44	46.98	47.50	0.000256	5.81	3351.46	462.90	0.31
Judy Creek	Lower	Judy Creek	18.0352*	17888.00	31.36	47.60	48.12	0.000262	5.83	3350.57	541.20	0.31
Judy Creek	Lower	Judy Creek	18.5058*	17888.00	32.29	48.22	48.75	0.000267	5.86	3365.65	562.85	0.32
Judy Creek	Lower	Judy Creek	18.9764*	17888.00	33.22	48.87	49.40	0.000270	5.87	3391.30	610.05	0.32
Judy Creek	Lower	Judy Creek	19.4470*	17888.00	34.15	49.52	50.05	0.000272	5.87	3418.66	595.33	0.32
Judy Creek	Lower	Judy Creek	19.9176*	17888.00	35.08	50.15	50.68	0.000250	5.89	3429.81	581.43	0.32
Judy Creek	Lower	Judy Creek	20.3882*	17888.00	36.01	50.72	51.27	0.000232	5.94	3406.28	584.79	0.32
Judy Creek	Lower	Judy Creek	20.8588*	17888.00	36.94	51.29	51.84	0.000240	5.99	3419.73	659.43	0.33
Judy Creek	Lower	Judy Creek	21.3294*	17888.00	37.87	51.87	52.43	0.000248	6.03	3505.00	684.41	0.33
Judy Creek	Lower	Judy Creek	21.8	17888.00	38.80	52.46	53.03	0.000254	6.06	3507.51	591.90	0.34
Judy Creek	Lower	Judy Creek	22.26*	16455.00	39.51	53.12	53.59	0.000210	5.51	3701.10	712.89	0.31
Judy Creek	Lower	Judy Creek	22.72*	16455.00	40.22	53.62	54.09	0.000219	5.55	3721.86	818.30	0.31
Judy Creek	Lower	Judy Creek	23.18*	16455.00	40.93	54.14	54.62	0.000229	5.60	3685.26	928.06	0.32
Judy Creek	Lower	Judy Creek	23.64*	16455.00	41.64	54.68	55.17	0.000239	5.64	3607.86	955.85	0.33
Judy Creek	Lower	Judy Creek	24.1*	16455.00	42.35	55.24	55.74	0.000248	5.68	3540.85	985.40	0.33
Judy Creek	Lower	Judy Creek	24.56*	16455.00	43.06	55.83	56.33	0.000257	5.72	3474.12	1022.07	0.34
Judy Creek	Lower	Judy Creek	25.02*	16455.00	43.77	56.43	56.94	0.000265	5.75	3409.82	1067.58	0.34
Judy Creek	Lower	Judy Creek	25.48*	16455.00	44.48	57.06	57.57	0.000273	5.77	3349.46	1102.92	0.34
Judy Creek	Lower	Judy Creek	25.94*	16455.00	45.19	57.71	58.22	0.000280	5.79	3293.72	1070.13	0.35
Judy Creek	Lower	Judy Creek	26.4*	16455.00	45.90	58.37	58.89	0.000286	5.80	3249.39	1104.65	0.35
Judy Creek	Lower	Judy Creek	26.86*	16455.00	46.61	59.05	59.57	0.000291	5.80	3211.55	1148.26	0.35
Judy Creek	Lower	Judy Creek	27.32*	16455.00	47.32	59.74	60.26	0.000295	5.80	3176.41	1167.44	0.35
Judy Creek	Lower	Judy Creek	27.78*	16455.00	48.03	60.45	60.97	0.000300	5.80	3154.96	1042.39	0.36
Judy Creek	Lower	Judy Creek	28.24*	16455.00	48.74	61.14	61.66	0.000274	5.81	3129.39	942.02	0.36
Judy Creek	Lower	Judy Creek	28.7*	16455.00	49.45	61.76	62.29	0.000256	5.88	3055.17	781.97	0.37
Judy Creek	Lower	Judy Creek	29.16*	16455.00	50.16	62.34	62.89	0.000243	6.00	2958.59	722.00	0.38
Judy Creek	Lower	Judy Creek	29.62*	16455.00	50.87	62.89	63.48	0.000233	6.15	2855.71	681.95	0.40

Judy Creek	Lower Judy Creek	30.08*	16455.00	51.58	63.45	64.06	0.000256	6.30	2903.11	984.17	0.41
Judy Creek	Lower Judy Creek	30.54*	16455.00	52.29	64.07	64.68	0.000270	6.33	3437.17	1630.99	0.42
Judy Creek	Lower Judy Creek	31.0	16455.00	53.00	64.77	65.30	0.000257	6.08	4613.98	2176.55	0.41

Profile Output Table - Standard Table 2

River	Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Fish Creek	Lower	Fish Creek 0.7		5.64	5.63	0.01		7702.35	42747.75	665.90	25392.96
Fish Creek	Lower	Fish Creek 1.54615*		5.95	5.95	0.00	0.32	8246.92	35194.94	553.14	24883.12
Fish Creek	Lower	Fish Creek 2.39230*		6.31	6.31	0.01	0.37	9825.34	33622.87	546.79	24337.03
Fish Creek	Lower	Fish Creek 3.23846*		6.77	6.76	0.01	0.46	11209.63	32192.85	592.52	23386.65
Fish Creek	Lower	Fish Creek 4.08461*		7.36	7.35	0.01	0.59	4750.17	38431.36	813.47	20084.61
Fish Creek	Lower	Fish Creek 4.93076*		8.00	7.99	0.01	0.65	5850.46	37207.29	937.25	18984.90
Fish Creek	Lower	Fish Creek 5.77692*		8.55	8.53	0.01	0.54	6467.99	36552.76	974.25	18238.51
Fish Creek	Lower	Fish Creek 6.62307*		9.05	9.03	0.02	0.49	7418.41	35552.73	1023.86	17638.20
Fish Creek	Lower	Fish Creek 7.46923*		9.55	9.54	0.02	0.50	8585.89	34277.69	1131.42	17500.94
Fish Creek	Lower	Fish Creek 8.31538*		10.06	10.04	0.02	0.51	9976.61	32677.91	1340.48	17340.74
Fish Creek	Lower	Fish Creek 9.16153*		10.61	10.59	0.02	0.55	12404.85	30220.22	1369.93	17427.86
Fish Creek	Lower	Fish Creek 10.0076*		11.19	11.16	0.03	0.58	15036.38	27317.68	1640.94	17842.75
Fish Creek	Lower	Fish Creek 10.8538*		11.81	11.78	0.03	0.63	19391.48	22998.18	1605.34	16219.50
Fish Creek	Lower	Fish Creek 11.7		12.44	12.42	0.02	0.63	27137.14	14928.88	1928.99	16170.42
Fish Creek	Lower	Fish Creek 12.6		12.89	12.80	0.09	0.43	22816.17	19452.71	1726.12	15595.90
Fish Creek	Lower	Fish Creek 13.4285*		13.43	13.35	0.08	0.54	22620.47	18604.62	2023.91	14736.60
Fish Creek	Lower	Fish Creek 14.2571*		14.07	13.97	0.10	0.63	20374.70	19763.52	3110.78	14903.72
Fish Creek	Lower	Fish Creek 15.0857*		14.74	14.63	0.12	0.68	18908.59	20585.58	3754.84	13693.14
Fish Creek	Lower	Fish Creek 15.9142*		15.44	15.32	0.12	0.70	18025.63	20949.02	4274.36	12766.24
Fish Creek	Lower	Fish Creek 16.7428*		16.15	16.01	0.14	0.70	16963.67	21742.04	4543.29	11681.02
Fish Creek	Lower	Fish Creek 17.5714*		16.84	16.70	0.14	0.69	16239.20	21743.43	5266.37	11044.73
Fish Creek	Lower	Fish Creek 18.4		17.52	17.37	0.15	0.67	16181.66	22008.86	5058.49	10484.65
Fish Creek	Lower	Fish Creek 19.2375*		18.16	17.97	0.19	0.63	15803.41	23508.05	2789.54	9064.95
Fish Creek	Lower	Fish Creek 20.075*		19.14	18.82	0.32	0.94	8844.80	28057.76	5198.44	8126.92
Fish Creek	Lower	Fish Creek 20.9125*		20.16	19.89	0.27	1.02	8204.12	27028.03	6868.85	6276.08
Fish Creek	Lower	Fish Creek 21.75*		20.94	20.69	0.24	0.77	7961.34	25894.44	8245.21	6639.19
Fish Creek	Lower	Fish Creek 22.5875*		21.63	21.44	0.19	0.69	8270.36	23435.65	10394.99	7073.85
Fish Creek	Lower	Fish Creek 23.425*		22.29	22.10	0.19	0.66	7285.98	22964.78	11850.24	8015.56
Fish Creek	Lower	Fish Creek 24.2625*		22.95	22.76	0.19	0.65	6928.49	22241.94	12930.58	8500.70
Fish Creek	Lower	Fish Creek 25.1		23.61	23.45	0.16	0.66	8401.54	20223.68	13475.78	8699.36
Fish Creek	Lower	Fish Creek 26.09		24.60	24.38	0.22	0.97	6948.42	22159.01	12943.58	8673.61
Fish Creek	Upper	Fish Creek 26.85		25.52	25.30	0.22	0.92	4393.55	17547.85	2856.61	6589.69
Fish Creek	Upper	Fish Creek 27.6428*		26.40	26.22	0.18	0.87	5450.55	16486.90	2561.55	5476.72
Fish Creek	Upper	Fish Creek 28.4357*		27.07	26.97	0.10	0.66	7196.04	13444.37	3858.59	4831.67
Fish Creek	Upper	Fish Creek 29.2285*		27.51	27.45	0.06	0.44	8145.91	11333.50	5019.59	5107.78
Fish Creek	Upper	Fish Creek 30.0214*		27.84	27.80	0.05	0.33	8582.09	9966.45	5950.46	5396.53
Fish Creek	Upper	Fish Creek 30.8142*		28.09	28.06	0.03	0.25	8866.04	8643.67	6989.30	5642.07
Fish Creek	Upper	Fish Creek 31.6071*		28.30	28.27	0.03	0.20	9377.22	7475.76	7646.02	5898.70
Fish Creek	Upper	Fish Creek 32.4		28.47	28.45	0.02	0.17	9148.11	6481.38	8869.52	6162.48
Fish Creek	Upper	Fish Creek 33.3083*		28.68	28.63	0.05	0.21	8285.68	8687.50	7145.82	5834.69
Fish Creek	Upper	Fish Creek 34.2166*		29.11	29.02	0.10	0.42	7276.72	11363.31	5478.97	5359.21
Fish Creek	Upper	Fish Creek 35.125*		29.89	29.72	0.17	0.75	5919.21	14092.81	4106.98	4761.39
Fish Creek	Upper	Fish Creek 36.0333*		30.94	30.72	0.22	1.04	4792.83	15983.52	3342.65	4168.39
Fish Creek	Upper	Fish Creek 36.9416*		32.12	31.87	0.25	1.17	3777.55	17308.73	3032.72	3576.52
Fish Creek	Upper	Fish Creek 37.85*		33.31	33.05	0.26	1.18	2914.51	18350.88	2853.62	2976.11
Fish Creek	Upper	Fish Creek 38.7583*		34.47	34.22	0.25	1.17	2278.72	18878.71	2961.57	2816.09
Fish Creek	Upper	Fish Creek 39.6666*		35.58	35.34	0.24	1.12	1557.63	19335.82	3225.56	2554.74
Fish Creek	Upper	Fish Creek 40.575*		36.62	36.38	0.24	1.04	966.44	19804.29	3348.27	2282.06
Fish Creek	Upper	Fish Creek 41.4833*		37.60	37.37	0.23	0.99	548.10	20239.55	3331.35	1985.24
Fish Creek	Upper	Fish Creek 42.3916*		38.51	38.31	0.20	0.90	1032.48	19887.54	3198.98	3366.24
Fish Creek	Upper	Fish Creek 43.3		39.21	39.09	0.12	0.69	4537.58	17004.95	2576.48	2816.98
Judy Creek	Lower	Judy Creek 0.38		25.27	25.18	0.09	0.66	3696.93	10767.11	6824.97	6328.97
Judy Creek	Lower	Judy Creek .981819*		25.65	25.48	0.16	0.35	2941.94	12679.32	5138.73	6998.34
Judy Creek	Lower	Judy Creek 1.58363*		26.22	25.95	0.27	0.54	2528.73	14786.77	3444.51	6966.65

Judy Creek	Lower	Judy Creek	2.18545*	26.87	26.60	0.28	0.65	0.00	2465.31	14857.44	3437.25	5383.53
Judy Creek	Lower	Judy Creek	2.78727*	27.49	27.25	0.24	0.62	0.00	2573.15	14219.28	3967.58	4571.93
Judy Creek	Lower	Judy Creek	3.38909*	28.08	27.84	0.25	0.59	0.00	2368.34	14188.63	4203.03	4752.18
Judy Creek	Lower	Judy Creek	3.99090*	28.67	28.41	0.26	0.58	0.00	2221.79	14301.35	4236.86	4917.30
Judy Creek	Lower	Judy Creek	4.59272*	29.25	28.98	0.26	0.57	0.00	2111.68	14312.78	4335.54	4671.50
Judy Creek	Lower	Judy Creek	5.19454*	29.82	29.56	0.26	0.58	0.00	2004.23	14236.93	4518.84	4589.30
Judy Creek	Lower	Judy Creek	5.79636*	30.41	30.17	0.24	0.59	0.00	2136.56	13758.49	4864.96	4664.81
Judy Creek	Lower	Judy Creek	6.39818*	31.02	30.77	0.25	0.60	0.00	2193.21	13852.56	4714.23	4727.23
Judy Creek	Lower	Judy Creek	7.0	31.74	31.64	0.10	0.71	0.01	3456.20	10125.43	7178.37	4965.53
Judy Creek	Lower	Judy Creek	7.42500*	32.47	32.27	0.20	0.70	0.03	2416.26	12816.32	4015.42	4685.09
Judy Creek	Lower	Judy Creek	7.85000*	33.28	33.00	0.28	0.79	0.03	2264.92	14769.69	2213.39	4497.16
Judy Creek	Lower	Judy Creek	8.27500*	34.15	33.86	0.29	0.86	0.00	2111.63	15160.38	1975.99	3502.57
Judy Creek	Lower	Judy Creek	8.70000*	34.95	34.65	0.30	0.80	0.00	1857.20	15698.61	1692.19	3117.57
Judy Creek	Lower	Judy Creek	9.12500*	35.71	35.37	0.33	0.74	0.01	1470.65	16445.91	1331.44	2926.31
Judy Creek	Lower	Judy Creek	9.55000*	36.34	35.96	0.38	0.62	0.02	1115.92	17316.36	815.72	2514.08
Judy Creek	Lower	Judy Creek	9.975*	36.90	36.48	0.42	0.55	0.01	877.80	17855.74	514.47	1968.36
Judy Creek	Lower	Judy Creek	10.4*	37.48	37.04	0.45	0.58	0.01	728.73	18209.69	309.58	1569.48
Judy Creek	Lower	Judy Creek	10.825*	38.08	37.61	0.47	0.60	0.01	621.00	18465.84	161.17	1249.09
Judy Creek	Lower	Judy Creek	11.25*	38.69	38.21	0.48	0.61	0.00	535.57	18645.08	67.35	1028.35
Judy Creek	Lower	Judy Creek	11.675*	39.31	38.82	0.49	0.62	0.00	483.74	18733.24	31.02	873.80
Judy Creek	Lower	Judy Creek	12.1*	39.96	39.46	0.50	0.65	0.00	481.25	18739.54	27.20	765.18
Judy Creek	Lower	Judy Creek	12.525*	40.63	40.13	0.50	0.68	0.00	475.70	18736.42	35.88	700.79
Judy Creek	Lower	Judy Creek	12.95*	41.31	40.81	0.50	0.68	0.00	479.07	18730.35	38.58	694.71
Judy Creek	Lower	Judy Creek	13.375*	42.03	41.52	0.51	0.71	0.00	520.37	18685.77	41.86	712.32
Judy Creek	Lower	Judy Creek	13.8	42.76	42.26	0.51	0.74	0.00	551.76	18635.52	60.72	706.50
Judy Creek	Lower	Judy Creek	14.2705*	43.47	43.04	0.43	0.70	0.01	478.15	17353.96	55.89	716.72
Judy Creek	Lower	Judy Creek	14.7411*	44.07	43.62	0.45	0.60	0.01	337.16	17510.07	40.77	706.04
Judy Creek	Lower	Judy Creek	15.2117*	44.65	44.19	0.46	0.57	0.00	282.06	17571.07	34.87	693.87
Judy Creek	Lower	Judy Creek	15.6823*	45.20	44.73	0.47	0.54	0.00	239.86	17619.57	28.57	563.85
Judy Creek	Lower	Judy Creek	16.1529*	45.75	45.26	0.49	0.54	0.00	187.70	17675.98	24.31	497.65
Judy Creek	Lower	Judy Creek	16.6235*	46.31	45.81	0.50	0.57	0.00	173.19	17697.00	17.81	468.91
Judy Creek	Lower	Judy Creek	17.0941*	46.90	46.39	0.51	0.59	0.00	162.07	17710.54	15.39	447.34
Judy Creek	Lower	Judy Creek	17.5647*	47.50	46.98	0.52	0.61	0.00	134.94	17739.60	13.46	462.90
Judy Creek	Lower	Judy Creek	18.0352*	48.12	47.60	0.52	0.63	0.00	129.52	17745.13	13.36	541.20
Judy Creek	Lower	Judy Creek	18.5058*	48.75	48.22	0.53	0.64	0.00	111.62	17756.40	19.98	562.85
Judy Creek	Lower	Judy Creek	18.9764*	49.40	48.87	0.53	0.65	0.00	109.03	17750.86	28.11	610.05
Judy Creek	Lower	Judy Creek	19.4470*	50.05	49.52	0.53	0.65	0.00	107.08	17742.01	38.91	595.33
Judy Creek	Lower	Judy Creek	19.9176*	50.68	50.15	0.53	0.63	0.00	89.49	17749.17	49.34	581.43
Judy Creek	Lower	Judy Creek	20.3882*	51.27	50.72	0.54	0.58	0.00	80.17	17755.62	52.21	584.79
Judy Creek	Lower	Judy Creek	20.8588*	51.84	51.29	0.55	0.57	0.00	75.37	17749.90	62.73	659.43
Judy Creek	Lower	Judy Creek	21.3294*	52.43	51.87	0.56	0.59	0.00	64.66	17721.15	102.19	684.41
Judy Creek	Lower	Judy Creek	21.8	53.03	52.46	0.56	0.60	0.00	61.58	17674.78	151.64	591.90
Judy Creek	Lower	Judy Creek	22.26*	53.59	53.12	0.46	0.55	0.01	48.76	16218.49	187.75	712.89
Judy Creek	Lower	Judy Creek	22.72*	54.09	53.62	0.47	0.51	0.00	40.58	16218.77	195.65	818.30
Judy Creek	Lower	Judy Creek	23.18*	54.62	54.14	0.48	0.53	0.00	29.78	16229.26	195.96	928.06
Judy Creek	Lower	Judy Creek	23.64*	55.17	54.68	0.49	0.55	0.00	21.15	16253.14	180.71	955.85
Judy Creek	Lower	Judy Creek	24.1*	55.74	55.24	0.50	0.58	0.00	16.06	16273.62	165.32	985.40
Judy Creek	Lower	Judy Creek	24.56*	56.33	55.83	0.50	0.60	0.00	10.46	16296.34	148.21	1022.07
Judy Creek	Lower	Judy Creek	25.02*	56.94	56.43	0.51	0.62	0.00	6.38	16303.29	145.34	1067.58
Judy Creek	Lower	Judy Creek	25.48*	57.57	57.06	0.51	0.64	0.00	3.57	16325.19	126.24	1102.92
Judy Creek	Lower	Judy Creek	25.94*	58.22	57.71	0.52	0.66	0.00	2.22	16344.39	108.39	1070.13
Judy Creek	Lower	Judy Creek	26.4*	58.89	58.37	0.52	0.67	0.00	1.14	16360.24	93.62	1104.65
Judy Creek	Lower	Judy Creek	26.86*	59.57	59.05	0.52	0.69	0.00	0.50	16360.82	93.68	1148.26
Judy Creek	Lower	Judy Creek	27.32*	60.26	59.74	0.52	0.70	0.00	0.19	16360.25	94.56	1167.44
Judy Creek	Lower	Judy Creek	27.78*	60.97	60.45	0.52	0.71	0.00	0.04	16358.89	96.08	1042.39
Judy Creek	Lower	Judy Creek	28.24*	61.66	61.14	0.52	0.68	0.00		16361.90	93.10	942.02
Judy Creek	Lower	Judy Creek	28.7*	62.29	61.76	0.53	0.63	0.00		16357.33	97.67	781.97
Judy Creek	Lower	Judy Creek	29.16*	62.89	62.34	0.56	0.59	0.01		16369.30	85.70	722.00
Judy Creek	Lower	Judy Creek	29.62*	63.48	62.89	0.58	0.57	0.01		16378.70	76.30	681.95

Judy Creek	Lower Judy Creek	30.08*	64.06	63.45	0.61	0.58	0.01	16347.16	107.84	984.17
Judy Creek	Lower Judy Creek	30.54*	64.68	64.07	0.61	0.62	0.00	16126.24	328.76	1630.99
Judy Creek	Lower Judy Creek	31.0	65.30	64.77	0.54	0.61	0.01	15343.12	1111.88	2176.55

Profile Output Table - User Defined Table #1

River	Reach	River Sta	W.S. Elev (ft)	Q Total (cfs)	Q Left (cfs)	Q Channel (cfs)	Q Total (cfs)	Vel Left (ft/s)	Vel Right (ft/s)	Vol Chan (acre-ft)
Fish Creek	Lower	Fish Creek 0.7	5.63	51116.00	7702.35	42747.75	51116.00	0.55	0.27	
Fish Creek	Lower	Fish Creek 1.54615*	5.95	43995.00	8246.92	35194.94	43995.00	0.54	0.25	6987.94
Fish Creek	Lower	Fish Creek 2.39230*	6.31	43995.00	9825.34	33622.87	43995.00	0.59	0.27	12848.59
Fish Creek	Lower	Fish Creek 3.23846*	6.76	43995.00	11209.63	32192.85	43995.00	0.62	0.29	17774.35
Fish Creek	Lower	Fish Creek 4.08461*	7.35	43995.00	4750.17	38431.36	43995.00	0.47	0.34	22094.98
Fish Creek	Lower	Fish Creek 4.93076*	7.99	43995.00	5850.46	37207.29	43995.00	0.47	0.33	26114.17
Fish Creek	Lower	Fish Creek 5.77692*	8.53	43995.00	6467.99	36552.76	43995.00	0.45	0.30	29886.72
Fish Creek	Lower	Fish Creek 6.62307*	9.03	43995.00	7418.41	35552.73	43995.00	0.46	0.29	33353.42
Fish Creek	Lower	Fish Creek 7.46923*	9.54	43995.00	8585.89	34277.69	43995.00	0.48	0.29	36490.69
Fish Creek	Lower	Fish Creek 8.31538*	10.04	43995.00	9976.61	32677.91	43995.00	0.51	0.30	39280.47
Fish Creek	Lower	Fish Creek 9.16153*	10.59	43995.00	12404.85	30220.22	43995.00	0.56	0.30	41700.07
Fish Creek	Lower	Fish Creek 10.0076*	11.16	43995.00	15036.38	27317.68	43995.00	0.61	0.31	43722.18
Fish Creek	Lower	Fish Creek 10.8538*	11.78	43995.00	19391.48	22998.18	43995.00	0.69	0.37	45309.59
Fish Creek	Lower	Fish Creek 11.7	12.42	43995.00	27137.14	14928.88	43995.00	0.85	0.40	46412.88
Fish Creek	Lower	Fish Creek 12.6	12.80	43995.00	22816.17	19452.71	43995.00	0.69	0.34	47215.25
Fish Creek	Lower	Fish Creek 13.4285*	13.35	43249.00	22620.47	18604.62	43249.00	0.75	0.41	47763.71
Fish Creek	Lower	Fish Creek 14.2571*	13.97	43249.00	20374.70	19763.52	43249.00	0.77	0.42	48304.26
Fish Creek	Lower	Fish Creek 15.0857*	14.63	43249.00	18908.59	20585.58	43249.00	0.78	0.47	48838.01
Fish Creek	Lower	Fish Creek 15.9142*	15.32	43249.00	18025.63	20949.02	43249.00	0.80	0.51	49366.95
Fish Creek	Lower	Fish Creek 16.7428*	16.01	43249.00	16963.67	21742.04	43249.00	0.80	0.54	49891.74
Fish Creek	Lower	Fish Creek 17.5714*	16.70	43249.00	16239.20	21743.43	43249.00	0.80	0.63	50412.21
Fish Creek	Lower	Fish Creek 18.4	17.37	43249.00	16181.66	22008.86	43249.00	0.86	0.60	50927.49
Fish Creek	Lower	Fish Creek 19.2375*	17.97	42101.00	15803.41	23508.05	42101.00	0.90	0.55	51442.75
Fish Creek	Lower	Fish Creek 20.075*	18.82	42101.00	8844.80	28057.76	42101.00	0.85	0.78	51956.64
Fish Creek	Lower	Fish Creek 20.9125*	19.89	42101.00	8204.12	27028.03	42101.00	0.99	0.73	52479.06
Fish Creek	Lower	Fish Creek 21.75*	20.69	42101.00	7961.34	25894.44	42101.00	0.88	0.73	53005.48
Fish Creek	Lower	Fish Creek 22.5875*	21.44	42101.00	8270.36	23435.65	42101.00	0.84	0.79	53524.78
Fish Creek	Lower	Fish Creek 23.425*	22.10	42101.00	7285.98	22964.78	42101.00	0.70	0.80	54030.47
Fish Creek	Lower	Fish Creek 24.2625*	22.76	42101.00	6928.49	22241.94	42101.00	0.61	0.81	54517.23
Fish Creek	Lower	Fish Creek 25.1	23.45	42101.00	8401.54	20223.68	42101.00	0.67	0.82	54981.14
Fish Creek	Lower	Fish Creek 26.09	24.38	42051.00	6948.42	22159.01	42051.00	0.63	0.85	55461.71
Fish Creek	Upper	Fish Creek 26.85	25.30	24798.00	4393.55	17547.85	24798.00	0.59	0.58	372.03
Fish Creek	Upper	Fish Creek 27.6428*	26.22	24499.00	5450.55	16486.90	24499.00	0.68	0.65	764.11
Fish Creek	Upper	Fish Creek 28.4357*	26.97	24499.00	7196.04	13444.37	24499.00	0.76	0.65	1159.92
Fish Creek	Upper	Fish Creek 29.2285*	27.45	24499.00	8145.91	11333.50	24499.00	0.76	0.64	1552.04
Fish Creek	Upper	Fish Creek 30.0214*	27.80	24499.00	8582.09	9966.45	24499.00	0.74	0.61	1934.03
Fish Creek	Upper	Fish Creek 30.8142*	28.06	24499.00	8866.04	8643.67	24499.00	0.73	0.60	2302.48
Fish Creek	Upper	Fish Creek 31.6071*	28.27	24499.00	9377.22	7475.76	24499.00	0.75	0.57	2655.24
Fish Creek	Upper	Fish Creek 32.4	28.45	24499.00	9148.11	6481.38	24499.00	0.74	0.58	2990.85
Fish Creek	Upper	Fish Creek 33.3083*	28.63	24119.00	8285.68	8687.50	24119.00	0.87	0.67	3350.65
Fish Creek	Upper	Fish Creek 34.2166*	29.02	24119.00	7276.72	11363.31	24119.00	1.03	0.78	3706.05
Fish Creek	Upper	Fish Creek 35.125*	29.72	24119.00	5919.21	14092.81	24119.00	1.11	0.87	4064.45
Fish Creek	Upper	Fish Creek 36.0333*	30.72	24119.00	4792.83	15983.52	24119.00	1.11	0.95	4435.85
Fish Creek	Upper	Fish Creek 36.9416*	31.87	24119.00	3777.55	17308.73	24119.00	1.04	1.01	4828.34
Fish Creek	Upper	Fish Creek 37.85*	33.05	24119.00	2914.51	18350.88	24119.00	0.96	1.00	5245.69
Fish Creek	Upper	Fish Creek 38.7583*	34.22	24119.00	2278.72	18878.71	24119.00	0.91	1.03	5689.30
Fish Creek	Upper	Fish Creek 39.6666*	35.34	24119.00	1557.63	19335.82	24119.00	0.79	1.14	6159.19
Fish Creek	Upper	Fish Creek 40.575*	36.38	24119.00	966.44	19804.29	24119.00	0.68	1.20	6653.77
Fish Creek	Upper	Fish Creek 41.4833*	37.37	24119.00	548.10	20239.55	24119.00	0.59	1.22	7171.21
Fish Creek	Upper	Fish Creek 42.3916*	38.31	24119.00	1032.48	19887.54	24119.00	0.50	1.21	7709.90
Fish Creek	Upper	Fish Creek 43.3	39.09	24119.00	4537.58	17004.95	24119.00	0.91	1.05	8265.45
Judy Creek	Lower	Judy Creek 0.38	25.18	21289.00	3696.93	10767.11	21289.00	0.66	0.57	318.15
Judy Creek	Lower	Judy Creek .981819*	25.48	20760.00	2941.94	12679.32	20760.00	0.61	0.59	484.36
Judy Creek	Lower	Judy Creek 1.58363*	25.95	20760.00	2528.73	14786.77	20760.00	0.65	0.57	645.62

Judy Creek	Lower	Judy Creek	2.18545*	26.60	20760.00	2465.31	14857.44	20760.00	0.66	0.71	804.97
Judy Creek	Lower	Judy Creek	2.78727*	27.25	20760.00	2573.15	14219.28	20760.00	0.67	0.83	964.02
Judy Creek	Lower	Judy Creek	3.38909*	27.84	20760.00	2368.34	14188.63	20760.00	0.63	0.88	1122.27
Judy Creek	Lower	Judy Creek	3.99090*	28.41	20760.00	2221.79	14301.35	20760.00	0.62	0.88	1279.10
Judy Creek	Lower	Judy Creek	4.59272*	28.98	20760.00	2111.68	14312.78	20760.00	0.62	0.91	1434.33
Judy Creek	Lower	Judy Creek	5.19454*	29.56	20760.00	2004.23	14236.93	20760.00	0.60	0.94	1587.98
Judy Creek	Lower	Judy Creek	5.79636*	30.17	20760.00	2136.56	13758.49	20760.00	0.64	1.00	1740.42
Judy Creek	Lower	Judy Creek	6.39818*	30.77	20760.00	2193.21	13852.56	20760.00	0.65	1.02	1891.84
Judy Creek	Lower	Judy Creek	7.0	31.64	20760.00	3456.20	10125.43	20760.00	0.85	1.37	2044.23
Judy Creek	Lower	Judy Creek	7.42500*	32.27	19248.00	2416.26	12816.32	19248.00	0.73	1.04	2197.37
Judy Creek	Lower	Judy Creek	7.85000*	33.00	19248.00	2264.92	14769.69	19248.00	0.78	0.88	2354.20
Judy Creek	Lower	Judy Creek	8.27500*	33.86	19248.00	2111.63	15160.38	19248.00	0.75	1.19	2516.20
Judy Creek	Lower	Judy Creek	8.70000*	34.65	19248.00	1857.20	15698.61	19248.00	0.71	1.17	2683.57
Judy Creek	Lower	Judy Creek	9.12500*	35.37	19248.00	1470.65	16445.91	19248.00	0.65	1.07	2854.90
Judy Creek	Lower	Judy Creek	9.55000*	35.96	19248.00	1115.92	17316.36	19248.00	0.65	0.82	3028.27
Judy Creek	Lower	Judy Creek	9.975*	36.48	19248.00	877.80	17855.74	19248.00	0.68	0.71	3201.76
Judy Creek	Lower	Judy Creek	10.4*	37.04	19248.00	728.73	18209.69	19248.00	0.71	0.61	3374.86
Judy Creek	Lower	Judy Creek	10.825*	37.61	19248.00	621.00	18465.84	19248.00	0.71	0.50	3547.65
Judy Creek	Lower	Judy Creek	11.25*	38.21	19248.00	535.57	18645.08	19248.00	0.69	0.39	3720.04
Judy Creek	Lower	Judy Creek	11.675*	38.82	19248.00	483.74	18733.24	19248.00	0.68	0.40	3891.85
Judy Creek	Lower	Judy Creek	12.1*	39.46	19248.00	481.25	18739.54	19248.00	0.73	0.62	4063.10
Judy Creek	Lower	Judy Creek	12.525*	40.13	19248.00	475.70	18736.42	19248.00	0.76	0.85	4233.88
Judy Creek	Lower	Judy Creek	12.95*	40.81	19248.00	479.07	18730.35	19248.00	0.79	0.73	4404.03
Judy Creek	Lower	Judy Creek	13.375*	41.52	19248.00	520.37	18685.77	19248.00	0.88	0.58	4573.46
Judy Creek	Lower	Judy Creek	13.8	42.26	19248.00	551.76	18635.52	19248.00	0.93	0.64	4742.16
Judy Creek	Lower	Judy Creek	14.2705*	43.04	17888.00	478.15	17353.96	17888.00	0.82	0.55	4921.74
Judy Creek	Lower	Judy Creek	14.7411*	43.62	17888.00	337.16	17510.07	17888.00	0.66	0.44	5101.62
Judy Creek	Lower	Judy Creek	15.2117*	44.19	17888.00	282.06	17571.07	17888.00	0.66	0.42	5280.22
Judy Creek	Lower	Judy Creek	15.6823*	44.73	17888.00	239.86	17619.57	17888.00	0.69	0.39	5457.12
Judy Creek	Lower	Judy Creek	16.1529*	45.26	17888.00	187.70	17675.98	17888.00	0.61	0.39	5632.01
Judy Creek	Lower	Judy Creek	16.6235*	45.81	17888.00	173.19	17697.00	17888.00	0.61	0.33	5805.05
Judy Creek	Lower	Judy Creek	17.0941*	46.39	17888.00	162.07	17710.54	17888.00	0.61	0.33	5976.56
Judy Creek	Lower	Judy Creek	17.5647*	46.98	17888.00	134.94	17739.60	17888.00	0.53	0.31	6146.85
Judy Creek	Lower	Judy Creek	18.0352*	47.60	17888.00	129.52	17745.13	17888.00	0.53	0.21	6316.25
Judy Creek	Lower	Judy Creek	18.5058*	48.22	17888.00	111.62	17756.40	17888.00	0.47	0.21	6485.01
Judy Creek	Lower	Judy Creek	18.9764*	48.87	17888.00	109.03	17750.86	17888.00	0.47	0.21	6653.34
Judy Creek	Lower	Judy Creek	19.4470*	49.52	17888.00	107.08	17742.01	17888.00	0.46	0.23	6821.41
Judy Creek	Lower	Judy Creek	19.9176*	50.15	17888.00	89.49	17749.17	17888.00	0.40	0.26	6989.14
Judy Creek	Lower	Judy Creek	20.3882*	50.72	17888.00	80.17	17755.62	17888.00	0.37	0.26	7155.93
Judy Creek	Lower	Judy Creek	20.8588*	51.29	17888.00	75.37	17749.90	17888.00	0.37	0.25	7321.27
Judy Creek	Lower	Judy Creek	21.3294*	51.87	17888.00	64.66	17721.15	17888.00	0.33	0.27	7485.19
Judy Creek	Lower	Judy Creek	21.8	52.46	17888.00	61.58	17674.78	17888.00	0.33	0.37	7647.90
Judy Creek	Lower	Judy Creek	22.26*	53.12	16455.00	48.76	16218.49	16455.00	0.29	0.32	7808.52
Judy Creek	Lower	Judy Creek	22.72*	53.62	16455.00	40.58	16218.77	16455.00	0.30	0.30	7969.24
Judy Creek	Lower	Judy Creek	23.18*	54.14	16455.00	29.78	16229.26	16455.00	0.27	0.29	8128.73
Judy Creek	Lower	Judy Creek	23.64*	54.68	16455.00	21.15	16253.14	16455.00	0.24	0.28	8287.05
Judy Creek	Lower	Judy Creek	24.1*	55.24	16455.00	16.06	16273.62	16455.00	0.24	0.27	8444.34
Judy Creek	Lower	Judy Creek	24.56*	55.83	16455.00	10.46	16296.34	16455.00	0.21	0.26	8600.77
Judy Creek	Lower	Judy Creek	25.02*	56.43	16455.00	6.38	16303.29	16455.00	0.18	0.27	8756.51
Judy Creek	Lower	Judy Creek	25.48*	57.06	16455.00	3.57	16325.19	16455.00	0.15	0.26	8911.77
Judy Creek	Lower	Judy Creek	25.94*	57.71	16455.00	2.22	16344.39	16455.00	0.14	0.24	9066.66
Judy Creek	Lower	Judy Creek	26.4*	58.37	16455.00	1.14	16360.24	16455.00	0.12	0.22	9221.30
Judy Creek	Lower	Judy Creek	26.86*	59.05	16455.00	0.50	16360.82	16455.00	0.10	0.24	9375.86
Judy Creek	Lower	Judy Creek	27.32*	59.74	16455.00	0.19	16360.25	16455.00	0.08	0.27	9530.42
Judy Creek	Lower	Judy Creek	27.78*	60.45	16455.00	0.04	16358.89	16455.00	0.06	0.29	9684.99
Judy Creek	Lower	Judy Creek	28.24*	61.14	16455.00		16361.90	16455.00		0.30	9839.38
Judy Creek	Lower	Judy Creek	28.7*	61.76	16455.00		16357.33	16455.00		0.36	9992.68
Judy Creek	Lower	Judy Creek	29.16*	62.34	16455.00		16369.30	16455.00		0.37	10143.62
Judy Creek	Lower	Judy Creek	29.62*	62.89	16455.00		16378.70	16455.00		0.40	10291.39

Judy Creek	Lower Judy Creek	30.08*	63.45	16455.00	16347.16	16455.00	0.35	10435.53
Judy Creek	Lower Judy Creek	30.54*	64.07	16455.00	16126.24	16455.00	0.37	10576.48
Judy Creek	Lower Judy Creek	31.0	64.77	16455.00	15343.12	16455.00	0.53	10715.45

Profile Output Table - User Defined Table #2

River	Reach	River Sta	W.S. Elev (ft)	Flow Area L (sq ft)	Flow Area R (sq ft)	Flow Area Ch (sq ft)	Hydr Depth L (ft)	Hydr Depth R (ft)	Hydr Depth C (ft)
Fish Creek	Lower	Fish Creek 0.7	5.63	13885.91	2465.17	73738.91	3.69	1.53	3.68
Fish Creek	Lower	Fish Creek 1.54615*	5.95	15362.60	2238.63	62107.29	3.38	1.32	3.33
Fish Creek	Lower	Fish Creek 2.39230*	6.31	16608.00	2032.39	51824.25	3.12	1.16	3.00
Fish Creek	Lower	Fish Creek 3.23846*	6.76	18042.35	2064.95	43933.04	2.98	1.22	2.81
Fish Creek	Lower	Fish Creek 4.08461*	7.35	10191.29	2382.65	40060.42	1.52	1.33	3.46
Fish Creek	Lower	Fish Creek 4.93076*	7.99	12562.86	2854.70	38072.88	1.69	1.47	3.96
Fish Creek	Lower	Fish Creek 5.77692*	8.53	14440.22	3205.78	35265.98	1.79	1.54	4.36
Fish Creek	Lower	Fish Creek 6.62307*	9.03	16084.09	3511.87	32126.87	1.89	1.46	4.78
Fish Creek	Lower	Fish Creek 7.46923*	9.54	17887.90	3913.35	28862.02	1.95	1.42	5.17
Fish Creek	Lower	Fish Creek 8.31538*	10.04	19732.41	4400.79	25371.58	2.01	1.49	5.53
Fish Creek	Lower	Fish Creek 9.16153*	10.59	22048.48	4565.76	21665.62	2.11	1.38	5.92
Fish Creek	Lower	Fish Creek 10.0076*	11.16	24766.19	5271.00	17644.38	2.23	1.35	6.29
Fish Creek	Lower	Fish Creek 10.8538*	11.78	28236.11	4394.61	13214.94	2.39	1.79	6.69
Fish Creek	Lower	Fish Creek 11.7	12.42	31989.09	4859.81	8233.18	2.57	1.91	7.04
Fish Creek	Lower	Fish Creek 12.6	12.80	33050.29	5075.53	5532.60	2.65	1.99	9.79
Fish Creek	Lower	Fish Creek 13.4285*	13.35	30111.85	4898.80	5454.25	2.60	1.89	9.74
Fish Creek	Lower	Fish Creek 14.2571*	13.97	26553.97	7402.56	5374.17	2.52	1.95	9.66
Fish Creek	Lower	Fish Creek 15.0857*	14.63	24107.22	7941.08	5317.94	2.57	2.10	9.60
Fish Creek	Lower	Fish Creek 15.9142*	15.32	22451.73	8361.00	5277.87	2.67	2.19	9.57
Fish Creek	Lower	Fish Creek 16.7428*	16.01	21281.89	8435.03	5234.89	2.94	2.17	9.51
Fish Creek	Lower	Fish Creek 17.5714*	16.70	20190.80	8420.52	5191.34	3.10	2.11	9.46
Fish Creek	Lower	Fish Creek 18.4	17.37	18902.71	8413.03	5130.89	3.28	2.02	9.37
Fish Creek	Lower	Fish Creek 19.2375*	17.97	17652.41	5076.36	5056.50	3.21	1.66	9.88
Fish Creek	Lower	Fish Creek 20.075*	18.82	10369.31	6682.79	5103.77	2.25	2.21	10.42
Fish Creek	Lower	Fish Creek 20.9125*	19.89	8314.80	9353.14	5225.03	3.46	2.75	11.06
Fish Creek	Lower	Fish Creek 21.75*	20.69	9030.92	11351.05	5183.03	3.35	3.26	11.38
Fish Creek	Lower	Fish Creek 22.5875*	21.44	9808.65	13238.37	5084.28	3.16	3.75	11.57
Fish Creek	Lower	Fish Creek 23.425*	22.10	10378.42	14839.05	4913.80	2.59	4.14	11.56
Fish Creek	Lower	Fish Creek 24.2625*	22.76	11361.34	15939.94	4710.02	2.55	4.39	11.44
Fish Creek	Lower	Fish Creek 25.1	23.45	12501.83	16390.44	4462.10	2.71	4.45	11.17
Fish Creek	Lower	Fish Creek 26.09	24.38	11021.25	15206.85	4316.98	2.40	4.13	10.96
Fish Creek	Upper	Fish Creek 26.85	25.30	7407.36	4922.37	3961.81	1.92	2.05	11.75
Fish Creek	Upper	Fish Creek 27.6428*	26.22	7988.84	3946.11	4031.86	2.43	2.12	12.25
Fish Creek	Upper	Fish Creek 28.4357*	26.97	9481.69	5928.04	4037.76	3.56	3.21	12.54
Fish Creek	Upper	Fish Creek 29.2285*	27.45	10685.31	7901.90	3956.65	4.13	3.58	12.55
Fish Creek	Upper	Fish Creek 30.0214*	27.80	11532.53	9800.89	3831.46	4.57	3.82	12.48
Fish Creek	Upper	Fish Creek 30.8142*	28.06	12112.55	11657.31	3680.33	4.92	4.04	12.47
Fish Creek	Upper	Fish Creek 31.6071*	28.27	12438.78	13482.15	3511.62	5.17	4.20	12.39
Fish Creek	Upper	Fish Creek 32.4	28.45	12396.38	15215.37	3330.80	5.27	4.30	12.25
Fish Creek	Upper	Fish Creek 33.3083*	28.63	9529.09	10655.41	3266.77	4.34	3.17	11.58
Fish Creek	Upper	Fish Creek 34.2166*	29.02	7032.68	7032.34	3250.13	3.47	2.31	11.12
Fish Creek	Upper	Fish Creek 35.125*	29.72	5332.00	4714.08	3321.77	2.85	1.82	10.98
Fish Creek	Upper	Fish Creek 36.0333*	30.72	4319.55	3521.14	3488.62	2.50	1.66	11.15
Fish Creek	Upper	Fish Creek 36.9416*	31.87	3634.54	2995.34	3708.46	2.27	1.82	11.47
Fish Creek	Upper	Fish Creek 37.85*	33.05	3048.64	2861.31	3944.50	2.07	2.44	11.83
Fish Creek	Upper	Fish Creek 38.7583*	34.22	2512.36	2874.57	4189.90	1.88	2.53	12.19
Fish Creek	Upper	Fish Creek 39.6666*	35.34	1970.67	2841.20	4426.32	1.64	2.84	12.50
Fish Creek	Upper	Fish Creek 40.575*	36.38	1420.92	2786.33	4642.73	1.33	3.27	12.75
Fish Creek	Upper	Fish Creek 41.4833*	37.37	931.26	2728.30	4845.57	1.11	3.53	12.94
Fish Creek	Upper	Fish Creek 42.3916*	38.31	476.28	2640.71	5032.39	0.92	3.68	13.08
Fish Creek	Upper	Fish Creek 43.3	39.09	4996.42	2461.53	5154.68	2.84	3.73	13.05
Judy Creek	Lower	Judy Creek 0.38	25.18	5619.46	11951.67	3186.24	2.60	3.12	9.54
Judy Creek	Lower	Judy Creek .981819*	25.48	4783.94	8690.35	3065.55	1.69	2.26	9.32
Judy Creek	Lower	Judy Creek 1.58363*	25.95	3895.19	6020.90	3000.18	1.40	1.56	9.23

Judy Creek	Lower	Judy Creek	2.18545*	26.60	3718.08	4814.77	2993.53	1.44	1.94	9.29
Judy Creek	Lower	Judy Creek	2.78727*	27.25	3824.00	4797.88	2988.82	1.58	2.62	9.37
Judy Creek	Lower	Judy Creek	3.38909*	27.84	3763.87	4793.07	2963.73	1.42	2.69	9.39
Judy Creek	Lower	Judy Creek	3.99090*	28.41	3580.37	4791.42	2935.16	1.27	2.69	9.40
Judy Creek	Lower	Judy Creek	4.59272*	28.98	3389.69	4784.30	2903.74	1.32	2.66	9.41
Judy Creek	Lower	Judy Creek	5.19454*	29.56	3331.84	4796.20	2875.39	1.35	2.65	9.43
Judy Creek	Lower	Judy Creek	5.79636*	30.17	3356.53	4871.94	2858.46	1.33	2.66	9.48
Judy Creek	Lower	Judy Creek	6.39818*	30.77	3350.26	4643.18	2836.88	1.30	2.51	9.51
Judy Creek	Lower	Judy Creek	7.0	31.64	4077.13	5226.88	2895.29	1.46	2.79	9.79
Judy Creek	Lower	Judy Creek	7.42500*	32.27	3317.25	3869.02	2954.41	1.29	2.13	10.00
Judy Creek	Lower	Judy Creek	7.85000*	33.00	2891.79	2522.96	3036.20	1.19	1.43	10.28
Judy Creek	Lower	Judy Creek	8.27500*	33.86	2832.43	1665.52	3152.28	1.20	1.98	10.66
Judy Creek	Lower	Judy Creek	8.70000*	34.65	2618.37	1450.82	3241.01	1.16	2.58	10.94
Judy Creek	Lower	Judy Creek	9.12500*	35.37	2278.17	1245.46	3303.64	1.07	2.46	11.15
Judy Creek	Lower	Judy Creek	9.55000*	35.96	1722.99	988.96	3318.71	0.98	2.11	11.20
Judy Creek	Lower	Judy Creek	9.975*	36.48	1288.29	725.77	3308.52	1.04	1.65	11.26
Judy Creek	Lower	Judy Creek	10.4*	37.04	1029.27	505.76	3303.72	1.16	1.29	11.35
Judy Creek	Lower	Judy Creek	10.825*	37.61	876.93	321.04	3296.88	1.41	0.95	11.42
Judy Creek	Lower	Judy Creek	11.25*	38.21	780.28	173.34	3287.99	1.65	0.64	11.49
Judy Creek	Lower	Judy Creek	11.675*	38.82	706.84	77.40	3274.96	1.59	0.53	11.55
Judy Creek	Lower	Judy Creek	12.1*	39.46	660.07	43.56	3266.56	1.57	0.69	11.62
Judy Creek	Lower	Judy Creek	12.525*	40.13	627.66	42.06	3257.22	1.56	2.11	11.69
Judy Creek	Lower	Judy Creek	12.95*	40.81	603.29	53.12	3242.41	1.56	1.64	11.75
Judy Creek	Lower	Judy Creek	13.375*	41.52	593.94	72.66	3229.41	1.59	1.11	11.81
Judy Creek	Lower	Judy Creek	13.8	42.26	592.92	94.68	3215.02	1.63	1.31	11.86
Judy Creek	Lower	Judy Creek	14.2705*	43.04	584.40	101.15	3247.26	1.60	1.27	11.93
Judy Creek	Lower	Judy Creek	14.7411*	43.62	507.36	92.64	3226.23	1.42	1.22	11.80
Judy Creek	Lower	Judy Creek	15.2117*	44.19	427.47	83.68	3200.90	1.23	1.17	11.66
Judy Creek	Lower	Judy Creek	15.6823*	44.73	347.66	72.40	3165.17	1.55	1.12	11.48
Judy Creek	Lower	Judy Creek	16.1529*	45.26	308.99	62.04	3128.85	1.90	1.07	11.30
Judy Creek	Lower	Judy Creek	16.6235*	45.81	282.89	53.65	3098.22	2.05	1.02	11.14
Judy Creek	Lower	Judy Creek	17.0941*	46.39	265.46	47.17	3073.72	2.22	0.97	11.00
Judy Creek	Lower	Judy Creek	17.5647*	46.98	253.91	42.77	3054.79	2.39	0.56	10.89
Judy Creek	Lower	Judy Creek	18.0352*	47.60	245.58	63.74	3041.25	2.33	0.41	10.79
Judy Creek	Lower	Judy Creek	18.5058*	48.22	239.27	94.52	3031.86	2.28	0.54	10.72
Judy Creek	Lower	Judy Creek	18.9764*	48.87	234.46	130.99	3025.85	2.25	0.59	10.65
Judy Creek	Lower	Judy Creek	19.4470*	49.52	230.69	165.63	3022.34	2.23	0.80	10.59
Judy Creek	Lower	Judy Creek	19.9176*	50.15	225.54	190.55	3013.72	2.20	0.99	10.52
Judy Creek	Lower	Judy Creek	20.3882*	50.72	214.50	203.05	2988.73	2.13	1.04	10.39
Judy Creek	Lower	Judy Creek	20.8588*	51.29	203.06	255.29	2961.38	2.05	0.94	10.25
Judy Creek	Lower	Judy Creek	21.3294*	51.87	193.06	374.40	2937.54	1.98	1.26	10.13
Judy Creek	Lower	Judy Creek	21.8	52.46	184.93	404.71	2917.87	1.93	1.98	10.02
Judy Creek	Lower	Judy Creek	22.26*	53.12	167.78	587.78	2945.54	1.81	1.81	9.97
Judy Creek	Lower	Judy Creek	22.72*	53.62	137.45	662.59	2921.82	1.56	1.54	9.76
Judy Creek	Lower	Judy Creek	23.18*	54.14	110.45	674.71	2900.10	1.32	1.25	9.55
Judy Creek	Lower	Judy Creek	23.64*	54.68	86.99	641.42	2879.44	1.09	1.13	9.36
Judy Creek	Lower	Judy Creek	24.1*	55.24	66.97	611.15	2862.73	0.89	1.02	9.18
Judy Creek	Lower	Judy Creek	24.56*	55.83	50.10	576.25	2847.77	0.70	0.91	9.02
Judy Creek	Lower	Judy Creek	25.02*	56.43	36.09	536.07	2837.66	0.53	0.79	8.87
Judy Creek	Lower	Judy Creek	25.48*	57.06	24.47	494.79	2830.20	0.39	0.69	8.74
Judy Creek	Lower	Judy Creek	25.94*	57.71	15.62	454.17	2823.93	0.31	0.66	8.61
Judy Creek	Lower	Judy Creek	26.4*	58.37	9.46	418.75	2821.17	0.24	0.57	8.50
Judy Creek	Lower	Judy Creek	26.86*	59.05	5.10	385.38	2821.07	0.17	0.49	8.39
Judy Creek	Lower	Judy Creek	27.32*	59.74	2.26	352.99	2821.16	0.11	0.44	8.29
Judy Creek	Lower	Judy Creek	27.78*	60.45	0.65	332.75	2821.56	0.06	0.48	8.20
Judy Creek	Lower	Judy Creek	28.24*	61.14		314.78	2814.61		0.53	8.08
Judy Creek	Lower	Judy Creek	28.7*	61.76		273.68	2781.49		0.64	7.91
Judy Creek	Lower	Judy Creek	29.16*	62.34		229.68	2728.91		0.63	7.68
Judy Creek	Lower	Judy Creek	29.62*	62.89		190.40	2665.30		0.59	7.43

Judy Creek	Lower Judy Creek	30.08*	63.45	306.60	2596.50	0.49	7.17
Judy Creek	Lower Judy Creek	30.54*	64.07	888.01	2549.15	0.70	6.96
Judy Creek	Lower Judy Creek	31.0	64.77	2090.20	2523.78	1.16	6.81

Profile Output Table - User Defined Table #3

River	Reach	River Sta	W.S. Elev (ft)	Mann Wtd Chnl	Mann Wtd Left	Mann Wtd Right
Fish Creek	Lower	Fish Creek 0.7	5.63	0.053	0.055	0.065
Fish Creek	Lower	Fish Creek 1.54615*	5.95	0.053	0.055	0.067
Fish Creek	Lower	Fish Creek 2.39230*	6.31	0.052	0.055	0.069
Fish Creek	Lower	Fish Creek 3.23846*	6.76	0.050	0.055	0.072
Fish Creek	Lower	Fish Creek 4.08461*	7.35	0.050	0.054	0.074
Fish Creek	Lower	Fish Creek 4.93076*	7.99	0.050	0.054	0.076
Fish Creek	Lower	Fish Creek 5.77692*	8.53	0.048	0.054	0.078
Fish Creek	Lower	Fish Creek 6.62307*	9.03	0.048	0.054	0.081
Fish Creek	Lower	Fish Creek 7.46923*	9.54	0.048	0.054	0.083
Fish Creek	Lower	Fish Creek 8.31538*	10.04	0.048	0.054	0.085
Fish Creek	Lower	Fish Creek 9.16153*	10.59	0.047	0.053	0.087
Fish Creek	Lower	Fish Creek 10.0076*	11.16	0.047	0.053	0.090
Fish Creek	Lower	Fish Creek 10.8538*	11.78	0.048	0.053	0.092
Fish Creek	Lower	Fish Creek 11.7	12.42	0.048	0.046	0.092
Fish Creek	Lower	Fish Creek 12.6	12.80	0.022	0.047	0.089
Fish Creek	Lower	Fish Creek 13.4285*	13.35	0.025	0.048	0.082
Fish Creek	Lower	Fish Creek 14.2571*	13.97	0.024	0.049	0.078
Fish Creek	Lower	Fish Creek 15.0857*	14.63	0.024	0.051	0.073
Fish Creek	Lower	Fish Creek 15.9142*	15.32	0.023	0.052	0.069
Fish Creek	Lower	Fish Creek 16.7428*	16.01	0.022	0.053	0.064
Fish Creek	Lower	Fish Creek 17.5714*	16.70	0.021	0.054	0.055
Fish Creek	Lower	Fish Creek 18.4	17.37	0.020	0.050	0.055
Fish Creek	Lower	Fish Creek 19.2375*	17.97	0.021	0.052	0.057
Fish Creek	Lower	Fish Creek 20.075*	18.82	0.023	0.054	0.059
Fish Creek	Lower	Fish Creek 20.9125*	19.89	0.022	0.056	0.061
Fish Creek	Lower	Fish Creek 21.75*	20.69	0.021	0.058	0.063
Fish Creek	Lower	Fish Creek 22.5875*	21.44	0.023	0.060	0.064
Fish Creek	Lower	Fish Creek 23.425*	22.10	0.022	0.062	0.066
Fish Creek	Lower	Fish Creek 24.2625*	22.76	0.022	0.064	0.068
Fish Creek	Lower	Fish Creek 25.1	23.45	0.023	0.066	0.070
Fish Creek	Lower	Fish Creek 26.09	24.38	0.021	0.063	0.067
Fish Creek	Upper	Fish Creek 26.85	25.30	0.027	0.061	0.065
Fish Creek	Upper	Fish Creek 27.6428*	26.22	0.029	0.059	0.063
Fish Creek	Upper	Fish Creek 28.4357*	26.97	0.029	0.056	0.061
Fish Creek	Upper	Fish Creek 29.2285*	27.45	0.030	0.054	0.059
Fish Creek	Upper	Fish Creek 30.0214*	27.80	0.029	0.052	0.057
Fish Creek	Upper	Fish Creek 30.8142*	28.06	0.029	0.050	0.054
Fish Creek	Upper	Fish Creek 31.6071*	28.27	0.029	0.047	0.055
Fish Creek	Upper	Fish Creek 32.4	28.45	0.029	0.045	0.050
Fish Creek	Upper	Fish Creek 33.3083*	28.63	0.028	0.045	0.049
Fish Creek	Upper	Fish Creek 34.2166*	29.02	0.028	0.044	0.048
Fish Creek	Upper	Fish Creek 35.125*	29.72	0.028	0.044	0.048
Fish Creek	Upper	Fish Creek 36.0333*	30.72	0.028	0.043	0.047
Fish Creek	Upper	Fish Creek 36.9416*	31.87	0.028	0.043	0.046
Fish Creek	Upper	Fish Creek 37.85*	33.05	0.028	0.043	0.046
Fish Creek	Upper	Fish Creek 38.7583*	34.22	0.029	0.042	0.045
Fish Creek	Upper	Fish Creek 39.6666*	35.34	0.029	0.042	0.044
Fish Creek	Upper	Fish Creek 40.575*	36.38	0.029	0.041	0.043
Fish Creek	Upper	Fish Creek 41.4833*	37.37	0.029	0.041	0.043
Fish Creek	Upper	Fish Creek 42.3916*	38.31	0.029	0.040	0.042
Fish Creek	Upper	Fish Creek 43.3	39.09	0.029	0.040	0.041
Judy Creek	Lower	Judy Creek 0.38	25.18	0.023	0.050	0.065
Judy Creek	Lower	Judy Creek .981819*	25.48	0.023	0.050	0.063
Judy Creek	Lower	Judy Creek 1.58363*	25.95	0.023	0.050	0.061

Judy Creek	Lower	Judy Creek	2.18545*	26.60	0.023	0.050	0.059
Judy Creek	Lower	Judy Creek	2.78727*	27.25	0.023	0.050	0.057
Judy Creek	Lower	Judy Creek	3.38909*	27.84	0.023	0.050	0.055
Judy Creek	Lower	Judy Creek	3.99090*	28.41	0.022	0.050	0.053
Judy Creek	Lower	Judy Creek	4.59272*	28.98	0.022	0.050	0.052
Judy Creek	Lower	Judy Creek	5.19454*	29.56	0.022	0.050	0.050
Judy Creek	Lower	Judy Creek	5.79636*	30.17	0.023	0.050	0.048
Judy Creek	Lower	Judy Creek	6.39818*	30.77	0.023	0.050	0.046
Judy Creek	Lower	Judy Creek	7.0	31.64	0.038	0.050	0.044
Judy Creek	Lower	Judy Creek	7.42500*	32.27	0.029	0.050	0.044
Judy Creek	Lower	Judy Creek	7.85000*	33.00	0.030	0.050	0.045
Judy Creek	Lower	Judy Creek	8.27500*	33.86	0.029	0.050	0.045
Judy Creek	Lower	Judy Creek	8.70000*	34.65	0.029	0.050	0.046
Judy Creek	Lower	Judy Creek	9.12500*	35.37	0.027	0.050	0.046
Judy Creek	Lower	Judy Creek	9.55000*	35.96	0.022	0.050	0.046
Judy Creek	Lower	Judy Creek	9.975*	36.48	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	10.4*	37.04	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	10.825*	37.61	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	11.25*	38.21	0.022	0.050	0.048
Judy Creek	Lower	Judy Creek	11.675*	38.82	0.022	0.050	0.048
Judy Creek	Lower	Judy Creek	12.1*	39.46	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	12.525*	40.13	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	12.95*	40.81	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	13.375*	41.52	0.024	0.050	0.050
Judy Creek	Lower	Judy Creek	13.8	42.26	0.024	0.050	0.050
Judy Creek	Lower	Judy Creek	14.2705*	43.04	0.023	0.050	0.050
Judy Creek	Lower	Judy Creek	14.7411*	43.62	0.022	0.060	0.060
Judy Creek	Lower	Judy Creek	15.2117*	44.19	0.021	0.060	0.060
Judy Creek	Lower	Judy Creek	15.6823*	44.73	0.020	0.060	0.060
Judy Creek	Lower	Judy Creek	16.1529*	45.26	0.020	0.070	0.060
Judy Creek	Lower	Judy Creek	16.6235*	45.81	0.020	0.070	0.070
Judy Creek	Lower	Judy Creek	17.0941*	46.39	0.020	0.070	0.070
Judy Creek	Lower	Judy Creek	17.5647*	46.98	0.020	0.080	0.070
Judy Creek	Lower	Judy Creek	18.0352*	47.60	0.020	0.080	0.080
Judy Creek	Lower	Judy Creek	18.5058*	48.22	0.020	0.090	0.080
Judy Creek	Lower	Judy Creek	18.9764*	48.87	0.020	0.090	0.080
Judy Creek	Lower	Judy Creek	19.4470*	49.52	0.020	0.090	0.090
Judy Creek	Lower	Judy Creek	19.9176*	50.15	0.019	0.100	0.090
Judy Creek	Lower	Judy Creek	20.3882*	50.72	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	20.8588*	51.29	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	21.3294*	51.87	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	21.8	52.46	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	22.26*	53.12	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	22.72*	53.62	0.018	0.100	0.100
Judy Creek	Lower	Judy Creek	23.18*	54.14	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	23.64*	54.68	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	24.1*	55.24	0.018	0.090	0.090
Judy Creek	Lower	Judy Creek	24.56*	55.83	0.018	0.090	0.090
Judy Creek	Lower	Judy Creek	25.02*	56.43	0.018	0.090	0.080
Judy Creek	Lower	Judy Creek	25.48*	57.06	0.018	0.090	0.080
Judy Creek	Lower	Judy Creek	25.94*	57.71	0.018	0.080	0.080
Judy Creek	Lower	Judy Creek	26.4*	58.37	0.018	0.080	0.080
Judy Creek	Lower	Judy Creek	26.86*	59.05	0.018	0.080	0.070
Judy Creek	Lower	Judy Creek	27.32*	59.74	0.018	0.070	0.070
Judy Creek	Lower	Judy Creek	27.78*	60.45	0.018	0.070	0.070
Judy Creek	Lower	Judy Creek	28.24*	61.14	0.017		0.070
Judy Creek	Lower	Judy Creek	28.7*	61.76	0.016		0.060
Judy Creek	Lower	Judy Creek	29.16*	62.34	0.015		0.060
Judy Creek	Lower	Judy Creek	29.62*	62.89	0.014		0.060

Judy Creek	Lower Judy Creek	30.08*	63.45	0.014	0.060
Judy Creek	Lower Judy Creek	30.54*	64.07	0.014	0.060
Judy Creek	Lower Judy Creek	31.0	64.77	0.014	0.053

Profile Output Table - User Defined Table #4

River	Reach	River Sta	W.S. Elev (ft)	Shear Chan (lb/sq ft)	Shear LOB (lb/sq ft)	Shear ROB (lb/sq ft)	Power Chan (lb/ft s)	Power LOB (lb/ft s)	Power ROB (lb/ft s)
Fish Creek	Lower	Fish Creek 0.7	5.63	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 1.54615*	5.95	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 2.39230*	6.31	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower	Fish Creek 3.23846*	6.76	0.02	0.02	0.01	0.02	0.01	0.00
Fish Creek	Lower	Fish Creek 4.08461*	7.35	0.04	0.02	0.01	0.03	0.01	0.00
Fish Creek	Lower	Fish Creek 4.93076*	7.99	0.04	0.02	0.01	0.03	0.01	0.00
Fish Creek	Lower	Fish Creek 5.77692*	8.53	0.03	0.01	0.01	0.03	0.01	0.00
Fish Creek	Lower	Fish Creek 6.62307*	9.03	0.04	0.01	0.01	0.04	0.01	0.00
Fish Creek	Lower	Fish Creek 7.46923*	9.54	0.04	0.02	0.01	0.05	0.01	0.00
Fish Creek	Lower	Fish Creek 8.31538*	10.04	0.05	0.02	0.01	0.06	0.01	0.00
Fish Creek	Lower	Fish Creek 9.16153*	10.59	0.05	0.02	0.01	0.08	0.01	0.00
Fish Creek	Lower	Fish Creek 10.0076*	11.16	0.06	0.02	0.01	0.10	0.01	0.00
Fish Creek	Lower	Fish Creek 10.8538*	11.78	0.08	0.03	0.02	0.13	0.02	0.01
Fish Creek	Lower	Fish Creek 11.7	12.42	0.08	0.03	0.02	0.15	0.03	0.01
Fish Creek	Lower	Fish Creek 12.6	12.80	0.08	0.02	0.02	0.27	0.01	0.01
Fish Creek	Lower	Fish Creek 13.4285*	13.35	0.10	0.03	0.02	0.34	0.02	0.01
Fish Creek	Lower	Fish Creek 14.2571*	13.97	0.11	0.03	0.02	0.39	0.02	0.01
Fish Creek	Lower	Fish Creek 15.0857*	14.63	0.11	0.03	0.02	0.43	0.02	0.01
Fish Creek	Lower	Fish Creek 15.9142*	15.32	0.11	0.03	0.03	0.45	0.03	0.01
Fish Creek	Lower	Fish Creek 16.7428*	16.01	0.11	0.03	0.03	0.45	0.03	0.01
Fish Creek	Lower	Fish Creek 17.5714*	16.70	0.11	0.04	0.02	0.45	0.03	0.02
Fish Creek	Lower	Fish Creek 18.4	17.37	0.10	0.04	0.02	0.43	0.03	0.01
Fish Creek	Lower	Fish Creek 19.2375*	17.97	0.13	0.04	0.02	0.59	0.04	0.01
Fish Creek	Lower	Fish Creek 20.075*	18.82	0.21	0.05	0.04	1.16	0.04	0.03
Fish Creek	Lower	Fish Creek 20.9125*	19.89	0.16	0.05	0.04	0.83	0.05	0.03
Fish Creek	Lower	Fish Creek 21.75*	20.69	0.14	0.04	0.04	0.69	0.04	0.03
Fish Creek	Lower	Fish Creek 22.5875*	21.44	0.14	0.04	0.05	0.65	0.03	0.04
Fish Creek	Lower	Fish Creek 23.425*	22.10	0.14	0.03	0.05	0.63	0.02	0.04
Fish Creek	Lower	Fish Creek 24.2625*	22.76	0.14	0.03	0.05	0.64	0.02	0.04
Fish Creek	Lower	Fish Creek 25.1	23.45	0.14	0.03	0.06	0.64	0.02	0.05
Fish Creek	Lower	Fish Creek 26.09	24.38	0.15	0.03	0.06	0.77	0.02	0.05
Fish Creek	Upper	Fish Creek 26.85	25.30	0.18	0.03	0.03	0.79	0.02	0.02
Fish Creek	Upper	Fish Creek 27.6428*	26.22	0.17	0.03	0.03	0.69	0.02	0.02
Fish Creek	Upper	Fish Creek 28.4357*	26.97	0.12	0.03	0.03	0.39	0.03	0.02
Fish Creek	Upper	Fish Creek 29.2285*	27.45	0.09	0.03	0.03	0.26	0.02	0.02
Fish Creek	Upper	Fish Creek 30.0214*	27.80	0.07	0.03	0.02	0.18	0.02	0.01
Fish Creek	Upper	Fish Creek 30.8142*	28.06	0.06	0.02	0.02	0.13	0.02	0.01
Fish Creek	Upper	Fish Creek 31.6071*	28.27	0.05	0.02	0.02	0.10	0.02	0.01
Fish Creek	Upper	Fish Creek 32.4	28.45	0.04	0.02	0.01	0.08	0.01	0.01
Fish Creek	Upper	Fish Creek 33.3083*	28.63	0.07	0.03	0.02	0.19	0.02	0.01
Fish Creek	Upper	Fish Creek 34.2166*	29.02	0.12	0.04	0.03	0.43	0.04	0.02
Fish Creek	Upper	Fish Creek 35.125*	29.72	0.18	0.05	0.03	0.77	0.05	0.03
Fish Creek	Upper	Fish Creek 36.0333*	30.72	0.21	0.05	0.03	0.96	0.05	0.03
Fish Creek	Upper	Fish Creek 36.9416*	31.87	0.21	0.04	0.03	1.00	0.04	0.03
Fish Creek	Upper	Fish Creek 37.85*	33.05	0.21	0.04	0.04	0.98	0.04	0.04
Fish Creek	Upper	Fish Creek 38.7583*	34.22	0.21	0.03	0.04	0.96	0.03	0.05
Fish Creek	Upper	Fish Creek 39.6666*	35.34	0.20	0.03	0.05	0.87	0.02	0.05
Fish Creek	Upper	Fish Creek 40.575*	36.38	0.19	0.02	0.05	0.80	0.01	0.06
Fish Creek	Upper	Fish Creek 41.4833*	37.37	0.18	0.02	0.05	0.75	0.01	0.06
Fish Creek	Upper	Fish Creek 42.3916*	38.31	0.16	0.01	0.05	0.64	0.01	0.06
Fish Creek	Upper	Fish Creek 43.3	39.09	0.11	0.02	0.03	0.37	0.02	0.03
Judy Creek	Lower	Judy Creek 0.38	25.18	0.08	0.02	0.03	0.27	0.01	0.02
Judy Creek	Lower	Judy Creek .981819*	25.48	0.12	0.02	0.03	0.50	0.01	0.02
Judy Creek	Lower	Judy Creek 1.58363*	25.95	0.17	0.03	0.03	0.86	0.02	0.02

Judy Creek	Lower	Judy Creek	2.18545*	26.60	0.18	0.03	0.04	0.87	0.02	0.03
Judy Creek	Lower	Judy Creek	2.78727*	27.25	0.16	0.03	0.05	0.77	0.02	0.04
Judy Creek	Lower	Judy Creek	3.38909*	27.84	0.16	0.02	0.05	0.78	0.02	0.04
Judy Creek	Lower	Judy Creek	3.99090*	28.41	0.15	0.02	0.04	0.75	0.01	0.04
Judy Creek	Lower	Judy Creek	4.59272*	28.98	0.16	0.02	0.05	0.78	0.01	0.04
Judy Creek	Lower	Judy Creek	5.19454*	29.56	0.16	0.02	0.05	0.79	0.01	0.04
Judy Creek	Lower	Judy Creek	5.79636*	30.17	0.16	0.02	0.05	0.79	0.01	0.05
Judy Creek	Lower	Judy Creek	6.39818*	30.77	0.17	0.02	0.05	0.83	0.02	0.05
Judy Creek	Lower	Judy Creek	7.0	31.64	0.24	0.04	0.07	0.84	0.03	0.10
Judy Creek	Lower	Judy Creek	7.42500*	32.27	0.21	0.03	0.05	0.92	0.02	0.05
Judy Creek	Lower	Judy Creek	7.85000*	33.00	0.28	0.03	0.04	1.35	0.03	0.03
Judy Creek	Lower	Judy Creek	8.27500*	33.86	0.26	0.03	0.05	1.25	0.02	0.06
Judy Creek	Lower	Judy Creek	8.70000*	34.65	0.25	0.03	0.06	1.21	0.02	0.07
Judy Creek	Lower	Judy Creek	9.12500*	35.37	0.23	0.02	0.05	1.13	0.01	0.05
Judy Creek	Lower	Judy Creek	9.55000*	35.96	0.17	0.01	0.03	0.87	0.01	0.03
Judy Creek	Lower	Judy Creek	9.975*	36.48	0.18	0.02	0.03	0.96	0.01	0.02
Judy Creek	Lower	Judy Creek	10.4*	37.04	0.19	0.02	0.02	1.02	0.01	0.01
Judy Creek	Lower	Judy Creek	10.825*	37.61	0.19	0.02	0.02	1.07	0.02	0.01
Judy Creek	Lower	Judy Creek	11.25*	38.21	0.20	0.03	0.01	1.11	0.02	0.00
Judy Creek	Lower	Judy Creek	11.675*	38.82	0.20	0.03	0.01	1.12	0.02	0.00
Judy Creek	Lower	Judy Creek	12.1*	39.46	0.22	0.03	0.01	1.24	0.02	0.01
Judy Creek	Lower	Judy Creek	12.525*	40.13	0.22	0.03	0.04	1.26	0.02	0.03
Judy Creek	Lower	Judy Creek	12.95*	40.81	0.22	0.03	0.03	1.27	0.02	0.02
Judy Creek	Lower	Judy Creek	13.375*	41.52	0.24	0.03	0.02	1.39	0.03	0.01
Judy Creek	Lower	Judy Creek	13.8	42.26	0.24	0.03	0.03	1.40	0.03	0.02
Judy Creek	Lower	Judy Creek	14.2705*	43.04	0.19	0.03	0.02	1.00	0.02	0.01
Judy Creek	Lower	Judy Creek	14.7411*	43.62	0.18	0.02	0.02	0.96	0.01	0.01
Judy Creek	Lower	Judy Creek	15.2117*	44.19	0.17	0.02	0.02	0.91	0.01	0.01
Judy Creek	Lower	Judy Creek	15.6823*	44.73	0.16	0.02	0.02	0.87	0.01	0.01
Judy Creek	Lower	Judy Creek	16.1529*	45.26	0.16	0.03	0.02	0.91	0.02	0.01
Judy Creek	Lower	Judy Creek	16.6235*	45.81	0.17	0.03	0.02	0.95	0.02	0.01
Judy Creek	Lower	Judy Creek	17.0941*	46.39	0.17	0.03	0.01	0.98	0.02	0.00
Judy Creek	Lower	Judy Creek	17.5647*	46.98	0.17	0.04	0.01	1.00	0.02	0.00
Judy Creek	Lower	Judy Creek	18.0352*	47.60	0.17	0.04	0.01	1.02	0.02	0.00
Judy Creek	Lower	Judy Creek	18.5058*	48.22	0.18	0.04	0.01	1.03	0.02	0.00
Judy Creek	Lower	Judy Creek	18.9764*	48.87	0.18	0.04	0.01	1.04	0.02	0.00
Judy Creek	Lower	Judy Creek	19.4470*	49.52	0.18	0.04	0.01	1.05	0.02	0.00
Judy Creek	Lower	Judy Creek	19.9176*	50.15	0.16	0.03	0.02	0.96	0.01	0.00
Judy Creek	Lower	Judy Creek	20.3882*	50.72	0.15	0.03	0.01	0.88	0.01	0.00
Judy Creek	Lower	Judy Creek	20.8588*	51.29	0.15	0.03	0.01	0.91	0.01	0.00
Judy Creek	Lower	Judy Creek	21.3294*	51.87	0.15	0.03	0.02	0.93	0.01	0.01
Judy Creek	Lower	Judy Creek	21.8	52.46	0.16	0.03	0.03	0.95	0.01	0.01
Judy Creek	Lower	Judy Creek	22.26*	53.12	0.13	0.02	0.02	0.71	0.01	0.01
Judy Creek	Lower	Judy Creek	22.72*	53.62	0.13	0.02	0.02	0.74	0.01	0.01
Judy Creek	Lower	Judy Creek	23.18*	54.14	0.14	0.02	0.02	0.76	0.01	0.01
Judy Creek	Lower	Judy Creek	23.64*	54.68	0.14	0.02	0.02	0.78	0.00	0.00
Judy Creek	Lower	Judy Creek	24.1*	55.24	0.14	0.01	0.02	0.80	0.00	0.00
Judy Creek	Lower	Judy Creek	24.56*	55.83	0.14	0.01	0.01	0.83	0.00	0.00
Judy Creek	Lower	Judy Creek	25.02*	56.43	0.15	0.01	0.01	0.84	0.00	0.00
Judy Creek	Lower	Judy Creek	25.48*	57.06	0.15	0.01	0.01	0.85	0.00	0.00
Judy Creek	Lower	Judy Creek	25.94*	57.71	0.15	0.01	0.01	0.87	0.00	0.00
Judy Creek	Lower	Judy Creek	26.4*	58.37	0.15	0.00	0.01	0.88	0.00	0.00
Judy Creek	Lower	Judy Creek	26.86*	59.05	0.15	0.00	0.01	0.88	0.00	0.00
Judy Creek	Lower	Judy Creek	27.32*	59.74	0.15	0.00	0.01	0.88	0.00	0.00
Judy Creek	Lower	Judy Creek	27.78*	60.45	0.15	0.00	0.01	0.89	0.00	0.00
Judy Creek	Lower	Judy Creek	28.24*	61.14	0.14	0.01	0.01	0.80	0.00	0.00
Judy Creek	Lower	Judy Creek	28.7*	61.76	0.13	0.01	0.01	0.74	0.00	0.00
Judy Creek	Lower	Judy Creek	29.16*	62.34	0.12	0.01	0.01	0.70	0.00	0.00
Judy Creek	Lower	Judy Creek	29.62*	62.89	0.11	0.01	0.01	0.66	0.00	0.00

Judy Creek	Lower Judy Creek	30.08*	63.45	0.11	0.01	0.72	0.00
Judy Creek	Lower Judy Creek	30.54*	64.07	0.12	0.01	0.74	0.00
Judy Creek	Lower Judy Creek	31.0	64.77	0.11	0.02	0.66	0.01

HEC-RAS Run, Fish and Judy Creeks, 200-Year Flood

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X   X XXXXXX   XXXX   XXXX   XX   XXXX
X   X X       X   X   X   X   X   X
X   X X       X   X   X   X   X   X
XXXXXXXX XXXX   X   XXX XXXX   XXXXXX   XXXX
X   X X       X   X   X   X   X   X
X   X X       X   X   X   X   X   X
X   X XXXXXX   XXXX   X   X   X   X   XXXXX
  
```

200-YEAR FLOOD, FISH AND JUDY CREEKS

PROJECT DATA

Project Title: 2001 Back Water Analysis
 Project File : 26feb02.prj
 Run Date and Time: 2/27/2002 8:42:41 AM

Project in English units

PLAN DATA

Plan Title: 200-Year Flood Plan
 Plan File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.p07

Geometry Title: 200-year Flood Geometry
 Geometry File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g17

Flow Title : 200-year Flood Flow Data
 Flow File : C:\-Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f14

Plan Summary Information:

Number of: Cross Sections =	116	Multitple Openings =	0
Culverts =	0	Inline Weirs =	0
Bridges =	0		

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculaton tolerance =	0.01
Maximum number of interations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary	
Conveyance Calculation Method:	At breaks in n values only
Friction Slope Method:	Average Friction Slope
Computational Flow Regime:	Subcritical Flow

FLOW DATA

Flow Title: 200-year Flood Flow Data
 Flow File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.f14

Flow Data (cfs)

River	Reach	RS	200-Year Flood
Fish Creek	Upper Fish Creek	43.3	27578
Fish Creek	Upper Fish Creek	32.4	28005
Fish Creek	Upper Fish Creek	26.85	28339
Fish Creek	Lower Fish Creek	26.09	47531
Fish Creek	Lower Fish Creek	25.1	47587
Fish Creek	Lower Fish Creek	18.4	48857
Fish Creek	Lower Fish Creek	12.6	49683
Fish Creek	Lower Fish Creek	11.7	49683
Fish Creek	Lower Fish Creek	0.7	57545
Judy Creek	Lower Judy Creek	31.0	18965
Judy Creek	Lower Judy Creek	21.8	20581
Judy Creek	Lower Judy Creek	13.8	22112
Judy Creek	Lower Judy Creek	7.0	23812
Judy Creek	Lower Judy Creek	0.38	24405

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Fish Creek	Lower Fish Creek	200-Year Flood		Normal S = .000075

GEOMETRY DATA

Geometry Title: 200-year Flood Geometry
 Geometry File : C:\~Main Archive\Fish and Judy Creeks' HEC - RAS Files\26feb02.g17

Reach Connection Table

River	Reach	Upstream Boundary	Downstream Boundary
Fish Creek	Upper Fish Creek		Fish Junct.
Fish Creek	Lower Fish Creek	Fish Junct.	
Judy Creek	Lower Judy Creek		Fish Junct.

JUNCTION INFORMATION

Name: Fish Junct.
 Description: Confluence of Fish and Judy Creek
 Energy computation Method

Length across Junction		Tributary	Reach	Length	Angle
River	Reach	River			
Fish Creek	Upper Fish Creek to Fish Creek	Fish Creek	Lower Fish Creek	3915	
Judy Creek	Lower Judy Creek to Fish Creek	Fish Creek	Lower Fish Creek	3694	

SUMMARY OF MANNING'S N VALUES

River:Fish Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n13	n14	n15
Upper Fish Creek	43.3	.04	.027	.07	.04											
Upper Fish Creek	42.3916*	.04	.027	.07	.042											
Upper Fish Creek	41.4833*	.041	.027	.07	.043											
Upper Fish Creek	40.575*	.041	.027	.07	.043											
Upper Fish Creek	39.6666*	.042	.027	.07	.044											
Upper Fish Creek	38.7583*	.042	.027	.07	.045											
Upper Fish Creek	37.85*	.043	.028	.046												
Upper Fish Creek	36.9416*	.043	.028	.046												
Upper Fish Creek	36.0333*	.043	.028	.047												
Upper Fish Creek	35.125*	.044	.028	.048												
Upper Fish Creek	34.2166*	.044	.028	.048												
Upper Fish Creek	33.3083*	.045	.028	.049												
Upper Fish Creek	32.4	.04	.055	.07	.028	.05	.04	.05	.04							
Upper Fish Creek	31.6071*	.047	.07	.028	.055											
Upper Fish Creek	30.8142*	.05	.07	.027	.054											
Upper Fish Creek	30.0214*	.052	.07	.027	.057											
Upper Fish Creek	29.2285*	.054	.07	.027	.059											
Upper Fish Creek	28.4357*	.056	.07	.027	.061											
Upper Fish Creek	27.6428*	.059	.07	.027	.063											
Upper Fish Creek	26.85	.061	.027	.065												
Lower Fish Creek	26.09	.063	.07	.021	.067											
Lower Fish Creek	25.1	.05	.04	.05	.04	.05	.04	.07	.04	.05	.07	.021	.07	.04	.06	.04
Lower Fish Creek	24.2625*	.064	.08	.022	.068											
Lower Fish Creek	23.425*	.062	.08	.021	.066											
Lower Fish Creek	22.5875*	.06	.08	.021	.064											
Lower Fish Creek	21.75*	.058	.09	.021	.063											
Lower Fish Creek	20.9125*	.056	.1	.021	.061											
Lower Fish Creek	20.075*	.054	.1	.021	.059											
Lower Fish Creek	19.2375*	.052	.1	.021	.057											
Lower Fish Creek	18.4	.05	.07	.04	.05	.11	.02	.07	.05	.07	.05					
Lower Fish Creek	17.5714*	.054	.11	.021	.055											
Lower Fish Creek	16.7428*	.053	.11	.021	.064											
Lower Fish Creek	15.9142*	.052	.11	.022	.069											
Lower Fish Creek	15.0857*	.051	.11	.022	.073											
Lower Fish Creek	14.2571*	.049	.11	.022	.078											
Lower Fish Creek	13.4285*	.048	.11	.022	.082											
Lower Fish Creek	12.6	.047	.11	.022	.11	.087										
Lower Fish Creek	11.7	.11	.045	.05	.045	.09	.11	.047	.09	.05	.047	.11	.09	.11	.045	
Lower Fish Creek	10.8538*	.053	.11	.047	.055	.047	.092									
Lower Fish Creek	10.0076*	.053	.1	.047	.055	.047	.09									
Lower Fish Creek	9.16153*	.053	.1	.047	.055	.047	.087									
Lower Fish Creek	8.31538*	.054	.09	.047	.055	.047	.085									
Lower Fish Creek	7.46923*	.054	.09	.047	.055	.047	.083									
Lower Fish Creek	6.62307*	.054	.08	.047	.055	.047	.081									
Lower Fish Creek	5.77692*	.054	.08	.047	.055	.047	.078									
Lower Fish Creek	4.93076*	.054	.08	.047	.055	.047	.076									
Lower Fish Creek	4.08461*	.054	.07	.047	.055	.047	.074									
Lower Fish Creek	3.23846*	.055	.07	.047	.055	.047	.072									
Lower Fish Creek	2.39230*	.055	.06	.047	.055	.047	.069									
Lower Fish Creek	1.54615*	.055	.06	.047	.055	.047	.067									
Lower Fish Creek	0.7	.065	.055	.047	.055	.047	.055	.047	.055	.047	.065					

River:Judy Creek

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7	n8	n9
Lower Judy Creek	31.0	.05	.014	.1	.05					
Lower Judy Creek	30.54*	.05	.014	.06						
Lower Judy Creek	30.08*	.06	.014	.06						
Lower Judy Creek	29.62*	.06	.014	.06						
Lower Judy Creek	29.16*	.06	.015	.06						

Lower Judy Creek	28.7*	.07	.016	.06						
Lower Judy Creek	28.24*	.07	.017	.07						
Lower Judy Creek	27.78*	.07	.018	.07						
Lower Judy Creek	27.32*	.07	.018	.07						
Lower Judy Creek	26.86*	.08	.018	.07						
Lower Judy Creek	26.4*	.08	.018	.08						
Lower Judy Creek	25.94*	.08	.018	.08						
Lower Judy Creek	25.48*	.09	.018	.08						
Lower Judy Creek	25.02*	.09	.018	.08						
Lower Judy Creek	24.56*	.09	.018	.09						
Lower Judy Creek	24.1*	.09	.018	.09						
Lower Judy Creek	23.64*	.1	.018	.09						
Lower Judy Creek	23.18*	.1	.018	.09						
Lower Judy Creek	22.72*	.1	.018	.1						
Lower Judy Creek	22.26*	.11	.018	.1						
Lower Judy Creek	21.8	.05	.11	.018	.1	.05				
Lower Judy Creek	21.3294*	.11	.018	.1						
Lower Judy Creek	20.8588*	.1	.018	.09						
Lower Judy Creek	20.3882*	.1	.018	.09						
Lower Judy Creek	19.9176*	.1	.019	.09						
Lower Judy Creek	19.4470*	.09	.02	.09						
Lower Judy Creek	18.9764*	.09	.02	.08						
Lower Judy Creek	18.5058*	.09	.02	.08						
Lower Judy Creek	18.0352*	.08	.02	.08						
Lower Judy Creek	17.5647*	.08	.02	.07						
Lower Judy Creek	17.0941*	.07	.02	.07						
Lower Judy Creek	16.6235*	.07	.02	.07						
Lower Judy Creek	16.1529*	.07	.02	.06						
Lower Judy Creek	15.6823*	.06	.02	.06						
Lower Judy Creek	15.2117*	.06	.021	.06						
Lower Judy Creek	14.7411*	.06	.022	.06						
Lower Judy Creek	14.2705*	.05	.023	.05						
Lower Judy Creek	13.8	.05	.04	.05	.024	.05	.04			
Lower Judy Creek	13.375*	.05	.024	.05						
Lower Judy Creek	12.95*	.05	.023	.049						
Lower Judy Creek	12.525*	.05	.023	.049						
Lower Judy Creek	12.1*	.05	.03	.023	.049					
Lower Judy Creek	11.675*	.05	.03	.022	.048					
Lower Judy Creek	11.25*	.05	.04	.022	.048					
Lower Judy Creek	10.825*	.05	.05	.022	.047					
Lower Judy Creek	10.4*	.05	.06	.022	.047					
Lower Judy Creek	9.975*	.05	.06	.022	.047					
Lower Judy Creek	9.5500*	.05	.07	.022	.046					
Lower Judy Creek	9.12500*	.05	.08	.022	.046					
Lower Judy Creek	8.70000*	.05	.08	.023	.046					
Lower Judy Creek	8.27500*	.05	.09	.023	.045					
Lower Judy Creek	7.85000*	.05	.1	.023	.045					
Lower Judy Creek	7.42500*	.05	.1	.023	.044					
Lower Judy Creek	7.0	.04	.05	.04	.05	.11	.024	.11	.05	.04
Lower Judy Creek	6.39818*	.05	.023	.046						
Lower Judy Creek	5.79636*	.05	.023	.048						
Lower Judy Creek	5.19454*	.05	.022	.05						
Lower Judy Creek	4.59272*	.05	.022	.052						
Lower Judy Creek	3.99090*	.05	.022	.053						
Lower Judy Creek	3.38909*	.05	.023	.055						
Lower Judy Creek	2.78727*	.05	.023	.057						
Lower Judy Creek	2.18545*	.05	.023	.059						
Lower Judy Creek	1.58363*	.05	.023	.061						
Lower Judy Creek	.981819*	.05	.023	.063						
Lower Judy Creek	0.38	.05	.023	.065						

SUMMARY OF REACH LENGTHS

River: Fish Creek

Reach	River Sta.	Left	Channel	Right
-------	------------	------	---------	-------

Upper Fish Creek	43.3	1903.5	4751.08	1745.42
Upper Fish Creek	42.3916*	1903.5	4751.08	1745.42
Upper Fish Creek	41.4833*	1903.5	4751.08	1745.42
Upper Fish Creek	40.575*	1903.5	4751.08	1745.42
Upper Fish Creek	39.6666*	1903.5	4751.08	1745.42
Upper Fish Creek	38.7583*	1903.5	4751.08	1745.42
Upper Fish Creek	37.85*	1903.5	4751.08	1745.42
Upper Fish Creek	36.9416*	1903.5	4751.08	1745.42
Upper Fish Creek	36.0333*	1903.5	4751.08	1745.42
Upper Fish Creek	35.125*	1903.5	4751.08	1745.42
Upper Fish Creek	34.2166*	1903.5	4751.08	1745.42
Upper Fish Creek	33.3083*	1903.5	4751.09	1745.42
Upper Fish Creek	32.4	2464.43	4273.14	2171
Upper Fish Creek	31.6071*	2464.43	4273.14	2171
Upper Fish Creek	30.8142*	2464.43	4273.14	2171
Upper Fish Creek	30.0214*	2464.43	4273.14	2171
Upper Fish Creek	29.2285*	2464.43	4273.14	2171
Upper Fish Creek	28.4357*	2464.43	4273.14	2171
Upper Fish Creek	27.6428*	2464.43	4273.14	2171
Upper Fish Creek	26.85	0	0	0
Lower Fish Creek	26.09	3700	4769	4679
Lower Fish Creek	25.1	2028.75	4406.38	2370.38
Lower Fish Creek	24.2625*	2028.75	4406.38	2370.38
Lower Fish Creek	23.425*	2028.75	4406.38	2370.38
Lower Fish Creek	22.5875*	2028.75	4406.38	2370.38
Lower Fish Creek	21.75*	2028.75	4406.38	2370.38
Lower Fish Creek	20.9125*	2028.75	4406.38	2370.38
Lower Fish Creek	20.075*	2028.75	4406.38	2370.38
Lower Fish Creek	19.2375*	2028.75	4406.38	2370.38
Lower Fish Creek	18.4	3217.29	4349	2885.43
Lower Fish Creek	17.5714*	3217.29	4349	2885.43
Lower Fish Creek	16.7428*	3217.29	4349	2885.43
Lower Fish Creek	15.9142*	3217.29	4349	2885.43
Lower Fish Creek	15.0857*	3217.29	4349	2885.43
Lower Fish Creek	14.2571*	3217.29	4349	2885.43
Lower Fish Creek	13.4285*	3217.29	4349	2885.43
Lower Fish Creek	12.6	1090	5078	2467
Lower Fish Creek	11.7	2559	4481.46	2515.69
Lower Fish Creek	10.8538*	2559	4481.46	2515.69
Lower Fish Creek	10.0076*	2559	4481.46	2515.69
Lower Fish Creek	9.16153*	2559	4481.46	2515.69
Lower Fish Creek	8.31538*	2559	4481.46	2515.69
Lower Fish Creek	7.46923*	2559	4481.46	2515.69
Lower Fish Creek	6.62307*	2559	4481.46	2515.69
Lower Fish Creek	5.77692*	2559	4481.46	2515.69
Lower Fish Creek	4.93076*	2559	4481.46	2515.69
Lower Fish Creek	4.08461*	2559	4481.46	2515.69
Lower Fish Creek	3.23846*	2559	4481.46	2515.69
Lower Fish Creek	2.39230*	2559	4481.46	2515.69
Lower Fish Creek	1.54615*	2559	4481.46	2515.7
Lower Fish Creek	0.7	0	0	0

River: Judy Creek

Reach	River Sta.	Left	Channel	Right
Lower Judy Creek	31.0	1164.9	2386.5	1005.25

Lower Judy Creek	30.54*	1164.9	2386.5	1005.25
Lower Judy Creek	30.08*	1164.9	2386.5	1005.25
Lower Judy Creek	29.62*	1164.9	2386.5	1005.25
Lower Judy Creek	29.16*	1164.9	2386.5	1005.25
Lower Judy Creek	28.7*	1164.9	2386.5	1005.25
Lower Judy Creek	28.24*	1164.9	2386.5	1005.25
Lower Judy Creek	27.78*	1164.9	2386.5	1005.25
Lower Judy Creek	27.32*	1164.9	2386.5	1005.25
Lower Judy Creek	26.86*	1164.9	2386.5	1005.25
Lower Judy Creek	26.4*	1164.9	2386.5	1005.25
Lower Judy Creek	25.94*	1164.9	2386.5	1005.25
Lower Judy Creek	25.48*	1164.9	2386.5	1005.25
Lower Judy Creek	25.02*	1164.9	2386.5	1005.25
Lower Judy Creek	24.56*	1164.9	2386.5	1005.25
Lower Judy Creek	24.1*	1164.9	2386.5	1005.25
Lower Judy Creek	23.64*	1164.9	2386.5	1005.25
Lower Judy Creek	23.18*	1164.9	2386.5	1005.25
Lower Judy Creek	22.72*	1164.9	2386.5	1005.25
Lower Judy Creek	22.26*	1164.9	2386.5	1005.25
Lower Judy Creek	21.8	1459.47	2420.88	1416
Lower Judy Creek	21.3294*	1459.47	2420.88	1416
Lower Judy Creek	20.8588*	1459.47	2420.88	1416
Lower Judy Creek	20.3882*	1459.47	2420.88	1416
Lower Judy Creek	19.9176*	1459.47	2420.88	1416
Lower Judy Creek	19.4470*	1459.47	2420.88	1416
Lower Judy Creek	18.9764*	1459.47	2420.88	1416
Lower Judy Creek	18.5058*	1459.47	2420.88	1416
Lower Judy Creek	18.0352*	1459.47	2420.88	1416
Lower Judy Creek	17.5647*	1459.47	2420.88	1416
Lower Judy Creek	17.0941*	1459.47	2420.88	1416
Lower Judy Creek	16.6235*	1459.47	2420.88	1416
Lower Judy Creek	16.1529*	1459.47	2420.88	1416
Lower Judy Creek	15.6823*	1459.47	2420.88	1416
Lower Judy Creek	15.2117*	1459.47	2420.88	1416
Lower Judy Creek	14.7411*	1459.47	2420.88	1416
Lower Judy Creek	14.2705*	1459.47	2420.89	1416
Lower Judy Creek	13.8	1530.69	2280.69	1205.25
Lower Judy Creek	13.375*	1530.69	2280.69	1205.25
Lower Judy Creek	12.95*	1530.69	2280.69	1205.25
Lower Judy Creek	12.525*	1530.69	2280.69	1205.25
Lower Judy Creek	12.1*	1530.69	2280.69	1205.25
Lower Judy Creek	11.675*	1530.69	2280.69	1205.25
Lower Judy Creek	11.25*	1530.69	2280.69	1205.25
Lower Judy Creek	10.825*	1530.69	2280.69	1205.25
Lower Judy Creek	10.4*	1530.69	2280.69	1205.25
Lower Judy Creek	9.975*	1530.69	2280.69	1205.25
Lower Judy Creek	9.55000*	1530.69	2280.69	1205.25
Lower Judy Creek	9.12500*	1530.69	2280.69	1205.25
Lower Judy Creek	8.70000*	1530.69	2280.69	1205.25
Lower Judy Creek	8.27500*	1530.69	2280.69	1205.25
Lower Judy Creek	7.85000*	1530.69	2280.69	1205.25
Lower Judy Creek	7.42500*	1530.69	2280.7	1205.25
Lower Judy Creek	7.0	1574.27	2316.18	1729.73
Lower Judy Creek	6.39818*	1574.27	2316.18	1729.73
Lower Judy Creek	5.79636*	1574.27	2316.18	1729.73
Lower Judy Creek	5.19454*	1574.27	2316.18	1729.73
Lower Judy Creek	4.59272*	1574.27	2316.18	1729.73
Lower Judy Creek	3.99090*	1574.27	2316.18	1729.73
Lower Judy Creek	3.38909*	1574.27	2316.18	1729.73

Lower Judy Creek	2.78727*	1574.27	2316.18	1729.73
Lower Judy Creek	2.18545*	1574.27	2316.18	1729.73
Lower Judy Creek	1.58363*	1574.27	2316.18	1729.73
Lower Judy Creek	.981819*	1574.28	2316.18	1729.73
Lower Judy Creek	0.38	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Fish Creek

Reach	River Sta.	Contr.	Expan.
Upper Fish Creek	43.3	.1	.3
Upper Fish Creek	42.3916*	.1	.3
Upper Fish Creek	41.4833*	.1	.3
Upper Fish Creek	40.575*	.1	.3
Upper Fish Creek	39.6666*	.1	.3
Upper Fish Creek	38.7583*	.1	.3
Upper Fish Creek	37.85*	.1	.3
Upper Fish Creek	36.9416*	.1	.3
Upper Fish Creek	36.0333*	.1	.3
Upper Fish Creek	35.125*	.1	.3
Upper Fish Creek	34.2166*	.1	.3
Upper Fish Creek	33.3083*	.1	.3
Upper Fish Creek	32.4	.1	.3
Upper Fish Creek	31.6071*	.1	.3
Upper Fish Creek	30.8142*	.1	.3
Upper Fish Creek	30.0214*	.1	.3
Upper Fish Creek	29.2285*	.1	.3
Upper Fish Creek	28.4357*	.1	.3
Upper Fish Creek	27.6428*	.1	.3
Upper Fish Creek	26.85	.1	.3
Lower Fish Creek	26.09	.1	.3
Lower Fish Creek	25.1	.1	.3
Lower Fish Creek	24.2625*	.1	.3
Lower Fish Creek	23.425*	.1	.3
Lower Fish Creek	22.5875*	.1	.3
Lower Fish Creek	21.75*	.1	.3
Lower Fish Creek	20.9125*	.1	.3
Lower Fish Creek	20.075*	.1	.3
Lower Fish Creek	19.2375*	.1	.3
Lower Fish Creek	18.4	.1	.3
Lower Fish Creek	17.5714*	.1	.3
Lower Fish Creek	16.7428*	.1	.3
Lower Fish Creek	15.9142*	.1	.3
Lower Fish Creek	15.0857*	.1	.3
Lower Fish Creek	14.2571*	.1	.3
Lower Fish Creek	13.4285*	.1	.3
Lower Fish Creek	12.6	.1	.3
Lower Fish Creek	11.7	.1	.3
Lower Fish Creek	10.8538*	.1	.3
Lower Fish Creek	10.0076*	.1	.3
Lower Fish Creek	9.16153*	.1	.3
Lower Fish Creek	8.31538*	.1	.3
Lower Fish Creek	7.46923*	.1	.3
Lower Fish Creek	6.62307*	.1	.3
Lower Fish Creek	5.77692*	.1	.3
Lower Fish Creek	4.93076*	.1	.3
Lower Fish Creek	4.08461*	.1	.3
Lower Fish Creek	3.23846*	.1	.3
Lower Fish Creek	2.39230*	.1	.3
Lower Fish Creek	1.54615*	.1	.3
Lower Fish Creek	0.7	.1	.3

River: Judy Creek

Reach	River Sta.	Contr.	Expan.
Lower Judy Creek	31.0	.1	.3
Lower Judy Creek	30.54*	.1	.3
Lower Judy Creek	30.08*	.1	.3
Lower Judy Creek	29.62*	.1	.3
Lower Judy Creek	29.16*	.1	.3
Lower Judy Creek	28.7*	.1	.3
Lower Judy Creek	28.24*	.1	.3
Lower Judy Creek	27.78*	.1	.3
Lower Judy Creek	27.32*	.1	.3
Lower Judy Creek	26.86*	.1	.3
Lower Judy Creek	26.4*	.1	.3
Lower Judy Creek	25.94*	.1	.3
Lower Judy Creek	25.48*	.1	.3
Lower Judy Creek	25.02*	.1	.3
Lower Judy Creek	24.56*	.1	.3
Lower Judy Creek	24.1*	.1	.3
Lower Judy Creek	23.64*	.1	.3
Lower Judy Creek	23.18*	.1	.3
Lower Judy Creek	22.72*	.1	.3
Lower Judy Creek	22.26*	.1	.3
Lower Judy Creek	21.8	.1	.3
Lower Judy Creek	21.3294*	.1	.3
Lower Judy Creek	20.8588*	.1	.3
Lower Judy Creek	20.3882*	.1	.3
Lower Judy Creek	19.9176*	.1	.3
Lower Judy Creek	19.4470*	.1	.3
Lower Judy Creek	18.9764*	.1	.3
Lower Judy Creek	18.5058*	.1	.3
Lower Judy Creek	18.0352*	.1	.3
Lower Judy Creek	17.5647*	.1	.3
Lower Judy Creek	17.0941*	.1	.3
Lower Judy Creek	16.6235*	.1	.3
Lower Judy Creek	16.1529*	.1	.3
Lower Judy Creek	15.6823*	.1	.3
Lower Judy Creek	15.2117*	.1	.3
Lower Judy Creek	14.7411*	.1	.3
Lower Judy Creek	14.2705*	.1	.3
Lower Judy Creek	13.8	.1	.3
Lower Judy Creek	13.375*	.1	.3
Lower Judy Creek	12.95*	.1	.3
Lower Judy Creek	12.525*	.1	.3
Lower Judy Creek	12.1*	.1	.3
Lower Judy Creek	11.675*	.1	.3
Lower Judy Creek	11.25*	.1	.3
Lower Judy Creek	10.825*	.1	.3
Lower Judy Creek	10.4*	.1	.3
Lower Judy Creek	9.975*	.1	.3
Lower Judy Creek	9.55000*	.1	.3
Lower Judy Creek	9.12500*	.1	.3
Lower Judy Creek	8.70000*	.1	.3
Lower Judy Creek	8.27500*	.1	.3
Lower Judy Creek	7.85000*	.1	.3
Lower Judy Creek	7.42500*	.1	.3
Lower Judy Creek	7.0	.1	.3
Lower Judy Creek	6.39818*	.1	.3

Lower Judy Creek	5.79636*	.1	.3
Lower Judy Creek	5.19454*	.1	.3
Lower Judy Creek	4.59272*	.1	.3
Lower Judy Creek	3.99090*	.1	.3
Lower Judy Creek	3.38909*	.1	.3
Lower Judy Creek	2.78727*	.1	.3
Lower Judy Creek	2.18545*	.1	.3
Lower Judy Creek	1.58363*	.1	.3
Lower Judy Creek	.981819*	.1	.3
Lower Judy Creek	0.38	.1	.3

Profile Output Table - Standard Table 1

River	Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Fish Creek	Lower	Fish Creek 0.7	57545.00		0.30	5.90	2.39	5.91	0.000075	0.61	96932.05	25433.17	0.05
Fish Creek	Lower	Fish Creek 1.54615*	49683.00		-0.36	6.21		6.22	0.000077	0.59	86373.81	24931.14	0.05
Fish Creek	Lower	Fish Creek 2.39230*	49683.00		-0.74	6.57		6.58	0.000103	0.67	76843.62	24446.18	0.07
Fish Creek	Lower	Fish Creek 3.23846*	49683.00		-1.13	7.02		7.03	0.000123	0.75	70059.48	23770.65	0.08
Fish Creek	Lower	Fish Creek 4.08461*	49683.00		-1.52	7.61		7.62	0.000170	0.98	57983.58	21100.14	0.09
Fish Creek	Lower	Fish Creek 4.93076*	49683.00		-1.90	8.26		8.27	0.000145	1.00	58743.85	19549.92	0.09
Fish Creek	Lower	Fish Creek 5.77692*	49683.00		-2.29	8.81		8.83	0.000123	1.07	58079.12	18765.48	0.09
Fish Creek	Lower	Fish Creek 6.62307*	49683.00		-2.68	9.32		9.34	0.000123	1.14	56887.99	18219.56	0.09
Fish Creek	Lower	Fish Creek 7.46923*	49683.00		-3.07	9.83		9.84	0.000127	1.22	55788.31	17865.13	0.09
Fish Creek	Lower	Fish Creek 8.31538*	49683.00		-3.45	10.34		10.36	0.000134	1.32	54653.04	17736.34	0.10
Fish Creek	Lower	Fish Creek 9.16153*	49683.00		-3.84	10.88		10.90	0.000148	1.43	53453.66	17831.58	0.10
Fish Creek	Lower	Fish Creek 10.0076*	49683.00		-4.23	11.45		11.48	0.000160	1.58	52932.22	18519.43	0.11
Fish Creek	Lower	Fish Creek 10.8538*	49683.00		-4.61	12.06		12.09	0.000186	1.77	50440.81	16346.14	0.12
Fish Creek	Lower	Fish Creek 11.7	49683.00		-5.00	12.69		12.71	0.000189	1.82	49470.26	16290.36	0.12
Fish Creek	Lower	Fish Creek 12.6	49683.00		-5.80	13.06		13.15	0.000132	3.63	47672.18	15686.08	0.20
Fish Creek	Lower	Fish Creek 13.4285*	48857.00		-5.83	13.62		13.70	0.000167	3.47	44459.82	14855.70	0.19
Fish Creek	Lower	Fish Creek 14.2571*	48857.00		-5.86	14.24		14.34	0.000182	3.74	43529.48	15300.74	0.21
Fish Creek	Lower	Fish Creek 15.0857*	48857.00		-5.89	14.91		15.03	0.000193	3.96	41336.82	14030.50	0.22
Fish Creek	Lower	Fish Creek 15.9142*	48857.00		-5.91	15.62		15.74	0.000197	4.08	39973.68	13103.29	0.23
Fish Creek	Lower	Fish Creek 16.7428*	48857.00		-5.94	16.32		16.46	0.000190	4.25	38648.90	11954.77	0.24
Fish Creek	Lower	Fish Creek 17.5714*	48857.00		-5.97	17.03		17.17	0.000189	4.29	37450.42	11310.72	0.24
Fish Creek	Lower	Fish Creek 18.4	48857.00		-6.00	17.70		17.85	0.000175	4.38	36034.84	10765.67	0.25
Fish Creek	Lower	Fish Creek 19.2375*	47587.00		-4.42	18.31		18.50	0.000214	4.73	31002.42	9883.56	0.26
Fish Creek	Lower	Fish Creek 20.075*	47587.00		-2.84	19.17		19.48	0.000339	5.59	25054.73	8444.20	0.30
Fish Creek	Lower	Fish Creek 20.9125*	47587.00		-1.26	20.25		20.53	0.000254	5.37	25173.53	6418.07	0.28
Fish Creek	Lower	Fish Creek 21.75*	47587.00		0.32	21.08		21.34	0.000205	5.20	28192.09	6823.33	0.27
Fish Creek	Lower	Fish Creek 22.5875*	47587.00		1.90	21.85		22.04	0.000204	4.74	31181.61	7730.60	0.24
Fish Creek	Lower	Fish Creek 23.425*	47587.00		3.48	22.53		22.72	0.000199	4.85	33636.55	8294.66	0.25
Fish Creek	Lower	Fish Creek 24.2625*	47587.00		5.06	23.20		23.38	0.000191	4.82	35702.95	8533.58	0.25
Fish Creek	Lower	Fish Creek 25.1	47587.00		6.64	23.87		24.03	0.000205	4.61	37044.60	8740.30	0.24
Fish Creek	Lower	Fish Creek 26.09	47531.00		7.89	24.80		25.01	0.000223	5.17	34217.84	8702.39	0.27
Fish Creek	Upper	Fish Creek 26.85	28339.00		6.88	25.72		25.92	0.000244	4.50	19042.67	6614.04	0.23
Fish Creek	Upper	Fish Creek 27.6428*	28005.00		7.84	26.61		26.79	0.000233	4.23	18302.76	6307.07	0.21
Fish Creek	Upper	Fish Creek 28.4357*	28005.00		8.80	27.37		27.47	0.000159	3.45	21409.34	4946.59	0.17
Fish Creek	Upper	Fish Creek 29.2285*	28005.00		9.76	27.87		27.93	0.000121	2.97	24679.20	5132.39	0.15
Fish Creek	Upper	Fish Creek 30.0214*	28005.00		10.72	28.22		28.27	0.000093	2.71	27461.92	5424.92	0.13
Fish Creek	Upper	Fish Creek 30.8142*	28005.00		11.68	28.49		28.53	0.000075	2.44	29889.03	5689.04	0.12
Fish Creek	Upper	Fish Creek 31.6071*	28005.00		12.64	28.71		28.73	0.000066	2.21	32007.54	5941.95	0.11
Fish Creek	Upper	Fish Creek 32.4	28005.00		13.60	28.88		28.91	0.000055	2.02	33651.02	6203.02	0.10
Fish Creek	Upper	Fish Creek 33.3083*	27578.00		14.03	29.06		29.11	0.000098	2.72	25989.35	5936.92	0.14
Fish Creek	Upper	Fish Creek 34.2166*	27578.00		14.45	29.43		29.53	0.000176	3.56	19585.64	5557.17	0.18
Fish Creek	Upper	Fish Creek 35.125*	27578.00		14.88	30.10		30.27	0.000268	4.35	15280.33	5095.15	0.23
Fish Creek	Upper	Fish Creek 36.0333*	27578.00		15.30	31.09		31.32	0.000314	4.75	12953.64	4634.73	0.25
Fish Creek	Upper	Fish Creek 36.9416*	27578.00		15.73	32.25		32.51	0.000320	4.89	11757.03	4002.46	0.25
Fish Creek	Upper	Fish Creek 37.85*	27578.00		16.15	33.45		33.72	0.000303	4.87	11097.85	3243.16	0.25
Fish Creek	Upper	Fish Creek 38.7583*	27578.00		16.58	34.64		34.90	0.000296	4.72	10756.12	2835.51	0.23
Fish Creek	Upper	Fish Creek 39.6666*	27578.00		17.00	35.79		36.06	0.000277	4.64	10432.20	2753.71	0.23
Fish Creek	Upper	Fish Creek 40.575*	27578.00		17.43	36.89		37.14	0.000253	4.50	10039.52	2509.95	0.22
Fish Creek	Upper	Fish Creek 41.4833*	27578.00		17.85	37.91		38.16	0.000240	4.42	9659.33	2357.90	0.21
Fish Creek	Upper	Fish Creek 42.3916*	27578.00		18.28	38.87		39.07	0.000201	4.07	11692.40	3616.86	0.19
Fish Creek	Upper	Fish Creek 43.3	27578.00		18.70	39.63		39.76	0.000143	3.43	14170.67	2930.61	0.16
Judy Creek	Lower	Judy Creek 0.38	24405.00		8.18	25.59		25.68	0.000135	3.44	23357.00	6347.92	0.19
Judy Creek	Lower	Judy Creek .981819*	23812.00		8.91	25.88		26.03	0.000201	4.13	19356.97	7072.47	0.23
Judy Creek	Lower	Judy Creek 1.58363*	23812.00		9.64	26.32		26.57	0.000293	4.94	15560.41	7161.88	0.28

Judy Creek	Lower	Judy Creek	2.18545*	23812.00	10.37	26.94	27.24	0.000328	5.25	13579.01	6292.32	0.30
Judy Creek	Lower	Judy Creek	2.78727*	23812.00	11.10	27.64	27.88	0.000281	4.89	13435.49	4886.19	0.28
Judy Creek	Lower	Judy Creek	3.38909*	23812.00	11.83	28.22	28.47	0.000282	4.91	13387.28	4895.11	0.28
Judy Creek	Lower	Judy Creek	3.99090*	23812.00	12.55	28.79	29.05	0.000271	5.04	13221.30	5092.21	0.28
Judy Creek	Lower	Judy Creek	4.59272*	23812.00	13.28	29.36	29.62	0.000274	5.06	12982.95	5219.41	0.29
Judy Creek	Lower	Judy Creek	5.19454*	23812.00	14.01	29.93	30.19	0.000277	5.09	12769.55	4978.80	0.29
Judy Creek	Lower	Judy Creek	5.79636*	23812.00	14.74	30.54	30.78	0.000287	4.97	12859.29	4879.00	0.28
Judy Creek	Lower	Judy Creek	6.39818*	23812.00	15.47	31.14	31.39	0.000291	5.01	12625.64	4964.52	0.28
Judy Creek	Lower	Judy Creek	7.0	23812.00	16.20	31.99	32.09	0.000394	3.50	14003.14	5188.20	0.19
Judy Creek	Lower	Judy Creek	7.42500*	22112.00	16.63	32.60	32.80	0.000351	4.46	11741.69	4876.61	0.25
Judy Creek	Lower	Judy Creek	7.85000*	22112.00	17.05	33.33	33.61	0.000448	5.02	9967.99	4655.65	0.27
Judy Creek	Lower	Judy Creek	8.27500*	22112.00	17.48	34.21	34.54	0.000449	5.23	9014.14	4444.35	0.28
Judy Creek	Lower	Judy Creek	8.70000*	22112.00	17.90	35.09	35.40	0.000384	5.06	8730.89	3414.03	0.27
Judy Creek	Lower	Judy Creek	9.12500*	22112.00	18.33	35.83	36.17	0.000345	5.22	8218.77	3242.31	0.27
Judy Creek	Lower	Judy Creek	9.55000*	22112.00	18.75	36.42	36.85	0.000264	5.60	7321.77	3006.42	0.29
Judy Creek	Lower	Judy Creek	9.975*	22112.00	19.18	36.99	37.45	0.000272	5.73	6495.91	2672.40	0.29
Judy Creek	Lower	Judy Creek	10.4*	22112.00	19.60	37.58	38.07	0.000283	5.87	5861.10	2194.70	0.30
Judy Creek	Lower	Judy Creek	10.825*	22112.00	20.03	38.19	38.71	0.000289	5.97	5416.17	1946.31	0.30
Judy Creek	Lower	Judy Creek	11.25*	22112.00	20.45	38.82	39.36	0.000292	6.05	5059.36	1685.60	0.31
Judy Creek	Lower	Judy Creek	11.675*	22112.00	20.88	39.46	40.02	0.000293	6.11	4784.16	1444.37	0.31
Judy Creek	Lower	Judy Creek	12.1*	22112.00	21.30	40.15	40.71	0.000318	6.13	4621.53	1287.84	0.31
Judy Creek	Lower	Judy Creek	12.525*	22112.00	21.73	40.85	41.41	0.000317	6.14	4536.76	1097.72	0.31
Judy Creek	Lower	Judy Creek	12.95*	22112.00	22.15	41.56	42.12	0.000316	6.15	4492.67	949.43	0.31
Judy Creek	Lower	Judy Creek	13.375*	22112.00	22.58	42.30	42.86	0.000340	6.14	4500.23	917.81	0.30
Judy Creek	Lower	Judy Creek	13.8	22112.00	23.00	43.06	43.62	0.000339	6.14	4514.51	897.33	0.30
Judy Creek	Lower	Judy Creek	14.2705*	20581.00	23.93	43.86	44.34	0.000262	5.66	4580.37	941.86	0.28
Judy Creek	Lower	Judy Creek	14.7411*	20581.00	24.86	44.46	44.96	0.000251	5.76	4457.90	867.65	0.29
Judy Creek	Lower	Judy Creek	15.2117*	20581.00	25.79	45.04	45.55	0.000237	5.83	4339.67	794.19	0.29
Judy Creek	Lower	Judy Creek	15.6823*	20581.00	26.72	45.58	46.11	0.000225	5.91	4197.80	782.88	0.30
Judy Creek	Lower	Judy Creek	16.1529*	20581.00	27.65	46.12	46.67	0.000236	6.00	4064.52	864.15	0.30
Judy Creek	Lower	Judy Creek	16.6235*	20581.00	28.58	46.68	47.24	0.000245	6.06	3985.95	966.17	0.31
Judy Creek	Lower	Judy Creek	17.0941*	20581.00	29.51	47.27	47.84	0.000252	6.10	3941.35	849.73	0.31
Judy Creek	Lower	Judy Creek	17.5647*	20581.00	30.44	47.87	48.44	0.000258	6.14	3934.09	763.10	0.32
Judy Creek	Lower	Judy Creek	18.0352*	20581.00	31.36	48.49	49.07	0.000263	6.16	3937.72	734.45	0.32
Judy Creek	Lower	Judy Creek	18.5058*	20581.00	32.29	49.11	49.70	0.000267	6.18	3945.62	710.08	0.32
Judy Creek	Lower	Judy Creek	18.9764*	20581.00	33.22	49.75	50.34	0.000269	6.18	3958.20	689.94	0.32
Judy Creek	Lower	Judy Creek	19.4470*	20581.00	34.15	50.40	50.98	0.000272	6.19	3962.86	671.90	0.32
Judy Creek	Lower	Judy Creek	19.9176*	20581.00	35.08	51.02	51.62	0.000251	6.23	3961.28	678.24	0.33
Judy Creek	Lower	Judy Creek	20.3882*	20581.00	36.01	51.60	52.20	0.000232	6.28	3968.53	748.67	0.33
Judy Creek	Lower	Judy Creek	20.8588*	20581.00	36.94	52.17	52.77	0.000239	6.31	4064.62	787.99	0.33
Judy Creek	Lower	Judy Creek	21.3294*	20581.00	37.87	52.74	53.35	0.000245	6.34	4105.70	695.19	0.34
Judy Creek	Lower	Judy Creek	21.8	20581.00	38.80	53.33	53.95	0.000251	6.37	4022.00	600.79	0.34
Judy Creek	Lower	Judy Creek	22.26*	18965.00	39.51	53.99	54.50	0.000207	5.78	4324.55	723.79	0.31
Judy Creek	Lower	Judy Creek	22.72*	18965.00	40.22	54.48	54.99	0.000215	5.81	4438.94	842.13	0.31
Judy Creek	Lower	Judy Creek	23.18*	18965.00	40.93	54.99	55.50	0.000222	5.84	4485.79	961.36	0.32
Judy Creek	Lower	Judy Creek	23.64*	18965.00	41.64	55.51	56.03	0.000232	5.90	4470.62	1069.78	0.33
Judy Creek	Lower	Judy Creek	24.1*	18965.00	42.35	56.05	56.59	0.000243	5.95	4411.02	1180.71	0.33
Judy Creek	Lower	Judy Creek	24.56*	18965.00	43.06	56.63	57.17	0.000251	5.98	4353.91	1167.03	0.34
Judy Creek	Lower	Judy Creek	25.02*	18965.00	43.77	57.22	57.76	0.000258	5.99	4305.94	1210.32	0.34
Judy Creek	Lower	Judy Creek	25.48*	18965.00	44.48	57.83	58.38	0.000266	6.02	4259.42	1256.95	0.34
Judy Creek	Lower	Judy Creek	25.94*	18965.00	45.19	58.45	59.01	0.000274	6.05	4210.48	1313.46	0.35
Judy Creek	Lower	Judy Creek	26.4*	18965.00	45.90	59.09	59.66	0.000281	6.07	4169.91	1373.95	0.35
Judy Creek	Lower	Judy Creek	26.86*	18965.00	46.61	59.76	60.32	0.000286	6.07	4139.98	1438.32	0.35
Judy Creek	Lower	Judy Creek	27.32*	18965.00	47.32	60.43	61.00	0.000292	6.08	4110.38	1503.97	0.36
Judy Creek	Lower	Judy Creek	27.78*	18965.00	48.03	61.12	61.69	0.000298	6.09	4086.31	1571.91	0.36
Judy Creek	Lower	Judy Creek	28.24*	18965.00	48.74	61.80	62.37	0.000274	6.12	4033.42	1633.71	0.36
Judy Creek	Lower	Judy Creek	28.7*	18965.00	49.45	62.41	63.00	0.000256	6.20	3863.90	1634.59	0.37
Judy Creek	Lower	Judy Creek	29.16*	18965.00	50.16	62.99	63.60	0.000244	6.33	3618.38	1503.35	0.39
Judy Creek	Lower	Judy Creek	29.62*	18965.00	50.87	63.54	64.18	0.000233	6.47	3494.28	1457.04	0.40

Judy Creek	Lower Judy Creek	30.08*	18965.00	51.58	64.09	64.75	0.000251	6.58	3804.40	1887.36	0.42
Judy Creek	Lower Judy Creek	30.54*	18965.00	52.29	64.72	65.35	0.000254	6.50	4775.86	2404.97	0.42
Judy Creek	Lower Judy Creek	31.0	18965.00	53.00	65.40	65.92	0.000233	6.13	6109.52	2557.54	0.40

Profile Output Table - Standard Table 2

River	Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Fish Creek	Lower Fish Creek	0.7		5.91	5.90	0.01		8665.98	48023.31	855.71	25433.17
Fish Creek	Lower Fish Creek	1.54615*	6.22	6.21	0.01	0.31	0.00	9310.81	39644.68	727.52	24931.14
Fish Creek	Lower Fish Creek	2.39230*	6.58	6.57	0.01	0.37	0.00	11126.45	37843.78	712.76	24446.18
Fish Creek	Lower Fish Creek	3.23846*	7.03	7.02	0.01	0.45	0.00	12784.81	36134.07	764.12	23770.65
Fish Creek	Lower Fish Creek	4.08461*	7.62	7.61	0.01	0.60	0.00	6253.01	42370.24	1059.75	21100.14
Fish Creek	Lower Fish Creek	4.93076*	8.27	8.26	0.01	0.66	0.00	7564.69	40918.88	1199.43	19549.92
Fish Creek	Lower Fish Creek	5.77692*	8.83	8.81	0.02	0.55	0.00	8227.17	40223.79	1232.04	18765.48
Fish Creek	Lower Fish Creek	6.62307*	9.34	9.32	0.02	0.50	0.00	9502.06	38863.37	1317.57	18219.56
Fish Creek	Lower Fish Creek	7.46923*	9.84	9.83	0.02	0.50	0.00	10905.60	37300.10	1477.31	17865.13
Fish Creek	Lower Fish Creek	8.31538*	10.36	10.34	0.02	0.52	0.00	12617.40	35340.07	1725.54	17736.34
Fish Creek	Lower Fish Creek	9.16153*	10.90	10.88	0.02	0.55	0.00	15432.85	32464.83	1785.31	17831.58
Fish Creek	Lower Fish Creek	10.0076*	11.48	11.45	0.03	0.58	0.00	18454.48	29126.10	2102.42	18519.43
Fish Creek	Lower Fish Creek	10.8538*	12.09	12.06	0.03	0.62	0.00	23360.58	24339.36	1983.06	16346.14
Fish Creek	Lower Fish Creek	11.7	12.71	12.69	0.02	0.62	0.00	31778.60	15595.38	2309.02	16290.36
Fish Creek	Lower Fish Creek	12.6	13.15	13.06	0.09	0.42	0.02	26996.71	20605.77	2080.52	15686.08
Fish Creek	Lower Fish Creek	13.4285*	13.70	13.62	0.08	0.55	0.00	26947.47	19452.96	2456.58	14855.70
Fish Creek	Lower Fish Creek	14.2571*	14.34	14.24	0.10	0.64	0.01	24320.87	20697.12	3839.01	15300.74
Fish Creek	Lower Fish Creek	15.0857*	15.03	14.91	0.11	0.69	0.00	22554.86	21662.56	4639.57	14030.50
Fish Creek	Lower Fish Creek	15.9142*	15.74	15.62	0.12	0.72	0.00	21399.18	22227.14	5230.67	13103.29
Fish Creek	Lower Fish Creek	16.7428*	16.46	16.32	0.14	0.72	0.00	20227.22	22998.06	5631.72	11954.77
Fish Creek	Lower Fish Creek	17.5714*	17.17	17.03	0.14	0.70	0.00	19348.76	23063.51	6444.73	11310.72
Fish Creek	Lower Fish Creek	18.4	17.85	17.70	0.15	0.67	0.00	19185.04	23287.01	6384.95	10765.67
Fish Creek	Lower Fish Creek	19.2375*	18.50	18.31	0.19	0.63	0.01	19027.49	24761.61	3797.90	9883.56
Fish Creek	Lower Fish Creek	20.075*	19.48	19.17	0.31	0.95	0.04	11425.82	29478.84	6682.35	8444.20
Fish Creek	Lower Fish Creek	20.9125*	20.53	20.25	0.28	1.05	0.00	9895.87	28945.74	8745.39	6418.07
Fish Creek	Lower Fish Creek	21.75*	21.34	21.08	0.25	0.81	0.00	9528.99	27898.16	10159.84	6823.33
Fish Creek	Lower Fish Creek	22.5875*	22.04	21.85	0.19	0.70	0.01	9988.50	24982.38	12616.12	7730.60
Fish Creek	Lower Fish Creek	23.425*	22.72	22.53	0.19	0.68	0.00	8562.62	24706.46	14317.91	8294.66
Fish Creek	Lower Fish Creek	24.2625*	23.38	23.20	0.18	0.65	0.00	8922.15	23573.10	15091.75	8533.58
Fish Creek	Lower Fish Creek	25.1	24.03	23.87	0.15	0.65	0.00	10561.73	21355.06	15670.21	8740.30
Fish Creek	Lower Fish Creek	26.09	25.01	24.80	0.21	0.97	0.02	9094.68	23191.93	15244.39	8702.39
Fish Creek	Upper Fish Creek	26.85	25.92	25.72	0.21	0.91	0.00	6024.89	18451.93	3862.18	6614.04
Fish Creek	Upper Fish Creek	27.6428*	26.79	26.61	0.18	0.86	0.00	7084.44	17604.12	3316.44	6307.07
Fish Creek	Upper Fish Creek	28.4357*	27.47	27.37	0.10	0.68	0.01	8804.54	14397.22	4803.25	4946.59
Fish Creek	Upper Fish Creek	29.2285*	27.93	27.87	0.06	0.46	0.00	9738.20	12129.69	6137.11	5132.39
Fish Creek	Upper Fish Creek	30.0214*	28.27	28.22	0.05	0.34	0.00	10112.46	10739.72	7152.82	5424.92
Fish Creek	Upper Fish Creek	30.8142*	28.53	28.49	0.04	0.25	0.00	10344.50	9307.99	8352.51	5689.04
Fish Creek	Upper Fish Creek	31.6071*	28.73	28.71	0.03	0.21	0.00	10872.64	8045.38	9086.97	5941.95
Fish Creek	Upper Fish Creek	32.4	28.91	28.88	0.02	0.17	0.00	10568.91	6957.77	10478.33	6203.02
Fish Creek	Upper Fish Creek	33.3083*	29.11	29.06	0.05	0.20	0.01	9676.24	9231.54	8670.22	5936.92
Fish Creek	Upper Fish Creek	34.2166*	29.53	29.43	0.09	0.40	0.01	8668.52	12001.85	6907.64	5557.17
Fish Creek	Upper Fish Creek	35.125*	30.27	30.10	0.17	0.72	0.02	7283.59	14967.18	5327.24	5095.15
Fish Creek	Upper Fish Creek	36.0333*	31.32	31.09	0.23	1.03	0.02	6071.69	17128.87	4377.44	4634.73
Fish Creek	Upper Fish Creek	36.9416*	32.51	32.25	0.26	1.18	0.01	4988.33	18747.58	3842.09	4002.46
Fish Creek	Upper Fish Creek	37.85*	33.72	33.45	0.27	1.21	0.00	3987.37	19839.67	3750.96	3243.16
Fish Creek	Upper Fish Creek	38.7583*	34.90	34.64	0.26	1.19	0.00	3242.67	20439.58	3895.75	2835.51
Fish Creek	Upper Fish Creek	39.6666*	36.06	35.79	0.26	1.16	0.00	2411.68	21286.00	3880.32	2753.71
Fish Creek	Upper Fish Creek	40.575*	37.14	36.89	0.25	1.09	0.00	1684.02	21710.46	4183.52	2509.95
Fish Creek	Upper Fish Creek	41.4833*	38.16	37.91	0.25	1.02	0.00	1049.07	22328.11	4200.82	2357.90
Fish Creek	Upper Fish Creek	42.3916*	39.07	38.87	0.20	0.91	0.00	2248.33	21374.37	3955.30	3616.86
Fish Creek	Upper Fish Creek	43.3	39.76	39.63	0.13	0.68	0.01	6012.15	18391.40	3174.45	2930.61
Judy Creek	Lower Judy Creek	0.38	25.68	25.59	0.09	0.66	0.01	4679.70	11427.39	8297.91	6347.92
Judy Creek	Lower Judy Creek	.981819*	26.03	25.88	0.15	0.34	0.02	4048.15	13209.40	6554.45	7072.47
Judy Creek	Lower Judy Creek	1.58363*	26.57	26.32	0.25	0.51	0.03	3578.47	15419.95	4813.58	7161.88

Judy Creek	Lower	Judy Creek	2.18545*	27.24	26.94	0.30	0.65	0.01	3468.03	16304.49	4039.48	6292.32
Judy Creek	Lower	Judy Creek	2.78727*	27.88	27.64	0.24	0.64	0.01	3671.26	15234.83	4905.91	4886.19
Judy Creek	Lower	Judy Creek	3.38909*	28.47	28.22	0.24	0.58	0.00	3484.33	15140.00	5187.67	4895.11
Judy Creek	Lower	Judy Creek	3.99090*	29.05	28.79	0.26	0.58	0.01	3113.03	15384.11	5314.86	5092.21
Judy Creek	Lower	Judy Creek	4.59272*	29.62	29.36	0.26	0.57	0.00	3093.51	15299.06	5419.43	5219.41
Judy Creek	Lower	Judy Creek	5.19454*	30.19	29.93	0.26	0.57	0.00	2957.35	15211.68	5642.97	4978.80
Judy Creek	Lower	Judy Creek	5.79636*	30.78	30.54	0.24	0.59	0.00	2972.49	14755.88	6083.62	4879.00
Judy Creek	Lower	Judy Creek	6.39818*	31.39	31.14	0.25	0.60	0.00	3124.34	14757.58	5930.08	4964.52
Judy Creek	Lower	Judy Creek	7.0	32.09	31.99	0.10	0.69	0.01	4651.68	10497.41	8662.91	5188.20
Judy Creek	Lower	Judy Creek	7.42500*	32.80	32.60	0.20	0.68	0.03	3335.02	13623.80	5153.18	4876.61
Judy Creek	Lower	Judy Creek	7.85000*	33.61	33.33	0.28	0.79	0.03	3231.70	15719.24	3161.06	4655.65
Judy Creek	Lower	Judy Creek	8.27500*	34.54	34.21	0.33	0.92	0.01	3224.49	17038.32	1849.19	4444.35
Judy Creek	Lower	Judy Creek	8.70000*	35.40	35.09	0.31	0.87	0.00	2975.46	17048.68	2087.86	3414.03
Judy Creek	Lower	Judy Creek	9.12500*	36.17	35.83	0.35	0.76	0.01	2466.47	17939.19	1706.35	3242.31
Judy Creek	Lower	Judy Creek	9.55000*	36.85	36.42	0.43	0.65	0.02	1613.19	19352.18	1146.63	3006.42
Judy Creek	Lower	Judy Creek	9.975*	37.45	36.99	0.46	0.58	0.01	1468.77	19830.64	812.58	2672.40
Judy Creek	Lower	Judy Creek	10.4*	38.07	37.58	0.49	0.61	0.01	1239.28	20327.38	545.34	2194.70
Judy Creek	Lower	Judy Creek	10.825*	38.71	38.19	0.52	0.64	0.01	1080.60	20685.53	345.87	1946.31
Judy Creek	Lower	Judy Creek	11.25*	39.36	38.82	0.54	0.65	0.01	960.09	20952.44	199.47	1685.60
Judy Creek	Lower	Judy Creek	11.675*	40.02	39.46	0.55	0.66	0.00	863.71	21139.74	108.55	1444.37
Judy Creek	Lower	Judy Creek	12.1*	40.71	40.15	0.56	0.69	0.00	842.89	21207.28	61.83	1287.84
Judy Creek	Lower	Judy Creek	12.525*	41.41	40.85	0.56	0.71	0.00	840.55	21221.79	49.66	1097.72
Judy Creek	Lower	Judy Creek	12.95*	42.12	41.56	0.56	0.71	0.00	837.56	21208.76	65.68	949.43
Judy Creek	Lower	Judy Creek	13.375*	42.86	42.30	0.56	0.74	0.00	893.39	21126.66	91.95	917.81
Judy Creek	Lower	Judy Creek	13.8	43.62	43.06	0.56	0.76	0.00	925.92	21067.45	118.63	897.33
Judy Creek	Lower	Judy Creek	14.2705*	44.34	43.86	0.48	0.71	0.01	817.41	19649.10	114.49	941.86
Judy Creek	Lower	Judy Creek	14.7411*	44.96	44.46	0.50	0.61	0.01	592.41	19902.59	86.00	867.65
Judy Creek	Lower	Judy Creek	15.2117*	45.55	45.04	0.51	0.58	0.00	507.42	19997.45	76.13	794.19
Judy Creek	Lower	Judy Creek	15.6823*	46.11	45.58	0.53	0.55	0.01	424.76	20091.75	64.49	782.88
Judy Creek	Lower	Judy Creek	16.1529*	46.67	46.12	0.55	0.55	0.01	321.21	20202.63	57.16	864.15
Judy Creek	Lower	Judy Creek	16.6235*	47.24	46.68	0.56	0.58	0.00	287.71	20256.19	37.09	966.17
Judy Creek	Lower	Judy Creek	17.0941*	47.84	47.27	0.57	0.60	0.00	270.19	20256.18	54.63	849.73
Judy Creek	Lower	Judy Creek	17.5647*	48.44	47.87	0.58	0.61	0.00	226.03	20280.20	74.77	763.10
Judy Creek	Lower	Judy Creek	18.0352*	49.07	48.49	0.58	0.63	0.00	217.93	20277.95	85.12	734.45
Judy Creek	Lower	Judy Creek	18.5058*	49.70	49.11	0.58	0.64	0.00	187.41	20287.66	105.94	710.08
Judy Creek	Lower	Judy Creek	18.9764*	50.34	49.75	0.58	0.64	0.00	183.11	20269.83	128.06	689.94
Judy Creek	Lower	Judy Creek	19.4470*	50.98	50.40	0.59	0.65	0.00	179.87	20270.23	130.90	671.90
Judy Creek	Lower	Judy Creek	19.9176*	51.62	51.02	0.59	0.63	0.00	124.80	20324.37	131.83	678.24
Judy Creek	Lower	Judy Creek	20.3882*	52.20	51.60	0.60	0.58	0.00	114.76	20338.10	128.15	748.67
Judy Creek	Lower	Judy Creek	20.8588*	52.77	52.17	0.61	0.57	0.00	130.00	20270.97	180.03	787.99
Judy Creek	Lower	Judy Creek	21.3294*	53.35	52.74	0.61	0.58	0.00	113.87	20223.98	243.15	695.19
Judy Creek	Lower	Judy Creek	21.8	53.95	53.33	0.62	0.60	0.00	109.92	20194.94	276.14	600.79
Judy Creek	Lower	Judy Creek	22.26*	54.50	53.99	0.51	0.54	0.01	89.58	18518.13	357.29	723.79
Judy Creek	Lower	Judy Creek	22.72*	54.99	54.48	0.51	0.50	0.00	81.62	18484.54	398.83	842.13
Judy Creek	Lower	Judy Creek	23.18*	55.50	54.99	0.52	0.51	0.00	65.74	18445.96	453.30	961.36
Judy Creek	Lower	Judy Creek	23.64*	56.03	55.51	0.53	0.53	0.00	52.44	18480.53	432.03	1069.78
Judy Creek	Lower	Judy Creek	24.1*	56.59	56.05	0.54	0.56	0.00	45.96	18529.72	389.32	1180.71
Judy Creek	Lower	Judy Creek	24.56*	57.17	56.63	0.54	0.58	0.00	36.22	18536.91	391.87	1167.03
Judy Creek	Lower	Judy Creek	25.02*	57.76	57.22	0.54	0.60	0.00	28.05	18515.85	421.10	1210.32
Judy Creek	Lower	Judy Creek	25.48*	58.38	57.83	0.55	0.62	0.00	21.42	18541.72	401.87	1256.95
Judy Creek	Lower	Judy Creek	25.94*	59.01	58.45	0.56	0.64	0.00	18.19	18568.49	378.32	1313.46
Judy Creek	Lower	Judy Creek	26.4*	59.66	59.09	0.56	0.66	0.00	13.74	18594.39	356.87	1373.95
Judy Creek	Lower	Judy Creek	26.86*	60.32	59.76	0.56	0.67	0.00	10.18	18567.57	387.25	1438.32
Judy Creek	Lower	Judy Creek	27.32*	61.00	60.43	0.56	0.68	0.00	8.51	18586.63	369.86	1503.97
Judy Creek	Lower	Judy Creek	27.78*	61.69	61.12	0.57	0.70	0.00	6.15	18602.13	356.71	1571.91
Judy Creek	Lower	Judy Creek	28.24*	62.37	61.80	0.57	0.68	0.00	3.77	18642.33	318.90	1633.71
Judy Creek	Lower	Judy Creek	28.7*	63.00	62.41	0.59	0.63	0.00	1.44	18667.58	295.98	1634.59
Judy Creek	Lower	Judy Creek	29.16*	63.60	62.99	0.61	0.59	0.01	0.25	18732.56	232.19	1503.35
Judy Creek	Lower	Judy Creek	29.62*	64.18	63.54	0.64	0.56	0.01		18761.29	203.71	1457.04

Judy Creek	Lower Judy Creek	30.08*	64.75	64.09	0.66	0.57	0.01	18632.11	332.89	1887.36
Judy Creek	Lower Judy Creek	30.54*	65.35	64.72	0.63	0.59	0.00	18131.38	833.62	2404.97
Judy Creek	Lower Judy Creek	31.0	65.92	65.40	0.52	0.56	0.01	16896.03	2068.97	2557.54

Profile Output Table - User Defined Table #1

River	Reach	River Sta	W.S. Elev (ft)	Q Total (cfs)	Q Left (cfs)	Q Channel (cfs)	Q Total (cfs)	Vel Left (ft/s)	Vel Right (ft/s)	Vol Chan (acre-ft)
Fish Creek	Lower Fish Creek	0.7	5.90	57545.00	8665.98	48023.31	57545.00	0.58	0.29	
Fish Creek	Lower Fish Creek	1.54615*	6.21	49683.00	9310.81	39644.68	49683.00	0.56	0.27	7521.67
Fish Creek	Lower Fish Creek	2.39230*	6.57	49683.00	11126.45	37843.78	49683.00	0.62	0.28	13870.86
Fish Creek	Lower Fish Creek	3.23846*	7.02	49683.00	12784.81	36134.07	49683.00	0.65	0.30	19235.70
Fish Creek	Lower Fish Creek	4.08461*	7.61	49683.00	6253.01	42370.24	49683.00	0.52	0.37	23923.13
Fish Creek	Lower Fish Creek	4.93076*	8.26	49683.00	7564.69	40918.88	49683.00	0.52	0.35	28240.26
Fish Creek	Lower Fish Creek	5.77692*	8.81	49683.00	8227.17	40223.79	49683.00	0.49	0.32	32268.97
Fish Creek	Lower Fish Creek	6.62307*	9.32	49683.00	9502.06	38863.37	49683.00	0.51	0.31	35955.11
Fish Creek	Lower Fish Creek	7.46923*	9.83	49683.00	10905.60	37300.10	49683.00	0.53	0.31	39278.36
Fish Creek	Lower Fish Creek	8.31538*	10.34	49683.00	12617.40	35340.07	49683.00	0.56	0.33	42222.70
Fish Creek	Lower Fish Creek	9.16153*	10.88	49683.00	15432.85	32464.83	49683.00	0.61	0.32	44768.28
Fish Creek	Lower Fish Creek	10.0076*	11.45	49683.00	18454.48	29126.10	49683.00	0.66	0.32	46888.30
Fish Creek	Lower Fish Creek	10.8538*	12.06	49683.00	23360.58	24339.36	49683.00	0.74	0.39	48546.66
Fish Creek	Lower Fish Creek	11.7	12.69	49683.00	31778.60	15595.38	49683.00	0.90	0.42	49695.31
Fish Creek	Lower Fish Creek	12.6	13.06	49683.00	26996.71	20605.77	49683.00	0.74	0.36	50524.74
Fish Creek	Lower Fish Creek	13.4285*	13.62	48857.00	26947.47	19452.96	48857.00	0.81	0.44	51088.01
Fish Creek	Lower Fish Creek	14.2571*	14.24	48857.00	24320.87	20697.12	48857.00	0.82	0.45	51643.86
Fish Creek	Lower Fish Creek	15.0857*	14.91	48857.00	22554.86	21662.56	48857.00	0.84	0.51	52193.28
Fish Creek	Lower Fish Creek	15.9142*	15.62	48857.00	21399.18	22227.14	48857.00	0.86	0.55	52738.42
Fish Creek	Lower Fish Creek	16.7428*	16.32	48857.00	20227.22	22998.06	48857.00	0.86	0.58	53280.07
Fish Creek	Lower Fish Creek	17.5714*	17.03	48857.00	19348.76	23063.51	48857.00	0.87	0.66	53818.07
Fish Creek	Lower Fish Creek	18.4	17.70	48857.00	19185.04	23287.01	48857.00	0.92	0.65	54351.48
Fish Creek	Lower Fish Creek	19.2375*	18.31	47587.00	19027.49	24761.61	47587.00	0.97	0.61	54884.92
Fish Creek	Lower Fish Creek	20.075*	19.17	47587.00	11425.82	29478.84	47587.00	0.95	0.86	55416.35
Fish Creek	Lower Fish Creek	20.9125*	20.25	47587.00	9895.87	28945.74	47587.00	1.08	0.83	55956.03
Fish Creek	Lower Fish Creek	21.75*	21.08	47587.00	9528.99	27898.16	47587.00	0.94	0.80	56500.04
Fish Creek	Lower Fish Creek	22.5875*	21.85	47587.00	9988.50	24982.38	47587.00	0.89	0.86	57037.54
Fish Creek	Lower Fish Creek	23.425*	22.53	47587.00	8562.62	24706.46	47587.00	0.70	0.87	57561.65
Fish Creek	Lower Fish Creek	24.2625*	23.20	47587.00	8922.15	23573.10	47587.00	0.67	0.86	58066.66
Fish Creek	Lower Fish Creek	25.1	23.87	47587.00	10561.73	21355.06	47587.00	0.73	0.87	58548.17
Fish Creek	Lower Fish Creek	26.09	24.80	47531.00	9094.68	23191.93	47531.00	0.70	0.91	59047.15
Fish Creek	Upper Fish Creek	26.85	25.72	28339.00	6024.89	18451.93	28339.00	0.67	0.65	385.85
Fish Creek	Upper Fish Creek	27.6428*	26.61	28005.00	7084.44	17604.12	28005.00	0.76	0.68	791.13
Fish Creek	Upper Fish Creek	28.4357*	27.37	28005.00	8804.54	14397.22	28005.00	0.83	0.72	1199.61
Fish Creek	Upper Fish Creek	29.2285*	27.87	28005.00	9738.20	12129.69	28005.00	0.83	0.70	1604.57
Fish Creek	Upper Fish Creek	30.0214*	28.22	28005.00	10112.46	10739.72	28005.00	0.80	0.66	1999.41
Fish Creek	Upper Fish Creek	30.8142*	28.49	28005.00	10344.50	9307.99	28005.00	0.79	0.65	2380.48
Fish Creek	Upper Fish Creek	31.6071*	28.71	28005.00	10872.64	8045.38	28005.00	0.81	0.61	2745.52
Fish Creek	Upper Fish Creek	32.4	28.88	28005.00	10568.91	6957.77	28005.00	0.79	0.62	3093.02
Fish Creek	Upper Fish Creek	33.3083*	29.06	27578.00	9676.24	9231.54	27578.00	0.92	0.72	3465.93
Fish Creek	Upper Fish Creek	34.2166*	29.43	27578.00	8668.52	12001.85	27578.00	1.10	0.83	3834.57
Fish Creek	Upper Fish Creek	35.125*	30.10	27578.00	7283.59	14967.18	27578.00	1.20	0.92	4206.01
Fish Creek	Upper Fish Creek	36.0333*	31.09	27578.00	6071.69	17128.87	27578.00	1.22	1.00	4590.10
Fish Creek	Upper Fish Creek	36.9416*	32.25	27578.00	4988.33	18747.58	27578.00	1.18	1.04	4995.53
Fish Creek	Upper Fish Creek	37.85*	33.45	27578.00	3987.37	19839.67	27578.00	1.10	1.11	5426.81
Fish Creek	Upper Fish Creek	38.7583*	34.64	27578.00	3242.67	20439.58	27578.00	1.06	1.16	5885.52
Fish Creek	Upper Fish Creek	39.6666*	35.79	27578.00	2411.68	21286.00	27578.00	0.96	1.17	6371.98
Fish Creek	Upper Fish Creek	40.575*	36.89	27578.00	1684.02	21710.46	27578.00	0.86	1.28	6885.28
Fish Creek	Upper Fish Creek	41.4833*	37.91	27578.00	1049.07	22328.11	27578.00	0.73	1.33	7423.62
Fish Creek	Upper Fish Creek	42.3916*	38.87	27578.00	2248.33	21374.37	27578.00	0.67	1.29	7985.01
Fish Creek	Upper Fish Creek	43.3	39.63	27578.00	6012.15	18391.40	27578.00	1.01	1.12	8564.03
Judy Creek	Lower Judy Creek	0.38	25.59	24405.00	4679.70	11427.39	24405.00	0.72	0.61	331.04
Judy Creek	Lower Judy Creek	.981819*	25.88	23812.00	4048.15	13209.40	23812.00	0.68	0.64	504.41
Judy Creek	Lower Judy Creek	1.58363*	26.32	23812.00	3578.47	15419.95	23812.00	0.72	0.64	672.42

Judy Creek	Lower	Judy Creek	2.18545*	26.94	23812.00	3468.03	16304.49	23812.00	0.74	0.70	837.98
Judy Creek	Lower	Judy Creek	2.78727*	27.64	23812.00	3671.26	15234.83	23812.00	0.77	0.89	1003.32
Judy Creek	Lower	Judy Creek	3.38909*	28.22	23812.00	3484.33	15140.00	23812.00	0.72	0.94	1168.15
Judy Creek	Lower	Judy Creek	3.99090*	28.79	23812.00	3113.03	15384.11	23812.00	0.66	0.97	1331.39
Judy Creek	Lower	Judy Creek	4.59272*	29.36	23812.00	3093.51	15299.06	23812.00	0.69	0.99	1492.93
Judy Creek	Lower	Judy Creek	5.19454*	29.93	23812.00	2957.35	15211.68	23812.00	0.69	1.03	1652.76
Judy Creek	Lower	Judy Creek	5.79636*	30.54	23812.00	2972.49	14755.88	23812.00	0.69	1.10	1811.23
Judy Creek	Lower	Judy Creek	6.39818*	31.14	23812.00	3124.34	14757.58	23812.00	0.72	1.11	1968.57
Judy Creek	Lower	Judy Creek	7.0	31.99	23812.00	4651.68	10497.41	23812.00	0.91	1.47	2126.71
Judy Creek	Lower	Judy Creek	7.42500*	32.60	22112.00	3335.02	13623.80	22112.00	0.79	1.15	2285.20
Judy Creek	Lower	Judy Creek	7.85000*	33.33	22112.00	3231.70	15719.24	22112.00	0.87	1.02	2447.19
Judy Creek	Lower	Judy Creek	8.27500*	34.21	22112.00	3224.49	17038.32	22112.00	0.88	0.89	2614.46
Judy Creek	Lower	Judy Creek	8.70000*	35.09	22112.00	2975.46	17048.68	22112.00	0.82	1.22	2787.91
Judy Creek	Lower	Judy Creek	9.12500*	35.83	22112.00	2466.47	17939.19	22112.00	0.75	1.14	2966.15
Judy Creek	Lower	Judy Creek	9.55000*	36.42	22112.00	1613.19	19352.18	22112.00	0.61	0.94	3146.63
Judy Creek	Lower	Judy Creek	9.975*	36.99	22112.00	1468.77	19830.64	22112.00	0.71	0.84	3327.69
Judy Creek	Lower	Judy Creek	10.4*	37.58	22112.00	1239.28	20327.38	22112.00	0.75	0.74	3508.87
Judy Creek	Lower	Judy Creek	10.825*	38.19	22112.00	1080.60	20685.53	22112.00	0.77	0.63	3690.17
Judy Creek	Lower	Judy Creek	11.25*	38.82	22112.00	960.09	20952.44	22112.00	0.79	0.53	3871.54
Judy Creek	Lower	Judy Creek	11.675*	39.46	22112.00	863.71	21139.74	22112.00	0.80	0.45	4052.77
Judy Creek	Lower	Judy Creek	12.1*	40.15	22112.00	842.89	21207.28	22112.00	0.83	0.41	4233.88
Judy Creek	Lower	Judy Creek	12.525*	40.85	22112.00	840.55	21221.79	22112.00	0.87	0.44	4414.96
Judy Creek	Lower	Judy Creek	12.95*	41.56	22112.00	837.56	21208.76	22112.00	0.90	0.57	4595.77
Judy Creek	Lower	Judy Creek	13.375*	42.30	22112.00	893.39	21126.66	22112.00	0.98	0.64	4776.17
Judy Creek	Lower	Judy Creek	13.8	43.06	22112.00	925.92	21067.45	22112.00	1.02	0.69	4956.10
Judy Creek	Lower	Judy Creek	14.2705*	43.86	20581.00	817.41	19649.10	20581.00	0.89	0.61	5147.92
Judy Creek	Lower	Judy Creek	14.7411*	44.46	20581.00	592.41	19902.59	20581.00	0.72	0.48	5340.34
Judy Creek	Lower	Judy Creek	15.2117*	45.04	20581.00	507.42	19997.45	20581.00	0.69	0.45	5531.69
Judy Creek	Lower	Judy Creek	15.6823*	45.58	20581.00	424.76	20091.75	20581.00	0.66	0.42	5721.56
Judy Creek	Lower	Judy Creek	16.1529*	46.12	20581.00	321.21	20202.63	20581.00	0.58	0.40	5909.62
Judy Creek	Lower	Judy Creek	16.6235*	46.68	20581.00	287.71	20256.19	20581.00	0.61	0.22	6096.03
Judy Creek	Lower	Judy Creek	17.0941*	47.27	20581.00	270.19	20256.18	20581.00	0.66	0.26	6281.11
Judy Creek	Lower	Judy Creek	17.5647*	47.87	20581.00	226.03	20280.20	20581.00	0.59	0.30	6465.16
Judy Creek	Lower	Judy Creek	18.0352*	48.49	20581.00	217.93	20277.95	20581.00	0.59	0.30	6648.43
Judy Creek	Lower	Judy Creek	18.5058*	49.11	20581.00	187.41	20287.66	20581.00	0.53	0.34	6831.16
Judy Creek	Lower	Judy Creek	18.9764*	49.75	20581.00	183.11	20269.83	20581.00	0.53	0.38	7013.51
Judy Creek	Lower	Judy Creek	19.4470*	50.40	20581.00	179.87	20270.23	20581.00	0.54	0.37	7195.57
Judy Creek	Lower	Judy Creek	19.9176*	51.02	20581.00	124.80	20324.37	20581.00	0.39	0.35	7377.24
Judy Creek	Lower	Judy Creek	20.3882*	51.60	20581.00	114.76	20338.10	20581.00	0.37	0.30	7558.00
Judy Creek	Lower	Judy Creek	20.8588*	52.17	20581.00	130.00	20270.97	20581.00	0.44	0.32	7737.38
Judy Creek	Lower	Judy Creek	21.3294*	52.74	20581.00	113.87	20223.98	20581.00	0.41	0.38	7915.36
Judy Creek	Lower	Judy Creek	21.8	53.33	20581.00	109.92	20194.94	20581.00	0.41	0.47	8092.09
Judy Creek	Lower	Judy Creek	22.26*	53.99	18965.00	89.58	18518.13	18965.00	0.36	0.41	8266.63
Judy Creek	Lower	Judy Creek	22.72*	54.48	18965.00	81.62	18484.54	18965.00	0.38	0.38	8441.44
Judy Creek	Lower	Judy Creek	23.18*	54.99	18965.00	65.74	18445.96	18965.00	0.36	0.40	8615.03
Judy Creek	Lower	Judy Creek	23.64*	55.51	18965.00	52.44	18480.53	18965.00	0.34	0.37	8787.40
Judy Creek	Lower	Judy Creek	24.1*	56.05	18965.00	45.96	18529.72	18965.00	0.35	0.33	8958.61
Judy Creek	Lower	Judy Creek	24.56*	56.63	18965.00	36.22	18536.91	18965.00	0.33	0.34	9128.90
Judy Creek	Lower	Judy Creek	25.02*	57.22	18965.00	28.05	18515.85	18965.00	0.31	0.37	9298.46
Judy Creek	Lower	Judy Creek	25.48*	57.83	18965.00	21.42	18541.72	18965.00	0.28	0.36	9467.38
Judy Creek	Lower	Judy Creek	25.94*	58.45	18965.00	18.19	18568.49	18965.00	0.29	0.35	9635.71
Judy Creek	Lower	Judy Creek	26.4*	59.09	18965.00	13.74	18594.39	18965.00	0.27	0.34	9803.58
Judy Creek	Lower	Judy Creek	26.86*	59.76	18965.00	10.18	18567.57	18965.00	0.25	0.37	9971.21
Judy Creek	Lower	Judy Creek	27.32*	60.43	18965.00	8.51	18586.63	18965.00	0.26	0.36	10138.67
Judy Creek	Lower	Judy Creek	27.78*	61.12	18965.00	6.15	18602.13	18965.00	0.23	0.35	10306.01
Judy Creek	Lower	Judy Creek	28.24*	61.80	18965.00	3.77	18642.33	18965.00	0.19	0.33	10473.08
Judy Creek	Lower	Judy Creek	28.7*	62.41	18965.00	1.44	18667.58	18965.00	0.13	0.35	10639.03
Judy Creek	Lower	Judy Creek	29.16*	62.99	18965.00	0.25	18732.56	18965.00	0.09	0.35	10802.66
Judy Creek	Lower	Judy Creek	29.62*	63.54	18965.00		18761.29	18965.00		0.34	10963.15

Judy Creek	Lower Judy Creek	30.08*	64.09	18965.00	18632.11	18965.00	0.34	11120.08
Judy Creek	Lower Judy Creek	30.54*	64.72	18965.00	18131.38	18965.00	0.42	11273.98
Judy Creek	Lower Judy Creek	31.0	65.40	18965.00	16896.03	18965.00	0.62	11425.88

Profile Output Table - User Defined Table #2

River	Reach	River Sta	W.S. Elev (ft)	Flow Area L (sq ft)	Flow Area R (sq ft)	Flow Area Ch (sq ft)	Hydr Depth L (ft)	Hydr Depth R (ft)	Hydr Depth C (ft)
Fish Creek	Lower Fish Creek	0.7	5.90	14899.77	2904.84	79127.44	3.96	1.76	3.95
Fish Creek	Lower Fish Creek	1.54615*	6.21	16579.05	2700.29	67094.47	3.65	1.54	3.60
Fish Creek	Lower Fish Creek	2.39230*	6.57	17999.78	2509.49	56334.36	3.38	1.35	3.26
Fish Creek	Lower Fish Creek	3.23846*	7.02	19588.48	2512.33	47958.68	3.22	1.39	3.02
Fish Creek	Lower Fish Creek	4.08461*	7.61	11949.01	2869.10	43165.47	1.76	1.48	3.49
Fish Creek	Lower Fish Creek	4.93076*	8.26	14580.07	3403.85	40759.93	1.96	1.62	4.07
Fish Creek	Lower Fish Creek	5.77692*	8.81	16709.48	3811.00	37558.64	2.05	1.64	4.52
Fish Creek	Lower Fish Creek	6.62307*	9.32	18548.08	4239.81	34100.09	2.16	1.58	4.91
Fish Creek	Lower Fish Creek	7.46923*	9.83	20547.74	4736.30	30504.27	2.23	1.62	5.31
Fish Creek	Lower Fish Creek	8.31538*	10.34	22616.75	5302.27	26734.03	2.30	1.66	5.70
Fish Creek	Lower Fish Creek	9.16153*	10.88	25124.33	5577.12	22752.20	2.39	1.56	6.08
Fish Creek	Lower Fish Creek	10.0076*	11.45	27987.28	6483.67	18461.28	2.50	1.44	6.47
Fish Creek	Lower Fish Creek	10.8538*	12.06	31571.90	5091.43	13777.49	2.66	2.05	6.85
Fish Creek	Lower Fish Creek	11.7	12.69	35366.46	5551.54	8552.26	2.82	2.15	7.19
Fish Creek	Lower Fish Creek	12.6	13.06	36259.82	5734.56	5677.80	2.89	2.22	10.03
Fish Creek	Lower Fish Creek	13.4285*	13.62	33248.54	5605.56	5605.72	2.85	2.12	9.98
Fish Creek	Lower Fish Creek	14.2571*	14.24	29512.14	8488.14	5529.20	2.76	2.10	9.92
Fish Creek	Lower Fish Creek	15.0857*	14.91	26820.15	9039.79	5476.88	2.80	2.32	9.87
Fish Creek	Lower Fish Creek	15.9142*	15.62	25007.03	9523.26	5443.40	2.90	2.42	9.85
Fish Creek	Lower Fish Creek	16.7428*	16.32	23568.41	9673.42	5407.08	3.20	2.40	9.81
Fish Creek	Lower Fish Creek	17.5714*	17.03	22323.56	9756.64	5370.22	3.39	2.34	9.77
Fish Creek	Lower Fish Creek	18.4	17.70	20843.33	9876.35	5315.16	3.60	2.23	9.69
Fish Creek	Lower Fish Creek	19.2375*	18.31	19537.46	6233.29	5231.67	3.49	1.66	10.15
Fish Creek	Lower Fish Creek	20.075*	19.17	12020.92	7758.47	5275.34	2.50	2.47	10.72
Fish Creek	Lower Fish Creek	20.9125*	20.25	9203.21	10575.36	5394.96	3.63	3.10	11.38
Fish Creek	Lower Fish Creek	21.75*	21.08	10121.33	12709.97	5360.79	3.52	3.64	11.73
Fish Creek	Lower Fish Creek	22.5875*	21.85	11214.61	14700.63	5266.37	2.99	4.16	11.94
Fish Creek	Lower Fish Creek	23.425*	22.53	12168.12	16372.54	5095.89	2.84	4.57	11.95
Fish Creek	Lower Fish Creek	24.2625*	23.20	13298.63	17515.56	4888.76	2.96	4.82	11.84
Fish Creek	Lower Fish Creek	25.1	23.87	14463.35	17949.90	4631.35	3.11	4.87	11.57
Fish Creek	Lower Fish Creek	26.09	24.80	12970.07	16763.79	4483.98	2.81	4.55	11.32
Fish Creek	Upper Fish Creek	26.85	25.72	9018.30	5921.98	4102.39	2.33	2.47	12.15
Fish Creek	Upper Fish Creek	27.6428*	26.61	9274.68	4867.86	4160.22	2.80	1.83	12.62
Fish Creek	Upper Fish Creek	28.4357*	27.37	10565.63	6675.79	4167.92	3.83	3.59	12.89
Fish Creek	Upper Fish Creek	29.2285*	27.87	11766.52	8824.40	4088.28	4.53	3.98	12.93
Fish Creek	Upper Fish Creek	30.0214*	28.22	12606.21	10894.01	3961.70	4.97	4.22	12.91
Fish Creek	Upper Fish Creek	30.8142*	28.49	13174.13	12907.48	3807.42	5.33	4.42	12.90
Fish Creek	Upper Fish Creek	31.6071*	28.71	13486.75	14885.86	3634.93	5.59	4.59	12.82
Fish Creek	Upper Fish Creek	32.4	28.88	13429.33	16771.81	3449.87	5.69	4.70	12.69
Fish Creek	Upper Fish Creek	33.3083*	29.06	10475.29	12125.94	3388.12	4.75	3.51	12.01
Fish Creek	Upper Fish Creek	34.2166*	29.43	7879.59	8334.37	3371.68	3.85	2.59	11.53
Fish Creek	Upper Fish Creek	35.125*	30.10	6061.99	5779.07	3439.28	3.20	1.99	11.36
Fish Creek	Upper Fish Creek	36.0333*	31.09	4960.97	4388.87	3603.80	2.83	1.71	11.52
Fish Creek	Upper Fish Creek	36.9416*	32.25	4243.12	3683.50	3830.42	2.62	1.79	11.85
Fish Creek	Upper Fish Creek	37.85*	33.45	3639.79	3380.04	4078.02	2.46	2.37	12.23
Fish Creek	Upper Fish Creek	38.7583*	34.64	3071.84	3350.94	4333.34	2.28	2.93	12.61
Fish Creek	Upper Fish Creek	39.6666*	35.79	2517.41	3328.01	4586.78	2.08	2.80	12.96
Fish Creek	Upper Fish Creek	40.575*	36.89	1957.32	3256.75	4825.45	1.82	3.04	13.25
Fish Creek	Upper Fish Creek	41.4833*	37.91	1444.69	3168.57	5046.08	1.37	3.40	13.47
Fish Creek	Upper Fish Creek	42.3916*	38.87	3380.33	3063.96	5248.12	1.41	3.65	13.64
Fish Creek	Upper Fish Creek	43.3	39.63	5973.17	2828.20	5369.30	3.26	4.03	13.59
Judy Creek	Lower Judy Creek	0.38	25.59	6505.11	13528.45	3323.44	3.01	3.51	9.91
Judy Creek	Lower Judy Creek	.981819*	25.88	5927.76	10231.72	3197.49	2.06	2.65	9.67
Judy Creek	Lower Judy Creek	1.58363*	26.32	4974.23	7464.33	3121.85	1.68	1.93	9.55

Judy Creek	Lower	Judy Creek	2.18545*	26.94	4663.91	5809.73	3105.38	1.62	1.88	9.60
Judy Creek	Lower	Judy Creek	2.78727*	27.64	4797.35	5524.39	3113.75	1.80	2.90	9.72
Judy Creek	Lower	Judy Creek	3.38909*	28.22	4810.65	5490.53	3086.10	1.75	3.01	9.74
Judy Creek	Lower	Judy Creek	3.99090*	28.79	4694.89	5472.22	3054.19	1.57	3.05	9.75
Judy Creek	Lower	Judy Creek	4.59272*	29.36	4489.26	5471.94	3021.75	1.45	3.03	9.75
Judy Creek	Lower	Judy Creek	5.19454*	29.93	4301.05	5478.36	2990.14	1.51	3.01	9.76
Judy Creek	Lower	Judy Creek	5.79636*	30.54	4336.82	5551.97	2970.50	1.58	3.02	9.80
Judy Creek	Lower	Judy Creek	6.39818*	31.14	4348.32	5329.71	2947.61	1.55	2.87	9.84
Judy Creek	Lower	Judy Creek	7.0	31.99	5108.71	5893.82	3000.61	1.70	3.13	10.10
Judy Creek	Lower	Judy Creek	7.42500*	32.60	4209.29	4478.90	3053.51	1.53	2.45	10.30
Judy Creek	Lower	Judy Creek	7.85000*	33.33	3725.15	3108.57	3134.28	1.44	1.76	10.57
Judy Creek	Lower	Judy Creek	8.27500*	34.21	3680.04	2078.76	3255.35	1.47	1.27	10.96
Judy Creek	Lower	Judy Creek	8.70000*	35.09	3643.83	1716.73	3370.32	1.49	2.54	11.31
Judy Creek	Lower	Judy Creek	9.12500*	35.83	3284.11	1496.64	3438.02	1.41	2.42	11.53
Judy Creek	Lower	Judy Creek	9.55000*	36.42	2642.61	1223.05	3456.11	1.23	2.18	11.67
Judy Creek	Lower	Judy Creek	9.975*	36.99	2065.97	969.70	3460.23	1.11	1.85	11.78
Judy Creek	Lower	Judy Creek	10.4*	37.58	1658.70	741.51	3460.90	1.18	1.48	11.88
Judy Creek	Lower	Judy Creek	10.825*	38.19	1404.78	547.07	3464.31	1.18	1.17	12.00
Judy Creek	Lower	Judy Creek	11.25*	38.82	1216.34	378.99	3464.03	1.24	0.91	12.11
Judy Creek	Lower	Judy Creek	11.675*	39.46	1084.22	241.06	3458.89	1.36	0.66	12.20
Judy Creek	Lower	Judy Creek	12.1*	40.15	1011.35	151.12	3459.06	1.46	0.48	12.31
Judy Creek	Lower	Judy Creek	12.525*	40.85	965.52	113.25	3458.00	1.53	0.60	12.41
Judy Creek	Lower	Judy Creek	12.95*	41.56	927.52	116.17	3448.98	1.64	1.08	12.49
Judy Creek	Lower	Judy Creek	13.375*	42.30	915.36	143.00	3441.87	1.72	1.28	12.58
Judy Creek	Lower	Judy Creek	13.8	43.06	911.60	171.32	3431.58	1.80	1.43	12.66
Judy Creek	Lower	Judy Creek	14.2705*	43.86	921.65	187.59	3471.13	1.71	1.44	12.75
Judy Creek	Lower	Judy Creek	14.7411*	44.46	826.37	177.93	3453.61	1.78	1.37	12.63
Judy Creek	Lower	Judy Creek	15.2117*	45.04	739.24	168.02	3432.41	1.89	1.30	12.50
Judy Creek	Lower	Judy Creek	15.6823*	45.58	644.46	153.03	3400.31	1.69	1.21	12.33
Judy Creek	Lower	Judy Creek	16.1529*	46.12	553.62	143.25	3367.66	1.49	0.66	12.16
Judy Creek	Lower	Judy Creek	16.6235*	46.68	473.60	171.72	3340.63	1.31	0.52	12.01
Judy Creek	Lower	Judy Creek	17.0941*	47.27	411.64	209.98	3319.73	1.58	0.68	11.88
Judy Creek	Lower	Judy Creek	17.5647*	47.87	384.80	245.74	3303.55	2.01	0.84	11.78
Judy Creek	Lower	Judy Creek	18.0352*	48.49	366.35	279.40	3291.97	2.05	1.02	11.68
Judy Creek	Lower	Judy Creek	18.5058*	49.11	352.45	309.38	3283.79	2.08	1.20	11.61
Judy Creek	Lower	Judy Creek	18.9764*	49.75	342.37	337.27	3278.56	2.09	1.39	11.54
Judy Creek	Lower	Judy Creek	19.4470*	50.40	333.03	356.52	3273.32	2.09	1.57	11.47
Judy Creek	Lower	Judy Creek	19.9176*	51.02	323.38	373.54	3264.37	2.10	1.57	11.39
Judy Creek	Lower	Judy Creek	20.3882*	51.60	306.82	421.13	3240.58	2.12	1.33	11.26
Judy Creek	Lower	Judy Creek	20.8588*	52.17	293.06	557.02	3214.54	2.69	1.43	11.13
Judy Creek	Lower	Judy Creek	21.3294*	52.74	280.90	634.31	3190.48	2.66	2.12	11.00
Judy Creek	Lower	Judy Creek	21.8	53.33	270.29	582.24	3169.48	2.62	2.82	10.88
Judy Creek	Lower	Judy Creek	22.26*	53.99	250.89	871.40	3202.26	2.49	2.66	10.84
Judy Creek	Lower	Judy Creek	22.72*	54.48	215.95	1043.62	3179.37	2.29	2.33	10.62
Judy Creek	Lower	Judy Creek	23.18*	54.99	184.18	1144.13	3157.49	2.05	2.01	10.40
Judy Creek	Lower	Judy Creek	23.64*	55.51	155.71	1180.09	3134.81	1.81	1.74	10.19
Judy Creek	Lower	Judy Creek	24.1*	56.05	130.71	1164.96	3115.34	1.60	1.48	10.00
Judy Creek	Lower	Judy Creek	24.56*	56.63	110.03	1142.78	3101.09	1.41	1.48	9.82
Judy Creek	Lower	Judy Creek	25.02*	57.22	91.74	1125.38	3088.82	1.24	1.38	9.66
Judy Creek	Lower	Judy Creek	25.48*	57.83	75.69	1106.12	3077.61	1.08	1.28	9.50
Judy Creek	Lower	Judy Creek	25.94*	58.45	62.00	1081.10	3067.37	0.93	1.18	9.35
Judy Creek	Lower	Judy Creek	26.4*	59.09	50.89	1058.01	3061.02	0.81	1.08	9.22
Judy Creek	Lower	Judy Creek	26.86*	59.76	41.37	1040.46	3058.16	0.69	1.00	9.10
Judy Creek	Lower	Judy Creek	27.32*	60.43	33.28	1021.83	3055.27	0.59	0.92	8.98
Judy Creek	Lower	Judy Creek	27.78*	61.12	26.59	1006.22	3053.50	0.50	0.86	8.87
Judy Creek	Lower	Judy Creek	28.24*	61.80	19.80	968.27	3045.35	0.40	0.78	8.74
Judy Creek	Lower	Judy Creek	28.7*	62.41	10.93	840.26	3012.71	0.24	0.68	8.55
Judy Creek	Lower	Judy Creek	29.16*	62.99	2.77	654.95	2960.67	0.11	0.58	8.30
Judy Creek	Lower	Judy Creek	29.62*	63.54		596.07	2898.21		0.54	8.04

Judy Creek	Lower Judy Creek	30.08*	64.09	973.85	2830.56	0.64	7.78
Judy Creek	Lower Judy Creek	30.54*	64.72	1988.51	2787.35	0.98	7.58
Judy Creek	Lower Judy Creek	31.0	65.40	3351.64	2757.88	1.53	7.42

Profile Output Table - User Defined Table #3

River	Reach	River Sta	W.S. Elev (ft)	Mann Wtd Chnl	Mann Wtd Left	Mann Wtd Right
Fish Creek	Lower Fish Creek	0.7	5.90	0.053	0.055	0.065
Fish Creek	Lower Fish Creek	1.54615*	6.21	0.053	0.055	0.067
Fish Creek	Lower Fish Creek	2.39230*	6.57	0.052	0.055	0.069
Fish Creek	Lower Fish Creek	3.23846*	7.02	0.050	0.055	0.072
Fish Creek	Lower Fish Creek	4.08461*	7.61	0.051	0.054	0.074
Fish Creek	Lower Fish Creek	4.93076*	8.26	0.050	0.054	0.076
Fish Creek	Lower Fish Creek	5.77692*	8.81	0.048	0.054	0.078
Fish Creek	Lower Fish Creek	6.62307*	9.32	0.048	0.054	0.081
Fish Creek	Lower Fish Creek	7.46923*	9.83	0.048	0.054	0.083
Fish Creek	Lower Fish Creek	8.31538*	10.34	0.048	0.054	0.085
Fish Creek	Lower Fish Creek	9.16153*	10.88	0.047	0.053	0.087
Fish Creek	Lower Fish Creek	10.0076*	11.45	0.048	0.053	0.090
Fish Creek	Lower Fish Creek	10.8538*	12.06	0.048	0.053	0.092
Fish Creek	Lower Fish Creek	11.7	12.69	0.048	0.046	0.092
Fish Creek	Lower Fish Creek	12.6	13.06	0.022	0.047	0.089
Fish Creek	Lower Fish Creek	13.4285*	13.62	0.026	0.048	0.082
Fish Creek	Lower Fish Creek	14.2571*	14.24	0.025	0.049	0.078
Fish Creek	Lower Fish Creek	15.0857*	14.91	0.024	0.051	0.073
Fish Creek	Lower Fish Creek	15.9142*	15.62	0.023	0.052	0.069
Fish Creek	Lower Fish Creek	16.7428*	16.32	0.022	0.053	0.064
Fish Creek	Lower Fish Creek	17.5714*	17.03	0.022	0.054	0.055
Fish Creek	Lower Fish Creek	18.4	17.70	0.020	0.050	0.054
Fish Creek	Lower Fish Creek	19.2375*	18.31	0.021	0.052	0.057
Fish Creek	Lower Fish Creek	20.075*	19.17	0.024	0.054	0.059
Fish Creek	Lower Fish Creek	20.9125*	20.25	0.022	0.056	0.061
Fish Creek	Lower Fish Creek	21.75*	21.08	0.021	0.058	0.063
Fish Creek	Lower Fish Creek	22.5875*	21.85	0.023	0.060	0.064
Fish Creek	Lower Fish Creek	23.425*	22.53	0.022	0.062	0.066
Fish Creek	Lower Fish Creek	24.2625*	23.20	0.022	0.064	0.068
Fish Creek	Lower Fish Creek	25.1	23.87	0.023	0.065	0.070
Fish Creek	Lower Fish Creek	26.09	24.80	0.021	0.063	0.067
Fish Creek	Upper Fish Creek	26.85	25.72	0.027	0.061	0.065
Fish Creek	Upper Fish Creek	27.6428*	26.61	0.029	0.059	0.063
Fish Creek	Upper Fish Creek	28.4357*	27.37	0.029	0.056	0.061
Fish Creek	Upper Fish Creek	29.2285*	27.87	0.030	0.054	0.059
Fish Creek	Upper Fish Creek	30.0214*	28.22	0.029	0.052	0.057
Fish Creek	Upper Fish Creek	30.8142*	28.49	0.029	0.050	0.054
Fish Creek	Upper Fish Creek	31.6071*	28.71	0.029	0.047	0.055
Fish Creek	Upper Fish Creek	32.4	28.88	0.029	0.045	0.050
Fish Creek	Upper Fish Creek	33.3083*	29.06	0.028	0.045	0.049
Fish Creek	Upper Fish Creek	34.2166*	29.43	0.028	0.044	0.048
Fish Creek	Upper Fish Creek	35.125*	30.10	0.028	0.044	0.048
Fish Creek	Upper Fish Creek	36.0333*	31.09	0.028	0.043	0.047
Fish Creek	Upper Fish Creek	36.9416*	32.25	0.028	0.043	0.046
Fish Creek	Upper Fish Creek	37.85*	33.45	0.028	0.043	0.046
Fish Creek	Upper Fish Creek	38.7583*	34.64	0.029	0.042	0.045
Fish Creek	Upper Fish Creek	39.6666*	35.79	0.029	0.042	0.044
Fish Creek	Upper Fish Creek	40.575*	36.89	0.029	0.041	0.043
Fish Creek	Upper Fish Creek	41.4833*	37.91	0.029	0.041	0.043
Fish Creek	Upper Fish Creek	42.3916*	38.87	0.029	0.040	0.042
Fish Creek	Upper Fish Creek	43.3	39.63	0.029	0.040	0.041
Judy Creek	Lower Judy Creek	0.38	25.59	0.023	0.050	0.065
Judy Creek	Lower Judy Creek	.981819*	25.88	0.023	0.050	0.063
Judy Creek	Lower Judy Creek	1.58363*	26.32	0.023	0.050	0.061

Judy Creek	Lower	Judy Creek	2.18545*	26.94	0.023	0.050	0.059
Judy Creek	Lower	Judy Creek	2.78727*	27.64	0.023	0.050	0.057
Judy Creek	Lower	Judy Creek	3.38909*	28.22	0.023	0.050	0.055
Judy Creek	Lower	Judy Creek	3.99090*	28.79	0.022	0.050	0.053
Judy Creek	Lower	Judy Creek	4.59272*	29.36	0.022	0.050	0.052
Judy Creek	Lower	Judy Creek	5.19454*	29.93	0.022	0.050	0.050
Judy Creek	Lower	Judy Creek	5.79636*	30.54	0.023	0.050	0.048
Judy Creek	Lower	Judy Creek	6.39818*	31.14	0.023	0.050	0.046
Judy Creek	Lower	Judy Creek	7.0	31.99	0.039	0.050	0.044
Judy Creek	Lower	Judy Creek	7.42500*	32.60	0.029	0.050	0.044
Judy Creek	Lower	Judy Creek	7.85000*	33.33	0.030	0.050	0.045
Judy Creek	Lower	Judy Creek	8.27500*	34.21	0.029	0.050	0.045
Judy Creek	Lower	Judy Creek	8.70000*	35.09	0.029	0.050	0.046
Judy Creek	Lower	Judy Creek	9.12500*	35.83	0.027	0.050	0.046
Judy Creek	Lower	Judy Creek	9.55000*	36.42	0.022	0.050	0.046
Judy Creek	Lower	Judy Creek	9.975*	36.99	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	10.4*	37.58	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	10.825*	38.19	0.022	0.050	0.047
Judy Creek	Lower	Judy Creek	11.25*	38.82	0.022	0.050	0.048
Judy Creek	Lower	Judy Creek	11.675*	39.46	0.022	0.050	0.048
Judy Creek	Lower	Judy Creek	12.1*	40.15	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	12.525*	40.85	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	12.95*	41.56	0.023	0.050	0.049
Judy Creek	Lower	Judy Creek	13.375*	42.30	0.024	0.050	0.050
Judy Creek	Lower	Judy Creek	13.8	43.06	0.024	0.050	0.050
Judy Creek	Lower	Judy Creek	14.2705*	43.86	0.023	0.050	0.050
Judy Creek	Lower	Judy Creek	14.7411*	44.46	0.022	0.060	0.060
Judy Creek	Lower	Judy Creek	15.2117*	45.04	0.021	0.060	0.060
Judy Creek	Lower	Judy Creek	15.6823*	45.58	0.020	0.060	0.060
Judy Creek	Lower	Judy Creek	16.1529*	46.12	0.020	0.070	0.060
Judy Creek	Lower	Judy Creek	16.6235*	46.68	0.020	0.070	0.070
Judy Creek	Lower	Judy Creek	17.0941*	47.27	0.020	0.070	0.070
Judy Creek	Lower	Judy Creek	17.5647*	47.87	0.020	0.080	0.070
Judy Creek	Lower	Judy Creek	18.0352*	48.49	0.020	0.080	0.080
Judy Creek	Lower	Judy Creek	18.5058*	49.11	0.020	0.090	0.080
Judy Creek	Lower	Judy Creek	18.9764*	49.75	0.020	0.090	0.080
Judy Creek	Lower	Judy Creek	19.4470*	50.40	0.020	0.090	0.090
Judy Creek	Lower	Judy Creek	19.9176*	51.02	0.019	0.100	0.090
Judy Creek	Lower	Judy Creek	20.3882*	51.60	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	20.8588*	52.17	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	21.3294*	52.74	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	21.8	53.33	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	22.26*	53.99	0.018	0.110	0.100
Judy Creek	Lower	Judy Creek	22.72*	54.48	0.018	0.100	0.100
Judy Creek	Lower	Judy Creek	23.18*	54.99	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	23.64*	55.51	0.018	0.100	0.090
Judy Creek	Lower	Judy Creek	24.1*	56.05	0.018	0.090	0.090
Judy Creek	Lower	Judy Creek	24.56*	56.63	0.018	0.090	0.090
Judy Creek	Lower	Judy Creek	25.02*	57.22	0.018	0.090	0.080
Judy Creek	Lower	Judy Creek	25.48*	57.83	0.018	0.090	0.080
Judy Creek	Lower	Judy Creek	25.94*	58.45	0.018	0.080	0.080
Judy Creek	Lower	Judy Creek	26.4*	59.09	0.018	0.080	0.080
Judy Creek	Lower	Judy Creek	26.86*	59.76	0.018	0.080	0.070
Judy Creek	Lower	Judy Creek	27.32*	60.43	0.018	0.070	0.070
Judy Creek	Lower	Judy Creek	27.78*	61.12	0.018	0.070	0.070
Judy Creek	Lower	Judy Creek	28.24*	61.80	0.017	0.070	0.070
Judy Creek	Lower	Judy Creek	28.7*	62.41	0.016	0.070	0.060
Judy Creek	Lower	Judy Creek	29.16*	62.99	0.015	0.060	0.060
Judy Creek	Lower	Judy Creek	29.62*	63.54	0.014	0.060	0.060

Judy Creek	Lower Judy Creek	30.08*	64.09	0.014	0.060
Judy Creek	Lower Judy Creek	30.54*	64.72	0.014	0.060
Judy Creek	Lower Judy Creek	31.0	65.40	0.014	0.052

Profile Output Table - User Defined Table #4

River	Reach	River Sta	W.S. Elev (ft)	Shear Chan (lb/sq ft)	Shear LOB (lb/sq ft)	Shear ROB (lb/sq ft)	Power Chan (lb/ft s)	Power LOB (lb/ft s)	Power ROB (lb/ft s)
Fish Creek	Lower Fish Creek	0.7	5.90	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower Fish Creek	1.54615*	6.21	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower Fish Creek	2.39230*	6.57	0.02	0.02	0.01	0.01	0.01	0.00
Fish Creek	Lower Fish Creek	3.23846*	7.02	0.02	0.02	0.01	0.02	0.02	0.00
Fish Creek	Lower Fish Creek	4.08461*	7.61	0.04	0.02	0.02	0.04	0.01	0.01
Fish Creek	Lower Fish Creek	4.93076*	8.26	0.04	0.02	0.01	0.04	0.01	0.01
Fish Creek	Lower Fish Creek	5.77692*	8.81	0.03	0.02	0.01	0.04	0.01	0.00
Fish Creek	Lower Fish Creek	6.62307*	9.32	0.04	0.02	0.01	0.04	0.01	0.00
Fish Creek	Lower Fish Creek	7.46923*	9.83	0.04	0.02	0.01	0.05	0.01	0.00
Fish Creek	Lower Fish Creek	8.31538*	10.34	0.05	0.02	0.01	0.06	0.01	0.00
Fish Creek	Lower Fish Creek	9.16153*	10.88	0.06	0.02	0.01	0.08	0.01	0.00
Fish Creek	Lower Fish Creek	10.0076*	11.45	0.06	0.03	0.01	0.10	0.02	0.00
Fish Creek	Lower Fish Creek	10.8538*	12.06	0.08	0.03	0.02	0.14	0.02	0.01
Fish Creek	Lower Fish Creek	11.7	12.69	0.08	0.03	0.03	0.15	0.03	0.01
Fish Creek	Lower Fish Creek	12.6	13.06	0.08	0.02	0.02	0.30	0.02	0.01
Fish Creek	Lower Fish Creek	13.4285*	13.62	0.10	0.03	0.02	0.36	0.02	0.01
Fish Creek	Lower Fish Creek	14.2571*	14.24	0.11	0.03	0.02	0.42	0.03	0.01
Fish Creek	Lower Fish Creek	15.0857*	14.91	0.12	0.03	0.03	0.47	0.03	0.01
Fish Creek	Lower Fish Creek	15.9142*	15.62	0.12	0.04	0.03	0.49	0.03	0.02
Fish Creek	Lower Fish Creek	16.7428*	16.32	0.12	0.04	0.03	0.49	0.03	0.02
Fish Creek	Lower Fish Creek	17.5714*	17.03	0.11	0.04	0.03	0.49	0.03	0.02
Fish Creek	Lower Fish Creek	18.4	17.70	0.10	0.04	0.02	0.46	0.04	0.02
Fish Creek	Lower Fish Creek	19.2375*	18.31	0.13	0.05	0.02	0.64	0.05	0.01
Fish Creek	Lower Fish Creek	20.075*	19.17	0.22	0.05	0.05	1.26	0.05	0.05
Fish Creek	Lower Fish Creek	20.9125*	20.25	0.18	0.06	0.05	0.96	0.06	0.04
Fish Creek	Lower Fish Creek	21.75*	21.08	0.15	0.04	0.05	0.78	0.04	0.04
Fish Creek	Lower Fish Creek	22.5875*	21.85	0.15	0.04	0.05	0.72	0.03	0.05
Fish Creek	Lower Fish Creek	23.425*	22.53	0.15	0.04	0.06	0.72	0.02	0.05
Fish Creek	Lower Fish Creek	24.2625*	23.20	0.14	0.04	0.06	0.68	0.02	0.05
Fish Creek	Lower Fish Creek	25.1	23.87	0.15	0.04	0.06	0.68	0.03	0.05
Fish Creek	Lower Fish Creek	26.09	24.80	0.16	0.04	0.06	0.81	0.03	0.06
Fish Creek	Upper Fish Creek	26.85	25.72	0.18	0.04	0.04	0.82	0.02	0.02
Fish Creek	Upper Fish Creek	27.6428*	26.61	0.18	0.04	0.03	0.77	0.03	0.02
Fish Creek	Upper Fish Creek	28.4357*	27.37	0.13	0.04	0.04	0.43	0.03	0.03
Fish Creek	Upper Fish Creek	29.2285*	27.87	0.10	0.03	0.03	0.29	0.03	0.02
Fish Creek	Upper Fish Creek	30.0214*	28.22	0.07	0.03	0.02	0.20	0.02	0.02
Fish Creek	Upper Fish Creek	30.8142*	28.49	0.06	0.02	0.02	0.15	0.02	0.01
Fish Creek	Upper Fish Creek	31.6071*	28.71	0.05	0.02	0.02	0.11	0.02	0.01
Fish Creek	Upper Fish Creek	32.4	28.88	0.04	0.02	0.02	0.09	0.02	0.01
Fish Creek	Upper Fish Creek	33.3083*	29.06	0.07	0.03	0.02	0.20	0.03	0.02
Fish Creek	Upper Fish Creek	34.2166*	29.43	0.12	0.04	0.03	0.44	0.05	0.02
Fish Creek	Upper Fish Creek	35.125*	30.10	0.19	0.05	0.03	0.82	0.06	0.03
Fish Creek	Upper Fish Creek	36.0333*	31.09	0.22	0.06	0.03	1.06	0.07	0.03
Fish Creek	Upper Fish Creek	36.9416*	32.25	0.23	0.05	0.04	1.14	0.06	0.04
Fish Creek	Upper Fish Creek	37.85*	33.45	0.23	0.05	0.04	1.11	0.05	0.05
Fish Creek	Upper Fish Creek	38.7583*	34.64	0.23	0.04	0.05	1.09	0.04	0.06
Fish Creek	Upper Fish Creek	39.6666*	35.79	0.22	0.04	0.05	1.03	0.03	0.06
Fish Creek	Upper Fish Creek	40.575*	36.89	0.21	0.03	0.05	0.93	0.02	0.06
Fish Creek	Upper Fish Creek	41.4833*	37.91	0.20	0.02	0.05	0.88	0.01	0.07
Fish Creek	Upper Fish Creek	42.3916*	38.87	0.17	0.02	0.05	0.69	0.01	0.06
Fish Creek	Upper Fish Creek	43.3	39.63	0.12	0.03	0.04	0.41	0.03	0.04
Judy Creek	Lower Judy Creek	0.38	25.59	0.08	0.03	0.03	0.28	0.02	0.02
Judy Creek	Lower Judy Creek	.981819*	25.88	0.12	0.03	0.03	0.50	0.02	0.02
Judy Creek	Lower Judy Creek	1.58363*	26.32	0.17	0.03	0.04	0.85	0.02	0.02

Judy Creek	Lower	Judy Creek	2.18545*	26.94	0.19	0.03	0.04	1.02	0.02	0.03
Judy Creek	Lower	Judy Creek	2.78727*	27.64	0.17	0.03	0.05	0.82	0.02	0.05
Judy Creek	Lower	Judy Creek	3.38909*	28.22	0.17	0.03	0.05	0.83	0.02	0.05
Judy Creek	Lower	Judy Creek	3.99090*	28.79	0.16	0.03	0.05	0.82	0.02	0.05
Judy Creek	Lower	Judy Creek	4.59272*	29.36	0.16	0.02	0.05	0.83	0.02	0.05
Judy Creek	Lower	Judy Creek	5.19454*	29.93	0.17	0.03	0.05	0.85	0.02	0.05
Judy Creek	Lower	Judy Creek	5.79636*	30.54	0.17	0.03	0.05	0.86	0.02	0.06
Judy Creek	Lower	Judy Creek	6.39818*	31.14	0.18	0.03	0.05	0.88	0.02	0.06
Judy Creek	Lower	Judy Creek	7.0	31.99	0.24	0.04	0.08	0.85	0.04	0.11
Judy Creek	Lower	Judy Creek	7.42500*	32.60	0.22	0.03	0.05	0.99	0.03	0.06
Judy Creek	Lower	Judy Creek	7.85000*	33.33	0.29	0.04	0.05	1.46	0.03	0.05
Judy Creek	Lower	Judy Creek	8.27500*	34.21	0.30	0.04	0.04	1.59	0.04	0.03
Judy Creek	Lower	Judy Creek	8.70000*	35.09	0.27	0.04	0.06	1.36	0.03	0.07
Judy Creek	Lower	Judy Creek	9.12500*	35.83	0.25	0.03	0.05	1.28	0.02	0.06
Judy Creek	Lower	Judy Creek	9.55000*	36.42	0.19	0.02	0.04	1.07	0.01	0.03
Judy Creek	Lower	Judy Creek	9.975*	36.99	0.20	0.02	0.03	1.14	0.01	0.03
Judy Creek	Lower	Judy Creek	10.4*	37.58	0.21	0.02	0.03	1.23	0.02	0.02
Judy Creek	Lower	Judy Creek	10.825*	38.19	0.21	0.02	0.02	1.28	0.02	0.01
Judy Creek	Lower	Judy Creek	11.25*	38.82	0.22	0.02	0.02	1.33	0.02	0.01
Judy Creek	Lower	Judy Creek	11.675*	39.46	0.22	0.02	0.01	1.35	0.02	0.01
Judy Creek	Lower	Judy Creek	12.1*	40.15	0.24	0.03	0.01	1.49	0.02	0.00
Judy Creek	Lower	Judy Creek	12.525*	40.85	0.24	0.03	0.01	1.50	0.03	0.01
Judy Creek	Lower	Judy Creek	12.95*	41.56	0.24	0.03	0.02	1.50	0.03	0.01
Judy Creek	Lower	Judy Creek	13.375*	42.30	0.26	0.04	0.03	1.62	0.04	0.02
Judy Creek	Lower	Judy Creek	13.8	43.06	0.26	0.04	0.03	1.62	0.04	0.02
Judy Creek	Lower	Judy Creek	14.2705*	43.86	0.21	0.03	0.02	1.17	0.02	0.01
Judy Creek	Lower	Judy Creek	14.7411*	44.46	0.20	0.03	0.02	1.13	0.02	0.01
Judy Creek	Lower	Judy Creek	15.2117*	45.04	0.18	0.03	0.02	1.07	0.02	0.01
Judy Creek	Lower	Judy Creek	15.6823*	45.58	0.17	0.02	0.02	1.01	0.02	0.01
Judy Creek	Lower	Judy Creek	16.1529*	46.12	0.18	0.02	0.01	1.07	0.01	0.00
Judy Creek	Lower	Judy Creek	16.6235*	46.68	0.18	0.02	0.01	1.10	0.01	0.00
Judy Creek	Lower	Judy Creek	17.0941*	47.27	0.19	0.02	0.01	1.13	0.02	0.00
Judy Creek	Lower	Judy Creek	17.5647*	47.87	0.19	0.03	0.01	1.15	0.02	0.00
Judy Creek	Lower	Judy Creek	18.0352*	48.49	0.19	0.03	0.02	1.17	0.02	0.01
Judy Creek	Lower	Judy Creek	18.5058*	49.11	0.19	0.03	0.02	1.18	0.02	0.01
Judy Creek	Lower	Judy Creek	18.9764*	49.75	0.19	0.04	0.02	1.19	0.02	0.01
Judy Creek	Lower	Judy Creek	19.4470*	50.40	0.19	0.04	0.03	1.19	0.02	0.01
Judy Creek	Lower	Judy Creek	19.9176*	51.02	0.18	0.03	0.02	1.10	0.01	0.01
Judy Creek	Lower	Judy Creek	20.3882*	51.60	0.16	0.03	0.02	1.01	0.01	0.01
Judy Creek	Lower	Judy Creek	20.8588*	52.17	0.16	0.04	0.02	1.03	0.02	0.01
Judy Creek	Lower	Judy Creek	21.3294*	52.74	0.17	0.04	0.03	1.05	0.02	0.01
Judy Creek	Lower	Judy Creek	21.8	53.33	0.17	0.04	0.04	1.07	0.02	0.02
Judy Creek	Lower	Judy Creek	22.26*	53.99	0.14	0.03	0.03	0.80	0.01	0.01
Judy Creek	Lower	Judy Creek	22.72*	54.48	0.14	0.03	0.03	0.82	0.01	0.01
Judy Creek	Lower	Judy Creek	23.18*	54.99	0.14	0.03	0.03	0.84	0.01	0.01
Judy Creek	Lower	Judy Creek	23.64*	55.51	0.15	0.03	0.03	0.87	0.01	0.01
Judy Creek	Lower	Judy Creek	24.1*	56.05	0.15	0.02	0.02	0.90	0.01	0.01
Judy Creek	Lower	Judy Creek	24.56*	56.63	0.15	0.02	0.02	0.91	0.01	0.01
Judy Creek	Lower	Judy Creek	25.02*	57.22	0.15	0.02	0.02	0.93	0.01	0.01
Judy Creek	Lower	Judy Creek	25.48*	57.83	0.16	0.02	0.02	0.95	0.01	0.01
Judy Creek	Lower	Judy Creek	25.94*	58.45	0.16	0.02	0.02	0.97	0.00	0.01
Judy Creek	Lower	Judy Creek	26.4*	59.09	0.16	0.01	0.02	0.98	0.00	0.01
Judy Creek	Lower	Judy Creek	26.86*	59.76	0.16	0.01	0.02	0.98	0.00	0.01
Judy Creek	Lower	Judy Creek	27.32*	60.43	0.16	0.01	0.02	0.99	0.00	0.01
Judy Creek	Lower	Judy Creek	27.78*	61.12	0.16	0.01	0.02	1.00	0.00	0.01
Judy Creek	Lower	Judy Creek	28.24*	61.80	0.15	0.01	0.01	0.91	0.00	0.00
Judy Creek	Lower	Judy Creek	28.7*	62.41	0.14	0.00	0.01	0.84	0.00	0.00
Judy Creek	Lower	Judy Creek	29.16*	62.99	0.13	0.00	0.01	0.80	0.00	0.00
Judy Creek	Lower	Judy Creek	29.62*	63.54	0.12		0.01	0.75		0.00

Judy Creek	Lower Judy Creek	30.08*	64.09	0.12	0.01	0.80	0.00
Judy Creek	Lower Judy Creek	30.54*	64.72	0.12	0.02	0.78	0.01
Judy Creek	Lower Judy Creek	31.0	65.40	0.11	0.02	0.66	0.01

HEC-RAS Run, Ublutuoch River, 2-Year Flood with Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X  X          X      X      X  X      X  X      X
X      X  X          X          X  X      X  X      X
XXXXXXXX XXXX      X          XXX XXXX      XXXXXX      XXXX
X      X  X          X          X  X      X  X          X
X      X  X          X      X      X  X      X  X      X
X      X  XXXXXX      XXXX      X      X      X  X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 - 2 Year
 Project File : 2year.prj
 Run Date and Time: 2/13/2002 11:24:02 AM

Project in English units

Project Description:

2-Year Flood, Ublutuoch RM 13.7, Snow & Ice Affected, Normal Depth Calculation

PLAN DATA

Plan Title: Ublutuoch River RM 13.7 Normal Depth
 Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\2year.p01

Geometry Title: Ublutuoch Normal Depth Geometry
 Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\2year.g01

Flow Title : Ublutuoch RM 13.7 Normal Depth
 Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\2year.f01

Plan Summary Information:

Number of: Cross Sections = 2 Muiltple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.01
Critical depth calculaton tolerance = 0.01
Maximum number of interations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 Normal Depth
Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\2year.f01

Flow Data (cfs)

River	Reach	RS	2-Year
Ublutuoch River	2001 Monitoring	13.71	2163

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch River	2001 Monitoring	2-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch Normal Depth Geometry
Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\2year.g01

CROSS SECTION RIVER: Ublutuoch River
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.11	275	.019	406	.11

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		10	10		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #2-Year

E.G. Elev (ft)	18.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.019	
W.S. Elev (ft)	18.10	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)		496.01	
E.G. Slope (ft/ft)	0.000478	Area (sq ft)		496.01	
Q Total (cfs)	2163.00	Flow (cfs)		2163.00	
Top Width (ft)	120.55	Top Width (ft)		120.55	
Vel Total (ft/s)	4.36	Avg. Vel. (ft/s)		4.36	
Max Chl Dpth (ft)	6.53	Hydr. Depth (ft)		4.11	
Conv. Total (cfs)	98974.3	Conv. (cfs)		98974.3	
Length Wtd. (ft)	10.00	Wetted Per. (ft)		121.71	
Min Ch El (ft)	11.57	Shear (lb/sq ft)		0.12	
Alpha	1.00	Stream Power (lb/ft s)		0.53	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		0.11	
C & E Loss (ft)	0.00	Cum SA (acres)		0.03	

CROSS SECTION RIVER: Ublutuoch River
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.11	275	.019	406	.11

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		0	0		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #2-Year

E.G. Elev (ft)	18.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.019	
W.S. Elev (ft)	18.10	Reach Len. (ft)			
Crit W.S. (ft)	15.71	Flow Area (sq ft)		496.01	
E.G. Slope (ft/ft)	0.000478	Area (sq ft)		496.01	
Q Total (cfs)	2163.00	Flow (cfs)		2163.00	
Top Width (ft)	120.55	Top Width (ft)		120.55	
Vel Total (ft/s)	4.36	Avg. Vel. (ft/s)		4.36	
Max Chl Dpth (ft)	6.53	Hydr. Depth (ft)		4.11	
Conv. Total (cfs)	98974.3	Conv. (cfs)		98974.3	
Length Wtd. (ft)		Wetted Per. (ft)		121.71	
Min Ch El (ft)	11.57	Shear (lb/sq ft)		0.12	
Alpha	1.00	Stream Power (lb/ft s)		0.53	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

SUMMARY OF MANNING'S N VALUES

River:Ublutuoch River

Reach	River Sta.	n1	n2	n3
2001 Monitoring	13.71	.11	.019	.11
2001 Monitoring	13.7	.11	.019	.11

SUMMARY OF REACH LENGTHS

River: Ublutuoch River

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ublutuoch River

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	2163.00	11.57	18.10		18.39	0.000478	4.36	496.01	120.55		0.38
2001 Monitoring	13.7	2163.00	11.57	18.10	15.71	18.39	0.000478	4.36	496.01	120.55		0.38

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	18.39	18.10	0.30	0.00	0.00		2163.00		120.55
2001 Monitoring	13.7	18.39	18.10	0.30				2163.00		120.55

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : 13.7 Normal

No Errors, Warnings or Notes in Computations

HEC-RAS Run, Ublutuoch River, 10-Year Flood with Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X X           X      X      X X      X X      X
X      X X           X           X X      X X      X
XXXXXXXX XXXX      X           XXX XXXX      XXXXXX      XXXX
X      X X           X           X X      X X           X
X      X X           X      X      X X      X X      X
X      X  XXXXXX      XXXX      X      X      X X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 - 10 Year
 Project File : 10year.prj
 Run Date and Time: 2/13/2002 11:32:30 AM

Project in English units

Project Description:

10-Year Flood, Ublutuoch RM 13.7, Snow & Ice Affected, Normal Depth Calculation

PLAN DATA

Plan Title: Ublutuoch River RM 13.7 Normal Depth
 Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\10year.p01

Geometry Title: Ublutuoch Normal Depth Geometry
 Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\10year.g01

Flow Title : Ublutuoch RM 13.7 Normal Depth
 Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\10year.f01

Plan Summary Information:

Number of: Cross Sections = 2 Multiple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.01

Critical depth calculaton tolerance = 0.01
Maximum number of interations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 Normal Depth
Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\10year.f01

Flow Data (cfs)

River	Reach	RS	10-Year
Ublutuoch River	2001 Monitoring	13.71	4421

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch River	2001 Monitoring	10-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch Normal Depth Geometry
Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\10year.g01

CROSS SECTION RIVER: Ublutuoch River
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.065	275	.019	406	.073

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		10	10		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #10-Year

E.G. Elev (ft)	20.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.065	0.019	0.073
W.S. Elev (ft)	19.76	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	312.16	711.05	912.26
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	312.16	711.05	912.26
Q Total (cfs)	4421.00	Flow (cfs)	197.57	3728.81	494.62
Top Width (ft)	1027.51	Top Width (ft)	218.82	131.00	677.69
Vel Total (ft/s)	2.28	Avg. Vel. (ft/s)	0.63	5.24	0.54
Max Chl Dpth (ft)	8.19	Hydr. Depth (ft)	1.43	5.43	1.35
Conv. Total (cfs)	202342.4	Conv. (cfs)	9042.3	170662.0	22638.1
Length Wtd. (ft)	10.00	Wetted Per. (ft)	218.85	132.25	677.72
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.04	0.16	0.04
Alpha	4.46	Stream Power (lb/ft s)	0.03	0.84	0.02
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.07	0.16	0.21
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.03	0.16

CROSS SECTION RIVER: Ublutuoch River
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.065	275	.019	406	.073

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		0	0		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #10-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	20.12				
Vel Head (ft)	0.36	Wt. n-Val.	0.065	0.019	0.073
W.S. Elev (ft)	19.76	Reach Len. (ft)			
Crit W.S. (ft)	17.33	Flow Area (sq ft)	312.16	711.05	912.26
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	312.16	711.05	912.26
Q Total (cfs)	4421.00	Flow (cfs)	197.57	3728.81	494.62
Top Width (ft)	1027.51	Top Width (ft)	218.82	131.00	677.69
Vel Total (ft/s)	2.28	Avg. Vel. (ft/s)	0.63	5.24	0.54
Max Chl Dpth (ft)	8.19	Hydr. Depth (ft)	1.43	5.43	1.35
Conv. Total (cfs)	202342.4	Conv. (cfs)	9042.3	170662.0	22638.1
Length Wtd. (ft)		Wetted Per. (ft)	218.85	132.25	677.72
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.04	0.16	0.04
Alpha	4.46	Stream Power (lb/ft s)	0.03	0.84	0.02
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

SUMMARY OF MANNING'S N VALUES

River:Ublutuoch River

Reach	River Sta.	n1	n2	n3
2001 Monitoring	13.71	.065	.019	.073
2001 Monitoring	13.7	.065	.019	.073

SUMMARY OF REACH LENGTHS

River: Ublutuoch River

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ublutuoch River

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	4421.00	11.57	19.76		20.12	0.000477	5.24	1935.47	1027.51		0.40
2001 Monitoring	13.7	4421.00	11.57	19.76	17.33	20.12	0.000477	5.24	1935.47	1027.51		0.40

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	20.12	19.76	0.36	0.00	0.00	197.57	3728.81	494.62	1027.51
2001 Monitoring	13.7	20.12	19.76	0.36			197.57	3728.81	494.62	1027.51

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : 13.7 Normal

No Errors, Warnings or Notes in Computations

HEC-RAS Run, Ublutuoch River, 50-Year Flood with Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X X           X      X      X X      X X      X
X      X X           X           X X      X X      X
XXXXXXXX XXXX      X           XXX XXXX      XXXXXX      XXXX
X      X X           X           X X      X X      X
X      X X           X      X      X X      X X      X
X      X  XXXXXX      XXXX      X      X      X X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 - 50 Year
 Project File : 50year.prj
 Run Date and Time: 2/13/2002 11:37:22 AM

Project in English units

Project Description:

50-Year Flood, Ublutuoch RM 13.7, Snow & Ice Affected, Normal Depth Calculation

PLAN DATA

Plan Title: Ublutuoch River RM 13.7 Normal Depth
 Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\50year.p01

Geometry Title: Ublutuoch Normal Depth Geometry
 Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\50year.g01

Flow Title : Ublutuoch RM 13.7 Normal Depth
 Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\50year.f01

Plan Summary Information:

Number of: Cross Sections = 2 Multiple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.01

Critical depth calculaton tolerance = 0.01
Maximum number of interations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 Normal Depth
Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\50year.f01

Flow Data (cfs)

River	Reach	RS	50-Year
Ublutuoch River	2001 Monitoring	13.71	6983

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch River	2001 Monitoring	50-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch Normal Depth Geometry
Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\50year.g01

CROSS SECTION RIVER: Ublutuoch River
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.048	275	.019	406	.057

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		10	10		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #50-Year

E.G. Elev (ft)	21.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.	0.048	0.019	0.057
W.S. Elev (ft)	20.70	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	529.64	834.32	1563.13
E.G. Slope (ft/ft)	0.000478	Area (sq ft)	529.64	834.32	1563.13
Q Total (cfs)	6983.00	Flow (cfs)	601.58	4868.23	1513.19
Top Width (ft)	1080.00	Top Width (ft)	243.39	131.00	705.61
Vel Total (ft/s)	2.39	Avg. Vel. (ft/s)	1.14	5.83	0.97
Max Chl Dpth (ft)	9.13	Hydr. Depth (ft)	2.18	6.37	2.22
Conv. Total (cfs)	319545.8	Conv. (cfs)	27528.6	222772.9	69244.3
Length Wtd. (ft)	10.00	Wetted Per. (ft)	243.44	132.25	705.65
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.06	0.19	0.07
Alpha	4.23	Stream Power (lb/ft s)	0.07	1.10	0.06
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.12	0.19	0.36
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.03	0.16

CROSS SECTION RIVER: Ublutuoch River
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.048	275	.019	406	.057

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		0	0		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #50-Year

E.G. Elev (ft)	21.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.	0.048	0.019	0.057
W.S. Elev (ft)	20.70	Reach Len. (ft)			
Crit W.S. (ft)	19.35	Flow Area (sq ft)	529.64	834.32	1563.13
E.G. Slope (ft/ft)	0.000478	Area (sq ft)	529.64	834.32	1563.13
Q Total (cfs)	6983.00	Flow (cfs)	601.58	4868.23	1513.19
Top Width (ft)	1080.00	Top Width (ft)	243.39	131.00	705.61
Vel Total (ft/s)	2.39	Avg. Vel. (ft/s)	1.14	5.83	0.97
Max Chl Dpth (ft)	9.13	Hydr. Depth (ft)	2.18	6.37	2.22
Conv. Total (cfs)	319545.8	Conv. (cfs)	27528.6	222772.9	69244.3
Length Wtd. (ft)		Wetted Per. (ft)	243.44	132.25	705.65
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.06	0.19	0.07
Alpha	4.23	Stream Power (lb/ft s)	0.07	1.10	0.06
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

SUMMARY OF MANNING'S N VALUES

River:Ublutuoch River

Reach	River Sta.	n1	n2	n3
2001 Monitoring	13.71	.048	.019	.057
2001 Monitoring	13.7	.048	.019	.057

SUMMARY OF REACH LENGTHS

River: Ublutuoch River

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ublutuoch River

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	6983.00	11.57	20.70		21.07	0.000478	5.83	2927.08	1080.00		0.41
2001 Monitoring	13.7	6983.00	11.57	20.70	19.35	21.07	0.000478	5.83	2927.08	1080.00		0.41

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	21.07	20.70	0.37	0.00	0.00	601.58	4868.23	1513.19	1080.00
2001 Monitoring	13.7	21.07	20.70	0.37			601.58	4868.23	1513.19	1080.00

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : 13.7 Normal

No Errors, Warnings or Notes in Computations

HEC-RAS Run, Ublutuoch River, 100-Year Flood with Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X X           X      X      X X      X X      X
X      X X           X           X X      X X      X
XXXXXXXX XXXX      X           XXX XXXX      XXXXXX      XXXX
X      X X           X           X X      X X           X
X      X X           X      X      X X      X X      X
X      X  XXXXXX      XXXX      X      X      X X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 - 100 Year
 Project File : 100year.prj
 Run Date and Time: 2/13/2002 11:54:05 AM

Project in English units

Project Description:

100-Year Flood, Ublutuoch RM 13.7, Snow & Ice Affected, Normal Depth Calculation

PLAN DATA

Plan Title: Ublutuoch River RM 13.7 Normal Depth
 Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\100year.p01

Geometry Title: Ublutuoch Normal Depth Geometry
 Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\100year.g01

Flow Title : Ublutuoch RM 13.7 Normal Depth
 Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\100year.f01

Plan Summary Information:

Number of: Cross Sections = 2 Multiple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.01

Critical depth calculaton tolerance = 0.01
Maximum number of interations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 Normal Depth
Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\100year.f01

Flow Data (cfs)

River	Reach	RS	100-Year
Ublutuoch River	2001 Monitoring	13.71	8204

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch River	2001 Monitoring	100-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch Normal Depth Geometry
Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\100year.g01

CROSS SECTION RIVER: Ublutuoch River
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.046	275	.019	406	.055

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		10	10		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #100-Year

E.G. Elev (ft)	21.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.046	0.019	0.055
W.S. Elev (ft)	21.08	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	624.93	884.70	1836.69
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	624.93	884.70	1836.69
Q Total (cfs)	8204.00	Flow (cfs)	808.47	5366.21	2029.33
Top Width (ft)	1099.71	Top Width (ft)	251.69	131.00	717.02
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.29	6.07	1.10
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)	2.48	6.75	2.56
Conv. Total (cfs)	375544.3	Conv. (cfs)	37008.2	245642.2	92893.9
Length Wtd. (ft)	10.00	Wetted Per. (ft)	251.76	132.25	717.06
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.07	0.20	0.08
Alpha	4.08	Stream Power (lb/ft s)	0.10	1.21	0.08
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.14	0.20	0.42
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.03	0.16

CROSS SECTION RIVER: Ublutuoch River
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.046	275	.019	406	.055

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		0	0		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #100-Year

E.G. Elev (ft)	21.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.046	0.019	0.055
W.S. Elev (ft)	21.08	Reach Len. (ft)			
Crit W.S. (ft)	19.67	Flow Area (sq ft)	624.93	884.70	1836.69
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	624.93	884.70	1836.69
Q Total (cfs)	8204.00	Flow (cfs)	808.47	5366.21	2029.33
Top Width (ft)	1099.71	Top Width (ft)	251.69	131.00	717.02
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.29	6.07	1.10
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)	2.48	6.75	2.56
Conv. Total (cfs)	375544.3	Conv. (cfs)	37008.2	245642.2	92893.9
Length Wtd. (ft)		Wetted Per. (ft)	251.76	132.25	717.06
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.07	0.20	0.08
Alpha	4.08	Stream Power (lb/ft s)	0.10	1.21	0.08
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

SUMMARY OF MANNING'S N VALUES

River:Ublutuoch River

Reach	River Sta.	n1	n2	n3
2001 Monitoring	13.71	.046	.019	.055
2001 Monitoring	13.7	.046	.019	.055

SUMMARY OF REACH LENGTHS

River: Ublutuoch River

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ublutuoch River

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	8204.00	11.57	21.08		21.47	0.000477	6.07	3346.32	1099.71		0.41
2001 Monitoring	13.7	8204.00	11.57	21.08	19.67	21.47	0.000477	6.07	3346.32	1099.71		0.41

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	21.47	21.08	0.38	0.00	0.00	808.47	5366.21	2029.33	1099.71
2001 Monitoring	13.7	21.47	21.08	0.38			808.47	5366.21	2029.33	1099.71

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : 13.7 Normal

No Errors, Warnings or Notes in Computations

HEC-RAS Run, Ublutuoch River, 200-Year Flood with Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street, Suite D
Davis, California 95616-4687
(916) 756-1104

```
X   X  XXXXXX   XXXX   XXXX   XX   XXXX
X   X X         X   X   X X   X X   X
X   X X         X     X X   X   X   X
XXXXXXXX XXXX   X     XXX XXXX   XXXXXX   XXXX
X   X X         X     X X   X   X     X
X   X X X       X   X   X X   X X   X
X   X  XXXXXX   XXXX   X   X   X   X   XXXXXX
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 - 200 Year
Project File : 200year.prj
Run Date and Time: 2/13/2002 1:08:42 PM

Project in English units

Project Description:

200-Year Flood, Ublutuoch RM 13.7, Snow & Ice Affected, Normal Depth Calculation

PLAN DATA

Plan Title: Ublutuoch River RM 13.7 Normal Depth
Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\200year.p01

Geometry Title: Ublutuoch Normal Depth Geometry
Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\200year.g01

Flow Title : Ublutuoch RM 13.7 Normal Depth
Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\200year.f01

Plan Summary Information:

Number of: Cross Sections = 2 Multiple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.01

Critical depth calculaton tolerance = 0.01
Maximum number of interations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 Normal Depth
Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\200year.f01

Flow Data (cfs)

River	Reach	RS	200-Year
Ublutuoch River	2001 Monitoring	13.71	9593

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch River	2001 Monitoring	200-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch Normal Depth Geometry
Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\200year.g01

CROSS SECTION RIVER: Ublutuoch River
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.046	275	.019	406	.053

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		10	10		.1	.3
Blocked Obstructions num= 2								
Sta L	Sta R	Elev	Sta L	Sta R	Elev			
0	275	18.1	414	900	18.1			

CROSS SECTION OUTPUT Profile #200-Year

E.G. Elev (ft)	21.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.046	0.019	0.053
W.S. Elev (ft)	21.49	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	728.46	937.74	2129.62
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	728.46	937.74	2129.62
Q Total (cfs)	9593.00	Flow (cfs)	1021.87	5912.25	2658.88
Top Width (ft)	1122.29	Top Width (ft)	259.79	131.00	731.50
Vel Total (ft/s)	2.53	Avg. Vel. (ft/s)	1.40	6.30	1.25
Max Chl Dpth (ft)	9.92	Hydr. Depth (ft)	2.80	7.16	2.91
Conv. Total (cfs)	439183.7	Conv. (cfs)	46782.9	270672.6	121728.2
Length Wtd. (ft)	10.00	Wetted Per. (ft)	259.86	132.25	731.56
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.08	0.21	0.09
Alpha	3.94	Stream Power (lb/ft s)	0.12	1.33	0.11
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.17	0.22	0.49
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.03	0.17

CROSS SECTION RIVER: Ublutuoch River
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Monitoring Site at RM 13.7

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	282	17.07	322.5	12.47	325.5	12.47	328.5	11.87
331.5	11.57	334.5	11.97	337.5	12.37	340.5	12.17	343.5	12.47
346.5	12.57	349.5	12.37	352.5	12.07	355.5	12.07	358.5	12.07
361.5	12.27	364.5	12.57	367.5	12.77	370.5	13.07	373.5	13.57
376.5	13.77	379.5	13.87	382.5	14.27	392.6	17.07	398	18.07
406	18.58	414	18.69	490	16.3	499	17.8284	598	17.47
676	16.06	704	17.08	797	16.88	882	18.53	981	19.23
1068	19.23	1130	21.32	1227	23.51	1326	25.24	1426	27.37
1528	28.83								

Manning's n Values num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
-208	.046	275	.019	406	.053

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	275	406		0	0	.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	900	18.1

CROSS SECTION OUTPUT Profile #200-Year

E.G. Elev (ft)	21.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.046	0.019	0.053
W.S. Elev (ft)	21.49	Reach Len. (ft)			
Crit W.S. (ft)	19.96	Flow Area (sq ft)	728.46	937.74	2129.62
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	728.46	937.74	2129.62
Q Total (cfs)	9593.00	Flow (cfs)	1021.87	5912.25	2658.88
Top Width (ft)	1122.29	Top Width (ft)	259.79	131.00	731.50
Vel Total (ft/s)	2.53	Avg. Vel. (ft/s)	1.40	6.30	1.25
Max Chl Dpth (ft)	9.92	Hydr. Depth (ft)	2.80	7.16	2.91
Conv. Total (cfs)	439183.7	Conv. (cfs)	46782.9	270672.6	121728.2
Length Wtd. (ft)		Wetted Per. (ft)	259.86	132.25	731.56
Min Ch El (ft)	11.57	Shear (lb/sq ft)	0.08	0.21	0.09
Alpha	3.94	Stream Power (lb/ft s)	0.12	1.33	0.11
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

SUMMARY OF MANNING'S N VALUES

River:Ublutuoch River

Reach	River Sta.	n1	n2	n3
2001 Monitoring	13.71	.046	.019	.053
2001 Monitoring	13.7	.046	.019	.053

SUMMARY OF REACH LENGTHS

River: Ublutuoch River

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7	0	0	0

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ublutuoch River

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	9593.00	11.57	21.49		21.88	0.000477	6.30	3795.83	1122.29		0.42
2001 Monitoring	13.7	9593.00	11.57	21.49	19.96	21.88	0.000477	6.30	3795.83	1122.29		0.42

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn (ft)	Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	21.88	21.49	0.39		0.00	0.00	1021.87	5912.25	2658.88	1122.29
2001 Monitoring	13.7	21.88	21.49	0.39				1021.87	5912.25	2658.88	1122.29

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : 13.7 Normal

No Errors, Warnings or Notes in Computations

HEC-RAS Run, Ublutuoch River, 2-Year Flood without Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X   X XXXXXX   XXXX   XXXX   XX   XXXX
X   X X       X   X   X   X   X   X   X
X   X X       X       X   X   X   X   X
XXXXXXXX XXXX   X       XXX XXXX   XXXXXX   XXXX
X   X X       X       X   X   X   X   X
X   X X       X   X   X   X   X   X   X
X   X XXXXXX   XXXX   X   X   X   X   XXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 No Ice 2-Year
 Project File : 2yearnoice.prj
 Run Date and Time: 2/14/2002 3:13:44 PM

Project in English units

2-Year Flood, Ublutuoch RM 13.7, No Ice Condition, Normal Depth

PLAN DATA

Plan Title: Plan 03
 Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\2yearnoice.p03

Geometry Title: Ublutuoch No Ice Geometry
 Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\2yearnoice.g01

Flow Title : Ublutuoch RM 13.7 No Ice
 Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\2yearnoice.f02

Plan Summary Information:

Number of: Cross Sections = 2 Multiple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.003
Critical depth calculaton tolerance = 0.003
Maximum number of interations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 No Ice

Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\2yearnoice.f02

Flow Data (cfs)

River	Reach	RS	2-Year
Ublutuoch	2001 Monitoring	13.71	2163

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch	2001 Monitoring	2-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch No Ice Geometry

Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\2yearnoice.g01

CROSS SECTION RIVER: Ublutuoch
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Ublutuoch RM 13.7+10'

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.078	275	.08	330	.03	348	.025	375	.03
386	.11	406	.093						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	275	406		10	10		.1	.3
Blocked Obstructions num= 2								
Sta L	Sta R	Elev	Sta L	Sta R	Elev			
0	275	18.1	414	1000	18.1			

CROSS SECTION OUTPUT Profile #2-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	18.93				
Vel Head (ft)	0.05	Wt. n-Val.	0.078	0.066	0.093
W.S. Elev (ft)	18.88	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	129.26	1060.01	363.58
E.G. Slope (ft/ft)	0.000476	Area (sq ft)	129.26	1060.01	363.58
Q Total (cfs)	2163.00	Flow (cfs)	40.74	2023.04	99.22
Top Width (ft)	851.80	Top Width (ft)	195.78	131.00	525.02
Vel Total (ft/s)	1.39	Avg. Vel. (ft/s)	0.32	1.91	0.27
Max Chl Dpth (ft)	15.45	Hydr. Depth (ft)	0.66	8.09	0.69
Conv. Total (cfs)	99120.2	Conv. (cfs)	1866.9	92706.3	4547.0
Length Wtd. (ft)	10.00	Wetted Per. (ft)	195.80	137.86	525.04
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.02	0.23	0.02
Alpha	1.76	Stream Power (lb/ft s)	0.01	0.44	0.01
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.03	0.24	0.08
C & E Loss (ft)	0.00	Cum SA (acres)	0.04	0.03	0.12

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Ublutuoch
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Ublutuoch RM 13.7

Station Elevation Data		num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5		
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15		
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74		
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58		
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06		
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23		
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83		

Manning's n Values		num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.078	275	.08	330	.03	348	.025	375	.03		
386	.11	406	.093								

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	275	406	.1	.3	

Blocked Obstructions		num= 2			
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	1000	18.1

CROSS SECTION OUTPUT Profile #2-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	18.93				
Vel Head (ft)	0.05	Wt. n-Val.	0.078	0.066	0.093
W.S. Elev (ft)	18.87	Reach Len. (ft)			
Crit W.S. (ft)	9.47	Flow Area (sq ft)	128.60	1059.57	361.83
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	128.60	1059.57	361.83
Q Total (cfs)	2163.00	Flow (cfs)	40.45	2023.95	98.60
Top Width (ft)	851.24	Top Width (ft)	195.69	131.00	524.55
Vel Total (ft/s)	1.40	Avg. Vel. (ft/s)	0.31	1.91	0.27
Max Chl Dpth (ft)	15.44	Hydr. Depth (ft)	0.66	8.09	0.69
Conv. Total (cfs)	99007.5	Conv. (cfs)	1851.7	92642.6	4513.2
Length Wtd. (ft)		Wetted Per. (ft)	195.71	137.86	524.56
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.02	0.23	0.02
Alpha	1.76	Stream Power (lb/ft s)	0.01	0.44	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Manning's n values were composited to a single value in the main channel.

SUMMARY OF MANNING'S N VALUES

River: Ulbutuoch

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7
2001 Monitoring	13.71	.078	.08	.03	.025	.03	.11	.093
2001 Monitoring	13.7	.078	.08	.03	.025	.03	.11	.093

SUMMARY OF REACH LENGTHS

River: Ulbutuoch

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ulbutuoch

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	2163.00	3.43	18.88		18.93	0.000476	1.91	1552.85	851.80		0.12
2001 Monitoring	13.7	2163.00	3.43	18.87	9.47	18.93	0.000477	1.91	1550.01	851.24		0.12

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	18.93	18.88	0.05	0.00	0.00	40.74	2023.04	99.22	851.80
2001 Monitoring	13.7	18.93	18.87	0.05			40.45	2023.95	98.60	851.24

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : Plan 02

River: Ulbutuoch Reach: 2001 Monitoring RS: 13.71 Profile: 2-Year
Note: Manning's n values were composited to a single value in the main channel.
River: Ulbutuoch Reach: 2001 Monitoring RS: 13.7 Profile: 2-Year
Note: Manning's n values were composited to a single value in the main channel.

HEC-RAS Run, Ublutuo ch River, 10-Year Flood without Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X    X  XXXXXX   XXXX      XXXX      XX      XXXX
X    X X        X  X      X  X      X  X      X
X    X X        X        X  X      X  X      X
XXXXXXXX XXXX   X        XXX XXXX   XXXXXX   XXXX
X    X X        X        X  X      X  X      X
X    X X        X  X      X  X      X  X      X
X    X XXXXXX   XXXX      X  X      X  X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 No Ice 10-Year
 Project File : 10yearnoice.prj
 Run Date and Time: 2/14/2002 2:36:33 PM

Project in English units

10-Year Flood, Ublutuoch RM 13.7, No Ice Condition, Normal Depth

PLAN DATA

Plan Title: Plan 03
 Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\10yearnoice.p03

Geometry Title: Ublutuoch No Ice Geometry
 Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\10yearnoice.g01

Flow Title : Ublutuoch RM 13.7 No Ice
 Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\10yearnoice.f02

Plan Summary Information:

Number of:	Cross Sections =	2	Multitple Openings =	0
	Culverts =	0	Inline Weirs =	0
	Bridges =	0		

Computational Information

Water surface calculation tolerance = 0.003
Critical depth calculaton tolerance = 0.003
Maximum number of interations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 No Ice

Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\10yearnoice.f02

Flow Data (cfs)

River	Reach	RS	10-Year
Ublutuoch	2001 Monitoring	13.71	4421

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch	2001 Monitoring	10-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch No Ice Geometry

Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\10yearnoice.g01

CROSS SECTION RIVER: Ublutuoch

REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Ublutuoch RM 13.7+10'

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.06	275	.08	330	.029	348	.025	375	.029
386	.11	406	.059						

Bank Sta:	Left	Right	Lengths:			Left Channel	Right	Coeff	Contr.	Expan.
	275	406	10	10	10			.1	.3	
Blocked Obstructions num= 2										
Sta L	Sta R	Elev	Sta L	Sta R	Elev					
0	275	18.1	414	1000	18.1					

CROSS SECTION OUTPUT Profile #10-Year

E.G. Elev (ft)	20.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.05	Wt. n-Val.	0.060	0.066	0.059
W.S. Elev (ft)	20.50	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	481.23	1272.54	1421.87
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	481.23	1272.54	1421.87
Q Total (cfs)	4421.00	Flow (cfs)	415.84	2750.82	1254.34
Top Width (ft)	1068.78	Top Width (ft)	238.14	131.00	699.64
Vel Total (ft/s)	1.39	Avg. Vel. (ft/s)	0.86	2.16	0.88
Max Chl Dpth (ft)	17.07	Hydr. Depth (ft)	2.02	9.71	2.03
Conv. Total (cfs)	202494.1	Conv. (cfs)	19046.6	125995.1	57452.3
Length Wtd. (ft)	10.00	Wetted Per. (ft)	238.19	137.86	699.68
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.06	0.27	0.06
Alpha	1.65	Stream Power (lb/ft s)	0.05	0.59	0.05
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.11	0.29	0.33
C & E Loss (ft)	0.00	Cum SA (acres)	0.05	0.03	0.16

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Ublutuoch
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Ublutuoch RM 13.7

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.06	275	.08	330	.029	348	.025	375	.029
386	.11	406	.059						

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	275	406	.1	.3	

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	1000	18.1

CROSS SECTION OUTPUT Profile #10-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	20.55				
Vel Head (ft)	0.05	Wt. n-Val.	0.060	0.066	0.059
W.S. Elev (ft)	20.50	Reach Len. (ft)			
Crit W.S. (ft)	11.86	Flow Area (sq ft)	480.44	1272.10	1419.53
E.G. Slope (ft/ft)	0.000478	Area (sq ft)	480.44	1272.10	1419.53
Q Total (cfs)	4421.00	Flow (cfs)	415.35	2752.94	1252.71
Top Width (ft)	1068.60	Top Width (ft)	238.05	131.00	699.54
Vel Total (ft/s)	1.39	Avg. Vel. (ft/s)	0.86	2.16	0.88
Max Chl Dpth (ft)	17.07	Hydr. Depth (ft)	2.02	9.71	2.03
Conv. Total (cfs)	202221.8	Conv. (cfs)	18998.8	125922.9	57300.2
Length Wtd. (ft)		Wetted Per. (ft)	238.10	137.86	699.58
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.06	0.28	0.06
Alpha	1.65	Stream Power (lb/ft s)	0.05	0.60	0.05
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Manning's n values were composited to a single value in the main channel.

SUMMARY OF MANNING'S N VALUES

River: Ulbutuoch

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7
2001 Monitoring	13.71	.06	.08	.029	.025	.029	.11	.059
2001 Monitoring	13.7	.06	.08	.029	.025	.029	.11	.059

SUMMARY OF REACH LENGTHS

River: Ulbutuoch

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ulbutuoch

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	4421.00	3.43	20.50		20.55	0.000477	2.16	3175.63	1068.78		0.12
2001 Monitoring	13.7	4421.00	3.43	20.50	11.86	20.55	0.000478	2.16	3172.06	1068.60		0.12

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	20.55	20.50	0.05	0.00	0.00	415.84	2750.82	1254.34	1068.78
2001 Monitoring	13.7	20.55	20.50	0.05			415.35	2752.94	1252.71	1068.60

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : Plan 02

River: Ulbutuoch Reach: 2001 Monitoring RS: 13.71 Profile: 10-Year
Note: Manning's n values were composited to a single value in the main channel.
River: Ulbutuoch Reach: 2001 Monitoring RS: 13.7 Profile: 10-Year
Note: Manning's n values were composited to a single value in the main channel.

HEC-RAS Run, Ublutuoch River, 50-Year Flood without Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X  X          X      X      X  X      X  X      X
X      X  X          X          X  X      X  X      X
XXXXXXXX XXXX      X          XXX XXXX      XXXXXX      XXXX
X      X  X          X          X  X      X  X          X
X      X  X          X      X      X  X      X  X      X
X      X  XXXXXX      XXXX      X      X      X  X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 No Ice 50-Year
 Project File : 50yearnoice.prj
 Run Date and Time: 2/14/2002 1:02:57 PM

Project in English units

Project Description:

50-Year Flood, Ublutuoch RM 13.7, No Ice Condition, Normal Depth

PLAN DATA

Plan Title: Plan 03

Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\50yearnoice.p03

Geometry Title: Ublutuoch No Ice Geometry

Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\10yearnoice.g01

Flow Title : Ublutuoch RM 13.7 No Ice

Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\50yearnoice.f02

Plan Summary Information:

Number of:	Cross Sections =	2	Multitple Openings =	0
	Culverts =	0	Inline Weirs =	0
	Bridges =	0		

Computational Information

Water surface calculation tolerance = 0.003
Critical depth calculaton tolerance = 0.003
Maximum number of interations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 No Ice

Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\50yearnoice.f02

Flow Data (cfs)

River	Reach	RS	50-Year
Ublutuoch	2001 Monitoring	13.71	6983

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch	2001 Monitoring	50-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch No Ice Geometry

Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\10yearnoice.g01

CROSS SECTION RIVER: Ublutuoch
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Ublutuoch RM 13.7+10'

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.045	275	.067	330	.029	348	.025	375	.029
386	.095	406	.053						

Bank Sta:	Left	Right	Lengths:			Left Channel	Right	Coeff	Contr.	Expan.
	275	406	10	10	10			.1	.3	
Blocked Obstructions num= 2										
Sta L	Sta R	Elev	Sta L	Sta R	Elev					
0	275	18.1	414	1000	18.1					

CROSS SECTION OUTPUT Profile #50-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	21.38				
Vel Head (ft)	0.07	Wt. n-Val.	0.045	0.057	0.053
W.S. Elev (ft)	21.31	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	682.29	1378.84	1999.40
E.G. Slope (ft/ft)	0.000476	Area (sq ft)	682.29	1378.84	1999.40
Q Total (cfs)	6983.00	Flow (cfs)	944.18	3631.01	2407.81
Top Width (ft)	1110.93	Top Width (ft)	256.21	131.00	723.72
Vel Total (ft/s)	1.72	Avg. Vel. (ft/s)	1.38	2.63	1.20
Max Chl Dpth (ft)	17.88	Hydr. Depth (ft)	2.66	10.53	2.76
Conv. Total (cfs)	320066.3	Conv. (cfs)	43276.4	166427.7	110362.1
Length Wtd. (ft)	10.00	Wetted Per. (ft)	256.28	137.86	723.77
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.08	0.30	0.08
Alpha	1.48	Stream Power (lb/ft s)	0.11	0.78	0.10
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.16	0.32	0.46
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.03	0.17

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Ublutuoch
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Ublutuoch RM 13.7

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.045	275	.067	330	.029	348	.025	375	.029
386	.095	406	.053						

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	275	406	.1		.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	1000	18.1

CROSS SECTION OUTPUT Profile #50-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	21.38				
Vel Head (ft)	0.07	Wt. n-Val.	0.045	0.057	0.053
W.S. Elev (ft)	21.31	Reach Len. (ft)			
Crit W.S. (ft)	13.91	Flow Area (sq ft)	681.43	1378.41	1996.99
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	681.43	1378.41	1996.99
Q Total (cfs)	6983.00	Flow (cfs)	943.50	3633.44	2406.06
Top Width (ft)	1110.76	Top Width (ft)	256.14	131.00	723.62
Vel Total (ft/s)	1.72	Avg. Vel. (ft/s)	1.38	2.64	1.20
Max Chl Dpth (ft)	17.88	Hydr. Depth (ft)	2.66	10.52	2.76
Conv. Total (cfs)	319683.2	Conv. (cfs)	43193.5	166339.7	110149.9
Length Wtd. (ft)		Wetted Per. (ft)	256.21	137.86	723.67
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.08	0.30	0.08
Alpha	1.48	Stream Power (lb/ft s)	0.11	0.79	0.10
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Manning's n values were composited to a single value in the main channel.

SUMMARY OF MANNING'S N VALUES

River: Ulbutuoch

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7
2001 Monitoring	13.71	.045	.067	.029	.025	.029	.095	.053
2001 Monitoring	13.7	.045	.067	.029	.025	.029	.095	.053

SUMMARY OF REACH LENGTHS

River: Ulbutuoch

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ulbutuoch

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	6983.00	3.43	21.31		21.38	0.000476	2.63	4060.53	1110.93		0.14
2001 Monitoring	13.7	6983.00	3.43	21.31	13.91	21.38	0.000477	2.64	4056.82	1110.76		0.14

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	21.38	21.31	0.07	0.00	0.00	944.18	3631.01	2407.81	1110.93
2001 Monitoring	13.7	21.38	21.31	0.07			943.50	3633.44	2406.06	1110.76

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : Plan 02

River: Ulbutuoch Reach: 2001 Monitoring RS: 13.71 Profile: 50-Year
Note: Manning's n values were composited to a single value in the main channel.
River: Ulbutuoch Reach: 2001 Monitoring RS: 13.7 Profile: 50-Year
Note: Manning's n values were composited to a single value in the main channel.

HEC-RAS Run, Ublutuoch River, 100-Year Flood without Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X X           X      X      X X      X X      X
X      X X           X           X X      X X      X
XXXXXXXX XXXX      X           XXX XXXX      XXXXXX      XXXX
X      X X           X           X X      X X           X
X      X X           X      X      X X      X X      X
X      X  XXXXXX      XXXX      X      X      X X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 No Ice 100-Year
 Project File : 100yearnoice.prj
 Run Date and Time: 2/14/2002 1:38:43 PM

Project in English units

Project Description:

100-Year Flood, Ublutuoch RM 13.7, No Ice Condition, Normal Depth

PLAN DATA

Plan Title: Plan 03
 Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\100yearnoice.p03

Geometry Title: Ublutuoch No Ice Geometry
 Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\100yearnoice.g01

Flow Title : Ublutuoch RM 13.7 No Ice
 Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\100yearnoice.f02

Plan Summary Information:

Number of: Cross Sections = 2 Mulitple Openings = 0
 Culverts = 0 Inline Weirs = 0
 Bridges = 0

Computational Information

Water surface calculation tolerance = 0.003

Critical depth calculaton tolerance = 0.003
Maximum number of interations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 No Ice
Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\100yearnoice.f02

Flow Data (cfs)

River	Reach	RS	100-Year
Ulbutuoch	2001 Monitoring	13.71	8204

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ulbutuoch	2001 Monitoring	100-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch No Ice Geometry
Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\100yearnoice.g01

CROSS SECTION RIVER: Ulbutuoch
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Ublutuoch RM 13.7+10'

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.045	275	.055	330	.029	348	.025	375	.029
386	.08	406	.052						

Bank Sta:	Left	Right	Lengths:			Left Channel	Right	Coeff	Contr.	Expan.
	275	406	10	10	10			.1	.3	
Blocked Obstructions num= 2										
Sta L	Sta R	Elev	Sta L	Sta R	Elev					
0	275	18.1	414	1000	18.1					

CROSS SECTION OUTPUT Profile #100-Year

E.G. Elev (ft)	21.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.045	0.049	0.052
W.S. Elev (ft)	21.52	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	736.34	1406.26	2151.79
E.G. Slope (ft/ft)	0.000476	Area (sq ft)	736.34	1406.26	2151.79
Q Total (cfs)	8204.00	Flow (cfs)	1060.62	4392.64	2750.74
Top Width (ft)	1124.24	Top Width (ft)	260.39	131.00	732.85
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)	1.44	3.12	1.28
Max Chl Dpth (ft)	18.09	Hydr. Depth (ft)	2.83	10.73	2.94
Conv. Total (cfs)	376014.9	Conv. (cfs)	48611.6	201328.4	126074.8
Length Wtd. (ft)	10.00	Wetted Per. (ft)	260.47	137.86	732.90
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.08	0.30	0.09
Alpha	1.66	Stream Power (lb/ft s)	0.12	0.95	0.11
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.17	0.32	0.49
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.03	0.17

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Ulbutuoch
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Ublutuoch RM 13.7

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.045	275	.055	330	.029	348	.025	375	.029
386	.08	406	.052						

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	275	406	.1		.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	1000	18.1

CROSS SECTION OUTPUT Profile #100-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	21.61				
Vel Head (ft)	0.09	Wt. n-Val.	0.045	0.049	0.052
W.S. Elev (ft)	21.52	Reach Len. (ft)			
Crit W.S. (ft)	14.76	Flow Area (sq ft)	735.47	1405.82	2149.34
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	735.47	1405.82	2149.34
Q Total (cfs)	8204.00	Flow (cfs)	1059.88	4395.20	2748.92
Top Width (ft)	1124.03	Top Width (ft)	260.33	131.00	732.70
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)	1.44	3.13	1.28
Max Chl Dpth (ft)	18.09	Hydr. Depth (ft)	2.83	10.73	2.93
Conv. Total (cfs)	375601.3	Conv. (cfs)	48524.3	201224.0	125852.9
Length Wtd. (ft)		Wetted Per. (ft)	260.40	137.86	732.75
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.08	0.30	0.09
Alpha	1.66	Stream Power (lb/ft s)	0.12	0.95	0.11
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Manning's n values were composited to a single value in the main channel.

SUMMARY OF MANNING'S N VALUES

River: Ulbutuoch

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7
2001 Monitoring	13.71	.045	.055	.029	.025	.029	.08	.052
2001 Monitoring	13.7	.045	.055	.029	.025	.029	.08	.052

SUMMARY OF REACH LENGTHS

River: Ulbutuoch

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ulbutuoch

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
2001 Monitoring	13.71	8204.00	3.43	21.52		21.61	0.000476	3.12	4294.38	1124.24		0.17
2001 Monitoring	13.7	8204.00	3.43	21.52	14.76	21.61	0.000477	3.13	4290.63	1124.03		0.17

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
2001 Monitoring	13.71	21.61	21.52	0.09	0.00	0.00	1060.62	4392.64	2750.74	1124.24
2001 Monitoring	13.7	21.61	21.52	0.09			1059.88	4395.20	2748.92	1124.03

ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : Plan 02

River: Ulbutuoch Reach: 2001 Monitoring RS: 13.71 Profile: 100-Year
Note: Manning's n values were composited to a single value in the main channel.
River: Ulbutuoch Reach: 2001 Monitoring RS: 13.7 Profile: 100-Year
Note: Manning's n values were composited to a single value in the main channel.

HEC-RAS Run, Ublutuoch River, 200-Year Flood without Snow & Ice

HEC-RAS Version 3.0.1 Mar 2001
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street, Suite D
 Davis, California 95616-4687
 (916) 756-1104

```

X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X X           X      X      X X      X X      X
X      X X           X           X X      X X      X
XXXXXXXX XXXX      X           XXX XXXX      XXXXXX      XXXX
X      X X           X           X X      X X           X
X      X X           X      X      X X      X X      X
X      X  XXXXXX      XXXX      X      X      X      XXXXXX
  
```

PROJECT DATA

Project Title: Ublutuoch RM 13.7 No Ice 200-Year
 Project File : 200yearnoice.prj
 Run Date and Time: 2/14/2002 1:49:52 PM

Project in English units

Project Description:

200-Year Flood, Ublutuoch RM 13.7, No Ice Condition, Normal Depth

PLAN DATA

Plan Title: Plan 03

Plan File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\200yearnoice.p03

Geometry Title: Ublutuoch No Ice Geometry

Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\200yearnoice.g01

Flow Title : Ublutuoch RM 13.7 No Ice

Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\200yearnoice.f02

Plan Summary Information:

Number of: Cross Sections	=	2	Mulitple Openings	=	0
Culverts	=	0	Inline Weirs	=	0
Bridges	=	0			

Computational Information

Water surface calculation tolerance = 0.003
Critical depth calculaton tolerance = 0.003
Maximum number of interations = 20
Maximum difference tolerance = 0.1
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Ublutuoch RM 13.7 No Ice

Flow File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\200yearnoice.f02

Flow Data (cfs)

River	Reach	RS	200-Year
Ublutuoch	2001 Monitoring	13.71	9593

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Ublutuoch	2001 Monitoring	200-Year		Normal S = .000477

GEOMETRY DATA

Geometry Title: Ublutuoch No Ice Geometry

Geometry File : s:\Projects\NPRA EIS\Backwater Analysis - Open Water\Ublutuoch HEC-RAS\No Ice\200yearnoice.g01

CROSS SECTION RIVER: Ublutuoch
REACH: 2001 Monitoring RS: 13.71

INPUT

Description: Ublutuoch RM 13.7+10'

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.045	275	.055	330	.029	348	.025	375	.029
386	.08	406	.052						

Bank Sta:	Left	Right	Lengths:			Left Channel	Right	Coeff	Contr.	Expan.
	275	406	10	10	10			.1	.3	
Blocked Obstructions num= 2										
Sta L	Sta R	Elev	Sta L	Sta R	Elev					
0	275	18.1	414	1000	18.1					

CROSS SECTION OUTPUT Profile #200-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	22.11				
Vel Head (ft)	0.10	Wt. n-Val.	0.045	0.049	0.052
W.S. Elev (ft)	22.01	Reach Len. (ft)	10.00	10.00	10.00
Crit W.S. (ft)		Flow Area (sq ft)	866.59	1470.57	2516.93
E.G. Slope (ft/ft)	0.000476	Area (sq ft)	866.59	1470.57	2516.93
Q Total (cfs)	9593.00	Flow (cfs)	1357.47	4732.57	3502.95
Top Width (ft)	1155.80	Top Width (ft)	270.21	131.00	754.59
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	1.57	3.22	1.39
Max Chl Dpth (ft)	18.58	Hydr. Depth (ft)	3.21	11.23	3.34
Conv. Total (cfs)	439675.2	Conv. (cfs)	62216.9	216907.6	160550.6
Length Wtd. (ft)	10.00	Wetted Per. (ft)	270.30	137.86	754.65
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.10	0.32	0.10
Alpha	1.58	Stream Power (lb/ft s)	0.15	1.02	0.14
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	0.20	0.34	0.58
C & E Loss (ft)	0.00	Cum SA (acres)	0.06	0.03	0.17

Note: Manning's n values were composited to a single value in the main channel.

CROSS SECTION RIVER: Ulbutuoch
 REACH: 2001 Monitoring RS: 13.7

INPUT

Description: Ublutuoch RM 13.7

Station Elevation Data num= 35									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-208	27.2	-21	23.3	29	20.8	123	17.2	135	16.5
275	18.8	276	16.92	306	13.66	322	10.84	330	8.15
340	7.41	343	5.92	348	6.03	350	4.58	362	3.74
372	3.43	375	6.21	386	11.88	398	18.07	406	18.58
414	18.69	490	16.3	499	17.83	598	17.47	676	16.06
704	17.08	797	16.88	882	18.53	981	19.23	1068	19.23
1130	21.32	1227	23.51	1326	25.24	1426	27.37	1528	28.83

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
-208	.045	275	.055	330	.029	348	.025	375	.029
386	.08	406	.052						

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	275	406		.1	.3

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	275	18.1	414	1000	18.1

CROSS SECTION OUTPUT Profile #200-Year

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	22.10				
Vel Head (ft)	0.10	Wt. n-Val.	0.045	0.049	0.052
W.S. Elev (ft)	22.01	Reach Len. (ft)			
Crit W.S. (ft)	15.58	Flow Area (sq ft)	865.69	1470.13	2514.41
E.G. Slope (ft/ft)	0.000477	Area (sq ft)	865.69	1470.13	2514.41
Q Total (cfs)	9593.00	Flow (cfs)	1356.74	4735.10	3501.17
Top Width (ft)	1155.59	Top Width (ft)	270.15	131.00	754.44
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	1.57	3.22	1.39
Max Chl Dpth (ft)	18.58	Hydr. Depth (ft)	3.20	11.22	3.33
Conv. Total (cfs)	439223.1	Conv. (cfs)	62119.3	216800.1	160303.8
Length Wtd. (ft)		Wetted Per. (ft)	270.23	137.86	754.50
Min Ch El (ft)	3.43	Shear (lb/sq ft)	0.10	0.32	0.10
Alpha	1.58	Stream Power (lb/ft s)	0.15	1.02	0.14
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Note: Manning's n values were composited to a single value in the main channel.

SUMMARY OF MANNING'S N VALUES

River:Ulbutuoch

Reach	River Sta.	n1	n2	n3	n4	n5	n6	n7
2001 Monitoring	13.71	.045	.055	.029	.025	.029	.08	.052
2001 Monitoring	13.7	.045	.055	.029	.025	.029	.08	.052

SUMMARY OF REACH LENGTHS

River: Ulbutuoch

Reach	River Sta.	Left	Channel	Right
2001 Monitoring	13.71	10	10	10
2001 Monitoring	13.7			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Ulbutuoch

Reach	River Sta.	Contr.	Expan.
2001 Monitoring	13.71	.1	.3
2001 Monitoring	13.7	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width
Froude #	Chl	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)
2001 Monitoring	13.71	9593.00	3.43	22.01		22.11	0.000476	3.22	4854.09	1155.80
0.17										
2001 Monitoring	13.7	9593.00	3.43	22.01	15.58	22.10	0.000477	3.22	4850.23	1155.59
0.17										

Profile Output Table - Standard Table 2

Reach	River Sta	E.G. Elev	W.S. Elev	Vel Head	Frctn Loss	C & E Loss	Q Left	Q Channel	Q Right	Top Width
		(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft)
2001 Monitoring	13.71	22.11	22.01	0.10		0.00	1357.47	4732.57	3502.95	1155.80
2001 Monitoring	13.7	22.10	22.01	0.10			1356.74	4735.10	3501.17	1155.59

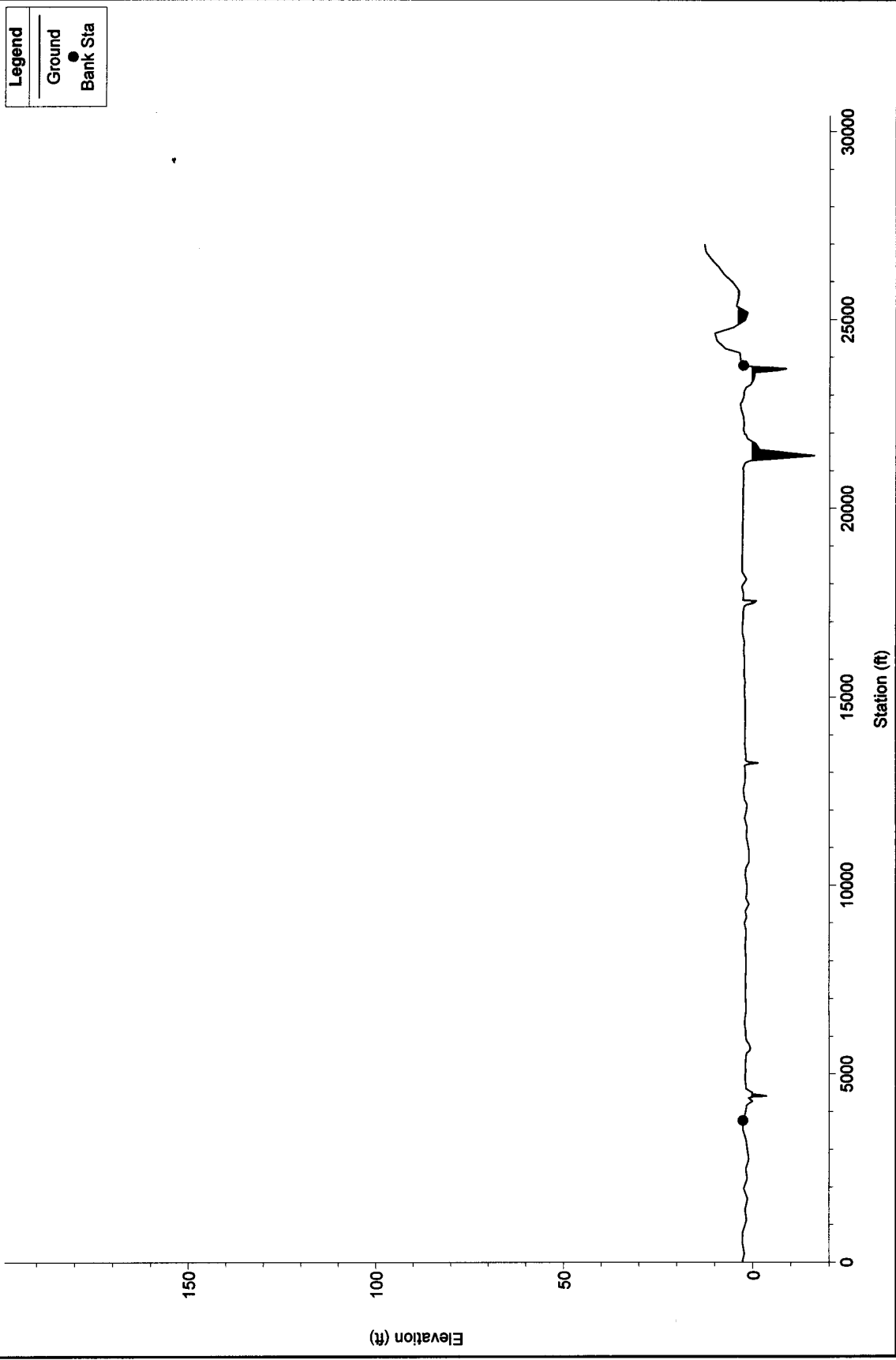
ERRORS WARNINGS AND NOTES

Errors Warnings and Notes for Plan : Plan 02

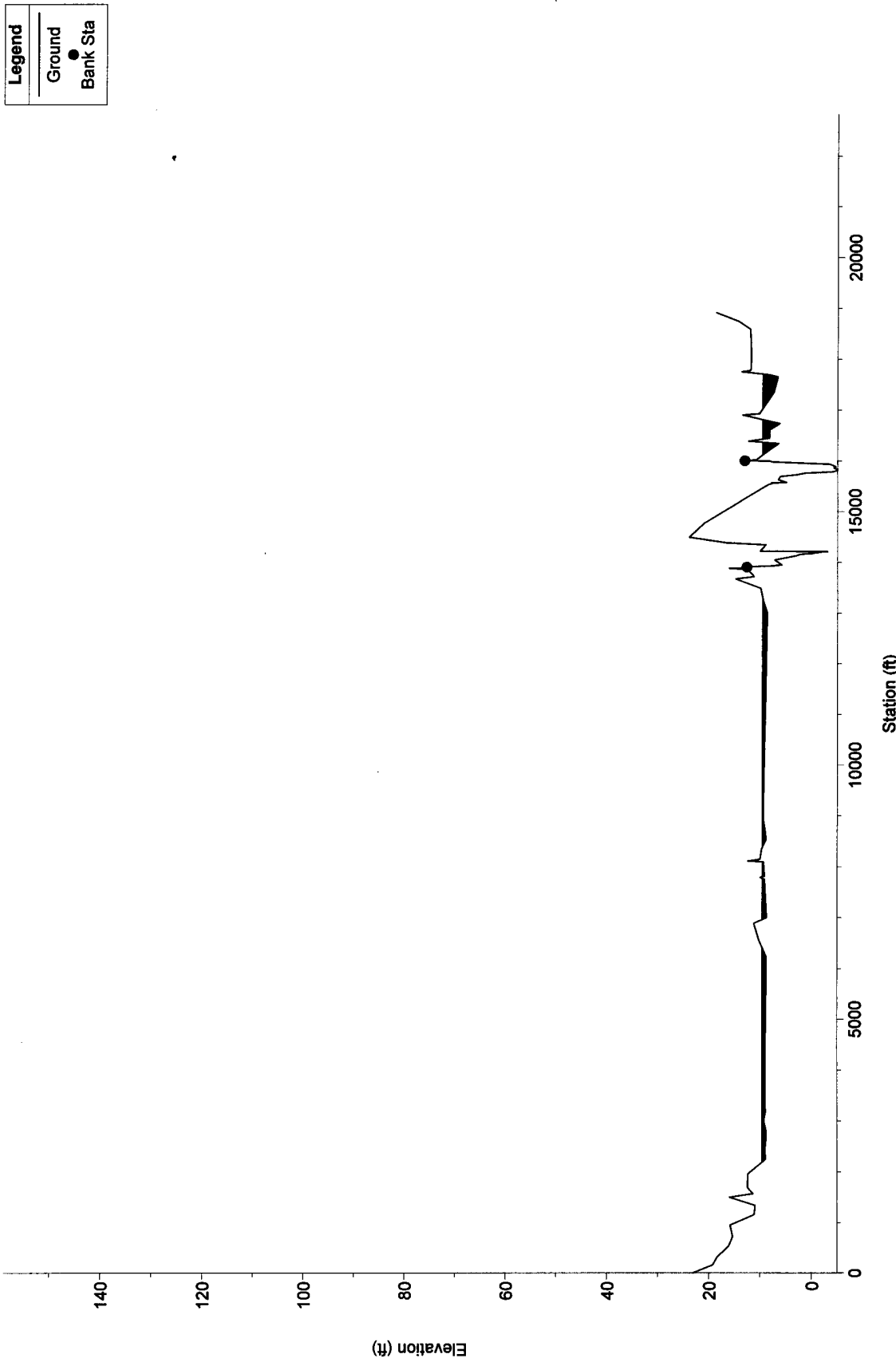
River: Ulbutuoch Reach: 2001 Monitoring RS: 13.71 Profile: 200-Year
Note: Manning's n values were composited to a single value in the main channel.
River: Ulbutuoch Reach: 2001 Monitoring RS: 13.7 Profile: 200-Year
Note: Manning's n values were composited to a single value in the main channel.

Fish Creek Cross Sections

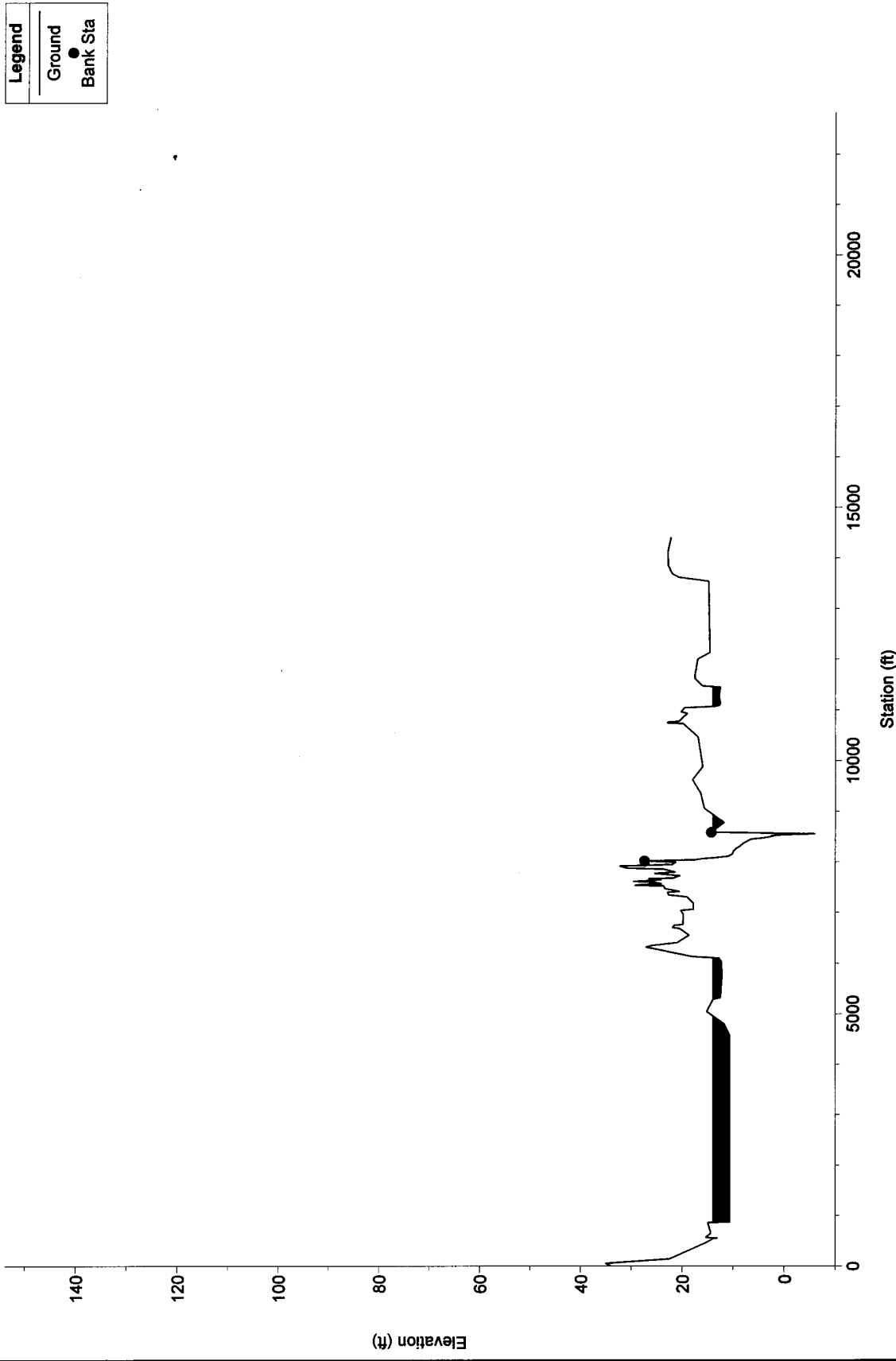
2001 Back Water Analysis
 River = Fish Creek Reach = Lower Fish Creek Cross Section at River Mile 0.7



River = Fish Creek Reach = Lower Fish Creek Cross Section at River Mile 11.7

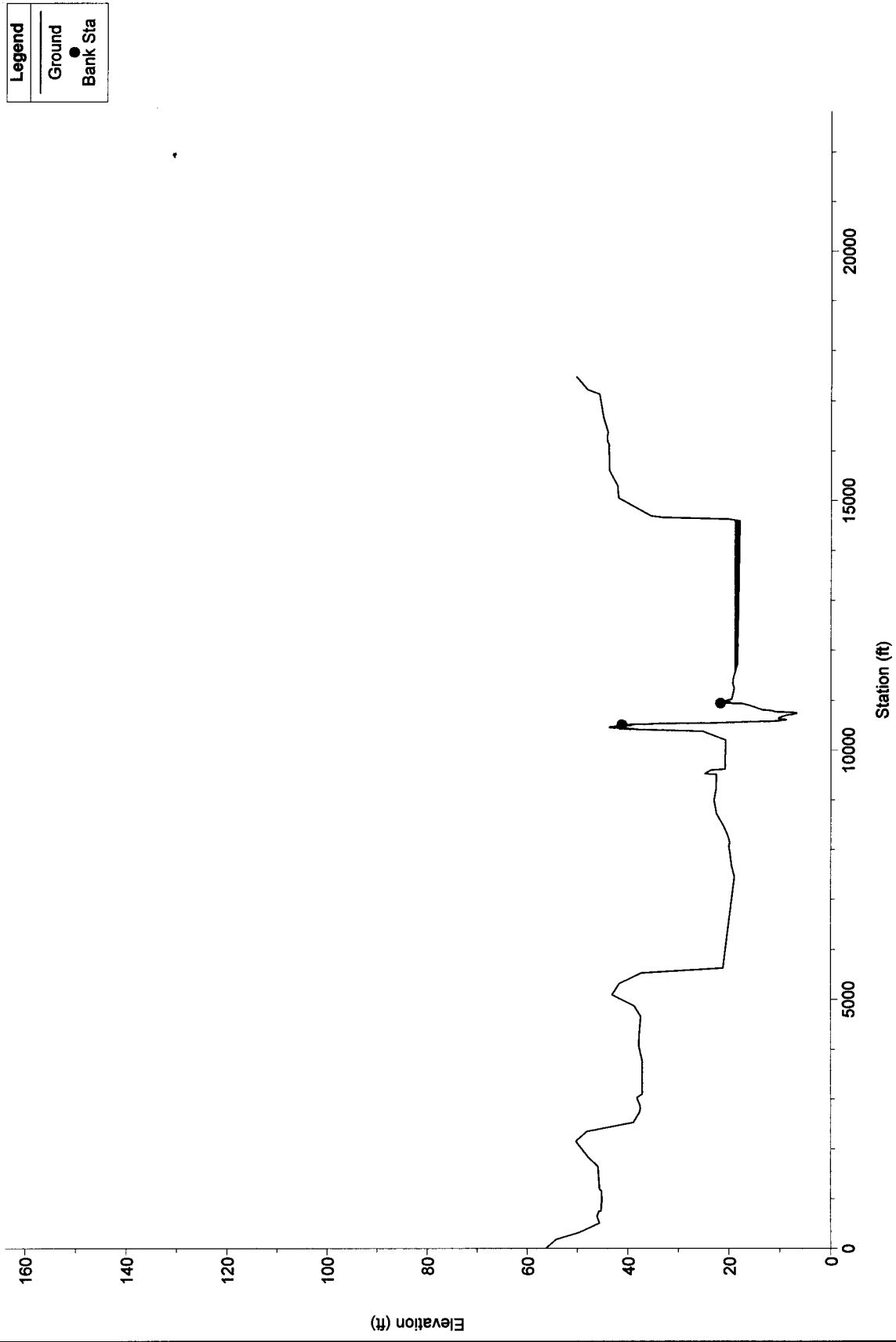


2001 Back Water Analysis
 River = Fish Creek Reach = Lower Fish Creek Cross Section at River Mile 18.4



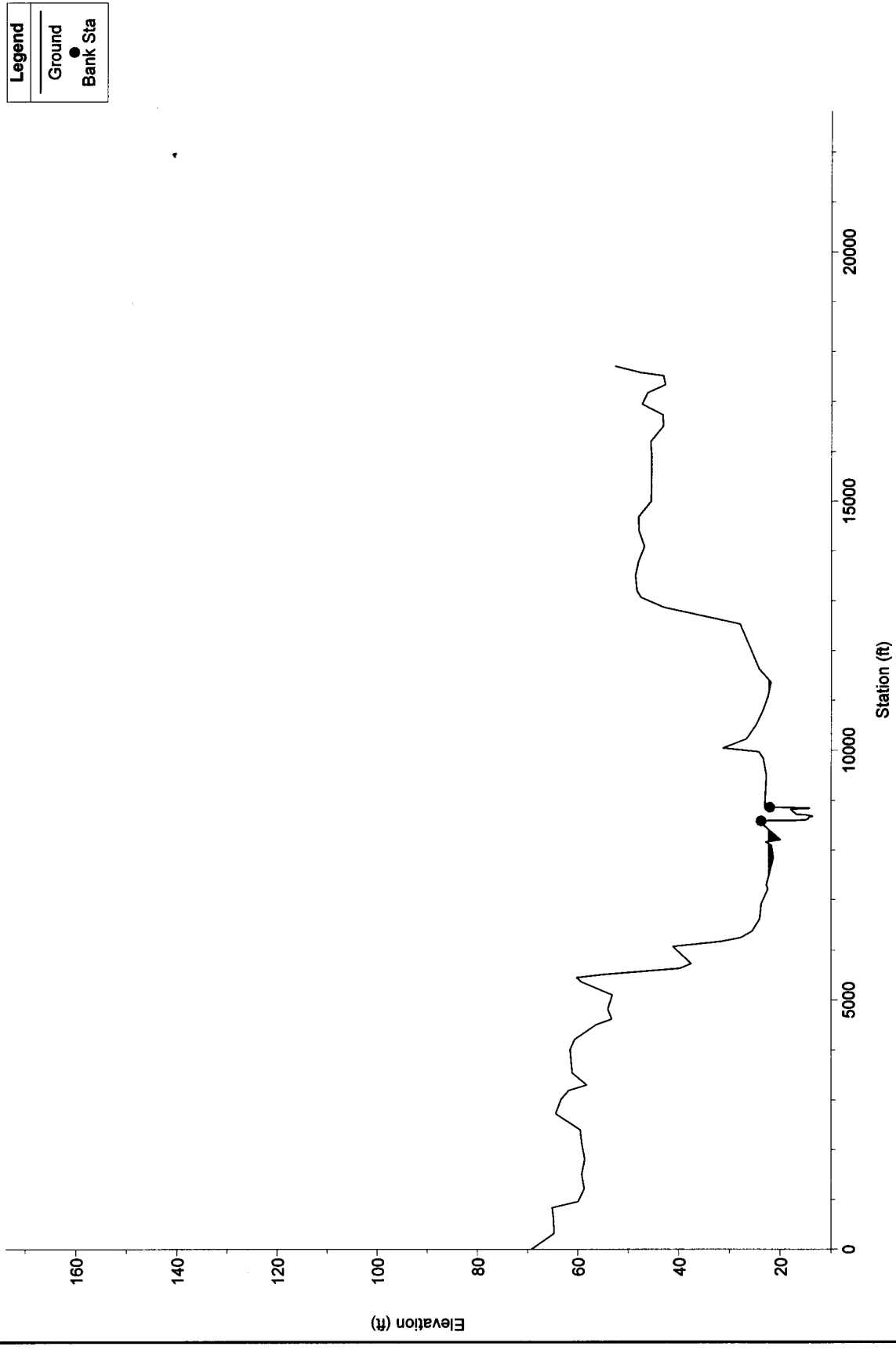
1 in Horiz. = 3000 ft 1 in Vert. = 30 ft

2001 Back Water Analysis
 River = Fish Creek Reach = Lower Fish Creek Cross Section at River Mile 25.1

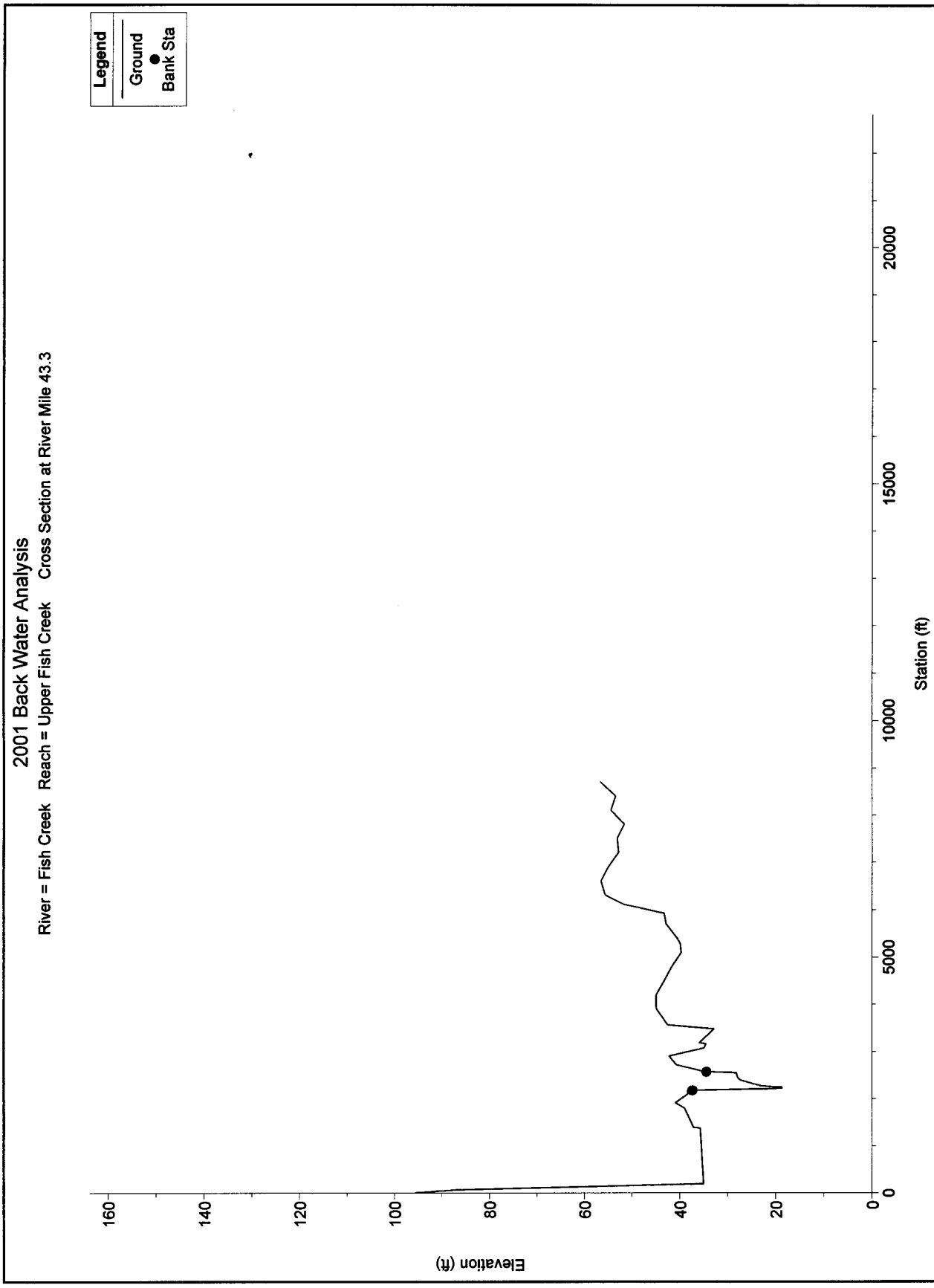


1 in Horiz. = 3000 ft 1 in Vert. = 30 ft

2001 Back Water Analysis
 River = Fish Creek Reach = Upper Fish Creek Cross Section at River Mile 32.4

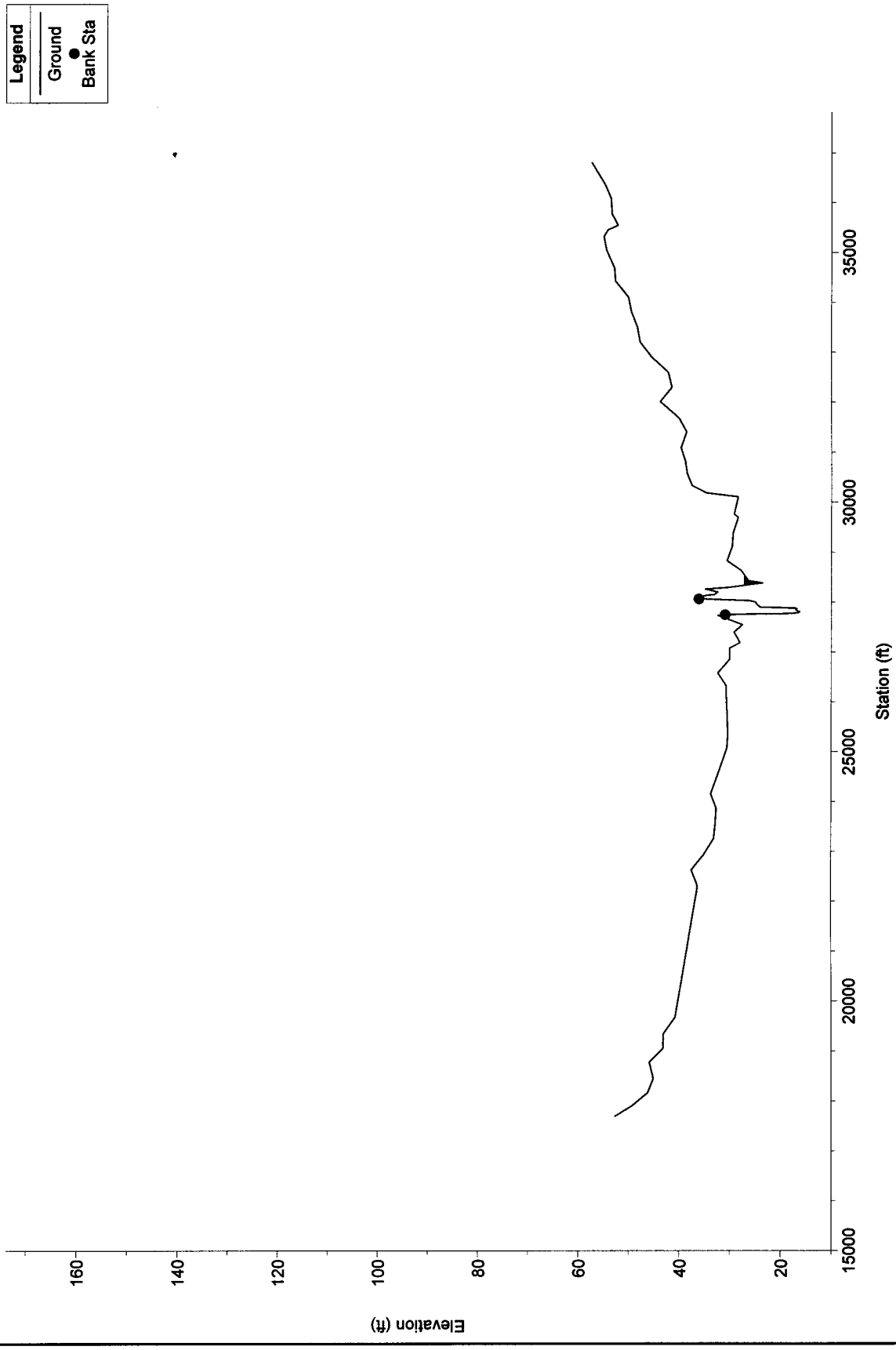


1 in Horiz. = 3000 ft 1 in Vert. = 30 ft



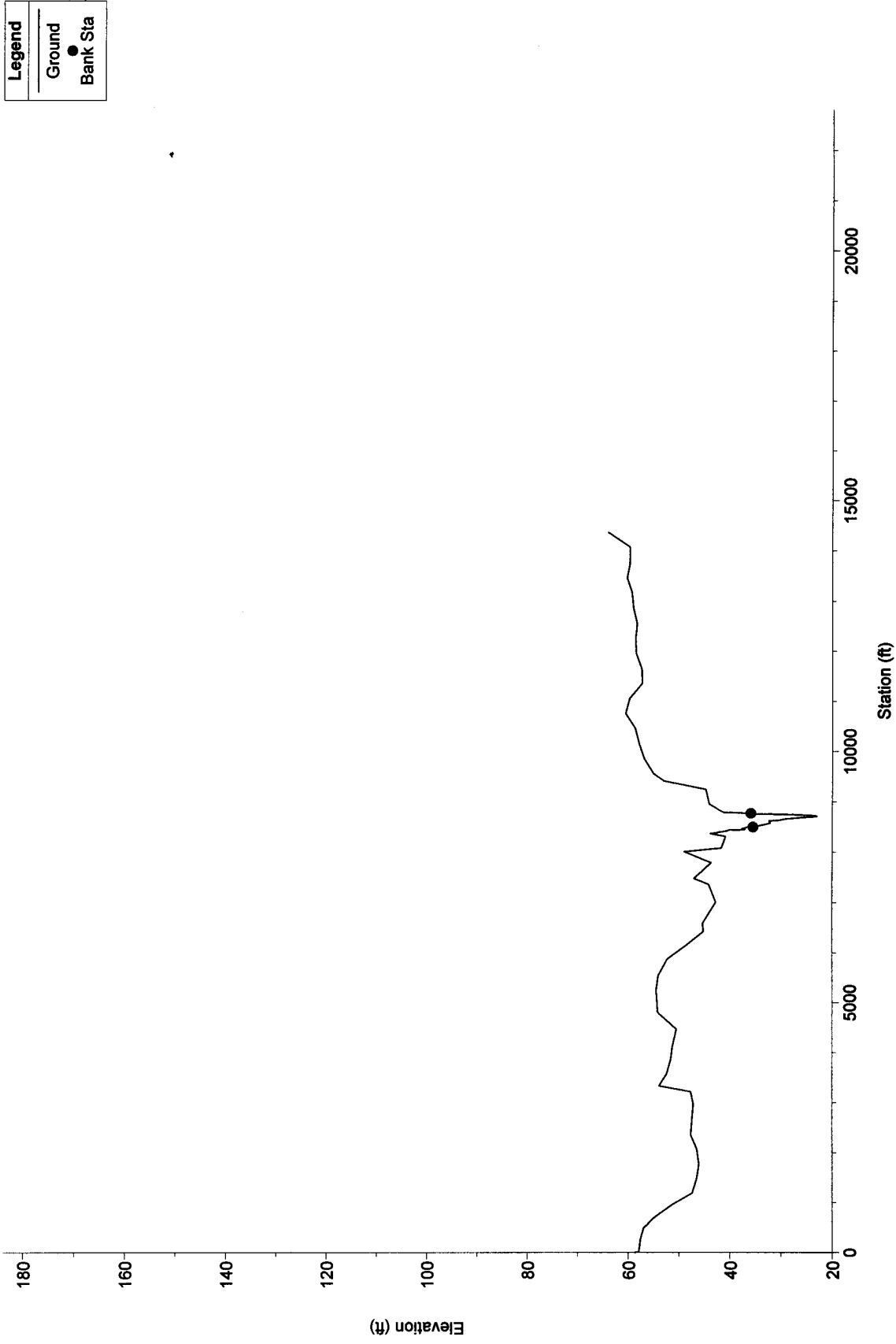
Judy Creek Cross Sections

2001 Back Water Analysis
 River = Judy Creek Reach = Lower Judy Creek Cross Section at River Mile 7.0

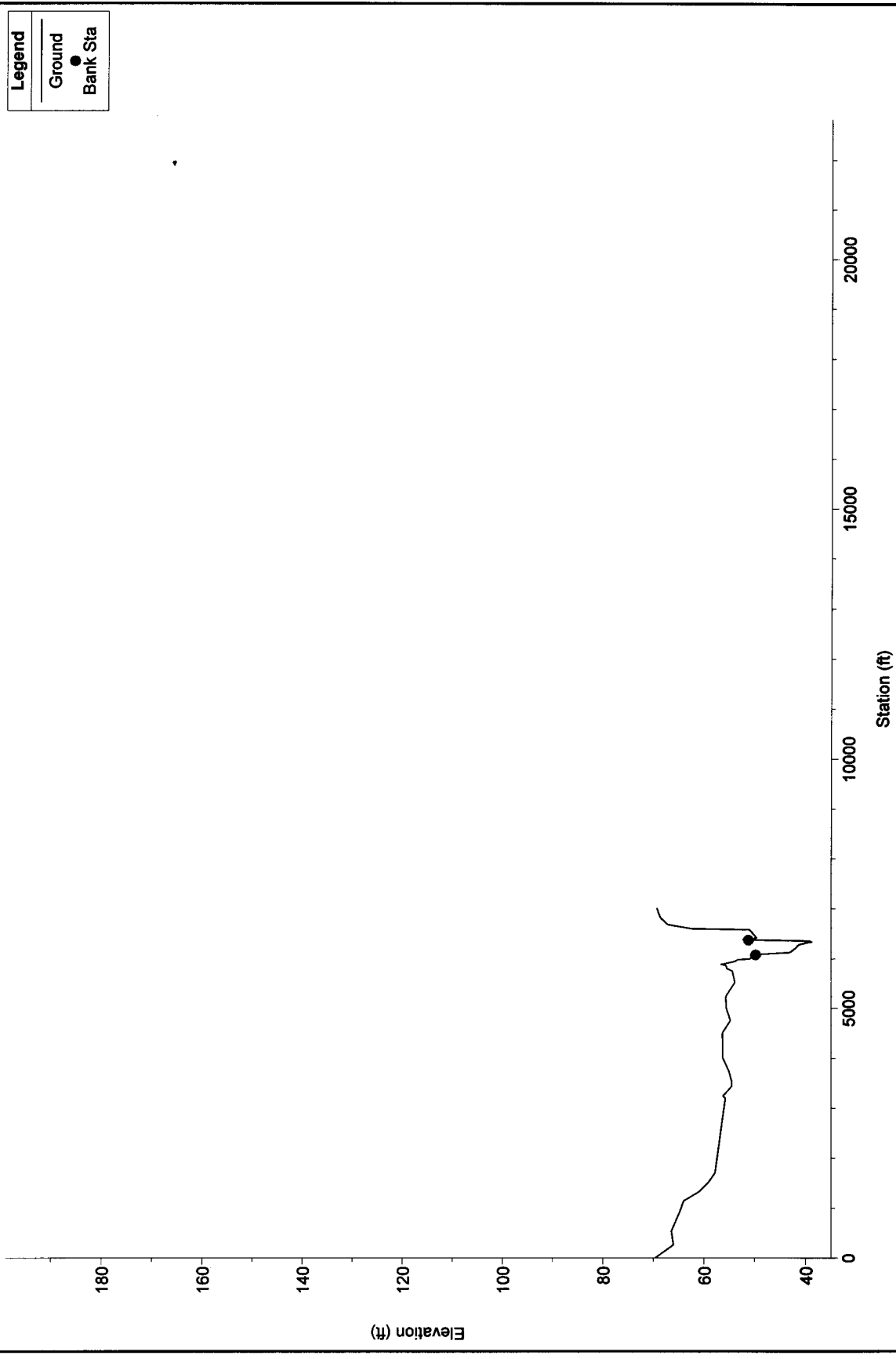


1 in Horiz. = 3000 ft 1 in Vert. = 30 ft

2001 Back Water Analysis
 River = Judy Creek Reach = Lower Judy Creek Cross Section at River Mile 13.8

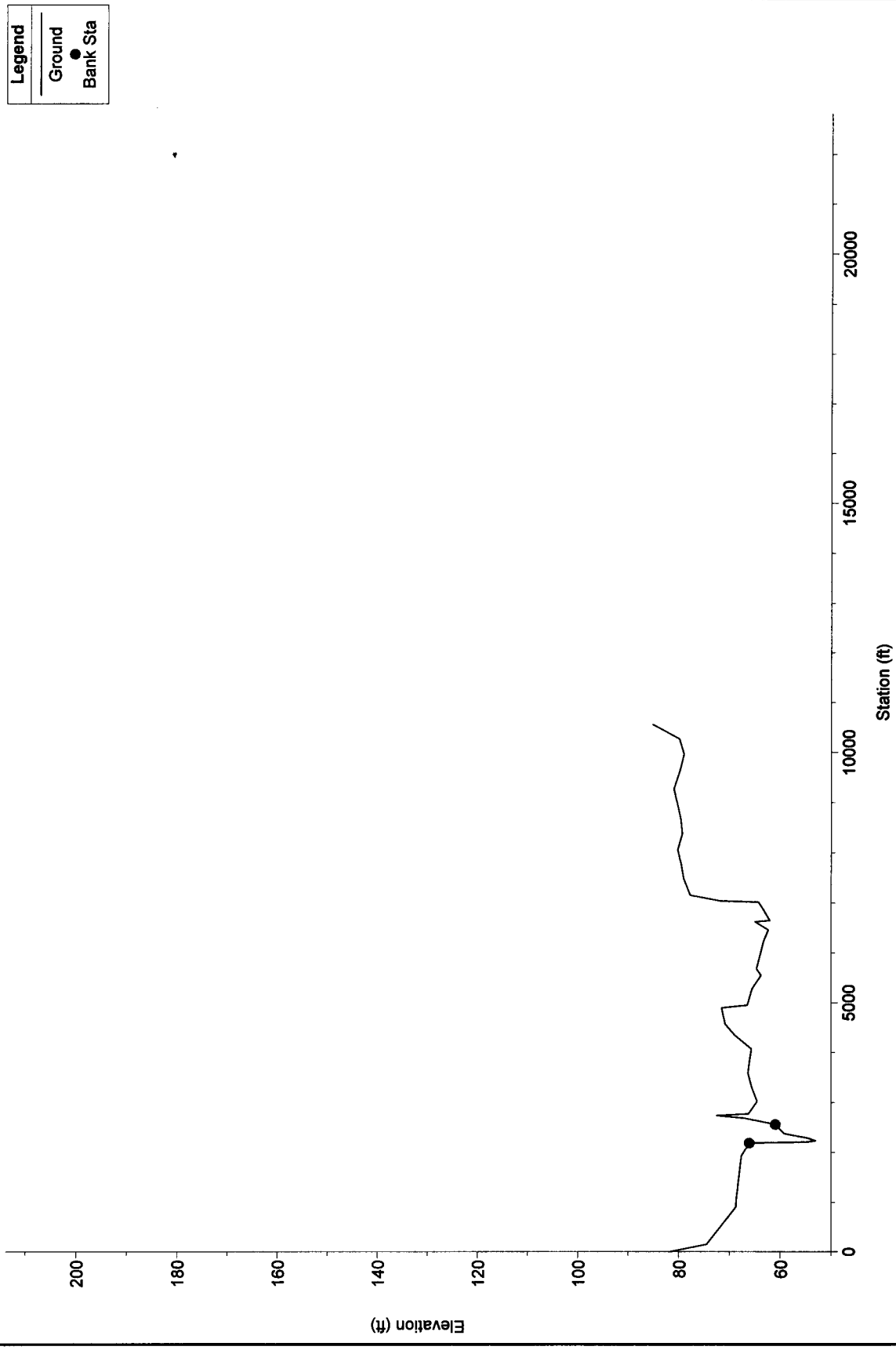


2001 Back Water Analysis
 River = Judy Creek Reach = Lower Judy Creek Cross Section at River Mile 21.8



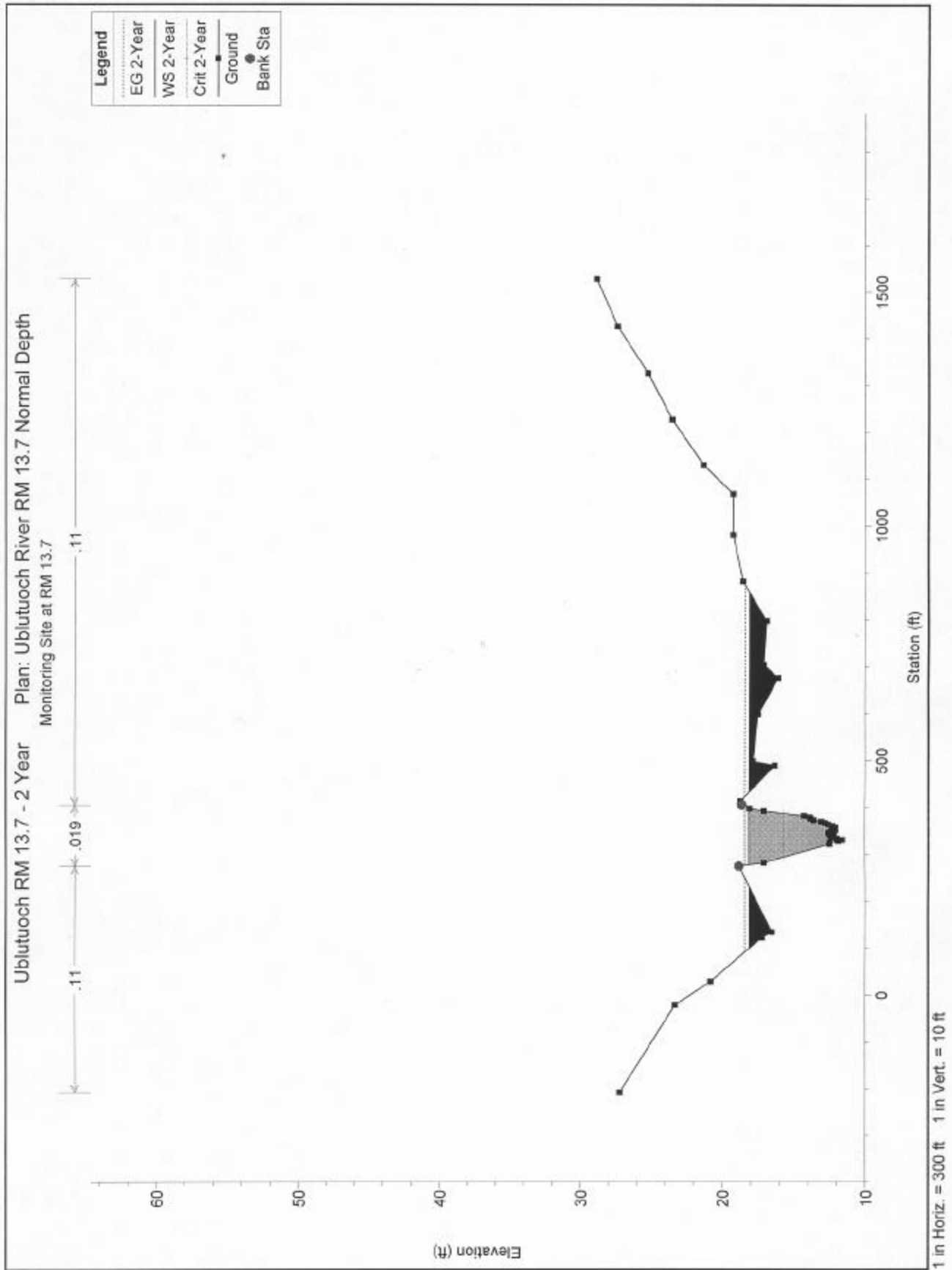
1 in Horiz. = 3000 ft 1 in Vert. = 30 ft

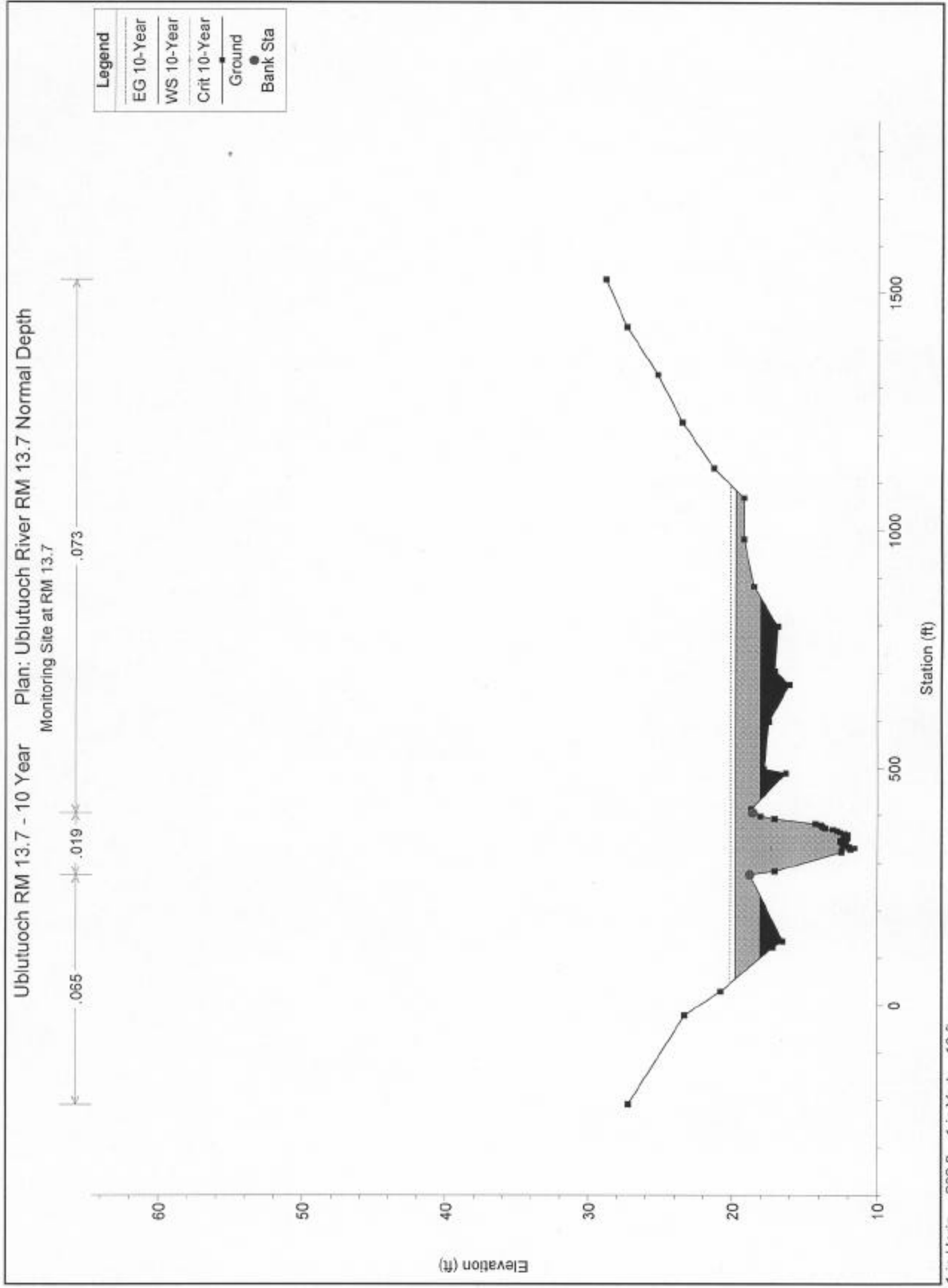
2001 Back Water Analysis
 River = Judy Creek Reach = Lower Judy Creek Cross Section at River Mile 31.0

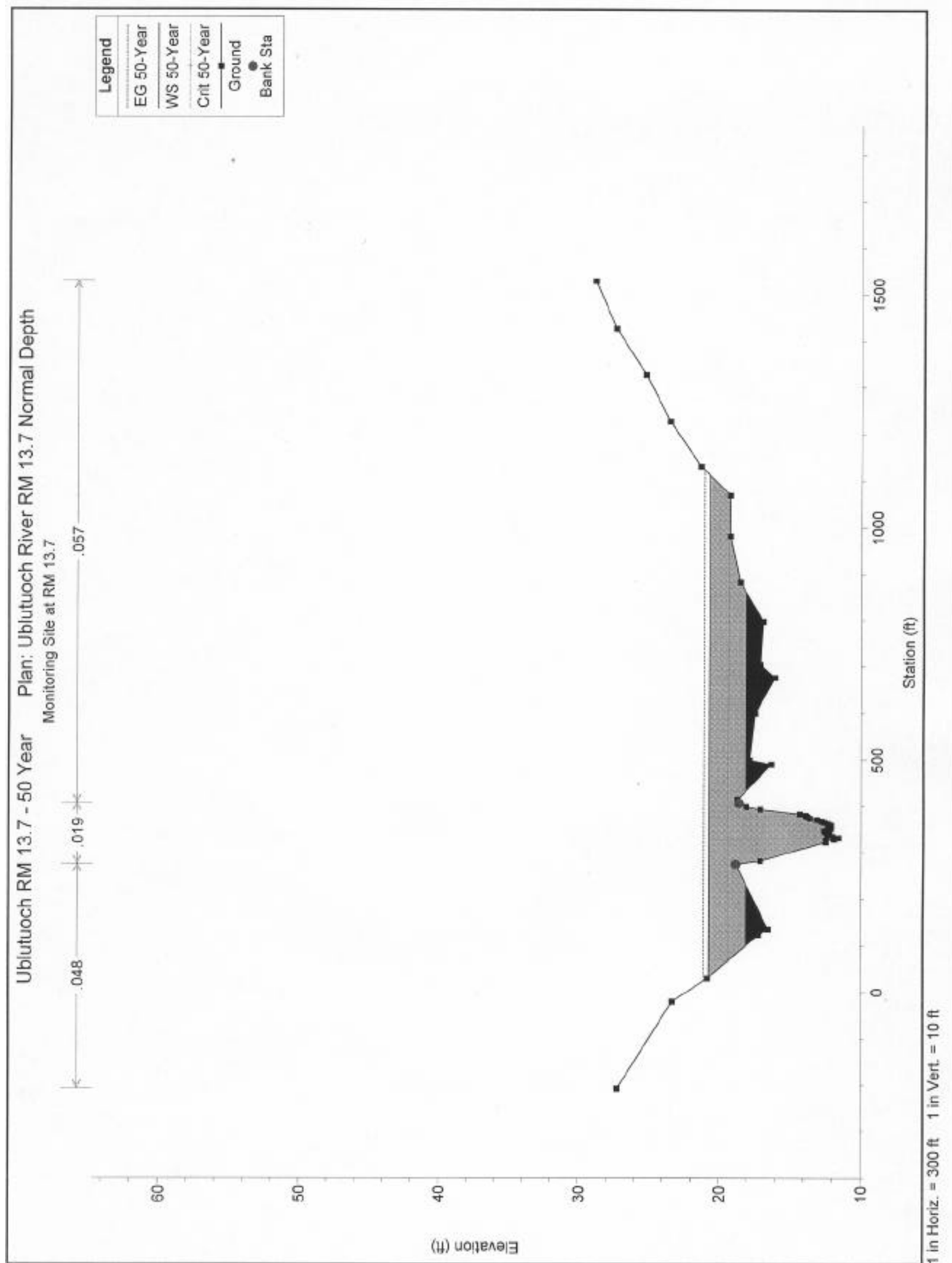


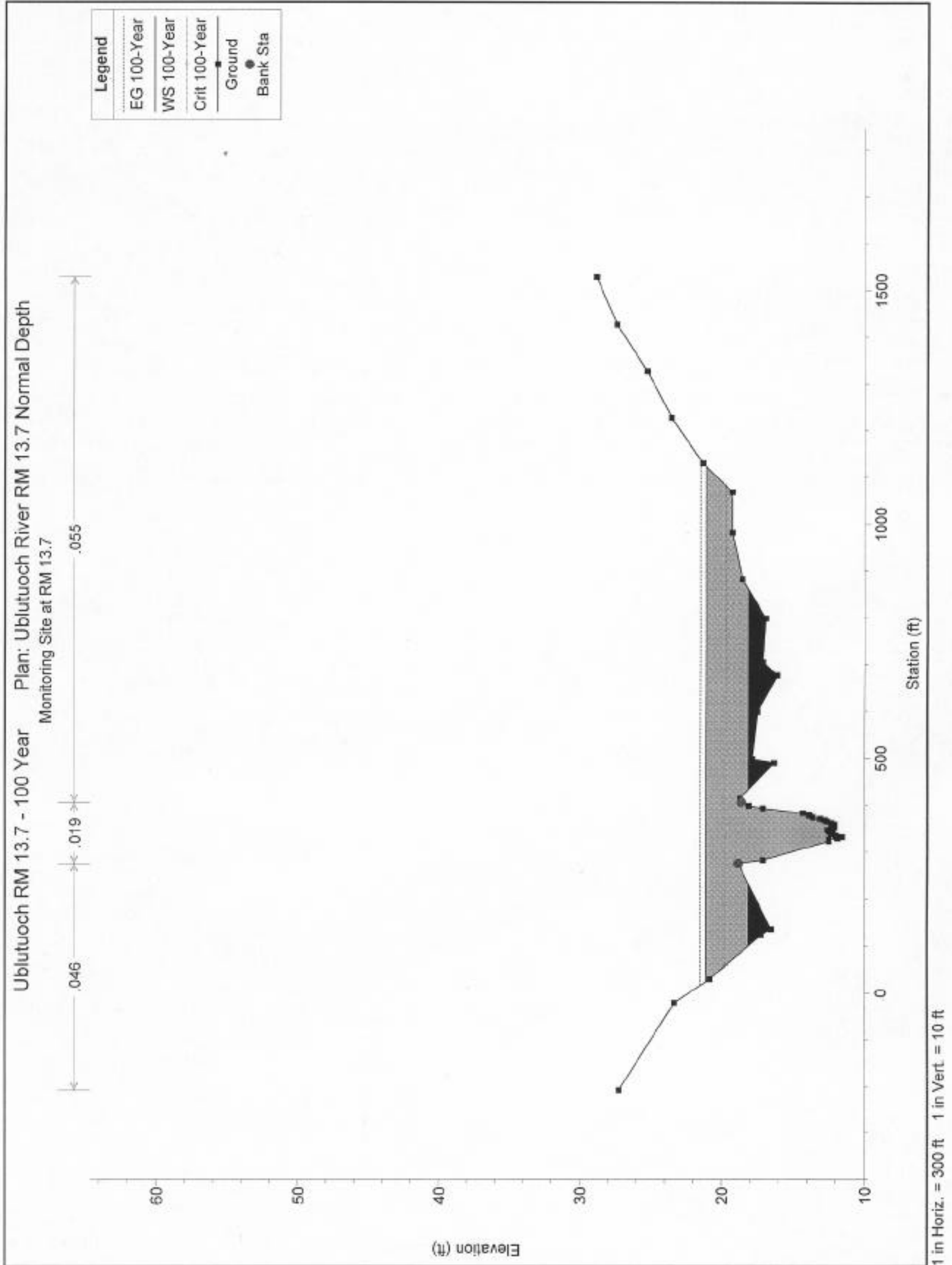
1 in Horiz. = 3000 ft 1 in Vert. = 30 ft

Ublutuoch River Cross Sections





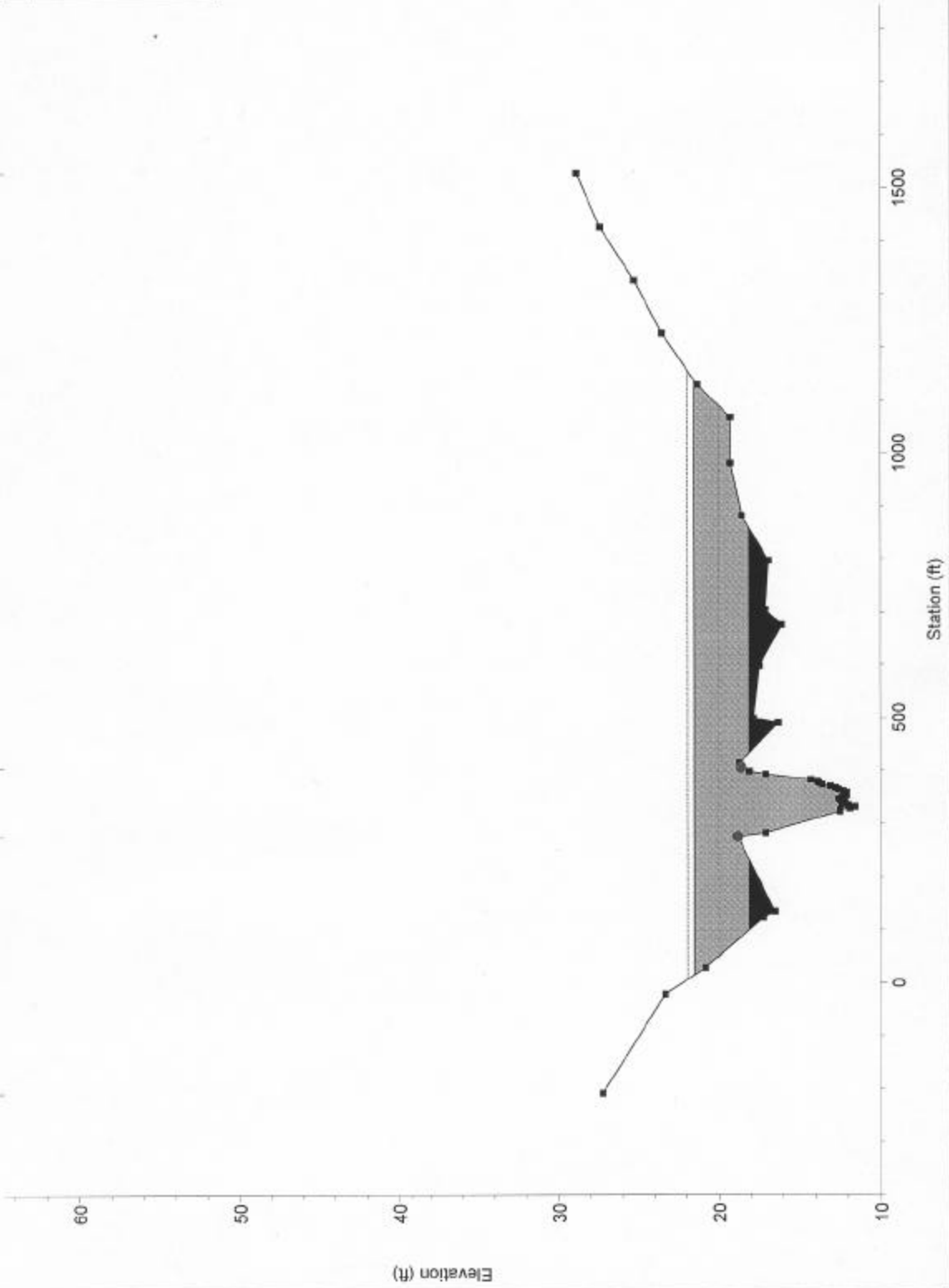




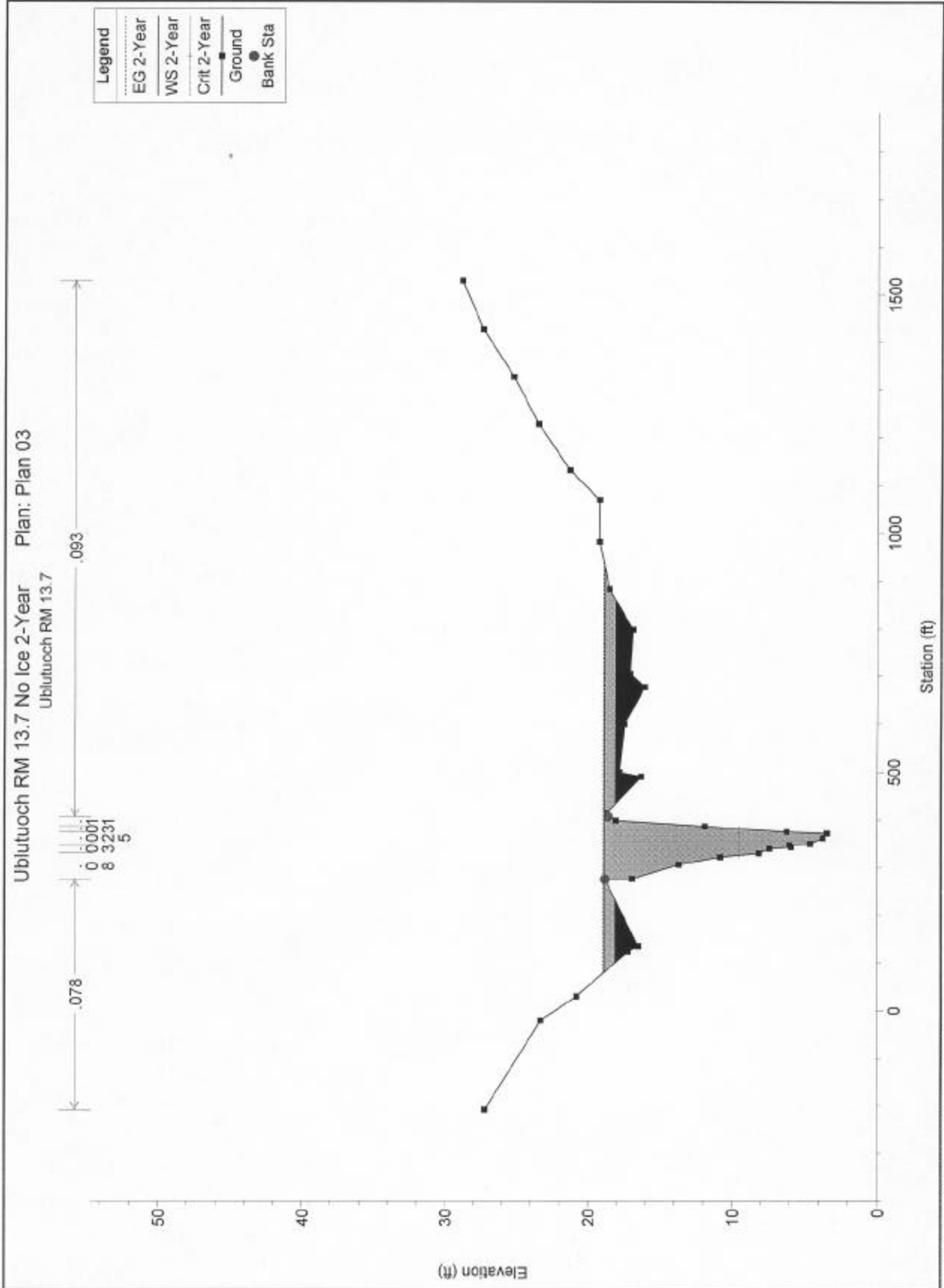
Ublutuoch RM 13.7 - 200 Year Plan: Ublutuoch River RM 13.7 Normal Depth
Monitoring Site at RM 13.7

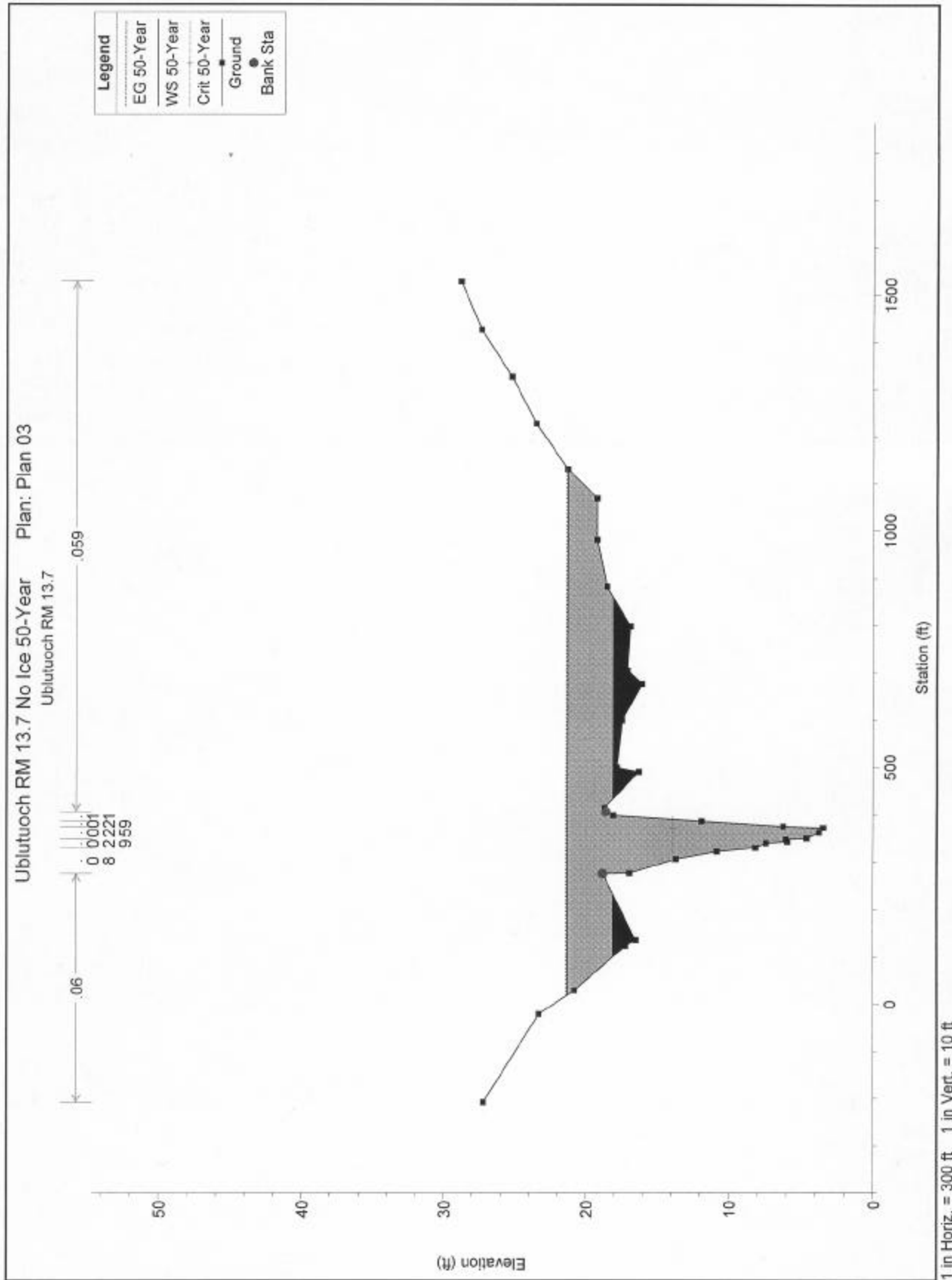


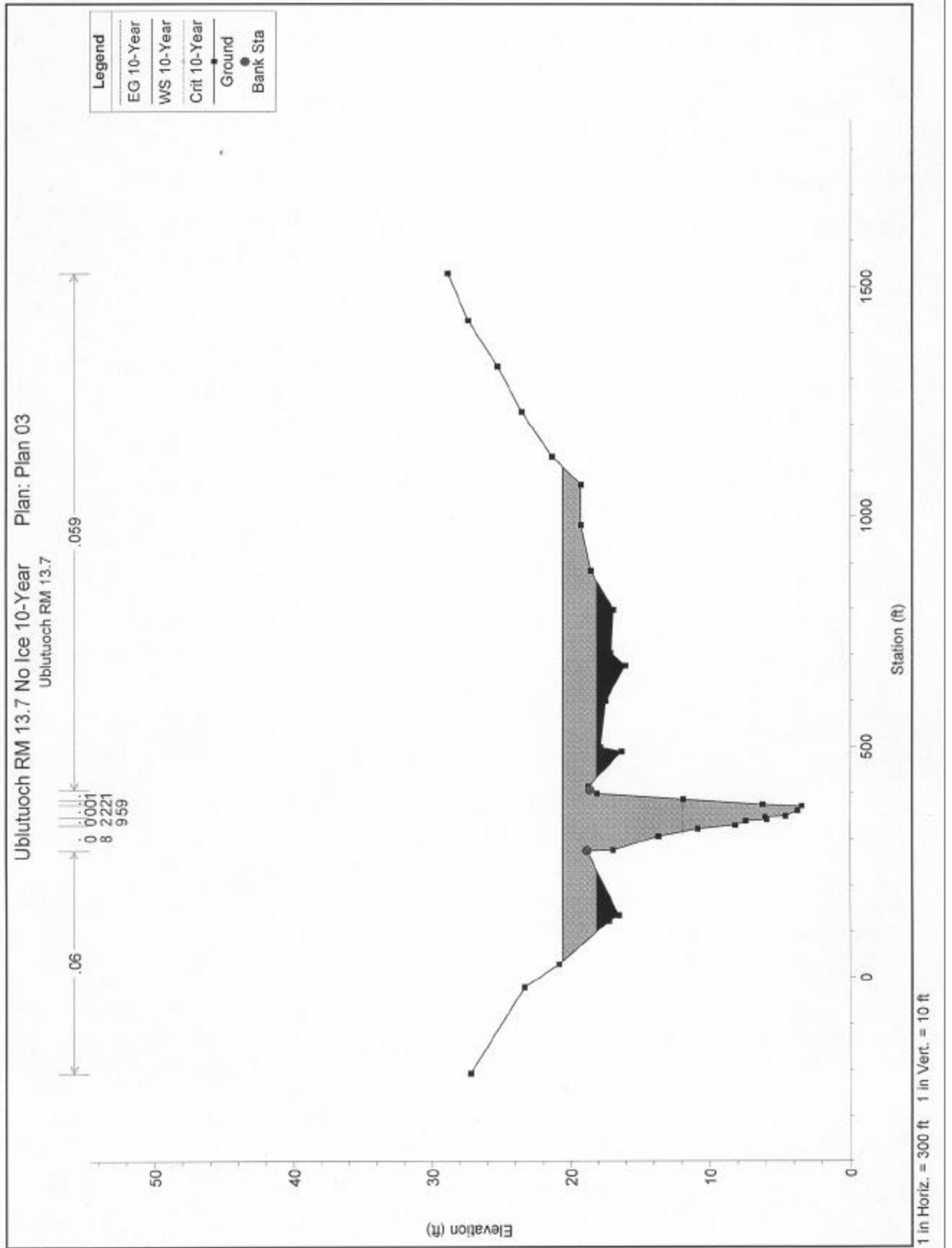
Legend	
EG 200-Year	—
WS 200-Year	—
Crit 200-Year	—
Ground	●
Bank Sta	●

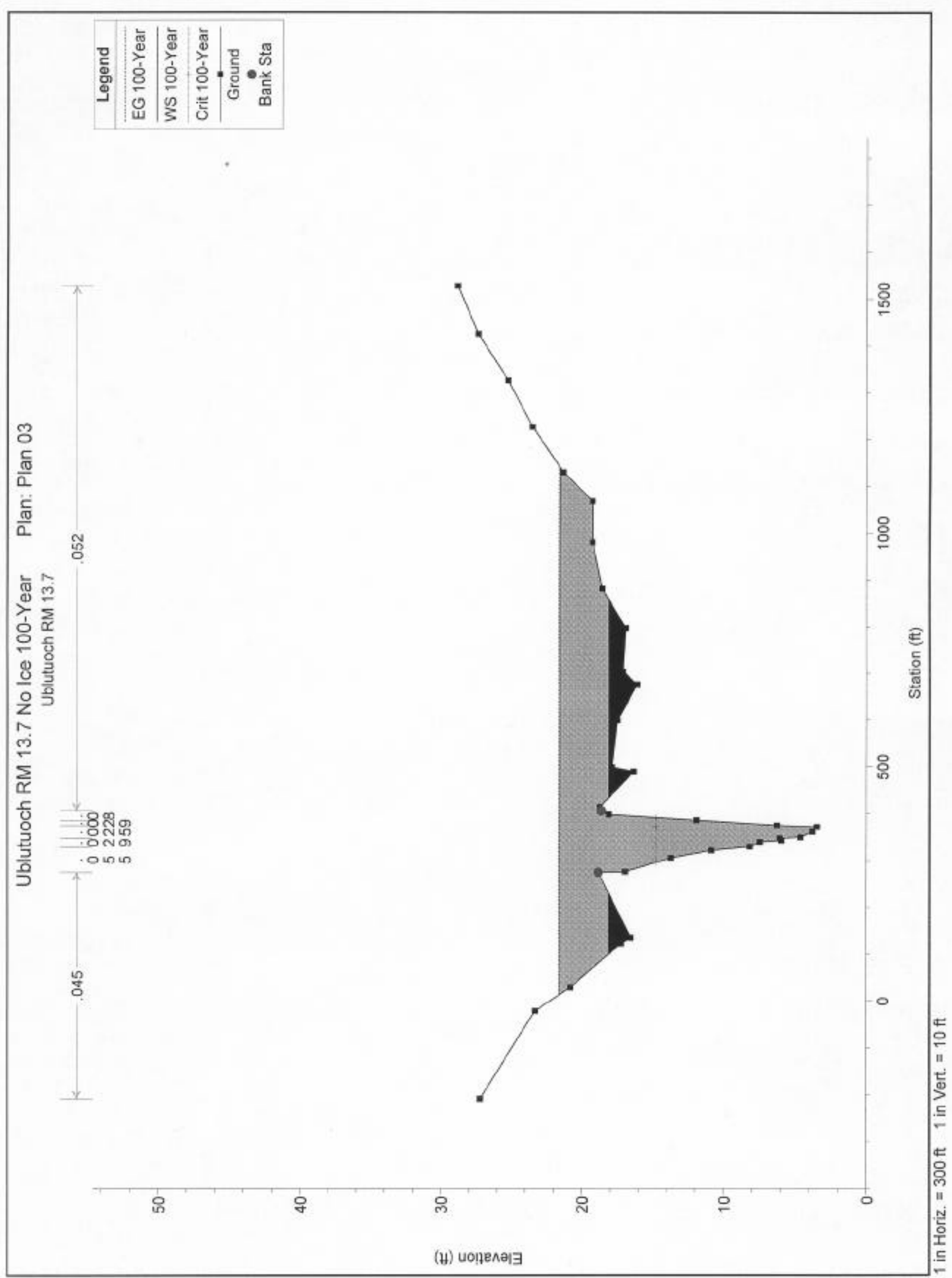


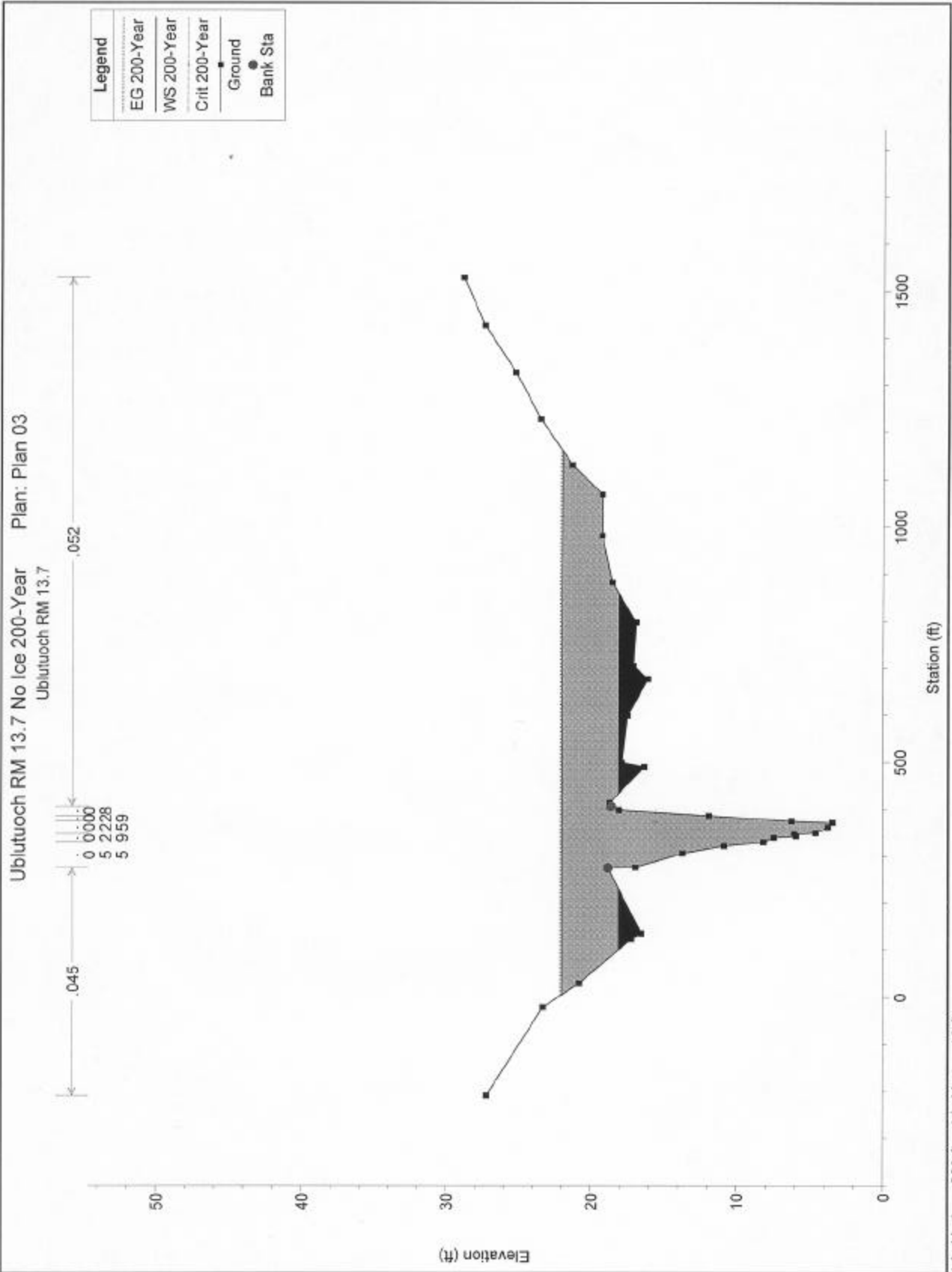
1 in Horiz. = 300 ft 1 in Vert. = 10 ft











APPENDIX E
SURVEYED CROSS SECTIONS

LIST OF TABLES

	<u>Page</u>
Table E.1	Cross-Section Survey of Fish Creek at River Mile 0.7 E-1
Table E.2	Cross-Section Survey of Fish Creek at River Mile 11.7 E-8
Table E.3	Cross-Section Survey of Fish Creek at River Mile 18.4 E-15
Table E.4	Cross-Section Survey of Fish Creek at River Mile 25.1 E-20
Table E.5	Cross-Section Survey of Fish Creek at River Mile 32.4 and Judy Creek at River Mile 7 E-26
Table E.6	Cross-Section Survey of Fish Creek at River Mile 43.3 E-34
Table E.7	Cross-Section Survey of Judy Creek at River Mile 13.8 E-37
Table E.8	Cross-Section Survey of Judy Creek at River Mile 21.6 E-41
Table E.9	Cross-Section Survey of Judy Creek at River Mile 31 E-44
Table E.10	Cross-Section Survey of the Ublutuoch River at River Mile 13.5 E-47
Table E.11	Cross-Section Survey of the Ublutuoch River at River Mile 13.7 E-49

Fish Creek

Cross-Section Surveys

Table E.1: Cross-Section Survey of Fish Creek at River Mile 0.7

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
177	269+82	5,999,729	329,445	70° 24.3104'	151° 23.3115'	2.7	Tundra @ D5; Short grass
176	267+55	5,999,689	329,668	70° 24.3047'	151° 23.2021'	2.2	Top mud; no ice
175	264+54	5,999,642	329,965	70° 24.2981'	151° 23.0564'	2.7	Tundra; no ice; sparse Short grass
174	261+74	5,999,604	330,243	70° 24.2929'	151° 22.9202'	2.6	Tundra; no ice; sparse Short grass
173	258+71	5,999,563	330,543	70° 24.2873'	151° 22.7734'	1.6	Top mud; no ice; sparse Short grass
172	255+90	5,999,517	330,820	70° 24.2808'	151° 22.6375'	2.0	Tundra; no ice; sparse Short grass
171	253+03	5,999,474	331,104	70° 24.2749'	151° 22.4984'	1.3	Top mud (under 3" ice)
170	250+19	5,999,430	331,384	70° 24.2687'	151° 22.3610'	2.3	Tundra; no ice; sparse Short grass
169	247+52	5,999,390	331,649	70° 24.2631'	151° 22.2314'	1.4	Top mud (under 4" ice)
168	245+05	5,999,346	331,891	70° 24.2567'	151° 22.1125'	1.8	Top mud; no ice; sparse Short grass
167	242+41	5,999,306	332,153	70° 24.2513'	151° 21.9842'	1.0	Top mud (under 3" ice)
166	239+77	5,999,265	332,413	70° 24.2453'	151° 21.8569'	1.4	Top mud (under 1" ice)
165	237+33	5,999,226	332,655	70° 24.2400'	151° 21.7384'	1.7	Top mud; no ice
164	234+46	5,999,183	332,938	70° 24.2340'	151° 21.5998'	2.6	Tundra; Short grass
163	232+16	5,999,146	333,165	70° 24.2287'	151° 21.4885'	2.5	Top mud; no ice; sparse Short grass
162	230+19	5,999,111	333,359	70° 24.2237'	151° 21.3933'	1.9	Top mud (under 1" ice)
161	229+09	5,999,095	333,468	70° 24.2214'	151° 21.3399'	1.7	Top mud (under 2" ice)
160	228+08	5,999,080	333,568	70° 24.2194'	151° 21.2910'	1.6	Top mud (under 2" ice)
159	227+00	5,999,063	333,675	70° 24.2170'	151° 21.2387'	0.0	Top mud (under 13" ice)
158	226+25	5,999,049	333,748	70° 24.2150'	151° 21.2025'	1.1	Top mud (under 4" ice)
157	225+92	5,999,044	333,781	70° 24.2141'	151° 21.1866'	-0.2	Top mud (under 1" ice)
156	225+66	5,999,040	333,807	70° 24.2136'	151° 21.1741'	-3.7	Top mud (under 3' 10" water/ice)
154	225+42	5,999,036	333,831	70° 24.2130'	151° 21.1623'	-2.2	Top mud (under 2' 6" ice)
155	225+13	5,999,031	333,859	70° 24.2124'	151° 21.1486'	0.1	Top mud (under 7" ice)
153	224+84	5,999,028	333,888	70° 24.2120'	151° 21.1344'	0.0	Top mud (under 8" ice)
152	223+83	5,999,012	333,987	70° 24.2098'	151° 21.0855'	1.7	Top mud (under 2" ice)
151	222+88	5,998,999	334,081	70° 24.2079'	151° 21.0396'	1.8	Top mud; no ice

Table E.1: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
150	221+82	5,998,985	334,187	70° 24.2061'	151° 20.9878'	1.9	Top mud (under 1" ice) w/ grass showing
149	220+81	5,998,972	334,286	70° 24.2043'	151° 20.9390'	1.9	Top mud; no ice
1041	220+50	5,998,967	334,317	70° 24.2035'	151° 20.9241'	2.2	D4; 5/8" rebar L01-31-37-2
148	220+04	5,998,991	334,356	70° 24.2075'	151° 20.9051'	2.0	Top mud; no ice
147	219+18	5,999,036	334,430	70° 24.2153'	151° 20.8698'	1.8	Top mud (under 2" ice)
146	217+74	5,999,115	334,551	70° 24.2286'	151° 20.8116'	1.9	Top mud; no ice
145	215+72	5,999,223	334,721	70° 24.2469'	151° 20.7294'	1.8	Top mud (under 1" ice)
144	214+87	5,999,267	334,793	70° 24.2544'	151° 20.6948'	1.7	Top mud (under 1" ice)
143	214+31	5,999,299	334,840	70° 24.2598'	151° 20.6722'	1.6	Top mud (under 2" ice)
142	213+65	5,999,335	334,895	70° 24.2660'	151° 20.6460'	0.8	Top mud (under 10" ice)
141	212+90	5,999,374	334,959	70° 24.2726'	151° 20.6152'	0.6	Top mud (under 5" ice)
140	211+81	5,999,432	335,051	70° 24.2824'	151° 20.5705'	1.0	Top mud (under 3" ice)
139	211+01	5,999,475	335,119	70° 24.2897'	151° 20.5379'	1.6	Top mud (under 2" ice)
138	210+22	5,999,518	335,186	70° 24.2969'	151° 20.5059'	1.8	Top mud (under 1" ice)
137	209+44	5,999,559	335,251	70° 24.3040'	151° 20.4745'	1.8	Top mud; no ice
136	208+42	5,999,615	335,337	70° 24.3134'	151° 20.4330'	1.8	Top mud; no ice
135	207+45	5,999,666	335,419	70° 24.3221'	151° 20.3935'	2.0	Top mud; no ice
134	206+28	5,999,728	335,518	70° 24.3326'	151° 20.3459'	2.1	Top mud; no ice; @ L01-31-37-1
133	204+86	5,999,804	335,638	70° 24.3455'	151° 20.2879'	2.0	Top mud (under 1" ice)
132	202+95	5,999,907	335,799	70° 24.3630'	151° 20.2106'	1.7	Top mud (under 2" ice)
131	200+94	6,000,013	335,970	70° 24.3809'	151° 20.1281'	1.8	Gnd @ D3 (Top mud; 1" ice)
130	198+58	5,999,848	336,139	70° 24.3545'	151° 20.0441'	1.9	Top mud; no ice
129	196+47	5,999,708	336,297	70° 24.3321'	151° 19.9650'	1.8	Top mud (under 1" ice)
128	194+58	5,999,573	336,429	70° 24.3105'	151° 19.8991'	1.9	Top mud (under 1" ice)
127	193+05	5,999,464	336,537	70° 24.2930'	151° 19.8455'	1.8	Top mud (under 1" ice)
126	190+53	5,999,284	336,713	70° 24.2642'	151° 19.7573'	1.7	Top mud (under 1" ice)
125	188+68	5,999,152	336,843	70° 24.2430'	151° 19.6924'	1.8	Top mud (under 2" ice)

Table E.1: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
124	186+79	5,999,018	336,975	70° 24.2214'	151° 19.6266'	1.9	Top mud; no ice
123	185+44	5,998,921	337,070	70° 24.2059'	151° 19.5792'	1.9	Top mud (under 2" ice)
122	183+61	5,998,790	337,198	70° 24.1850'	151° 19.5153'	1.8	Top mud (under 2" ice)
121	181+85	5,998,665	337,322	70° 24.1648'	151° 19.4536'	1.7	Top mud (under 3" ice)
120	179+88	5,998,524	337,460	70° 24.1423'	151° 19.3846'	2.2	Top mud; no ice; Short grass
119	178+44	5,998,422	337,561	70° 24.1259'	151° 19.3345'	1.6	Top mud (under 2" ice)
118	176+73	5,998,300	337,681	70° 24.1063'	151° 19.2747'	1.9	Top mud; no ice; Short grass
117	174+85	5,998,166	337,812	70° 24.0849'	151° 19.2089'	1.0	Top mud (under 4" ice)
116	173+24	5,998,051	337,926	70° 24.0663'	151° 19.1523'	1.8	Top mud (under 2" ice)
115	171+74	5,997,944	338,031	70° 24.0492'	151° 19.0999'	1.5	Top mud (under 3" ice)
114	169+75	5,997,802	338,170	70° 24.0264'	151° 19.0303'	1.5	Top mud (under 3" ice)
113	167+20	5,997,620	338,349	70° 23.9973'	151° 18.9412'	2.0	Top mud; no ice; Short grass
112	165+22	5,997,479	338,488	70° 23.9746'	151° 18.8718'	1.8	Top mud (under 2" ice)
111	163+70	5,997,371	338,594	70° 23.9573'	151° 18.8188'	1.0	Top mud (under 5" ice)
110	160+70	5,997,157	338,805	70° 23.9230'	151° 18.7138'	1.0	Top mud (under 5" ice)
109	156+78	5,996,877	339,080	70° 23.8781'	151° 18.5765'	1.7	Top mud (under 2" ice)
108	154+43	5,996,710	339,244	70° 23.8513'	151° 18.4944'	1.5	Top mud (under 3" ice)
107	151+95	5,996,533	339,418	70° 23.8229'	151° 18.4078'	2.2	Gnd w/ Short grass
106	150+06	5,996,399	339,551	70° 23.8013'	151° 18.3417'	1.7	Top mud (under 5" ice)
105	148+37	5,996,278	339,670	70° 23.7820'	151° 18.2823'	1.5	Top mud (under 5" ice)
104	147+18	5,996,193	339,753	70° 23.7684'	151° 18.2408'	2.2	Top mud (under 3" ice)
103	144+51	5,996,003	339,941	70° 23.7378'	151° 18.1473'	2.5	Gnd w/ Short grass
102	142+64	5,995,869	340,072	70° 23.7164'	151° 18.0819'	2.1	Top mud (under 1" ice)
101	140+63	5,995,726	340,213	70° 23.6934'	151° 18.0114'	2.0	Top mud (under 1" ice) near L01-31-35-2
100	138+51	5,995,576	340,361	70° 23.6693'	151° 17.9376'	2.1	Top mud; no ice
99	137+98	5,995,538	340,398	70° 23.6632'	151° 17.9190'	2.1	Edge ice/mud
98	137+72	5,995,519	340,417	70° 23.6602'	151° 17.9097'	1.1	Gnd (under 8" ice); frozen mud

Table E.1: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
97	137+36	5,995,494	340,442	70° 23.6561'	151° 17.8973'	-1.4	Gnd (under 2' 10" ice); frozen mud
96	137+06	5,995,472	340,463	70° 23.6527'	151° 17.8868'	1.0	Gnd (under 6" ice); frozen mud
95	136+82	5,995,455	340,480	70° 23.6499'	151° 17.8781'	1.8	Gnd (under 2" ice); frozen mud
94	136+55	5,995,435	340,499	70° 23.6468'	151° 17.8688'	1.9	Gnd (under 2" ice); frozen mud
93	135+82	5,995,384	340,550	70° 23.6385'	151° 17.8434'	1.8	Top mud (under 2" ice)
92	134+57	5,995,295	340,638	70° 23.6242'	151° 17.7996'	1.9	Top mud (under 1" ice)
91	133+63	5,995,227	340,703	70° 23.6134'	151° 17.7669'	2.0	Top mud (under 1" ice)
90	132+30	5,995,133	340,797	70° 23.5982'	151° 17.7202'	2.1	Top mud; no ice; near L01-31-35-1
89	129+95	5,994,965	340,962	70° 23.5713'	151° 17.6380'	2.0	Top mud (under 1" ice)
88	128+35	5,994,851	341,074	70° 23.5531'	151° 17.5820'	2.0	Top mud (under 1" ice)
87	126+97	5,994,753	341,171	70° 23.5373'	151° 17.5338'	2.0	Top mud; no ice
86	124+86	5,994,603	341,319	70° 23.5132'	151° 17.4601'	1.9	Top mud (under 2" ice)
85	123+09	5,994,477	341,443	70° 23.4930'	151° 17.3980'	1.9	Top mud (under 2" ice)
84	121+12	5,994,336	341,582	70° 23.4705'	151° 17.3291'	1.9	Top mud (under 2" ice)
83	119+70	5,994,235	341,681	70° 23.4543'	151° 17.2796'	2.1	Top mud; no ice
82	118+18	5,994,127	341,788	70° 23.4368'	151° 17.2262'	2.1	Top mud; no ice
81	117+09	5,994,049	341,864	70° 23.4244'	151° 17.1882'	2.1	Top mud (under 1" ice)
80	115+76	5,993,954	341,958	70° 23.4092'	151° 17.1415'	2.0	Top mud (under 1" ice)
79	114+04	5,993,832	342,079	70° 23.3895'	151° 17.0813'	2.3	Top mud w/ Short grass
78	112+91	5,993,751	342,158	70° 23.3766'	151° 17.0419'	2.2	Top mud; no ice
77	111+74	5,993,668	342,240	70° 23.3632'	151° 17.0008'	2.2	Top mud (under 1" ice)
76	110+63	5,993,589	342,317	70° 23.3506'	151° 16.9623'	2.2	Top mud (under 1" ice)
75	109+76	5,993,527	342,379	70° 23.3406'	151° 16.9315'	2.2	Top mud (under 1" ice)
74	109+27	5,993,492	342,413	70° 23.3350'	151° 16.9146'	2.2	Top mud (under 1" ice)
73	108+68	5,993,450	342,454	70° 23.3283'	151° 16.8941'	2.3	Top mud (under 1" ice)
72	107+24	5,993,348	342,556	70° 23.3118'	151° 16.8436'	2.4	Top mud; no ice
71	105+28	5,993,208	342,693	70° 23.2894'	151° 16.7751'	2.2	Top mud; no ice

Table E.1: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
70	102+93	5,993,041	342,858	70° 23.2625'	151° 16.6927'	2.7	Top mud near L01-31-38-2; no ice
69	100+55	5,992,871	343,026	70° 23.2353'	151° 16.6094'	2.7	Top mud; no ice
68	98+24	5,992,707	343,187	70° 23.2089'	151° 16.5288'	2.5	Top mud (under 1" ice)
67	96+86	5,992,609	343,284	70° 23.1932'	151° 16.4805'	2.5	Top mud (under 1" ice)
66	95+81	5,992,533	343,358	70° 23.1811'	151° 16.4436'	2.3	Top mud
65	95+34	5,992,500	343,391	70° 23.1757'	151° 16.4272'	1.8	Gnd (under 0.1' ice @ overflow); Edge mud
64	94+94	5,992,472	343,419	70° 23.1712'	151° 16.4133'	-0.1	Gnd (under 0.7' ice)
63	94+37	5,992,431	343,459	70° 23.1647'	151° 16.3934'	-0.9	Gnd (under 1.6' ice)
62	94+20	5,992,419	343,471	70° 23.1627'	151° 16.3873'	2.0	Edge ice @ creek
61	94+16	5,992,416	343,474	70° 23.1622'	151° 16.3858'	2.7	Top bank; exposed mud w/ small driftwood
60	93+99	5,992,404	343,486	70° 23.1604'	151° 16.3801'	2.5	Gnd; Short grass
59	92+31	5,992,284	343,604	70° 23.1411'	151° 16.3212'	2.5	Gnd; Short grass
58	90+66	5,992,167	343,720	70° 23.1224'	151° 16.2636'	3.0	Gnd; Short grass
57	88+60	5,992,021	343,864	70° 23.0988'	151° 16.1915'	1.7	Gnd (under 0.6' ice)
56	86+64	5,991,881	344,002	70° 23.0764'	151° 16.1229'	2.9	Gnd; grass
55	84+93	5,991,759	344,122	70° 23.0568'	151° 16.0631'	1.7	Gnd (under 0.1' ice); w/grass showing
54	82+36	5,991,577	344,303	70° 23.0275'	151° 15.9732'	-4.8	Gnd (under 6.0' water/ice)
53	79+19	5,991,351	344,525	70° 22.9913'	151° 15.8624'	-3.7	Gnd (under 4.7' ice)
52	76+69	5,991,173	344,701	70° 22.9627'	151° 15.7748'	-3.0	Gnd (under 4.2' ice)
51	74+61	5,991,024	344,847	70° 22.9389'	151° 15.7020'	-1.8	Gnd (under 2.8' ice)
50	72+26	5,990,857	345,012	70° 22.9120'	151° 15.6199'	-1.7	Gnd (under 2.9' ice)
49	69+65	5,990,671	345,196	70° 22.8822'	151° 15.5284'	0.2	Gnd (under 1.1' ice)
48	67+58	5,990,525	345,341	70° 22.8587'	151° 15.4561'	-0.4	Gnd (under 0.8' ice); frozen to bottom
47	65+00	5,990,341	345,522	70° 22.8292'	151° 15.3659'	-0.1	Gnd (under 1.9' ice)
46	62+46	5,990,160	345,701	70° 22.8001'	151° 15.2770'	3.7	Gnd; grass
45	60+32	5,990,008	345,851	70° 22.7757'	151° 15.2023'	-2.1	Gnd (under 5.2' ice)
44	59+74	5,989,966	345,892	70° 22.7690'	151° 15.1819'	2.5	Edge grass; ice

Table E.1: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
43	59+25	5,989,932	345,926	70° 22.7635'	151° 15.1647'	2.7	Edge @ D2; Short grass
42	57+77	5,989,784	345,930	70° 22.7392'	151° 15.1614'	2.1	Edge ice/grass
41	57+23	5,989,730	345,931	70° 22.7304'	151° 15.1603'	0.8	Top ice
40	55+80	5,989,587	345,934	70° 22.7069'	151° 15.1573'	-16.0	Gnd (under 15.9' water/ice)
39	54+21	5,989,428	345,938	70° 22.6810'	151° 15.1539'	-1.7	Gnd (under 2.0' ice) frozen to bottom
38	52+60	5,989,267	345,942	70° 22.6545'	151° 15.1505'	-0.7	Gnd (under 1.5' ice); frozen to bottom
37	51+33	5,989,139	345,944	70° 22.6337'	151° 15.1480'	1.5	Gnd (under 0.5' ice); frozen to bottom
36	50+12	5,989,018	345,947	70° 22.6138'	151° 15.1454'	2.0	Edge grass; Edge ice
34	50+06	5,989,013	345,947	70° 22.6129'	151° 15.1452'	2.3	Short grass; small driftwood
33	49+66	5,988,973	345,948	70° 22.6063'	151° 15.1443'	2.3	Short grass
32	48+93	5,988,900	345,950	70° 22.5945'	151° 15.1427'	2.6	Short grass
31	47+50	5,988,757	345,953	70° 22.5710'	151° 15.1398'	2.4	Short grass @ L01-31-32-1
30	45+55	5,988,562	345,957	70° 22.5391'	151° 15.1358'	2.6	Short grass
29	43+55	5,988,362	345,962	70° 22.5063'	151° 15.1315'	3.2	Short grass
28	42+16	5,988,223	345,965	70° 22.4835'	151° 15.1285'	3.4	Gnd @ L01-31-32-2; grass
27	41+60	5,988,167	345,966	70° 22.4744'	151° 15.1273'	3.0	Edge mud; Short grass; "island" @ L01-31-32-2
26	40+28	5,988,035	345,969	70° 22.4527'	151° 15.1246'	2.5	Frozen mud
25	38+81	5,987,888	345,973	70° 22.4286'	151° 15.1215'	2.4	Frozen mud
24	37+89	5,987,796	345,975	70° 22.4135'	151° 15.1196'	1.9	Edge ice; frozen mud
23	37+19	5,987,726	345,976	70° 22.4021'	151° 15.1180'	0.8	Gnd (under 0.3' ice); frozen to bottom
22	35+84	5,987,591	345,979	70° 22.3800'	151° 15.1154'	-0.1	Gnd (under 0.8' ice); frozen to bottom
21	34+44	5,987,451	345,983	70° 22.3571'	151° 15.1122'	-0.4	Gnd (under 1' ice); frozen to bottom
180	33+89	5,987,396	345,984	70° 22.3481'	151° 15.1111'	-0.4	Gnd, (under 1' ice)
20	33+34	5,987,341	345,985	70° 22.3391'	151° 15.1099'	-6.2	Gnd (under 6.5' water/ice)
178	32+87	5,987,294	345,986	70° 22.3314'	151° 15.1090'	-8.6	Gnd (under 9' of ice); between pnts 19 & 20
179	32+64	5,987,271	345,986	70° 22.3275'	151° 15.1086'	-5.6	Gnd (under 6' of ice); between pnts 19 & 20
19	32+40	5,987,247	345,987	70° 22.3237'	151° 15.1081'	-0.5	Gnd (begin ice +/-)(frozen overflow from here back to 18)

Table E.1: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
18	32+02	5,987,209	345,988	70° 22.3175'	151° 15.1071'	2.6	Grade break (Top);grass;exposed mud
17	30+62	5,987,069	345,990	70° 22.2946'	151° 15.1047'	3.4	Short grasses w/ frequent ice patches
16	28+68	5,986,875	345,996	70° 22.2628'	151° 15.1001'	3.6	Grade Break; Edge Ice; Driftwood on sideslope #15 & #16
15	27+63	5,986,770	345,997	70° 22.2455'	151° 15.0982'	7.3	Tundra; Grass; Grade Break
14	25+56	5,986,563	346,002	70° 22.2116'	151° 15.0937'	9.6	Tundra; Grass
13	23+52	5,986,359	346,007	70° 22.1782'	151° 15.0896'	10.2	Tundra; Grass; Grade Break
12	21+98	5,986,206	346,010	70° 22.1531'	151° 15.0864'	5.3	Tundra; Grass
11	19+94	5,986,002	346,016	70° 22.1197'	151° 15.0813'	2.2	Tundra; Grass
10	18+03	5,985,811	346,020	70° 22.0883'	151° 15.0777'	1.5	Tundra; Grass
9	16+36	5,985,644	346,023	70° 22.0611'	151° 15.0745'	4.5	Tundra; Grass
8	13+95	5,985,402	346,029	70° 22.0215'	151° 15.0693'	3.9	Tundra; Grass
7	12+36	5,985,244	346,032	70° 21.9956'	151° 15.0658'	3.8	Tundra; Grass
6	9+99	5,985,007	346,037	70° 21.9567'	151° 15.0611'	5.5	Tundra; Grass
5	8+02	5,984,810	346,043	70° 21.9245'	151° 15.0565'	7.7	Tundra; Grass; Grade Break
4	6+07	5,984,615	346,045	70° 21.8924'	151° 15.0532'	9.1	Tundra; Grass
3	3+99	5,984,407	346,052	70° 21.8584'	151° 15.0479'	11.0	Tundra; Grass
2	2+05	5,984,213	346,056	70° 21.8267'	151° 15.0442'	12.5	Tundra; Grass
1	0+00	5,984,008	346,060	70° 21.7931'	151° 15.0402'	12.9	Gnd @ D1 Tundra Grass

Notes:

1. Elevations shown are British Petroleum Mean Sea Level.
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.
3. Geographic Coordinates are NAD 27.
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.
6. Survey was conducted by Lounsbury & Associates, 2001.

Table E.2: Cross-Section Survey of Fish Creek at River Mile 11.7

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
176	214+68	5,976,295	312,548	70° 20.4039'	151° 31.2755'	23.1	Ground at C6
175	214+68	5,976,295	312,548	70° 20.4039'	151° 31.2754'	23.46*	C6 Top of rebar
174	213+14	5,976,227	312,686	70° 20.3934'	151° 31.2071'	19.2	Tundra, grass, sparse willows & flowers
173	211+47	5,976,152	312,835	70° 20.3816'	151° 31.1337'	18.3	Tundra, grass, sparse willows & flowers
172	209+44	5,976,060	313,016	70° 20.3673'	151° 31.0448'	16.1	Tundra, grass, sparse willows & flowers
171	207+47	5,975,965	313,189	70° 20.3525'	151° 30.9592'	15.3	Tundra, grass, sparse willows & flowers
170	205+18	5,975,868	313,396	70° 20.3374'	151° 30.8572'	15.8	Tundra, grass, sparse willows & flowers
169	203+15	5,975,780	313,580	70° 20.3238'	151° 30.7668'	11.1	End of lowland, begin tundra, grass, sparse willows
168	201+28	5,975,696	313,747	70° 20.3106'	151° 30.6847'	10.9	Begin low land, swampy grass, end of dunes
167	199+69	5,975,622	313,888	70° 20.2991'	151° 30.6151'	15.9	Rolling sand dunes, flower, tundra, moss, sparse willows
166	199+01	5,975,591	313,948	70° 20.2942'	151° 30.5853'	11.3	Rolling sand dunes, flower, tundra, moss, sparse willows
165	197+74	5,975,534	314,062	70° 20.2854'	151° 30.5293'	12.4	Rolling sand dunes, flower, tundra, moss, sparse willows
164	195+08	5,975,414	314,299	70° 20.2667'	151° 30.4126'	12.3	Rolling sand dunes, flower, tundra, moss, sparse willows
163	192+75	5,975,306	314,505	70° 20.2498'	151° 30.3107'	4.6	Edge water, grass, 1' willows, tundra, flowers
968	192+73	5,975,305	314,507	70° 20.2496'	151° 30.3098'	2.6	Creek Xing
967	192+69	5,975,304	314,511	70° 20.2494'	151° 30.3080'	0.3	Creek Xing
966	192+64	5,975,302	314,515	70° 20.2491'	151° 30.3057'	-3.6	Creek Xing
965	192+59	5,975,300	314,520	70° 20.2488'	151° 30.3035'	-4.8	Creek Xing
964	192+54	5,975,298	314,525	70° 20.2485'	151° 30.3012'	-3.3	Creek Xing
963	192+49	5,975,296	314,529	70° 20.2483'	151° 30.2989'	2.1	Creek Xing
962	192+44	5,975,294	314,534	70° 20.2480'	151° 30.2966'	4.6	Edge water
160	192+19	5,975,285	314,557	70° 20.2465'	151° 30.2854'	8.8	Top of bank, begin 1' willows
159	190+53	5,975,212	314,706	70° 20.2351'	151° 30.2118'	9.0	Swampy low lands, grass, some cotton flowers
158	188+58	5,975,122	314,879	70° 20.2211'	151° 30.1264'	8.8	Swampy low lands, grass, some cotton flowers
157	186+76	5,975,040	315,042	70° 20.2083'	151° 30.0465'	8.7	Swampy low lands, grass, some cotton flowers
156	184+69	5,974,947	315,227	70° 20.1939'	151° 29.9551'	9.2	Swampy low lands, grass, some cotton flowers
155	182+40	5,974,812	315,415	70° 20.1725'	151° 29.8619'	8.8	Swampy low lands, grass, some cotton flowers

Table E.2: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
154	182+38	5,974,810	315,416	70° 20.1721'	151° 29.8614'	9.0	Edge lake, grass, swampy low land, some cotton flowers
153	152+49	5,973,500	318,104	70° 19.9684'	151° 28.5383'	8.7	Edge lake
152	152+49	5,973,500	318,104	70° 19.9683'	151° 28.5383'	8.7	Tundra, sparce 1' willows, sparse flowers, grass, moss
151	149+14	5,973,352	318,403	70° 19.9451'	151° 28.3907'	10.2	Tundra, sparce 1' willows, sparse flowers, grass, moss
150	145+84	5,973,202	318,699	70° 19.9218'	151° 28.2452'	11.2	Ground at C5, grass, tundra, sparse flowers, moss
149	145+84	5,973,202	318,699	70° 19.9218'	151° 28.2453'	11.76*	C5 Top of rebar, grass, tundra, sparse flowers, moss
148	144+75	5,973,095	318,710	70° 19.9042'	151° 28.2384'	8.2	Edge of slough, begin tundra, sparse flowers
147	143+04	5,972,924	318,727	70° 19.8763'	151° 28.2284'	8.1	Edge of slough
146	140+21	5,972,642	318,754	70° 19.8303'	151° 28.2117'	8.4	Lower land, grade break, grass, sparse flowers
145	139+91	5,972,613	318,753	70° 19.8254'	151° 28.2118'	9.3	Higher land, grade break, grass, sparse flowers
144	139+72	5,972,593	318,754	70° 19.8223'	151° 28.2112'	7.1	Edge of slough
143	139+48	5,972,570	318,762	70° 19.8185'	151° 28.2068'	6.2	Center line of slough
142	139+39	5,972,561	318,761	70° 19.8170'	151° 28.2073'	7.1	Grade break, edge slough, end willows
141	137+16	5,972,339	318,789	70° 19.7807'	151° 28.1911'	7.4	Low land, swampy, sparce 1' willows, grass
140	136+79	5,972,303	318,794	70° 19.7748'	151° 28.1885'	10.0	Higher land tundra, sparce flowers, grade break
139	136+52	5,972,276	318,796	70° 19.7704'	151° 28.1869'	9.1	Higher land tundra, sparce flowers, grade break
138	135+27	5,972,151	318,808	70° 19.7500'	151° 28.1795'	9.2	Ground at C4
137	135+26	5,972,151	318,809	70° 19.7500'	151° 28.1794'	9.86*	C4 Top of rebar, swampy low lands area
136	133+76	5,972,065	318,932	70° 19.7364'	151° 28.1181'	9.3	Grade break, tundra, small grass
135	133+52	5,972,053	318,952	70° 19.7345'	151° 28.1083'	12.4	Grade break, tundra, small grass
134	133+21	5,972,035	318,978	70° 19.7316'	151° 28.0956'	10.0	Grade break, tundra, small grass
133	131+15	5,971,922	319,150	70° 19.7138'	151° 28.0106'	9.7	Swampy low lands, small grass, moss, sparse cotton flowers
132	129+35	5,971,817	319,296	70° 19.6972'	151° 27.9383'	8.8	Swampy low lands, small grass, moss, sparse cotton flowers
131	127+63	5,971,720	319,438	70° 19.6818'	151° 27.8681'	9.0	Swampy low lands, small grass, moss, sparse cotton flowers
130	125+10	5,971,577	319,647	70° 19.6592'	151° 27.7646'	9.4	Swampy low lands, small grass, moss, sparse cotton flowers
129	122+09	5,971,407	319,895	70° 19.6323'	151° 27.6420'	9.3	Edge lake, swampy low lands, small grass, moss
128	87+08	5,969,433	322,787	70° 19.3201'	151° 26.2126'	8.3	Edge lake

Table E.2: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
127	84+63	5,969,295	322,989	70° 19.2983'	151° 26.1128'	8.6	Edge swamp area, sparce flowers, moss
126	82+28	5,969,162	323,184	70° 19.2774'	151° 26.0166'	9.4	Grass, moss, swampy, cotton flowers, edge swamp
125	79+87	5,969,026	323,383	70° 19.2558'	151° 25.9182'	9.9	End tundra, begin grass, end willows, swampy,cotton flowers
124	77+98	5,968,920	323,539	70° 19.2391'	151° 25.8410'	14.8	Grade break, 0.5' willows
122	77+52	5,968,895	323,578	70° 19.2351'	151° 25.8219'	11.2	End willows, begin tundra, flowers, end swamp
123	77+52	5,968,895	323,578	70° 19.2351'	151° 25.8219'	11.2	Grade break, 0.5' willows
121	77+10	5,968,869	323,610	70° 19.2309'	151° 25.8059'	11.5	Grade break, 3' willows, flowers, edge swamp
120	76+15	5,968,816	323,690	70° 19.2225'	151° 25.7668'	12.7	Grade break, 3' willows, flowers, edge swamp
119	75+90	5,968,803	323,711	70° 19.2205'	151° 25.7563'	16.1	Begin 3' willows, sand
118	75+83	5,968,800	323,717	70° 19.2200'	151° 25.7531'	14.8	Ground at C3A North
117	75+83	5,968,800	323,718	70° 19.2200'	151° 25.7530'	15.09	C3A North Top of rebar, willows
116	75+76	5,968,796	323,723	70° 19.2193'	151° 25.7502'	12.1	Grade break, willows
115	75+63	5,968,788	323,734	70° 19.2180'	151° 25.7451'	12.6	Grade break, willows
114	75+49	5,968,780	323,744	70° 19.2168'	151° 25.7398'	10.2	Begin 6' willows, sand
113	75+36	5,968,773	323,756	70° 19.2158'	151° 25.7341'	7.6	Toe
112	75+17	5,968,763	323,772	70° 19.2142'	151° 25.7261'	5.8	Top of silt
111	74+23	5,968,710	323,849	70° 19.2058'	151° 25.6879'	7.2	Top of silt
110	73+32	5,968,656	323,923	70° 19.1973'	151° 25.6514'	2.8	Edge of water
961	73+26	5,968,653	323,929	70° 19.1968'	151° 25.6486'	2.7	Tingmeachsiovik Creek Xing
960	73+16	5,968,648	323,938	70° 19.1960'	151° 25.6442'	2.4	Tingmeachsiovik Creek Xing
959	73+06	5,968,643	323,946	70° 19.1952'	151° 25.6399'	1.4	Tingmeachsiovik Creek Xing
958	72+96	5,968,639	323,955	70° 19.1945'	151° 25.6356'	-0.1	Tingmeachsiovik Creek Xing
957	72+86	5,968,634	323,964	70° 19.1937'	151° 25.6313'	-0.6	Tingmeachsiovik Creek Xing
956	72+76	5,968,629	323,973	70° 19.1930'	151° 25.6270'	-1.3	Tingmeachsiovik Creek Xing
955	72+66	5,968,624	323,981	70° 19.1922'	151° 25.6227'	-1.9	Tingmeachsiovik Creek Xing
954	72+61	5,968,622	323,986	70° 19.1918'	151° 25.6205'	-3.1	Tingmeachsiovik Creek Xing
108	72+56	5,968,619	323,990	70° 19.1914'	151° 25.6184'	3.0	Toe, edge water

Table E.2: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
107	72+48	5,968,614	323,995	70° 19.1905'	151° 25.6158'	10.0	Top of bank, end willows
106	71+23	5,968,537	324,095	70° 19.1783'	151° 25.5666'	8.9	Toe, begin 2' willows, swamp, grass
105	70+84	5,968,515	324,128	70° 19.1749'	151° 25.5504'	16.7	Grade break
104	69+78	5,968,459	324,217	70° 19.1660'	151° 25.5061'	23.9	Gnd at C3A South, tundra, grass, flowers
103	69+78	5,968,459	324,217	70° 19.1660'	151° 25.5061'	24.20	C3A South Top of rebar
102	66+97	5,968,298	324,448	70° 19.1406'	151° 25.3920'	20.9	Edge willows, tundra, grass, flowers
101	64+46	5,968,159	324,656	70° 19.1185'	151° 25.2896'	20.60	C3 Top of rebar
100	59+33	5,967,646	324,627	70° 19.0343'	151° 25.2976'	8.4	Edge willows, begin tundra, grass, flowers
99	59+12	5,967,625	324,626	70° 19.0310'	151° 25.2977'	7.7	Gnd at C2A North
98	59+12	5,967,625	324,626	70° 19.0310'	151° 25.2978'	8.37	C2A North Top of rebar
97	59+04	5,967,617	324,627	70° 19.0296'	151° 25.2972'	7.9	Top of bank
96	58+91	5,967,604	324,626	70° 19.0276'	151° 25.2979'	4.9	Begin 6' - 8' willows, toe of bank
95	58+37	5,967,550	324,622	70° 19.0187'	151° 25.2990'	6.5	Top of silt
94	57+77	5,967,490	324,620	70° 19.0089'	151° 25.2995'	6.1	Top of silt
93	57+40	5,967,453	324,620	70° 19.0028'	151° 25.2990'	2.7	Edge water
952	57+09	5,967,398	324,616	70° 18.9936'	151° 25.3000'	1.3	Fish Creek Xing
951	56+84	5,967,373	324,615	70° 18.9895'	151° 25.3004'	-3.9	Fish Creek Xing
950	56+59	5,967,373	324,613	70° 18.9896'	151° 25.3014'	-5.0	Fish Creek Xing
949	56+34	5,967,348	324,612	70° 18.9855'	151° 25.3018'	-5.0	Fish Creek Xing
948	56+09	5,967,323	324,610	70° 18.9814'	151° 25.3022'	-4.3	Fish Creek Xing
947	55+84	5,967,298	324,609	70° 18.9773'	151° 25.3025'	-4.7	Fish Creek Xing
946	55+59	5,967,273	324,608	70° 18.9732'	151° 25.3029'	-4.1	Fish Creek Xing
945	55+34	5,967,248	324,606	70° 18.9691'	151° 25.3032'	-3.5	Fish Creek Xing
92	55+09	5,967,223	324,606	70° 18.9650'	151° 25.3031'	2.9	Edge water, creek
91	54+90	5,967,204	324,605	70° 18.9618'	151° 25.3034'	7.7	Grade break, silt
90	54+76	5,967,189	324,605	70° 18.9595'	151° 25.3032'	8.2	End willows, grade brake, silt
89	54+62	5,967,176	324,607	70° 18.9573'	151° 25.3023'	13.0	Top of bank

Table E.2: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
88	54+48	5,967,161	324,602	70° 18.9548'	151° 25.3044'	10.8	Gnd at C2A South, 2' - 6' willows
87	54+48	5,967,161	324,602	70° 18.9549'	151° 25.3045'	11.0	C2A South Top of rebar
86	52+28	5,966,942	324,588	70° 18.9189'	151° 25.3087'	7.9	Begin 2' - 6' willows
85	51+21	5,966,835	324,583	70° 18.9014'	151° 25.3099'	6.4	Begin 3' willows
84	50+78	5,966,792	324,582	70° 18.8943'	151° 25.3097'	12.3	Grade break
83	50+19	5,966,733	324,578	70° 18.8845'	151° 25.3110'	8.2	Grade break, end willows
82	48+60	5,966,575	324,571	70° 18.8586'	151° 25.3129'	8.2	Sparse 2' willows, tundra, flowers
81	47+31	5,966,446	324,563	70° 18.8375'	151° 25.3152'	6.2	Begin 2' willows
80	45+66	5,966,281	324,553	70° 18.8105'	151° 25.3184'	13.5	Grade break
79	45+41	5,966,256	324,552	70° 18.8063'	151° 25.3182'	10.2	Grade break
78	41+21	5,965,837	324,531	70° 18.7375'	151° 25.3238'	7.4	End willows, begin tundra, grass & flowers
77	40+73	5,965,789	324,529	70° 18.7297'	151° 25.3244'	5.3	Top bank, begin 4' willows
76	40+46	5,965,761	324,527	70° 18.7252'	151° 25.3249'	3.0	Edge water
944	40+42	5,965,758	324,526	70° 18.7246'	151° 25.3251'	0.6	Fish Creek Xing
943	40+37	5,965,753	324,526	70° 18.7238'	151° 25.3252'	-1.9	Fish Creek Xing
942	40+32	5,965,748	324,526	70° 18.7229'	151° 25.3253'	-2.0	Fish Creek Xing
941	40+27	5,965,743	324,526	70° 18.7221'	151° 25.3254'	-1.6	Fish Creek Xing
940	40+22	5,965,738	324,525	70° 18.7213'	151° 25.3254'	-0.8	Fish Creek Xing
939	40+17	5,965,733	324,525	70° 18.7205'	151° 25.3255'	0.7	Fish Creek Xing
938	40+12	5,965,728	324,525	70° 18.7197'	151° 25.3256'	2.0	Fish Creek Xing
75	40+07	5,965,723	324,524	70° 18.7188'	151° 25.3260'	3.1	Edge water (25' wide)
74	39+79	5,965,695	324,525	70° 18.7143'	151° 25.3251'	4.0	End grass, begin silt
73	39+62	5,965,678	324,524	70° 18.7115'	151° 25.3254'	4.1	Edge willows, begin grass
72	38+16	5,965,532	324,518	70° 18.6875'	151° 25.3268'	6.6	Begin 2' willows
71	37+73	5,965,489	324,513	70° 18.6804'	151° 25.3285'	8.2	End flowers, begin short grass
70	37+13	5,965,429	324,510	70° 18.6706'	151° 25.3293'	13.7	Grade break
69	36+89	5,965,405	324,508	70° 18.6667'	151° 25.3300'	12.0	Grade break

Table E.2: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
68	36+62	5,965,378	324,506	70° 18.6623'	151° 25.3306'	11.9	Gnd at C2, tundra, flowers, sparse 1.5' willows
67	36+62	5,965,378	324,506	70° 18.6623'	151° 25.3306'	12.30	C2 Top of rebar
66	34+02	5,965,223	324,715	70° 18.6376'	151° 25.2273'	11.8	End swamp area, begin tundra, short grass, flowers, 1' willows
65	30+67	5,965,018	324,980	70° 18.6051'	151° 25.0961'	11.9	Tundra, swamp, short grass
64	28+81	5,964,902	325,126	70° 18.5866'	151° 25.0242'	12.0	End Tundra, begin swampy area w/ grass
63	27+32	5,964,812	325,245	70° 18.5724'	151° 24.9653'	14.2	End flowers, begin grass, tundra
62	25+56	5,964,706	325,385	70° 18.5555'	151° 24.8961'	18.7	Grade break, tundra, flowers
61	23+95	5,964,607	325,512	70° 18.5397'	151° 24.8332'	17.9	Grade break, tundra, flowers
60	23+70	5,964,594	325,532	70° 18.5377'	151° 24.8230'	15.8	Grade break, tundra, flowers
59	22+52	5,964,520	325,624	70° 18.5259'	151° 24.7774'	13.5	Tundra, flowers
58	21+84	5,964,478	325,679	70° 18.5193'	151° 24.7505'	7.9	Toe, grade break, tundra, flowers
57	21+28	5,964,447	325,725	70° 18.5143'	151° 24.7279'	5.8	End of willows, begin tundra, grass
56	19+45	5,964,333	325,868	70° 18.4961'	151° 24.6569'	6.8	Top of bank
55	19+33	5,964,326	325,878	70° 18.4951'	151° 24.6518'	4.7	Begin 3' willows
54	19+30	5,964,323	325,880	70° 18.4946'	151° 24.6512'	3.3	Edge water at creek
937	19+26	5,964,321	325,884	70° 18.4943'	151° 24.6492'	1.3	Fish Creek Xing
936	19+16	5,964,315	325,892	70° 18.4933'	151° 24.6453'	-2.7	Fish Creek Xing
935	19+06	5,964,309	325,900	70° 18.4924'	151° 24.6414'	-7.6	Fish Creek Xing
934	18+96	5,964,303	325,907	70° 18.4914'	151° 24.6375'	-11.1	Fish Creek Xing
933	18+86	5,964,297	325,915	70° 18.4904'	151° 24.6335'	-7.2	Fish Creek Xing
932	18+76	5,964,291	325,923	70° 18.4895'	151° 24.6296'	-5.2	Fish Creek Xing
931	18+68	5,964,286	325,930	70° 18.4887'	151° 24.6265'	-3.6	Fish Creek Xing
930	18+48	5,964,274	325,946	70° 18.4868'	151° 24.6186'	1.3	Fish Creek Xing
53	18+46	5,964,273	325,947	70° 18.4866'	151° 24.6177'	3.2	Edge water at creek
52	18+42	5,964,270	325,950	70° 18.4862'	151° 24.6164'	6.2	Edge willows, top of creek bank
51	17+65	5,964,225	326,012	70° 18.4790'	151° 24.5859'	6.4	3' willows 3/4" thick, sparse tall grass
50	14+03	5,964,001	326,297	70° 18.4435'	151° 24.4447'	4.5	Begin 3' willows 3/4" thick, sparse tall grass, end swamp

Table E.2: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
49	10+25	5,963,772	326,597	70° 18.4070'	151° 24.2962'	4.0	2' willows, grass, lower swampy area
48	6+21	5,963,527	326,920	70° 18.3681'	151° 24.1369'	6.7	Begin 2' willows, grass, begin lower swampy area
47	4+89	5,963,447	327,023	70° 18.3553'	151° 24.0856'	9.8	Grass, moss, 1' willows, flowers, tundra
46	0+00	5,963,149	327,412	70° 18.3080'	151° 23.8936'	11.1	Gnd at C1, grass, moss, 1' willows, flowers, tundra
45	0+00	5,963,149	327,412	70° 18.3079'	151° 23.8935'	11.45	C1 Top of rebar

Notes:

1. Elevations shown are British Petroleum Mean Sea Level.
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.
3. Geographic Coordinates are NAD 27.
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.
6. Survey was conducted by Lounsbury & Associates, 2001.

Table E.3: Cross-Section Survey of Fish Creek at River Mile 18.4

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
1	0+01	5,955,749	306,706	70° 17.0127'	151° 33.8614'	22.2	Tundra grass w/ sparse short willows
2	2+88	5,955,959	306,509	70° 17.0463'	151° 33.9596'	22.8	Tundra grass w/ sparse short willows
3	5+53	5,956,153	306,328	70° 17.0773'	151° 34.0498'	22.7	Tundra grass w/ sparse short willows
4	7+19	5,956,273	306,215	70° 17.0966'	151° 34.1063'	21.9	Tundra grass w/ sparse short willows
5	7+84	5,956,321	306,171	70° 17.1041'	151° 34.1283'	20.6	Tundra grass w/ sparse short willows
6	8+63	5,956,378	306,117	70° 17.1133'	151° 34.1553'	14.8	Toe of Break, begin thick grass
7	10+09	5,956,485	306,017	70° 17.1304'	151° 34.2053'	13.5	Grass, ice
8	13+29	5,956,719	305,798	70° 17.1678'	151° 34.3143'	13.4	Grass, ice
9	16+31	5,956,940	305,591	70° 17.2031'	151° 34.4174'	13.8	Grass, ice, sparse willows
10	19+26	5,957,155	305,390	70° 17.2375'	151° 34.5179'	14.0	Grass, ice, sparse willows
11	22+67	5,957,403	305,157	70° 17.2772'	151° 34.6341'	14.5	End ice, begin tundra - short sparse willows, some grass
12	24+01	5,957,501	305,065	70° 17.2929'	151° 34.6800'	16.9	Tundra - short sparse willows, some grass
13	26+90	5,957,712	304,867	70° 17.3266'	151° 34.7786'	17.4	Tundra, grass, begin 1' willows
14	27+90	5,957,785	304,799	70° 17.3382'	151° 34.8125'	17.4	Begin tall grass, tundra, sparse 1' willows
15	29+27	5,957,885	304,706	70° 17.3542'	151° 34.8593'	15.9	Top of bank, grass, willows
16	29+53	5,957,904	304,688	70° 17.3573'	151° 34.8681'	12.4	Toe of bank, ice, grass, begin 1' - 2' willows, thicker.
17	30+56	5,957,979	304,618	70° 17.3693'	151° 34.9031'	12.3	Edge of creek, tall grass
18	30+60	5,957,982	304,615	70° 17.3697'	151° 34.9045'	12.3	Edge of creek, tall grass
19	31+21	5,958,027	304,573	70° 17.3769'	151° 34.9254'	12.7	Begin short sparse willow, some grass
20	32+66	5,958,133	304,474	70° 17.3939'	151° 34.9749'	12.4	Begin ice, sparse short willows, grass
21	33+06	5,958,162	304,447	70° 17.3985'	151° 34.9884'	12.6	End of ice, end of willows, grass
22	33+25	5,958,176	304,433	70° 17.4008'	151° 34.9951'	13.3	Toe of bank, some grass
23	33+59	5,958,201	304,410	70° 17.4047'	151° 35.0066'	19.5	Top of bank, some short grass, sparse 1' willows
24	34+38	5,958,258	304,357	70° 17.4139'	151° 35.0333'	20.1	Short grass, sparse 1' willows
25	34+66	5,958,279	304,337	70° 17.4172'	151° 35.0431'	18.9	Short grass, sparse 1' willows
26	36+24	5,958,394	304,229	70° 17.4356'	151° 35.0970'	20.6	Short grass, sparse 1' willows
27	36+38	5,958,404	304,220	70° 17.4373'	151° 35.1018'	22.7	Short grass, sparse 1' willows

Table E.3: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
28	36+53	5,958,415	304,210	70° 17.4391'	151° 35.1069'	22.8	Short grass, sparse 1' willows
29	36+68	5,958,426	304,200	70° 17.4408'	151° 35.1118'	19.7	Short grass, sparse 1' willows
30	39+32	5,958,619	304,019	70° 17.4716'	151° 35.2021'	16.8	Tundra grass w/ sparse short willows
31	40+30	5,958,690	303,952	70° 17.4830'	151° 35.2353'	15.5	Begin ice, grass
32	42+52	5,958,852	303,800	70° 17.5089'	151° 35.3111'	15.7	End ice, grass
33	45+21	5,959,049	303,617	70° 17.5403'	151° 35.4027'	15.9	Tundra, grass
34	47+72	5,959,232	303,445	70° 17.5696'	151° 35.4883'	17.9	Tundra, grass, short sparse willows
35	50+42	5,959,429	303,261	70° 17.6012'	151° 35.5804'	16.3	Tundra, grass, short sparse willows
36	53+36	5,959,644	303,060	70° 17.6355'	151° 35.6809'	15.6	Tundra, grass, short sparse willows
37	56+19	5,959,851	302,866	70° 17.6685'	151° 35.7774'	11.7	Begn thick 1' - 2' willows, some grass
38	58+11	5,959,991	302,735	70° 17.6910'	151° 35.8428'	14.2	Top of bank (Judy Ck), end of willows
901	58+23	5959997	302725	70° 17.6710'	151° 36.0365'	7.0	Judy Creek Xing
902	58+33	5960005	302718	70° 17.6722'	151° 36.0399'	2.0	Judy Creek Xing
903	58+43	5960012	302711	70° 17.6734'	151° 36.0433'	-6.0	Judy Creek Xing
904	58+53	5960019	302704	70° 17.6745'	151° 36.0467'	-3.2	Judy Creek Xing
905	58+63	5960026	302697	70° 17.6757'	151° 36.0501'	0.4	Judy Creek Xing
906	58+73	5960034	302690	70° 17.6769'	151° 36.0535'	1.0	Judy Creek Xing
907	58+83	5960041	302684	70° 17.6780'	151° 36.0570'	2.5	Judy Creek Xing
908	58+93	5960048	302677	70° 17.6792'	151° 36.0604'	2.2	Judy Creek Xing
909	59+03	5960056	302670	70° 17.6804'	151° 36.0638'	2.7	Judy Creek Xing
910	59+13	5960063	302663	70° 17.6815'	151° 36.0672'	3.2	Judy Creek Xing
911	59+23	5960070	302656	70° 17.6827'	151° 36.0706'	3.9	Judy Creek Xing
912	59+33	5960078	302649	70° 17.6839'	151° 36.0740'	4.7	Judy Creek Xing
913	59+43	5960085	302643	70° 17.6850'	151° 36.0774'	5.8	Judy Creek Xing
914	59+53	5960092	302636	70° 17.6862'	151° 36.0809'	6.5	Judy Creek Xing
7	59+76	5960113	302624	70° 17.6896'	151° 36.0869'	6.96	Edge of water
8	60+29	5960150	302586	70° 17.6955'	151° 36.1058'	7.90	Top of sand

Table E.3: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
9	60+88	5960192	302545	70° 17.7021'	151° 36.1263'	8.60	Top of sand
10	61+40	5960228	302507	70° 17.7079'	151° 36.1449'	9.42	Top of sand
11	61+92	5960264	302470	70° 17.7136'	151° 36.1636'	9.94	Top of sand
12	62+46	5960303	302432	70° 17.7198'	151° 36.1827'	10.08	Top of sand
13	62+89	5960332	302400	70° 17.7245'	151° 36.1985'	10.88	Toe, edge of sand bar
14	63+18	5960353	302380	70° 17.7278'	151° 36.2082'	13.58	Grade break, sand dune
15	63+35	5960365	302369	70° 17.7297'	151° 36.2141'	15.56	Grade break, sand dune
16	63+59	5960382	302351	70° 17.7325'	151° 36.2228'	17.40	toe of dune, begin 4.0' willows
17	63+81	5960398	302337	70° 17.7351'	151° 36.2300'	27.30	Ground shot @ mon North
18	63+81	5960399	302337	70° 17.7352'	151° 36.2301'	27.82	Chk shot @ Mon Line 1 North
45	64+09	5,960,428	302,327	70° 17.7607'	151° 36.0466'	21.2	Break, toe, 3' willows
46	64+54	5,960,461	302,297	70° 17.7660'	151° 36.0617'	21.9	Break, toe, 3' willows
47	64+83	5,960,482	302,276	70° 17.7694'	151° 36.0719'	32.2	Break, top, 3' willows
48	65+24	5,960,512	302,248	70° 17.7742'	151° 36.0858'	30.8	Break, end tall willows
49	65+43	5,960,526	302,235	70° 17.7764'	151° 36.0923'	23.6	Break, toe, short sparse willows
50	65+97	5,960,565	302,198	70° 17.7827'	151° 36.1108'	21.3	Break, toe, short sparse willows
51	66+26	5,960,586	302,179	70° 17.7861'	151° 36.1205'	25.3	Break, top, short sparse willows
52	66+75	5,960,622	302,145	70° 17.7918'	151° 36.1373'	20.4	Break, toe, grass, short sparse willows
53	67+16	5,960,652	302,117	70° 17.7966'	151° 36.1513'	21.7	Break, toe, grass, short sparse willows
54	67+32	5,960,664	302,107	70° 17.7984'	151° 36.1566'	26.5	Break, sparse grass, short sparse willows
55	67+53	5,960,679	302,092	70° 17.8009'	151° 36.1638'	24.1	Break, sparse grass, short sparse willows
56	67+80	5,960,699	302,073	70° 17.8041'	151° 36.1732'	29.5	Break, sparse short willows
57	68+03	5,960,716	302,058	70° 17.8068'	151° 36.1809'	25.3	Break, sparse short willows
58	68+30	5,960,735	302,040	70° 17.8099'	151° 36.1901'	24.0	Break, sparse short willows
59	68+53	5,960,752	302,023	70° 17.8126'	151° 36.1981'	28.9	Break, sparse willows, grass
60	68+64	5,960,760	302,016	70° 17.8139'	151° 36.2017'	29.2	Break, sparse willows, grass
61	68+75	5,960,768	302,009	70° 17.8151'	151° 36.2055'	23.6	Toe of break, sparse willows, grass

Table E.3: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
62	69+29	5,960,808	301,972	70° 17.8214'	151° 36.2238'	23.3	Break, sparse willows, grass
63	69+81	5,960,846	301,936	70° 17.8276'	151° 36.2418'	20.5	Break, sparse willows, grass
64	70+01	5,960,860	301,923	70° 17.8298'	151° 36.2484'	22.8	Break, sparse willows, grass
65	70+54	5,960,899	301,886	70° 17.8361'	151° 36.2666'	22.6	Break, sparse willows, grass
66	70+90	5,960,926	301,862	70° 17.8403'	151° 36.2789'	19.0	Break, end of willows, thicker grass
67	72+05	5,961,010	301,783	70° 17.8537'	151° 36.3182'	17.8	Edge of pond ice, tall grass
68	73+37	5,961,106	301,693	70° 17.8691'	151° 36.3630'	17.7	Toe, edge of pond ice, tall grass
69	73+61	5,961,123	301,677	70° 17.8719'	151° 36.3713'	20.2	Top of break, grass, tundra
70	74+47	5,961,187	301,618	70° 17.8820'	151° 36.4008'	19.7	Break, grass, tundra
71	74+87	5,961,216	301,591	70° 17.8867'	151° 36.4143'	18.4	Edge of ice, begin tall grass
72	75+87	5,961,288	301,523	70° 17.8983'	151° 36.4481'	18.7	Edge of ice, end tall grass
73	76+45	5,961,331	301,483	70° 17.9050'	151° 36.4679'	19.8	Break, grass
74	76+55	5,961,338	301,476	70° 17.9063'	151° 36.4715'	21.5	Break, grass
75	77+05	5,961,375	301,442	70° 17.9121'	151° 36.4885'	21.8	Break, grass
76	77+25	5,961,389	301,429	70° 17.9143'	151° 36.4952'	20.4	Break, grass
77	78+53	5,961,483	301,341	70° 17.9294'	151° 36.5391'	18.6	Tundra, grass
78	79+95	5,961,587	301,244	70° 17.9460'	151° 36.5874'	20.9	Toe, tundra, grass, sparse 1' willows
79	80+59	5,961,633	301,200	70° 17.9534'	151° 36.6093'	26.1	Break, tundra, grass, sparse 1' willows
80	80+89	5,961,655	301,180	70° 17.9569'	151° 36.6196'	27.0	Top, tundra, grass, sparse 1' willows
81	81+39	5,961,692	301,145	70° 17.9628'	151° 36.6367'	24.4	Break, tundra, grass, sparse 1' willows
82	82+66	5,961,785	301,059	70° 17.9776'	151° 36.6798'	18.0	Break, tundra, grass, sparse 1' willows
83	82+96	5,961,807	301,038	70° 17.9811'	151° 36.6901'	12.7	Toe, tundra, grass, end of willows
84	83+71	5,961,862	300,987	70° 17.9899'	151° 36.7158'	12.2	Begin ice, tall grass
85	86+61	5,962,073	300,790	70° 18.0237'	151° 36.8144'	12.1	Edge of pond ice
86	89+39	5,962,276	300,600	70° 18.0562'	151° 36.9092'	12.3	Edge of pond ice, tall grass, this side only
87	90+85	5,962,383	300,500	70° 18.0732'	151° 36.9590'	12.4	Break, grass, sparse short willows
88	91+16	5,962,406	300,479	70° 18.0768'	151° 36.9695'	13.9	Break, grass, sparse short willows

Table E.3: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
89	93+52	5,962,578	300,318	70° 18.1045'	151° 37.0502'	15.1	Tundra, grass, sparse short willows
90	95+96	5,962,756	300,151	70° 18.1329'	151° 37.1334'	11.7	Tundra, grass, sparse short willows
91	98+23	5,962,922	299,996	70° 18.1594'	151° 37.2108'	10.6	Top of bank at lake, 0.5' high
92	98+27	5,962,926	299,993	70° 18.1600'	151° 37.2123'	10.2	Edge of lake ice
93	107+80	5,963,622	299,343	70° 18.2712'	151° 37.5371'	10.2	Shot on lake
94	119+86	5,964,504	298,520	70° 18.4121'	151° 37.9485'	10.5	Shot on lake
95	135+31	5,965,634	297,466	70° 18.5926'	151° 38.4753'	10.1	Edge of lake ice
96	135+42	5,965,642	297,459	70° 18.5939'	151° 38.4791'	14.9	Top of bank, grass, tundra, sparse short willows
97	137+53	5,965,796	297,315	70° 18.6185'	151° 38.5511'	14.3	Begin thicker short willows, begin tall grass
98	138+32	5,965,854	297,261	70° 18.6278'	151° 38.5780'	15.3	Break, willows, grass, tundra
99	138+49	5,965,866	297,250	70° 18.6297'	151° 38.5835'	13.9	Top of bank
100	138+50	5,965,867	297,249	70° 18.6298'	151° 38.5838'	13.1	Edge of small beaded stream
101	138+54	5,965,870	297,246	70° 18.6304'	151° 38.5855'	13.1	Edge of small beaded stream
102	138+56	5,965,872	297,245	70° 18.6306'	151° 38.5862'	13.8	Top of bank, willows, grass, tundra
103	139+45	5,965,936	297,185	70° 18.6409'	151° 38.6162'	15.4	Tundra, grass, end thick short willows
104	142+59	5,966,166	296,970	70° 18.6776'	151° 38.7234'	22.4	Toe, end tall grass
105	143+47	5,966,217	296,896	70° 18.6856'	151° 38.7601'	35.0	Top, tundra, grass, sparse 1' willows
106	143+96	5,966,253	296,862	70° 18.6915'	151° 38.7770'	34.0	Tundra@ west end of cross-section
E END XSEC 1		5,955,749	306,707	70° 17.0127'	151° 33.8611'	23.2	#4 rebar, 0.7' above tundra
W END XSEC 1		5,966,253	296,862	70° 18.6915'	151° 38.7770'	34.5	#4 rebar, 0.6' above tundra

Notes:

1. Elevations shown are British Petroleum Mean Sea Level.
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.
3. Geographic Coordinates are NAD 27.
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.

Table E.4: Cross-Section Survey of Fish Creek at River Mile 25.1

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
1	0+00	5,944,404	293,685	70° 15.0969'	151° 40.0304'	50.3	Tundra, grass
2	2+53	5,944,609	293,537	70° 15.1299'	151° 40.1048'	48.1	Tundra, grass w/sparse 1' willows
3	3+42	5,944,681	293,485	70° 15.1415'	151° 40.1308'	45.7	Break, tundra, grass w/sparse 1' willows
4	4+39	5,944,761	293,428	70° 15.1542'	151° 40.1595'	44.4	Begin ice, grass
5	5+70	5,944,866	293,352	70° 15.1712'	151° 40.1978'	44.5	End ice, grass
6	5+79	5,944,874	293,347	70° 15.1724'	151° 40.2005'	45.3	Break, tundra, grass w/sparse 1' willows
7	6+84	5,944,959	293,285	70° 15.1861'	151° 40.2313'	44.1	Begin ice tundra, grass
8	8+09	5,945,060	293,212	70° 15.2024'	151° 40.2679'	44.4	End ice, tundra grass
9	8+15	5,945,066	293,209	70° 15.2032'	151° 40.2697'	44.9	Tundra, grass w/sparse 1' willows
10	11+06	5,945,302	293,039	70° 15.2411'	151° 40.3550'	44.0	Tundra, grass w/sparse 1' willows
11	12+01	5,945,379	292,984	70° 15.2535'	151° 40.3830'	44.2	Begin ice, grass
12	12+96	5,945,456	292,928	70° 15.2660'	151° 40.4110'	44.1	End ice, tundra, grass
13	13+43	5,945,494	292,901	70° 15.2721'	151° 40.4247'	43.8	Begin ice, grass, tundra
14	15+43	5,945,657	292,784	70° 15.2982'	151° 40.4835'	43.8	End ice, grass, tundra
15	18+73	5,945,925	292,592	70° 15.3412'	151° 40.5804'	43.7	Tundra, grass
16	21+68	5,946,164	292,419	70° 15.3797'	151° 40.6670'	42.1	Tundra, grass w/sparse 1' willows
17	24+19	5,946,369	292,273	70° 15.4125'	151° 40.7409'	41.9	Break, grass, w/sparse 1' willows, tundra
18	27+77	5,946,659	292,064	70° 15.4592'	151° 40.8460'	35.5	Break, grass, tundra, w/sparse 1' willows
19	28+07	5,946,683	292,047	70° 15.4630'	151° 40.8546'	33.3	Top of Bank, grass, tundra, w/sparse 1' willows
20	28+44	5,946,714	292,025	70° 15.4680'	151° 40.8657'	20.1	Toe of Bank, grass, tundra, w/sparse 1' willows
21	28+77	5,946,741	292,006	70° 15.4723'	151° 40.8753'	17.9	Top of Bank @ (Lake) grass, tundra, w/sparse 1' willows
22	28+80	5,946,742	292,004	70° 15.4726'	151° 40.8759'	16.0	Edge of Lake ice
23	39+06	5,947,576	291,406	70° 15.6065'	151° 41.1773'	15.7	Top of Lake ice (around middle)
24	51+09	5,948,554	290,704	70° 15.7635'	151° 41.5306'	15.7	Top of Lake ice
25	55+18	5,948,886	290,466	70° 15.8168'	151° 41.6507'	15.7	Shot on Lake, Begin tall lake grass
26	57+10	5,949,042	290,354	70° 15.8419'	151° 41.7070'	15.8	Edge of Lake, willows, grass
27	57+45	5,949,070	290,334	70° 15.8464'	151° 41.7171'	17.0	Toe of Bank, tundra, grass

Table E.4: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
28	57+48	5,949,072	290,332	70° 15.8468'	151° 41.7182'	18.4	Top of Bank, tundra, grass w/sparse 1' willows
29	60+36	5,949,307	290,164	70° 15.8844'	151° 41.8027'	19.2	Top of Bank (Pond)
30	60+39	5,949,309	290,162	70° 15.8847'	151° 41.8035'	18.5	Edge of Ice (Pond), grass
31	61+24	5,949,378	290,112	70° 15.8959'	151° 41.8287'	18.4	Edge of Ice (Pond), grass
32	61+34	5,949,386	290,107	70° 15.8971'	151° 41.8314'	19.3	Top of Bank (Pond) thick w/1' willows, grass, tundra
33	62+26	5,949,461	290,053	70° 15.9092'	151° 41.8586'	19.0	Tundra, grass, 1' willows
34	64+46	5,949,640	289,925	70° 15.9379'	151° 41.9232'	19.5	Break, willows, tundra
120	64+78	5,949,665	289,904	70° 15.9208'	151° 42.1215'	21.50	Chk shot @ Mon Line 2 South
121	64+78	5,949,665	289,904	70° 15.9208'	151° 42.1216'	21.11	Ground shot @ Mon L2 South
122	64+88	5,949,672	289,899	70° 15.9220'	151° 42.1243'	20.60	Grade break, sparse 1.5' willows
123	64+97	5,949,679	289,893	70° 15.9231'	151° 42.1271'	19.74	Grade break, sparse 1.5' willows
124	65+18	5,949,697	289,881	70° 15.9259'	151° 42.1335'	21.70	Top of bank
125	65+30	5,949,706	289,874	70° 15.9274'	151° 42.1369'	17.41	Grade break, end of willows, begin sand
126	65+39	5,949,713	289,869	70° 15.9286'	151° 42.1396'	15.88	Toe
127	65+84	5,949,750	289,842	70° 15.9344'	151° 42.1529'	15.06	Top of sand bar
128	66+06	5,949,768	289,829	70° 15.9373'	151° 42.1595'	14.71	Top of sand bank
129	66+09	5,949,771	289,827	70° 15.9378'	151° 42.1603'	12.03	Edge of water
915	66+19	5,949,779	289,821	70° 15.9391'	151° 42.1633'	8.4	Fish Creek Xing
916	66+29	5,949,787	289,816	70° 15.9404'	151° 42.1662'	6.4	Fish Creek Xing
917	66+39	5,949,795	289,810	70° 15.9417'	151° 42.1692'	3.4	Fish Creek Xing
918	66+49	5,949,803	289,804	70° 15.9430'	151° 42.1721'	2.7	Fish Creek Xing
919	66+59	5,949,811	289,798	70° 15.9443'	151° 42.1751'	1.4	Fish Creek Xing
920	66+69	5,949,819	289,792	70° 15.9456'	151° 42.1780'	1.4	Fish Creek Xing
921	66+79	5,949,828	289,786	70° 15.9469'	151° 42.1810'	-1.1	Fish Creek Xing
922	66+99	5,949,844	289,775	70° 15.9495'	151° 42.1868'	0.3	Fish Creek Xing
923	67+09	5,949,852	289,769	70° 15.9508'	151° 42.1898'	2.3	Fish Creek Xing
924	67+34	5,949,872	289,754	70° 15.9540'	151° 42.1971'	2.3	Fish Creek Xing

Table E.4: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
925	67+59	5,949,892	289,740	70° 15.9573'	151° 42.2045'	5.0	Fish Creek Xing
926	67+84	5,949,913	289,725	70° 15.9606'	151° 42.2118'	9.6	Fish Creek Xing
927	68+09	5,949,933	289,710	70° 15.9638'	151° 42.2192'	10.9	Fish Creek Xing
928	68+34	5,949,953	289,696	70° 15.9671'	151° 42.2265'	10.6	Fish Creek Xing
929	68+59	5,949,974	289,681	70° 15.9703'	151° 42.2339'	11.9	Fish Creek Xing
130	68+72	5,949,985	289,675	70° 15.9722'	151° 42.2371'	11.67	Edge of water
131	68+80	5,949,991	289,671	70° 15.9732'	151° 42.2392'	12.20	Toe of sand
132	69+11	5,950,017	289,653	70° 15.9773'	151° 42.2483'	22.56	Grade break
133	69+13	5,950,018	289,652	70° 15.9775'	151° 42.2489'	24.64	Grade break
134	69+17	5,950,021	289,649	70° 15.9780'	151° 42.2500'	22.95	Grade break
35	69+36	5,950,037	289,638	70° 15.9806'	151° 42.2557'	34.16	Grade break, begin 2.0' willows, sparse
36	69+44	5,950,043	289,633	70° 15.9815'	151° 42.2581'	35.95	Grade break, begin 2.0' willows, sparse
37	69+54	5,950,052	289,628	70° 15.9829'	151° 42.2610'	41.15	Grade break, begin 2.0' willows, sparse
38	69+69	5,950,064	289,619	70° 15.9849'	151° 42.2654'	39.24	Grade break
39	69+79	5,950,072	289,614	70° 15.9862'	151° 42.2680'	40.91	Grade break
40	70+00	5,950,090	289,602	70° 15.9890'	151° 42.2740'	43.38	Grade break
41	70+04	5,950,093	289,600	70° 15.9896'	151° 42.2751'	43.66	Next to mon
42	70+04	5,950,094	289,599	70° 15.9896'	151° 42.2752'	44.05	Chk shot @ Mon Line 2 North
46	70+17	5,950,104	289,592	70° 16.0123'	151° 42.0907'	43.7	Break, sand, grass
47	70+23	5,950,109	289,589	70° 16.0131'	151° 42.0924'	41.9	Break, sand, grass
48	70+38	5,950,121	289,580	70° 16.0152'	151° 42.0970'	38.8	Break, sand, grass, scattered willows
49	70+44	5,950,126	289,576	70° 16.0160'	151° 42.0987'	41.7	Break, sand, grass, scattered willows
50	70+89	5,950,162	289,550	70° 16.0217'	151° 42.1118'	25.2	Toe, tundra grass, short willows
51	72+64	5,950,304	289,448	70° 16.0446'	151° 42.1633'	20.7	Tundra, short grass, short 1' willows
52	73+70	5,950,391	289,387	70° 16.0585'	151° 42.1944'	19.5	Ice, grass at edge of Pond (no discernable bank SE side)
53	77+18	5,950,673	289,184	70° 16.1038'	151° 42.2965'	19.3	Ice, grass at edge of Pond
54	77+21	5,950,676	289,182	70° 16.1043'	151° 42.2973'	19.9	Top of Bank @ Pond, tundra, grass

Table E.4: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
55	78+49	5,950,780	289,107	70° 16.1210'	151° 42.3351'	20.8	Toe of small ridge, tundra, grass, short willows
56	78+69	5,950,796	289,095	70° 16.1236'	151° 42.3411'	23.6	Break, top of small ridge, tundra, grass
57	79+37	5,950,852	289,056	70° 16.1325'	151° 42.3608'	24.8	Break, tundra, short willows
58	79+56	5,950,867	289,045	70° 16.1349'	151° 42.3664'	22.5	Break, tundra, short willows, grass
59	82+52	5,951,108	288,872	70° 16.1736'	151° 42.4536'	22.6	Tundra, tall grass (sparse)
60	84+73	5,951,287	288,744	70° 16.2024'	151° 42.5183'	23.0	Tundra, short grass
61	87+47	5,951,510	288,584	70° 16.2382'	151° 42.5988'	22.5	Tundra, Grass, sparse 1' willows
62	90+00	5,951,716	288,437	70° 16.2712'	151° 42.6729'	21.1	Tundra, Grass, sparse 1' willows
63	91+84	5,951,865	288,329	70° 16.2952'	151° 42.7271'	20.3	Top of Bank Pond; lake body to left of line (100' x 300')
64	91+89	5,951,869	288,327	70° 16.2958'	151° 42.7284'	19.6	Edge of Ice
65	93+26	5,951,981	288,247	70° 16.3138'	151° 42.7688'	19.4	Edge of Ice
66	93+30	5,951,984	288,245	70° 16.3142'	151° 42.7699'	19.9	Top of Bank
67	94+05	5,952,045	288,201	70° 16.3240'	151° 42.7918'	20.1	Top of Bank
68	94+06	5,952,045	288,201	70° 16.3241'	151° 42.7921'	19.5	Edge of Ice
69	95+07	5,952,128	288,141	70° 16.3374'	151° 42.8219'	19.5	Edge of Ice
70	95+09	5,952,130	288,140	70° 16.3377'	151° 42.8226'	19.9	Top of Bank
71	97+70	5,952,341	287,988	70° 16.3717'	151° 42.8991'	19.6	Tundra, grass, sparse 1' willows
72	100+24	5,952,548	287,840	70° 16.4049'	151° 42.9738'	19.0	Tundra, grass, sparse 1' willows
73	101+61	5,952,659	287,761	70° 16.4227'	151° 43.0138'	16.9	Top of Bank (small lake), sparse willows
74	101+67	5,952,664	287,757	70° 16.4235'	151° 43.0156'	16.2	Edge of Ice (small lake)
75	106+97	5,953,095	287,448	70° 16.4927'	151° 43.1713'	16.4	Edge of Ice (small lake)
76	107+03	5,953,100	287,445	70° 16.4934'	151° 43.1730'	16.6	Top of Bank, grass
77	109+69	5,953,316	287,290	70° 16.5281'	151° 43.2510'	16.7	Tundra, grass, very sparse 6" willows
78	113+13	5,953,596	287,090	70° 16.5730'	151° 43.3519'	17.5	Tundra, grass, very sparse 6" willows
79	114+74	5,953,726	286,996	70° 16.5940'	151° 43.3993'	16.5	Edge of Ice
80	117+80	5,953,976	286,818	70° 16.6341'	151° 43.4894'	16.2	Edge of Ice
81	117+84	5,953,979	286,815	70° 16.6346'	151° 43.4905'	16.6	Top of Bank

Table E.4: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
82	118+40	5,954,025	286,783	70° 16.6419'	151° 43.5069'	21.2	Toe of Bank
83	119+37	5,954,103	286,726	70° 16.6545'	151° 43.5355'	37.3	Break, top of bank, scattered tall grass, tundra
84	121+53	5,954,279	286,601	70° 16.6827'	151° 43.5987'	41.7	Tundra, grass
85	123+79	5,954,463	286,469	70° 16.7123'	151° 43.6652'	43.1	Break, tundra & scattered grass
86	125+99	5,954,642	286,341	70° 16.7410'	151° 43.7298'	38.7	Tundra, grass, scattered short willows ± .5'
87	128+10	5,954,813	286,218	70° 16.7685'	151° 43.7919'	37.4	Tundra, grass, scattered short willows ± .5'
88	131+50	5,955,089	286,021	70° 16.8128'	151° 43.8914'	37.7	Tundra, grass, sparse willows
89	134+00	5,955,293	285,875	70° 16.8455'	151° 43.9648'	37.8	Tundra, short thick grass, willows ± .5'
90	137+23	5,955,556	285,687	70° 16.8876'	151° 44.0596'	37.1	Tundra, grass, patches of short willows
91	139+98	5,955,780	285,528	70° 16.9236'	151° 44.1402'	37.1	Ice, edge of small pond, thick tall grass
92	143+70	5,956,082	285,311	70° 16.9721'	151° 44.2497'	37.1	Ice, edge of small pond, thick tall grass
93	144+44	5,956,142	285,268	70° 16.9818'	151° 44.2715'	38.2	Break, tundra, short grass
94	145+91	5,956,262	285,182	70° 17.0010'	151° 44.3144'	37.6	Begin ice, thick grass
95	146+76	5,956,331	285,134	70° 17.0122'	151° 44.3390'	37.5	End ice, thick grass
96	147+43	5,956,386	285,094	70° 17.0209'	151° 44.3593'	37.7	Break, sparse short willows, grass
97	149+41	5,956,546	284,978	70° 17.0466'	151° 44.4174'	38.9	Break, toe, grass, sparse short willows
98	151+18	5,956,691	284,876	70° 17.0698'	151° 44.4690'	48.1	Break, top of bank, grass, short willows
99	153+17	5,956,852	284,760	70° 17.0957'	151° 44.5276'	50.3	Tundra, grass, sparse short willows
100	156+14	5,957,094	284,588	70° 17.1345'	151° 44.6147'	48.0	Tundra, grass, sparse short willows
101	158+24	5,957,264	284,465	70° 17.1619'	151° 44.6767'	45.9	(Lake) Top of bank, grass, short willows
102	158+39	5,957,276	284,456	70° 17.1638'	151° 44.6811'	45.2	Ice edge of lake
103	162+73	5,957,630	284,205	70° 17.2206'	151° 44.8081'	45.2	Ice edge of lake
104	162+75	5,957,631	284,203	70° 17.2208'	151° 44.8087'	45.6	Top of bank, tundra, grass
105	163+10	5,957,660	284,183	70° 17.2254'	151° 44.8192'	45.3	Top of bank, tundra, grass
106	163+13	5,957,663	284,181	70° 17.2258'	151° 44.8199'	45.2	Edge of ice
107	165+38	5,957,845	284,050	70° 17.2552'	151° 44.8861'	45.1	Edge of ice
108	165+51	5,957,857	284,042	70° 17.2570'	151° 44.8900'	45.2	Top of bank, thick tall grass

Table E.4: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
109	165+83	5,957,882	284,024	70° 17.2610'	151° 44.8994'	45.3	Top of bank, thick tall grass
110	165+86	5,957,885	284,022	70° 17.2615'	151° 44.9003'	45.2	Edge of ice, some grass
111	167+15	5,957,990	283,947	70° 17.2783'	151° 44.9382'	45.3	Edge of ice, some grass
112	167+19	5,957,992	283,945	70° 17.2788'	151° 44.9392'	45.7	Top of bank, thick grass
113	168+22	5,958,077	283,885	70° 17.2923'	151° 44.9696'	46.1	Thick grass, tundra
114	169+60	5,958,189	283,804	70° 17.3102'	151° 45.0102'	45.6	Break, end thick grass, grass, sparse ± 6" willows
115	171+51	5,958,345	283,694	70° 17.3353'	151° 45.0660'	49.6	Tundra, willows ± 6", grass
116	172+87	5,958,455	283,614	70° 17.3529'	151° 45.1062'	54.2	Tundra, willows ± 6", grass
117	174+69	5,958,589	283,489	70° 17.3743'	151° 45.1689'	56.3	Tundra @ west end section #2
E END XSECT. 2	0+00	5,944,404	293,685	70° 15.0969'	151° 40.0304'	51.39	#4 rebar, 0.7' above tundra
W END XSECT. 2	174+69	5,958,588	283,489	70° 17.3743'	151° 45.1690'	57.42	#4 rebar, 0.7' above tundra
Notes:							
1. Elevations shown are British Petroleum Mean Sea Level.							
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.							
3. Geographic Coordinates are NAD 27.							
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.							
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.							
6. Survey was conducted by Lounsbury & Associates, 2001.							

Table E.5: Cross-Section Survey of Fish Creek at River Mile 32.4 and Judy Creek at River Mile 7

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
0	0+00	5,960,632	268,843	70° 17.6361'	151° 52.3087'	69.2	Ground at XS3N, Tundra, short grass
1	3+15	5,960,317	268,844	70° 17.5860'	151° 52.3035'	64.7	Tundra, short grass
2	6+18	5,960,014	268,846	70° 17.5363'	151° 52.2984'	64.8	Tundra, short grass
3	8+35	5,959,797	268,845	70° 17.5008'	151° 52.2954'	65.1	Break, tundra, short grass
4	9+60	5,959,672	268,850	70° 17.4804'	151° 52.2910'	59.9	Break, tundra, short grass
5	12+14	5,959,419	268,850	70° 17.4388'	151° 52.2875'	58.7	Tundra, short grass
6	15+08	5,959,124	268,851	70° 17.3905'	151° 52.2824'	59.2	Tundra, short grass
7	18+11	5,958,821	268,854	70° 17.3410'	151° 52.2764'	58.6	Tundra, short grass
8	21+34	5,958,498	268,856	70° 17.2880'	151° 52.2708'	59.2	Tundra, short grass
9	24+00	5,958,232	268,855	70° 17.2445'	151° 52.2673'	59.5	Tundra, short grass
10	27+23	5,957,910	268,857	70° 17.1916'	151° 52.2616'	64.4	Tundra, short grass
11	30+19	5,957,614	268,858	70° 17.1431'	151° 52.2565'	63.3	Tundra, short grass
12	31+90	5,957,442	268,860	70° 17.1150'	151° 52.2531'	61.8	Break, tundra, short grass, small willows
13	32+98	5,957,334	268,860	70° 17.0974'	151° 52.2514'	58.2	Break, tundra, short grass
14	35+38	5,957,094	268,863	70° 17.0581'	151° 52.2462'	61.1	Break, tundra, short grass
15	38+82	5,956,750	268,862	70° 17.0017'	151° 52.2416'	61.4	Break, tundra, short grass
16	40+13	5,956,620	268,864	70° 16.9803'	151° 52.2390'	61.5	Tundra, short grass
17	42+17	5,956,415	268,865	70° 16.9468'	151° 52.2352'	60.6	Tundra, short grass
18	45+10	5,956,122	268,866	70° 16.8988'	151° 52.2303'	56.3	Tundra, short grass
19	46+18	5,956,014	268,867	70° 16.8811'	151° 52.2284'	53.2	Break, tundra, short grass
20	48+22	5,955,811	268,868	70° 16.8478'	151° 52.2248'	54.0	Tundra, short grass
21	51+01	5,955,531	268,869	70° 16.8020'	151° 52.2202'	53.1	Tundra, short grass
22	53+58	5,955,274	268,872	70° 16.7599'	151° 52.2148'	59.2	Break, tundra, short grass
23	54+49	5,955,183	268,870	70° 16.7450'	151° 52.2145'	60.2	Break, tundra, short grass
24	55+11	5,955,121	268,871	70° 16.7349'	151° 52.2131'	55.0	Break, tundra, short grass
25	56+35	5,954,997	268,872	70° 16.7145'	151° 52.2106'	39.8	Break, tundra, short grass
26	57+31	5,954,901	268,872	70° 16.6988'	151° 52.2093'	37.5	Break, tundra, short grass

Table E.5: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
27	60+76	5,954,557	268,879	70° 16.6424'	151° 52.2009'	41.1	Break,tundra, short grass
28	61+75	5,954,458	268,874	70° 16.6261'	151° 52.2017'	31.7	Break, tall grass
29	62+52	5,954,380	268,876	70° 16.6135'	151° 52.1995'	27.7	Break, tall grass
30	63+77	5,954,255	268,876	70° 16.5930'	151° 52.1979'	25.5	Break, tall grass
31	66+17	5,954,015	268,876	70° 16.5537'	151° 52.1940'	24.0	Tundra, tall grass
32	69+14	5,953,718	268,879	70° 16.5051'	151° 52.1884'	23.7	Tundra, tall grass
33	72+13	5,953,419	268,881	70° 16.4560'	151° 52.1830'	22.4	Tundra, short grass
34	72+93	5,953,340	268,880	70° 16.4430'	151° 52.1821'	22.7	Tundra, tall grass
35	73+25	5,953,308	268,881	70° 16.4378'	151° 52.1814'	20.8	Edge of ice @ overflow area
36	75+05	5,953,127	268,881	70° 16.4082'	151° 52.1785'	21.2	Edge of ice @ overflow area
37	78+46	5,952,786	268,884	70° 16.3523'	151° 52.1718'	21.3	Tundra, tall grass, thick, short willows
38	80+94	5,952,538	268,885	70° 16.3117'	151° 52.1678'	21.7	Tundra, tall grass, thick, short willows
39	81+61	5,952,472	268,884	70° 16.3008'	151° 52.1671'	22.8	Break, tall grass, thick short willows
40	82+03	5,952,429	268,885	70° 16.2938'	151° 52.1660'	19.9	Break, tall grass, thick short willows
201	85+82	5,952,050	268,887	70° 16.2318'	151° 52.1593'	24.1	Grnd @ Mon, Top of high bank, tundra, willows
202	85+91	5,952,041	268,886	70° 16.2303'	151° 52.1597'	23.7	Top of bank, tundra, willows
203	85+98	5,952,035	268,886	70° 16.2292'	151° 52.1597'	21.3	Break, edge of willows ±2'
204	86+02	5,952,030	268,886	70° 16.2285'	151° 52.1597'	16.8	Edge of water, main channel Fish creek, sand
205	86+08	5,952,024	268,886	70° 16.2275'	151° 52.1596'	15.1	Bottom of Creek
206	86+18	5,952,014	268,886	70° 16.2258'	151° 52.1595'	14.7	Bottom of Creek
207	86+28	5,952,004	268,887	70° 16.2242'	151° 52.1588'	14.6	Bottom of Creek
208	86+38	5,951,994	268,887	70° 16.2225'	151° 52.1587'	14.4	Bottom of Creek
209	86+48	5,951,984	268,887	70° 16.2209'	151° 52.1585'	14.4	Bottom of Creek
210	86+58	5,951,974	268,887	70° 16.2193'	151° 52.1584'	14.4	Bottom of Creek
211	86+68	5,951,964	268,888	70° 16.2176'	151° 52.1578'	14.2	Bottom of Creek
212	86+78	5,951,954	268,888	70° 16.2160'	151° 52.1576'	13.6	Bottom of Creek
213	86+88	5,951,944	268,888	70° 16.2144'	151° 52.1575'	13.9	Bottom of Creek

Table E.5: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
214	86+98	5,951,934	268,888	70° 16.2127'	151° 52.1573'	14.4	Bottom of Creek
215	87+08	5,951,924	268,889	70° 16.2111'	151° 52.1567'	15.0	Bottom of Creek
216	87+19	5,951,914	268,889	70° 16.2094'	151° 52.1565'	16.8	Edge of water, main channel Fish creek, sand
217	87+66	5,951,867	268,888	70° 16.2017'	151° 52.1564'	17.3	Sand bar
218	88+13	5,951,820	268,889	70° 16.1940'	151° 52.1551'	17.9	Sand bar, high spot
219	88+32	5,951,801	268,888	70° 16.1909'	151° 52.1554'	16.7	Edge of water, slough, sand
220	88+42	5,951,791	268,888	70° 16.1892'	151° 52.1551'	14.5	Bottom of slough, sand
221	88+47	5,951,785	268,888	70° 16.1884'	151° 52.1550'	14.2	Bottom of slough, sand
222	88+51	5,951,781	268,889	70° 16.1877'	151° 52.1547'	15.3	Bottom of slough, sand
223	88+54	5,951,778	268,888	70° 16.1872'	151° 52.1549'	17.0	Edge of water, slough
224	88+63	5,951,769	268,888	70° 16.1857'	151° 52.1549'	22.0	Top of bank, break
225	88+79	5,951,754	268,889	70° 16.1832'	151° 52.1542'	23.0	Grnd @ Mon. South2, High Bank, Tundra, 1' Willows
46	90+78	5,951,555	268,890	70° 16.1506'	151° 52.1505'	22.9	Edge of ice, no bank, flood plain area
47	95+06	5,951,127	268,894	70° 16.0805'	151° 52.1426'	22.7	Edge of ice, no bank, tall grass
48	98+35	5,950,797	268,891	70° 16.0265'	151° 52.1388'	23.3	Tundra, tall grass, short, sparse willows
49	99+72	5,950,661	268,895	70° 16.0041'	151° 52.1351'	24.2	Break, tall grass, short, sparse willows
50	100+43	5,950,590	268,895	70° 15.9925'	151° 52.1340'	31.2	Break, tall grass, short, sparse willows
51	102+30	5,950,403	268,898	70° 15.9618'	151° 52.1298'	26.6	Tundra, tall grass, short, sparse willows
52	105+08	5,950,124	268,898	70° 15.9163'	151° 52.1257'	24.7	Tundra, tall grass, short, sparse willows
53	108+13	5,949,820	268,900	70° 15.8664'	151° 52.1199'	23.3	Tundra, tall grass, short, sparse willows
54	110+75	5,949,557	268,902	70° 15.8234'	151° 52.1151'	22.4	Tundra, tall grass, short, sparse willows
55	113+61	5,949,272	268,900	70° 15.7766'	151° 52.1117'	21.8	Tundra, tall grass, short, sparse willows
56	116+25	5,949,008	268,903	70° 15.7333'	151° 52.1066'	24.1	Tundra, top of bank at lake, tall grass, short, sparse willows
57	116+45	5,948,988	268,905	70° 15.7301'	151° 52.1053'	23.3	Edge of ice
58	124+85	5,948,147	268,908	70° 15.5924'	151° 52.0910'	23.1	Edge of ice
59	125+28	5,948,105	268,907	70° 15.5854'	151° 52.0910'	27.9	Break, tall grass, short, sparse willows
60	128+63	5,947,770	268,911	70° 15.5305'	151° 52.0842'	42.9	Break, tall grass, short, sparse willows

Table E.5: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
61	130+65	5,947,568	268,912	70° 15.4975'	151° 52.0807'	47.5	Break, tall grass, short, sparse willows
62	131+95	5,947,438	268,912	70° 15.4761'	151° 52.0789'	48.3	Tundra, short grass, short, sparse willows
63	134+94	5,947,139	268,910	70° 15.4272'	151° 52.0750'	48.6	Tundra, short grass, short, sparse willows
64	137+82	5,946,851	268,915	70° 15.3800'	151° 52.0685'	48.0	Tundra, short grass, short, sparse willows
65	140+86	5,946,547	268,913	70° 15.3302'	151° 52.0648'	46.8	Tundra, short grass, short, sparse willows
66	144+02	5,946,231	268,916	70° 15.2784'	151° 52.0591'	47.9	Tundra, short grass, short, sparse willows
67	146+78	5,945,954	268,918	70° 15.2331'	151° 52.0537'	48.0	Tundra, short grass, short, sparse willows
68	149+95	5,945,638	268,920	70° 15.1813'	151° 52.0481'	45.5	Tundra, short grass, short, sparse willows
69	153+21	5,945,312	268,923	70° 15.1279'	151° 52.0420'	45.4	Tundra, short grass, no willows
70	156+77	5,944,955	268,923	70° 15.0695'	151° 52.0367'	45.4	Tundra, short grass, no willows
71	159+02	5,944,731	268,923	70° 15.0327'	151° 52.0331'	45.4	Tundra, short grass, sparse willows
72	161+95	5,944,438	268,926	70° 14.9847'	151° 52.0274'	45.6	Tundra, short grass, sparse willows
73	165+05	5,944,127	268,926	70° 14.9338'	151° 52.0227'	43.1	Tundra, short grass, sparse willows
74	167+30	5,943,903	268,929	70° 14.8970'	151° 52.0181'	43.2	Break, tall grass, no willows
75	169+39	5,943,694	268,931	70° 14.8628'	151° 52.0140'	47.3	Break, tall grass, no willows
76	171+68	5,943,465	268,931	70° 14.8253'	151° 52.0106'	46.2	Break, tall grass, no willows
77	173+28	5,943,305	268,931	70° 14.7990'	151° 52.0081'	42.7	Break, tall grass, no willows
78	175+11	5,943,122	268,934	70° 14.7691'	151° 52.0041'	43.1	Break, tall grass, no willows
79	175+69	5,943,064	268,933	70° 14.7596'	151° 52.0036'	47.5	Break, tall grass, no willows
80	177+01	5,942,932	268,934	70° 14.7380'	151° 52.0009'	52.6	Angle point, tundra, tall grass, @ XS3C
81	179+11	5,942,735	269,008	70° 14.7061'	151° 51.9624'	49.2	Tundra, short grass
82	181+72	5,942,491	269,099	70° 14.6665'	151° 51.9148'	46.1	Tundra, short grass
83	184+49	5,942,231	269,195	70° 14.6245'	151° 51.8642'	45.0	Tunda, short grass, sparse willows
84	187+77	5,941,924	269,309	70° 14.5747'	151° 51.8045'	45.8	Tunda, short grass, sparse willows
85	190+49	5,941,668	269,404	70° 14.5333'	151° 51.7548'	43.1	Tunda, short grass, sparse willows
86	193+45	5,941,390	269,506	70° 14.4883'	151° 51.7010'	43.0	Tunda, short grass, sparse willows
87	196+72	5,941,084	269,621	70° 14.4387'	151° 51.6412'	40.7	Top of bank @ edge of lake, short grass, sparse willow 0.5'

Table E.5: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
88	197+67	5,940,995	269,654	70° 14.4243'	151° 51.6237'	35.2	Edge of lake, top of ice
89	198+58	5,940,910	269,686	70° 14.4105'	151° 51.6071'	42.5	Top of bank, edge of lake, tundra
90	199+26	5,940,846	269,710	70° 14.4001'	151° 51.5946'	42.4	Top of bank @ lake, tundra, tall grass
91	199+58	5,940,817	269,720	70° 14.3953'	151° 51.5890'	34.5	Edge of lake, top of ice
92	222+63	5,938,655	270,521	70° 14.0452'	151° 51.1693'	34.9	Edge of lake, top of ice
93	222+75	5,938,644	270,525	70° 14.0434'	151° 51.1672'	36.3	Top of bank @ lake, tundra, short grass
94	223+41	5,938,582	270,548	70° 14.0334'	151° 51.1550'	36.4	Tundra, short grass
95	226+23	5,938,317	270,646	70° 13.9904'	151° 51.1037'	37.5	Tundra, short grass
96	229+32	5,938,027	270,752	70° 13.9434'	151° 51.0483'	35.1	Tundra, short grass
97	232+56	5,937,723	270,864	70° 13.8941'	151° 50.9894'	33.1	Tundra, short grass
98	235+48	5,937,449	270,964	70° 13.8498'	151° 50.9369'	32.8	Tundra, short grass
99	238+63	5,937,154	271,074	70° 13.8020'	151° 50.8797'	32.6	Tundra, short grass
100	241+57	5,936,877	271,173	70° 13.7572'	151° 50.8273'	33.7	Tundra, short grass
101	244+62	5,936,591	271,279	70° 13.7107'	151° 50.7720'	30.5	Edge of ice @ lake, no bank
102	249+90	5,936,095	271,461	70° 13.6305'	151° 50.6766'	30.6	Edge of ice @ lake, no bank
103	250+69	5,936,021	271,488	70° 13.6185'	151° 50.6625'	30.5	Tundra, short grass, sparse willows
104	253+57	5,935,750	271,588	70° 13.5746'	151° 50.6100'	30.3	Tundra, short grass, sparse willows
105	254+23	5,935,689	271,611	70° 13.5646'	151° 50.5981'	28.4	Edge of ice @ lake, no bank
106	262+39	5,934,923	271,892	70° 13.4406'	151° 50.4510'	28.9	Edge of ice @ lake, no bank
107	263+36	5,934,832	271,926	70° 13.4258'	151° 50.4332'	30.7	Break, tundra, short grass, sparse willows
108	265+76	5,934,607	272,007	70° 13.3893'	151° 50.3906'	32.3	Break, tundra, short grass, sparse willows
109	268+62	5,934,338	272,107	70° 13.3457'	151° 50.3381'	29.9	Tundra, short grass, sparse willows
110	270+75	5,934,138	272,180	70° 13.3133'	151° 50.3001'	30.0	Tundra, short grass, sparse willows
111	271+90	5,934,030	272,219	70° 13.2958'	151° 50.2797'	27.9	Break, tundra, short grass, sparse willows
112	274+03	5,933,831	272,294	70° 13.2635'	151° 50.2402'	29.1	Break, tundra, short grass, sparse willows
113	275+52	5,933,691	272,345	70° 13.2409'	151° 50.2137'	27.4	Angle point, Top of bank - Judy creek
301	277+35	5,933,665	272,526	70° 13.2376'	151° 50.1256'	32.3	Angle point, Ground at Mon. North 1, Tundra, top of bank

Table E.5: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
302	277+52	5,933,648	272,523	70° 13.2348'	151° 50.1268'	30.8	Break, End Tundra, Begin Willows
303	277+65	5,933,636	272,521	70° 13.2327'	151° 50.1279'	24.7	Break, Sand, End Sparse 2' Willows
304	277+72	5,933,629	272,519	70° 13.2316'	151° 50.1288'	19.6	Judy Creek, Edge of water, Sand
305	277+80	5,933,621	272,518	70° 13.2303'	151° 50.1290'	17.6	Bottom of Creek
306	277+90	5,933,611	272,516	70° 13.2286'	151° 50.1298'	16.5	Bottom of Creek
307	278+00	5,933,601	272,515	70° 13.2270'	151° 50.1301'	16.4	Bottom of Creek
308	278+10	5,933,591	272,513	70° 13.2253'	151° 50.1310'	16.2	Bottom of Creek
309	278+20	5,933,581	272,512	70° 13.2237'	151° 50.1313'	16.5	Bottom of Creek
310	278+31	5,933,571	272,510	70° 13.2221'	151° 50.1321'	16.7	Bottom of Creek
311	278+41	5,933,561	272,509	70° 13.2204'	151° 50.1325'	16.8	Bottom of Creek
312	278+50	5,933,552	272,507	70° 13.2189'	151° 50.1333'	17.0	Bottom of Creek
313	278+60	5,933,542	272,506	70° 13.2173'	151° 50.1336'	16.9	Bottom of Creek
314	278+70	5,933,532	272,504	70° 13.2156'	151° 50.1345'	16.7	Bottom of Creek
315	278+80	5,933,522	272,503	70° 13.2140'	151° 50.1348'	17.0	Bottom of Creek
316	278+90	5,933,512	272,501	70° 13.2124'	151° 50.1356'	19.8	Judy Creek, Edge of water, Sand
317	279+01	5,933,501	272,500	70° 13.2106'	151° 50.1362'	23.9	Break, Sand
318	279+37	5,933,466	272,494	70° 13.2048'	151° 50.1384'	24.4	Sand
319	279+68	5,933,435	272,489	70° 13.1996'	151° 50.1404'	24.7	Sand
320	280+02	5,933,402	272,483	70° 13.1942'	151° 50.1425'	24.8	Sand
321	280+28	5,933,376	272,479	70° 13.1900'	151° 50.1441'	26.0	Break, Begin Willows, Sand
322	280+64	5,933,341	272,474	70° 13.1842'	151° 50.1463'	36.0	Angle pt, Gnd @ Mon So. 1, Top Bank, Sand, sp 3' Willows
119	281+12	5,933,295	272,491	70° 13.1767'	151° 50.1373'	36.0	Break, top, tall willows 4' - 5'
120	281+49	5,933,261	272,504	70° 13.1713'	151° 50.1305'	33.0	Break, toe, tall willows 4' - 5'
121	282+00	5,933,213	272,522	70° 13.1635'	151° 50.1213'	32.3	Break, toe, tall willows 4' - 5'
122	282+53	5,933,163	272,538	70° 13.1553'	151° 50.1128'	34.8	Break, top, tall willows 4' - 5'
123	282+89	5,933,129	272,552	70° 13.1498'	151° 50.1056'	30.1	Break, toe, end tall willows, begin short willows
124	283+78	5,933,045	272,581	70° 13.1363'	151° 50.0903'	23.5	Break, tundra, short sparse willows

Table E.5: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
125	284+31	5,932,996	272,600	70° 13.1282'	151° 50.0802'	26.3	Break, tundra, short sparse willows
126	286+35	5,932,804	272,669	70° 13.0972'	151° 50.0441'	27.7	Break, tundra, short sparse willows
127	288+32	5,932,619	272,739	70° 13.0672'	151° 50.0074'	30.5	Break, tundra, end short sparse willows
128	291+10	5,932,359	272,834	70° 13.0250'	151° 49.9577'	29.5	Tundra, short grass
129	293+83	5,932,102	272,928	70° 12.9834'	151° 49.9087'	29.3	Tundra, short grass
130	296+93	5,931,811	273,035	70° 12.9363'	151° 49.8524'	28.3	Tundra, short grass
131	297+59	5,931,749	273,057	70° 12.9262'	151° 49.8408'	29.1	Edge of ice @ lake, no bank
132	301+10	5,931,420	273,180	70° 12.8729'	151° 49.7768'	28.3	Edge of ice @ lake, toe
133	301+87	5,931,348	273,206	70° 12.8613'	151° 49.7628'	34.6	Top, tundra, short grass
134	303+28	5,931,215	273,255	70° 12.8398'	151° 49.7375'	37.4	Tundra, short grass
135	305+74	5,930,985	273,342	70° 12.8024'	151° 49.6920'	38.4	Tundra, short grass
136	308+02	5,930,771	273,419	70° 12.7677'	151° 49.6515'	38.7	Tundra, short grass
137	310+86	5,930,504	273,516	70° 12.7244'	151° 49.6006'	39.6	Tundra, short grass
138	314+07	5,930,202	273,626	70° 12.6756'	151° 49.5435'	38.5	Tundra, short grass
139	316+79	5,929,948	273,722	70° 12.6343'	151° 49.4934'	40.0	Tundra, short grass
140	320+04	5,929,642	273,834	70° 12.5848'	151° 49.4347'	43.7	Tundra, short grass
141	322+92	5,929,372	273,933	70° 12.5411'	151° 49.3827'	41.4	Tundra, short grass
142	325+90	5,929,092	274,036	70° 12.4957'	151° 49.3291'	42.1	Tundra, short grass
143	329+00	5,928,801	274,143	70° 12.4486'	151° 49.2730'	45.4	Tundra, short grass
144	331+98	5,928,522	274,246	70° 12.4033'	151° 49.2190'	47.7	Tundra, short grass
145	334+97	5,928,241	274,348	70° 12.3577'	151° 49.1657'	48.2	Tundra, short grass
146	337+99	5,927,959	274,454	70° 12.3120'	151° 49.1103'	49.4	Tundra, short grass
147	340+95	5,927,681	274,555	70° 12.2670'	151° 49.0576'	50.0	Tundra, short grass
148	344+18	5,927,378	274,668	70° 12.2179'	151° 48.9986'	52.6	Tundra, short grass
149	346+87	5,927,125	274,760	70° 12.1770'	151° 48.9504'	52.8	Tundra, short grass
150	350+43	5,926,791	274,883	70° 12.1228'	151° 48.8864'	54.4	Tundra, short grass
151	353+10	5,926,541	274,977	70° 12.0822'	151° 48.8373'	54.9	Tundra, short grass

Table E.5: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
152	354+41	5,926,417	275,021	70° 12.0623'	151° 48.8139'	54.1	Break, tundra, short grass
153	355+30	5,926,334	275,053	70° 12.0487'	151° 48.7975'	52.1	Break, tundra, short grass
154	357+60	5,926,118	275,130	70° 12.0137'	151° 48.7570'	53.3	Tundra, short grass
155	360+84	5,925,814	275,242	70° 11.9644'	151° 48.6986'	53.5	Tundra, short grass
156	363+63	5,925,552	275,340	70° 11.9221'	151° 48.6474'	54.7	Tundra, short grass
157	366+29	5,925,303	275,431	70° 11.8817'	151° 48.5998'	56.3	Tundra, short grass
158	368+01	5,925,141	275,491	70° 11.8554'	151° 48.5687'	57.3	Tundra, short grass,gnd @ XS3S
XS3N	0+00	5,960,623	268,843	70° 17.6361'	151° 52.3087'	70.0	#4 rebar, 0.8' above tundra
XS3C	177+01	5,942,935	268,934	70° 14.7386'	151° 52.0012'	53.6	#4 rebar, 0.9' above tundra
XS3S	368+01	5,925,141	275,491	70° 11.8554'	151° 48.5687'	58.4	#4 rebar, 0.9' above tundra

Notes:

1. Elevations shown are British Petroleum Mean Sea Level.
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.
3. Geographic Coordinates are NAD 27.
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.
6. Points 201-225 were inserted in place of 41-45 after summer survey of Fish Creek crossing.
7. Points 301-322 were inserted in place of 114-118 after summer survey of Judy Creek crossing.
8. Survey was conducted by Lounsbury & Associates, 2001.

Table E.6: Cross-Section Survey of Fish Creek at River Mile 43.3

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
1	0+03	5,942,265	254,432	70° 14.5536'	151° 59.0149'	56.6	Ground shot @ S end X-section, tundra, short grass
2	2+99	5,942,481	254,230	70° 14.5879'	151° 59.1160'	53.4	Tundra, short grass
3	6+01	5,942,702	254,023	70° 14.6230'	151° 59.2198'	54.4	Tundra, short grass
4	9+00	5,942,921	253,820	70° 14.6578'	151° 59.3216'	51.6	Tundra, short grass
5	11+98	5,943,140	253,617	70° 14.6926'	151° 59.4231'	53.1	Tundra, short grass
6	15+01	5,943,361	253,411	70° 14.7276'	151° 59.5268'	52.8	Tundra, short grass
7	17+98	5,943,578	253,208	70° 14.7621'	151° 59.6283'	54.9	Tundra, short grass
8	21+04	5,943,803	253,000	70° 14.7978'	151° 59.7326'	56.5	Tundra, short grass
9	23+98	5,944,019	252,800	70° 14.8321'	151° 59.8331'	55.6	Break, tundra, short grass
10	25+93	5,944,160	252,666	70° 14.8546'	151° 59.9000'	51.7	Break, tundra, short grass
11	27+83	5,944,300	252,538	70° 14.8768'	151° 59.9644'	43.2	Break, tundra, short grass
12	30+07	5,944,464	252,386	70° 14.9029'	152° 00.0408'	42.8	Tundra, short grass
13	33+01	5,944,680	252,186	70° 14.9371'	152° 00.1410'	40.5	Tundra, short grass
14	34+26	5,944,772	252,101	70° 14.9518'	152° 00.1833'	39.8	Edge of ice, small pond, tundra
15	35+79	5,944,883	251,996	70° 14.9694'	152° 00.2363'	39.7	Edge of ice, small pond, tundra
16	36+04	5,944,901	251,978	70° 14.9723'	152° 00.2451'	39.6	Tundra, short grass
17	39+02	5,945,120	251,776	70° 15.0070'	152° 00.3464'	41.6	Tundra, short grass
18	42+04	5,945,340	251,570	70° 15.0420'	152° 00.4499'	43.2	Tundra, short grass
19	45+02	5,945,559	251,367	70° 15.0767'	152° 00.5520'	44.9	Tundra, short grass
20	48+01	5,945,778	251,164	70° 15.1115'	152° 00.6536'	44.9	Tundra, short grass
21	51+46	5,946,031	250,929	70° 15.1517'	152° 00.7713'	42.5	Break, tundra, short grass
22	52+32	5,946,095	250,871	70° 15.1619'	152° 00.8006'	32.8	Break, tundra, short grass
23	55+23	5,946,307	250,672	70° 15.1956'	152° 00.9002'	35.9	Break, tundra, short grass
24	55+47	5,946,325	250,656	70° 15.1984'	152° 00.9085'	34.5	Break, tundra, short grass
25	56+34	5,946,388	250,597	70° 15.2084'	152° 00.9381'	34.9	Tundra, short grass
26	58+02	5,946,512	250,484	70° 15.2282'	152° 00.9951'	42.2	Break, tundra, short grass
27	59+86	5,946,647	250,357	70° 15.2495'	152° 01.0583'	40.7	Break, tundra, short grass, small willows

Table E.6: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
101	61+21	5,946,742	250,262	70° 15.2646'	152° 01.1060'	35.1	Gnd at Mon 4A South, sparse willows ±2', sand, break
102	61+31	5,946,749	250,255	70° 15.2656'	152° 01.1097'	34.4	Break, sand, willows
103	61+46	5,946,759	250,244	70° 15.2674'	152° 01.1151'	29.4	Break, sand, end willows
104	61+57	5,946,767	250,237	70° 15.2686'	152° 01.1187'	28.1	Break, sand bar
105	62+03	5,946,802	250,206	70° 15.2741'	152° 01.1341'	28.1	Sand bar
106	62+56	5,946,841	250,171	70° 15.2803'	152° 01.1520'	27.9	Sand bar
107	63+03	5,946,875	250,139	70° 15.2858'	152° 01.1680'	27.5	Sand bar
108	63+56	5,946,914	250,102	70° 15.2919'	152° 01.1866'	25.7	Creek edge of water, sand
109	63+66	5,946,921	250,095	70° 15.2930'	152° 01.1899'	25.3	In Creek
110	63+76	5,946,929	250,089	70° 15.2943'	152° 01.1929'	24.9	In Creek
111	63+86	5,946,936	250,082	70° 15.2954'	152° 01.1964'	25.0	In Creek
112	63+96	5,946,944	250,075	70° 15.2967'	152° 01.2000'	24.2	In Creek
113	64+06	5,946,951	250,068	70° 15.2978'	152° 01.2035'	24.0	In Creek
114	64+15	5,946,958	250,062	70° 15.2989'	152° 01.2065'	23.5	In Creek
115	64+26	5,946,966	250,055	70° 15.3002'	152° 01.2100'	23.4	In Creek
116	64+36	5,946,973	250,048	70° 15.3013'	152° 01.2135'	22.2	In Creek
117	64+47	5,946,981	250,041	70° 15.3025'	152° 01.2170'	21.5	In Creek
118	64+56	5,946,988	250,035	70° 15.3037'	152° 01.2200'	19.1	In Creek
119	64+66	5,946,995	250,028	70° 15.3048'	152° 01.2236'	18.7	In Creek
120	64+76	5,947,003	250,021	70° 15.3060'	152° 01.2271'	19.3	In Creek
121	64+86	5,947,010	250,015	70° 15.3071'	152° 01.2301'	18.7	In Creek
122	64+96	5,947,018	250,008	70° 15.3084'	152° 01.2336'	21.6	In Creek
123	65+05	5,947,024	250,002	70° 15.3094'	152° 01.2364'	25.7	Creek edge of water, north side
124	65+10	5,947,029	249,999	70° 15.3102'	152° 01.2381'	27.1	Break, sand
125	65+26	5,947,039	249,987	70° 15.3118'	152° 01.2440'	37.3	Top of large bank, begin tundra
126	65+38	5,947,047	249,978	70° 15.3131'	152° 01.2484'	38.4	Ground at Mon 4A North
34	66+04	5,947,100	249,938	70° 15.3215'	152° 01.2689'	38.2	Tundra, short grass, end small willows

Table E.6: (Continued)

POINT	STA.	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
35	67+93	5,947,238	249,808	70° 15.3434'	152° 01.3339'	40.9	Tundra, short grass
36	69+06	5,947,320	249,731	70° 15.3563'	152° 01.3727'	39.0	Tundra, short grass
37	72+01	5,947,537	249,530	70° 15.3908'	152° 01.4734'	37.6	Tundra, short grass
38	73+21	5,947,624	249,449	70° 15.4047'	152° 01.5141'	37.1	Top of bank of lake, tundra, short grass
39	73+31	5,947,633	249,443	70° 15.4061'	152° 01.5173'	35.7	Toe of bank, ice
40	85+13	5,948,499	248,639	70° 15.5435'	152° 01.9209'	35.0	Toe of bank, edge of ice
41	86+45	5,948,596	248,549	70° 15.5589'	152° 01.9661'	87.2	Top of bank, tundra, short grass
42	87+05	5,948,636	248,504	70° 15.5653'	152° 01.9884'	95.5	Ground shot @ N end of X-section, tundra, short grass
NW END XSECT 4A	87+03	5,948,634	248,504	70° 15.5649'	152° 01.9885'	96.2	#4 rebar, 0.6' above tundra
SE END XSECT 4A	0+00	5,942,263	254,433	70° 14.5532'	151° 59.0144'	57.9	#4 rebar, 0.8' above tundra
Notes:							
1. Elevations shown are British Petroleum Mean Sea Level.							
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.							
3. Geographic Coordinates are NAD 27.							
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.							
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.							
6. Points 101-126 were inserted in place of 28-33 after summer survey of Fish Creek crossing.							
7. Survey was conducted by Lounsbury & Associates, 2001.							

Judy Creek

Cross-Section Surveys

Table E.7: Cross-Section Survey of Judy Creek at River Mile 13.8

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
1	0+00	5,918,156	261,484	70° 10.6407'	151° 55.2310'	64.0	Tundra, Gnd. @ XS4BS, short grass, no willows
2	2+90	5,918,337	261,257	70° 10.6690'	151° 55.3434'	59.7	Tundra, short grass, no willows
3	5+98	5,918,528	261,016	70° 10.6992'	151° 55.4628'	59.7	Tundra, short grass, no willows
4	8+97	5,918,714	260,781	70° 10.7285'	151° 55.5788'	60.3	Tundra, short grass, no willows
5	11+95	5,918,899	260,548	70° 10.7575'	151° 55.6941'	59.3	Tundra, short grass, no willows
6	15+06	5,919,093	260,304	70° 10.7880'	151° 55.8149'	59.0	Tundra, short grass, no willows
7	18+04	5,919,278	260,071	70° 10.8171'	151° 55.9302'	58.3	Tundra, short grass, no willows
8	21+10	5,919,468	259,831	70° 10.8471'	151° 56.0490'	58.6	Tundra, short grass, no willows
9	23+97	5,919,647	259,607	70° 10.8751'	151° 56.1602'	58.5	Tundra, short grass, no willows
10	27+12	5,919,842	259,360	70° 10.9059'	151° 56.2822'	57.4	Tundra, short grass, no willows
11	30+02	5,920,023	259,133	70° 10.9343'	151° 56.3948'	57.3	Tundra, short grass, no willows
12	33+01	5,920,209	258,899	70° 10.9635'	151° 56.5107'	59.8	Tundra, short grass, no willows
13	36+01	5,920,395	258,664	70° 10.9928'	151° 56.6271'	60.6	Tundra, short grass, no willows
14	39+00	5,920,581	258,430	70° 11.0220'	151° 56.7428'	58.7	Tundra, short grass, no willows
15	42+14	5,920,776	258,184	70° 11.0527'	151° 56.8646'	57.9	Tundra, short grass, no willows
16	45+07	5,920,958	257,955	70° 11.0814'	151° 56.9782'	56.9	Tundra, short grass, no willows
17	47+97	5,921,139	257,727	70° 11.1097'	151° 57.0908'	55.1	Tundra, short grass, no willows
18	49+50	5,921,234	257,608	70° 11.1247'	151° 57.1500'	53.0	Break, tundra, short grass, no willows
19	51+12	5,921,334	257,481	70° 11.1405'	151° 57.2130'	44.8	Tundra, short grass, no willows
20	54+03	5,921,516	257,252	70° 11.1690'	151° 57.3260'	44.1	Break, tundra, short grass, no willows
101	55+51	5,921,607	257,137	70° 11.1834'	151° 57.3833'	41.6	Ground at Mon 4B East, tundra, begin willows
102	55+66	5,921,617	257,125	70° 11.1849'	151° 57.3893'	41.1	Break, top of high bank, tundra, sparse willows
103	55+84	5,921,628	257,111	70° 11.1867'	151° 57.3963'	35.9	Break, tundra, sparse willows
104	55+98	5,921,637	257,100	70° 11.1881'	151° 57.4016'	35.9	Break, end tundra, sparse ±3' willows
105	56+04	5,921,640	257,095	70° 11.1886'	151° 57.4037'	31.6	Break, sand
106	56+09	5,921,644	257,091	70° 11.1891'	151° 57.4059'	28.9	Edge of water, Judy Creek, sand
107	56+24	5,921,653	257,080	70° 11.1906'	151° 57.4116'	24.7	Bottom of Creek

Table E.7: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
108	56+34	5,921,659	257,072	70° 11.1915'	151° 57.4155'	23.6	Bottom of Creek
109	56+44	5,921,665	257,064	70° 11.1925'	151° 57.4194'	23.0	Bottom of Creek
110	56+54	5,921,671	257,056	70° 11.1935'	151° 57.4232'	23.6	Bottom of Creek
111	56+64	5,921,678	257,048	70° 11.1945'	151° 57.4271'	25.0	Bottom of Creek
112	56+74	5,921,684	257,040	70° 11.1955'	151° 57.4310'	26.3	Bottom of Creek
113	56+84	5,921,690	257,033	70° 11.1964'	151° 57.4349'	27.5	Bottom of Creek
114	56+94	5,921,696	257,025	70° 11.1974'	151° 57.4388'	28.8	Edge of water, Judy Creek, sand
115	57+23	5,921,714	257,002	70° 11.2003'	151° 57.4501'	30.4	Sand bar, break
116	57+36	5,921,723	256,992	70° 11.2015'	151° 57.4551'	32.4	Sand bar, break
117	57+76	5,921,748	256,960	70° 11.2055'	151° 57.4707'	32.1	Sand bar
118	58+21	5,921,775	256,925	70° 11.2098'	151° 57.4881'	33.9	Sand bar
119	58+55	5,921,797	256,898	70° 11.2132'	151° 57.5014'	35.5	Break, end sand bar
120	58+59	5,921,799	256,895	70° 11.2135'	151° 57.5028'	36.5	Break, sand, begin willows
121	58+95	5,921,821	256,868	70° 11.2170'	151° 57.5167'	37.7	Break, sand, sparse willows
122	59+02	5,921,825	256,862	70° 11.2177'	151° 57.5194'	37.0	Break, sand, sparse willows
123	59+11	5,921,832	256,854	70° 11.2187'	151° 57.5232'	37.9	Break, end sand, sparse ±3' willows
124	59+18	5,921,836	256,849	70° 11.2193'	151° 57.5256'	40.3	Break, tundra, sparse willows
125	59+31	5,921,844	256,839	70° 11.2206'	151° 57.5308'	40.6	Ground at Mon 4B West, tundra, sparse willows
29	59+90	5,921,881	256,793	70° 11.2264'	151° 57.5537'	43.9	Break, short willows, short grass
30	60+43	5,921,914	256,751	70° 11.2316'	151° 57.5744'	40.9	Break, short willows, short grass
31	62+71	5,922,055	256,572	70° 11.2539'	151° 57.6628'	41.7	Break, short willows, short grass
32	63+47	5,922,103	256,513	70° 11.2613'	151° 57.6923'	49.0	Break, short willows, short grass
33	65+62	5,922,236	256,345	70° 11.2822'	151° 57.7755'	43.7	Tundra, short willows, short grass
34	68+80	5,922,433	256,096	70° 11.3133'	151° 57.8987'	47.1	Tundra, short grass, end willows
35	69+95	5,922,505	256,006	70° 11.3246'	151° 57.9436'	44.2	Break, short grass, sparse willows (6")
36	73+47	5,922,724	255,730	70° 11.3589'	151° 58.0799'	42.8	Tundra, short grass, sparse willows (6")
37	77+75	5,922,990	255,395	70° 11.4008'	151° 58.2461'	45.4	Tundra, short grass, sparse willows (6")

Table E.7: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
38	79+35	5,923,090	255,270	70° 11.4164'	151° 58.3082'	45.2	Tundra, short grass, sparse willows (6")
39	82+30	5,923,273	255,039	70° 11.4452'	151° 58.4228'	48.9	Tundra, short grass, sparse willows (6")
40	84+77	5,923,427	254,845	70° 11.4694'	151° 58.5186'	52.3	Tundra, short grass, no willows
41	88+18	5,923,639	254,578	70° 11.5027'	151° 58.6510'	54.1	Tundra, short grass, no willows
42	91+16	5,923,824	254,345	70° 11.5318'	151° 58.7664'	54.5	Tundra, short grass, no willows
43	93+77	5,923,986	254,140	70° 11.5573'	151° 58.8681'	54.3	Tundra, short grass, no willows
44	95+53	5,924,096	254,003	70° 11.5745'	151° 58.9361'	54.2	Tundra, short grass, no willows
45	98+89	5,924,305	253,739	70° 11.6073'	151° 59.0666'	50.5	Tundra, short grass, no willows
46	102+41	5,924,524	253,463	70° 11.6417'	151° 59.2034'	51.3	Tundra, short grass, no willows
47	104+88	5,924,677	253,270	70° 11.6658'	151° 59.2990'	51.6	Tundra, short grass, no willows
48	107+84	5,924,861	253,038	70° 11.6947'	151° 59.4140'	52.4	Tundra, short grass, no willows
49	110+24	5,925,010	252,851	70° 11.7181'	151° 59.5071'	53.9	Break, tundra, short grass, no willows
50	111+39	5,925,082	252,760	70° 11.7294'	151° 59.5520'	47.7	Break, tundra, short grass, no willows
51	113+79	5,925,231	252,572	70° 11.7528'	151° 59.6451'	47.2	Tundra, short grass, no willows
52	117+48	5,925,461	252,283	70° 11.7889'	151° 59.7885'	5.2	Tundra, short grass, no willows
53	119+98	5,925,616	252,088	70° 11.8133'	151° 59.8854'	47.7	Tundra, short grass, sparse willows
54	122+81	5,925,792	251,866	70° 11.8409'	151° 59.9954'	46.5	Tundra, short grass, sparse willows
55	125+86	5,925,981	251,627	70° 11.8707'	152° 00.1137'	46.1	Tundra, short grass, sparse willows
56	128+65	5,926,155	251,408	70° 11.8980'	152° 00.2223'	46.5	Tundra, short grass, sparse willows
57	131+69	5,926,344	251,171	70° 11.9276'	152° 00.3401'	47.4	Tundra, short grass, sparse willows
58	134+04	5,926,490	250,987	70° 11.9505'	152° 00.4313'	51.4	Tundra, short grass, sparse willows
59	136+59	5,926,649	250,787	70° 11.9755'	152° 00.5306'	54.9	Tundra, short grass, sparse willows
60	138+78	5,926,785	250,615	70° 11.9968'	152° 00.6156'	57.0	Tundra, short grass, sparse willows
61	141+05	5,926,926	250,438	70° 12.0190'	152° 00.7036'	57.6	Tundra, short grass, sparse willows
62	143+44	5,927,074	250,250	70° 12.0423'	152° 00.7964'	57.9	Tundra, short grass, sparse willows
63	143+58	5,927,083	250,239	70° 12.0437'	152° 00.8020'	58.7	Gnd @ XS4B, tundra, short grass, sparse willows

Table E.7: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
NW END XSECT 4B	143+58	5,927,083	250,239	70° 12.0437'	152° 00.8022'	59.24	#4 rebar, 0.8' above tundra
SE END XSECT 4B	0+00	5,918,154	261,484	70° 10.6403'	151° 55.2312'	65.04	#4 rebar, 0.9' above tundra
Notes:							
-							
1. Elevations shown are British Petroleum Mean Sea Level.							
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.							
3. Geographic Coordinates are NAD 27.							
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.							
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.							
6. Points 101-125 were inserted in place of 21-28 after summer survey of Judy Creek crossing.							
7. Survey was conducted by Lounsbury & Associates, 2001.							

Table E.8: Cross-Section Survey of Judy Creek at River Mile 21.6

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
1	0+00	5,913,139	237,562	70° 09.6889'	152° 06.6945'	69.6	Gnd @ B3; Long grass,cotton, flowers
2	2+58	5,912,933	237,717	70° 09.6560'	152° 06.6166'	66.0	Long grass,cotton, sparse willows, flowers
3	5+40	5,912,707	237,886	70° 09.6200'	152° 06.5315'	66.4	Long grass,cotton, sparse willows, flowers
4	9+14	5,912,407	238,110	70° 09.5721'	152° 06.4182'	64.8	Long grass,cotton, sparse willows, flowers
5	11+44	5,912,222	238,247	70° 09.5426'	152° 06.3491'	64.0	Long grass,cotton, sparse willows, flowers
6	13+25	5,912,078	238,355	70° 09.5195'	152° 06.2945'	61.0	Long grass,cotton, sparse willows, flowers
7	15+22	5,911,919	238,473	70° 09.4943'	152° 06.2349'	59.1	Long grass,cotton, sparse willows, flowers
8	17+12	5,911,767	238,587	70° 09.4700'	152° 06.1776'	57.8	Grade Break, same vegetation
9	17+86	5,911,708	238,631	70° 09.4605'	152° 06.1552'	53.5	Edge of Lake
10	31+86	5,910,586	239,469	70° 09.2815'	152° 05.7325'	53.6	Edge of Lake
11	32+05	5,910,571	239,480	70° 09.2791'	152° 05.7271'	55.8	Grade Break, short grass, sparse willows
12	32+39	5,910,544	239,500	70° 09.2747'	152° 05.7167'	56.3	Begin long grass, sparse willows
13	34+45	5,910,379	239,624	70° 09.2485'	152° 05.6545'	54.5	Long grass, sparse willows
B2	35+14	5,910,324	239,665	70° 09.2396'	152° 05.6337'	54.5	Angle Pnt, long grass, sparse willows (gnd elev)
14	37+45	5,910,092	239,656	70° 09.2016'	152° 05.6343'	55.1	Long grass, cotton, sparse willows
15	40+03	5,909,835	239,650	70° 09.1594'	152° 05.6328'	56.3	Long grass, cotton
16	42+67	5,909,570	239,642	70° 09.1161'	152° 05.6323'	56.3	Long grass, cotton
17	45+04	5,909,334	239,634	70° 09.0773'	152° 05.6323'	56.4	Long grass, cotton, sparse willows
18	47+55	5,909,084	239,627	70° 09.0362'	152° 05.6316'	54.8	Long grass, cotton, sparse willows
19	50+03	5,908,835	239,619	70° 08.9955'	152° 05.6310'	55.6	Long grass, cotton, sparse willows, sandy
20	52+38	5,908,601	239,611	70° 08.9570'	152° 05.6312'	55.7	Long grass, cotton, sparse willows, sandy
21	55+26	5,908,313	239,604	70° 08.9098'	152° 05.6299'	53.9	Long grass, cotton, wet area
22	57+54	5,908,085	239,597	70° 08.8724'	152° 05.6295'	54.4	Long grass, sparse willows
23	58+05	5,908,033	239,594	70° 08.8640'	152° 05.6298'	55.5	Begin dense willows, 2' high
24	58+66	5,907,973	239,593	70° 08.8540'	152° 05.6296'	55.6	End dense willows, 2' high
25	58+89	5,907,950	239,592	70° 08.8503'	152° 05.6294'	57.5	Top of RB L01-31-7-2
26	58+89	5,907,950	239,592	70° 08.8503'	152° 05.6294'	56.6	Gnd @ RB, short grass, sparse willows

Table E.8: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
27	59+50	5,907,889	239,591	70° 08.8403'	152° 05.6291'	53.9	Grade break, begin dense willows, 2' high
28	59+84	5,907,855	239,589	70° 08.8347'	152° 05.6292'	53.3	Grade break, end dense willows, 2' high
29	59+99	5,907,840	239,588	70° 08.8322'	152° 05.6297'	51.0	Grade break, long grass, sparse willows
30	60+85	5,907,753	239,585	70° 08.8181'	152° 05.6294'	49.8	Top of bank, scattered willows to 4' high
31	61+03	5,907,736	239,585	70° 08.8152'	152° 05.6295'	47.2	Grade break, end vegetation, edge of sand
32	61+30	5,907,708	239,584	70° 08.8107'	152° 05.6293'	43.1	Grade break, top of sand
33	62+13	5,907,626	239,582	70° 08.7971'	152° 05.6288'	42.0	Top of sand
34	62+80	5,907,559	239,580	70° 08.7862'	152° 05.6289'	41.4	Edge of water, Judy Creek
35	63+22	5,907,517	239,578	70° 08.7793'	152° 05.6290'	39.8	Top of sand (under water)
36	63+34	5,907,505	239,579	70° 08.7774'	152° 05.6285'	38.8	Top of sand (under water)
37	63+49	5,907,490	239,578	70° 08.7748'	152° 05.6285'	39.1	Top of sand (under water)
38	63+62	5,907,477	239,577	70° 08.7727'	152° 05.6287'	41.5	Edge of water, Judy Creek
39	63+77	5,907,462	239,577	70° 08.7703'	152° 05.6286'	51.2	Top of bank, scattered willows to 4' high
40	63+86	5,907,453	239,576	70° 08.7687'	152° 05.6290'	52.7	Top of RB L01-31-7-1
41	63+86	5,907,453	239,576	70° 08.7687'	152° 05.6290'	52.3	Ground @ RB, 2' high willows
42	64+17	5,907,422	239,575	70° 08.7636'	152° 05.6287'	49.6	Grade Break, 3' high willows
43	65+78	5,907,261	239,569	70° 08.7372'	152° 05.6293'	51.0	Toe, 3' high willows
44	66+01	5,907,238	239,570	70° 08.7335'	152° 05.6283'	62.4	Top, short grass, sparse willows
45	66+81	5,907,158	239,567	70° 08.7204'	152° 05.6283'	67.1	Grade break, long grass, sparse willows
46	68+17	5,907,022	239,563	70° 08.6982'	152° 05.6279'	68.6	Long grass, sparse willows
47	70+04	5,906,835	239,556	70° 08.6675'	152° 05.6283'	69.3	Ground at B1, short grass, sparse willows
48	70+04	5,906,836	239,557	70° 08.6675'	152° 05.6277'	69.8	Top of RB B1

Notes:

1. Elevations shown are British Petroleum Mean Sea Level.
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.
3. Geographic Coordinates are NAD 27.
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.

Table E.8: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
Notes:							
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.							
6. Survey was conducted by Lounsbury & Associates, 2001.							

Table E.9: Cross-Section Survey for Judy Creek at River Mile 31

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
7	0+00	5,901,921	217,888	70° 07.7354'	152° 15.9822'	81.7	Tall grass,cotton, willows, on bluff
8	1+44	5,901,798	217,964	70° 07.7157'	152° 15.9433'	74.5	Grade break, short grass, flowers, sparse willows
9	1+88	5,901,761	217,987	70° 07.7098'	152° 15.9318'	67.0	Edge of lake
10	9+00	5,901,157	218,364	70° 07.6132'	152° 15.7395'	67.1	Edge of lake
11	9+07	5,901,151	218,367	70° 07.6121'	152° 15.7375'	68.7	Grade break, short grass
12	10+67	5,901,015	218,452	70° 07.5904'	152° 15.6944'	68.6	Short grass, sparse cotton and willows
13	12+83	5,900,832	218,566	70° 07.5611'	152° 15.6361'	66.9	Edge of lake
14	18+70	5,900,334	218,877	70° 07.4814'	152° 15.4777'	66.9	Edge of lake
15	19+30	5,900,283	218,909	70° 07.4732'	152° 15.4614'	67.6	Tall grass,sparse willows
16	21+91	5,900,061	219,047	70° 07.4377'	152° 15.3909'	66.0	Grd Brk, top bank, short grass/willows,
17	22+12	5,900,044	219,058	70° 07.4350'	152° 15.3851'	54.7	Edge of creek
18	22+36	5,900,024	219,071	70° 07.4317'	152° 15.3786'	53.0	Thalweg
19	22+88	5,899,979	219,098	70° 07.4246'	152° 15.3647'	54.6	Edge of creek
20	23+82	5,899,900	219,148	70° 07.4119'	152° 15.3392'	59.2	Grade break, sandy creek bank
21	25+64	5,899,745	219,244	70° 07.3871'	152° 15.2902'	60.9	Edge of willows, 3'-4' high
22	26+89	5,899,639	219,311	70° 07.3701'	152° 15.2564'	67.1	End tall willows, begin short sparse willows
23	27+40	5,899,596	219,338	70° 07.3633'	152° 15.2425'	72.5	Grade break, short willows and grass
24	27+76	5,899,566	219,357	70° 07.3585'	152° 15.2329'	66.2	Grade break, short grass, sparse willows
25	30+26	5,899,353	219,490	70° 07.3244'	152° 15.1652'	64.5	Short grass, sparse willows
26	33+16	5,899,107	219,642	70° 07.2851'	152° 15.0873'	65.6	Angle point in line,short grass, sparse willows
27	35+84	5,898,976	219,876	70° 07.2650'	152° 14.9726'	66.3	Tall grass, sparse willows
28	38+28	5,898,856	220,088	70° 07.2466'	152° 14.8684'	66.0	Tall grass, sparse willows
29	40+72	5,898,736	220,301	70° 07.2283'	152° 14.7638'	65.6	Tall grass, sparse willows
30	43+38	5,898,605	220,532	70° 07.2083'	152° 14.6500'	68.8	Tall grass, sparse willows and cotton
31	45+71	5,898,491	220,735	70° 07.1907'	152° 14.5504'	70.8	Sparse willows, short grass
32	48+96	5,898,331	221,018	70° 07.1662'	152° 14.4114'	71.5	Grade break, short grass
33	49+50	5,898,305	221,065	70° 07.1622'	152° 14.3881'	66.4	Grade break, sparse willows, tall grass

Table E.9: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
34	52+76	5,898,144	221,349	70° 07.1377'	152° 14.2485'	65.5	Sparse willows, medium grass
35	55+51	5,898,010	221,589	70° 07.1170'	152° 14.1309'	63.7	Tall willows and grass
36	56+82	5,897,944	221,703	70° 07.1071'	152° 14.0747'	64.6	Short grass, short sparse willows
37	59+66	5,897,805	221,951	70° 07.0858'	152° 13.9531'	58.8	Edge of lake, tall grass
38	61+80	5,897,700	222,137	70° 07.0697'	152° 13.8614'	59.0	Edge of lake, tall grass, medium willows
39	62+40	5,897,671	222,189	70° 07.0652'	152° 13.8362'	63.2	Grade break, short grass, sparse willows
40	64+53	5,897,566	222,375	70° 07.0491'	152° 13.7448'	62.3	Tall grass, cotton, sparse willows
41	66+21	5,897,484	222,521	70° 07.0365'	152° 13.6729'	64.9	Short grass
42	66+47	5,897,471	222,543	70° 07.0346'	152° 13.6619'	62.0	Tall grass, sparse willows
43	68+35	5,897,379	222,707	70° 07.0204'	152° 13.5816'	59.6	Edge of lake, tall grass
44	69+58	5,897,319	222,814	70° 07.0112'	152° 13.5288'	59.8	Edge of lake, short grass, sparse willows
45	70+15	5,897,291	222,864	70° 07.0069'	152° 13.5043'	64.2	Grade break, toe, short grass, tall willows
46	70+39	5,897,279	222,886	70° 07.0051'	152° 13.4939'	71.8	Grade break, top bank, tall grass/willows, flowers
47	71+55	5,897,222	222,987	70° 06.9964'	152° 13.4442'	77.7	Tall grass, short sparse willows, flowers
48	74+87	5,897,058	223,275	70° 06.9713'	152° 13.3024'	79.0	Tall grass, sparse willows, cotton
49	77+69	5,896,920	223,521	70° 06.9502'	152° 13.1817'	79.5	Tall grass, sparse willows, cotton
50	80+57	5,896,779	223,772	70° 06.9285'	152° 13.0583'	80.2	Tall grass, sparse willows
51	83+81	5,896,620	224,054	70° 06.9042'	152° 12.9199'	79.3	Tall grass, sparse willows, cotton
52	86+65	5,896,481	224,302	70° 06.8829'	152° 12.7985'	79.6	Tall grass, cotton
53	89+86	5,896,323	224,582	70° 06.8587'	152° 12.6608'	80.3	Tall grass, cotton, flowers
54	92+70	5,896,184	224,829	70° 06.8374'	152° 12.5394'	81.0	Tall grass, cotton, sparse willows
55	96+34	5,896,006	225,147	70° 06.8100'	152° 12.3834'	79.8	Tall grass, cotton
56	99+60	5,895,846	225,431	70° 06.7855'	152° 12.2441'	79.0	Tall grass, sparse willows
57	102+66	5,895,696	225,698	70° 06.7625'	152° 12.1130'	79.9	Tall grass, cotton, sparse willows
58	105+59	5,895,552	225,952	70° 06.7405'	152° 11.9879'	85.2	Gnd @ old RB A1, tall grass, cotton, sparse willows
59	105+59	5,895,552	225,953	70° 06.7405'	152° 11.9877'	85.72	Top of old RB A1

Table E.9: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
Notes:							
1. Elevations shown are British Petroleum Mean Sea Level.							
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.							
3. Geographic Coordinates are NAD 27.							
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.							
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.							
6. Survey was conducted by Lounsbury & Associates, 2001.							

Ublutuoch River

Cross-Section Surveys

Table E.10: Cross-Section Survey for the Ublutuoch River at River Mile 13.5

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
40	0+00	5,941,350	340,403	70° 14.7824'	151° 17.3561'	16.3	NW End Section Line, Polygons, Thick Grass
41	0+91	5,941,279	340,459	70° 14.7709'	151° 17.3285'	16.3	Polygons, Thick Grass, Sparse 1' Willows
43	2+47	5,941,159	340,559	70° 14.7517'	151° 17.2785'	19.0	UXA-Snow Survey-Lt Bank, #3 Rebar 0.7'± Above Ground
44	2+66	5,941,144	340,571	70° 14.7492'	151° 17.2728'	18.0	Gnd @ TBM UB DS WEST, Begin Dense 2'± Willows
45	2+74	5,941,138	340,577	70° 14.7483'	151° 17.2700'	17.8	Break, Top of Bank, Willows
46	2+99	5,941,117	340,591	70° 14.7449'	151° 17.2627'	7.9	Break, 3' Willows
47	3+13	5,941,105	340,599	70° 14.7429'	151° 17.2590'	4.7	Break, Top of Small Bank
49	3+14	5,941,105	340,599	70° 14.7429'	151° 17.2586'	4.7	Break, Top of Bank
48	3+14	5,941,105	340,599	70° 14.7429'	151° 17.2586'	3.3	Break, Bottom of Creek, 1' water
50	3+35	5,941,088	340,612	70° 14.7402'	151° 17.2523'	2.8	Thalweg
51	3+36	5,941,087	340,613	70° 14.7400'	151° 17.2518'	4.4	Break, Top of Small Bank, 2' Willows
52	3+48	5,941,078	340,620	70° 14.7386'	151° 17.2486'	8.1	Break, 2' Willows
53	3+61	5,941,067	340,627	70° 14.7368'	151° 17.2447'	15.6	Break, Top of Bank, 2' Willows
54	3+72	5,941,058	340,634	70° 14.7353'	151° 17.2413'	16.7	Ground Shot at TBM UB DS EAST, 1' Willows
55	4+03	5,941,033	340,652	70° 14.7313'	151° 17.2325'	16.2	UXA-Snow Survey, Rt Bank, #3 Rebar 0.7' Above Grnd
56	4+41	5,941,002	340,674	70° 14.7263'	151° 17.2213'	14.2	Break, End Dense Willows
57	4+62	5,940,985	340,686	70° 14.7236'	151° 17.2155'	17.8	Break, Sparse 1' Willows
58	5+61	5,940,905	340,744	70° 14.7106'	151° 17.1863'	17.5	Tundra, Sparse Willows, Grass
59	6+62	5,940,825	340,805	70° 14.6977'	151° 17.1561'	15.5	Tundra, Sparse Willows, Grass
60	7+62	5,940,743	340,865	70° 14.6846'	151° 17.1264'	11.9	Begin Wet Area, S. End Bog Pond, Tall Grass
61	8+34	5,940,686	340,908	70° 14.6753'	151° 17.1048'	11.3	Wet Area, Tall Grass
62	8+81	5,940,648	340,935	70° 14.6692'	151° 17.0911'	11.9	End Wet Area and Tall Grass
63	9+44	5,940,597	340,972	70° 14.6610'	151° 17.0728'	12.6	Break, Tundra, Sparse 1' Willows
64	9+97	5,940,554	341,004	70° 14.6540'	151° 17.0570'	18.2	Tundra, Sparse 1' Willows
65	10+93	5,940,476	341,059	70° 14.6415'	151° 17.0294'	21.3	Tundra, Sparse 1' Willows
66	11+90	5,940,397	341,117	70° 14.6288'	151° 17.0005'	23.5	Tundra, Sparse 1' Willows
67	12+89	5,940,318	341,175	70° 14.6159'	151° 16.9715'	25.2	Tundra, Sparse 1' Willows

Table E.10: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
68	13+89	5,940,237	341,234	70° 14.6028'	151° 16.9422'	27.4	Tundra, Sparse 1' Willows
69	14+91	5,940,146	341,284	70° 14.5882'	151° 16.9172'	28.8	E. End Section Line, Tundra, Middle of Old Ice Road
Notes:							
1. Elevations shown are British Petroleum Mean Sea Level.							
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.							
3. Geographic Coordinates are NAD 27.							
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.							
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpscon version 5.11.							
6. Survey was conducted by Lounsbury & Associates, 2001.							

Table E.11: Cross-Section Survey for the Ublutuoch River at River Mile 13.7

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
1	0+00	5,940,818	339,300	70° 14.6914'	151° 17.8853'	30.8	Tundra, Sparse Cotton Grass, NW End Section Line
3	0+99	5,940,751	339,373	70° 14.6806'	151° 17.8493'	27.2	Tundra, Sparse Cotton Grass, 1' Willows
4	2+86	5,940,624	339,509	70° 14.6603'	151° 17.7818'	23.3	Tundra, Sparse 1' Willows
6	3+36	5,940,589	339,545	70° 14.6546'	151° 17.7639'	20.8	Tundra, Sparse 1' Grass
7	4+30	5,940,524	339,615	70° 14.6444'	151° 17.7297'	17.2	Tundra, Sparse Willows, Grass
8	4+73	5,940,495	339,646	70° 14.6396'	151° 17.7144'	14.7	Edge of Water West Side Small Pond, Thick Grass
9	5+00	5,940,477	339,664	70° 14.6367'	151° 17.7051'	14.7	Edge of Water East Side Small Pond, Thick Grass
10	5+17	5,940,465	339,678	70° 14.6348'	151° 17.6985'	16.2	Break, Tundra, Sparse Grass, Willows
11	5+56	5,940,438	339,706	70° 14.6306'	151° 17.6845'	17.3	UBX-B Lt Edge Snow, Lath , #3 Rebar, 1.5'Abv Grnd
12	5+83	5,940,420	339,726	70° 14.6276'	151° 17.6747'	16.9	TBM UB US WEST, Tundra, Grass, Beg Thick 2' Willows
13	6+13	5,940,399	339,748	70° 14.6243'	151° 17.6640'	13.7	2' Willows
14	6+29	5,940,389	339,760	70° 14.6226'	151° 17.6581'	10.8	2' Willows
15	6+37	5,940,383	339,765	70° 14.6218'	151° 17.6553'	8.2	Break, End Thick 2' Willows, Begin Thick Tall Grass
16	6+47	5,940,376	339,772	70° 14.6207'	151° 17.6518'	7.4	Break
17	6+50	5,940,374	339,775	70° 14.6203'	151° 17.6507'	5.9	Break
18	6+55	5,940,370	339,779	70° 14.6197'	151° 17.6486'	6.0	Break, Top of Small Bank
19	6+57	5,940,369	339,780	70° 14.6195'	151° 17.6482'	4.6	Break, Bottom of Creek, 1' Water
20	6+69	5,940,361	339,789	70° 14.6182'	151° 17.6436'	3.7	Bottom of Creek, Gravel
21	6+79	5,940,355	339,796	70° 14.6172'	151° 17.6402'	3.4	Thalweg, Gravel, 1.5' Water
22	6+82	5,940,353	339,798	70° 14.6169'	151° 17.6390'	6.2	Top of Small Bank, Sparse Tall Grass
23	6+93	5,940,345	339,806	70° 14.6156'	151° 17.6352'	11.9	Begin Dense 3'± Willows
24	7+05	5,940,336	339,815	70° 14.6143'	151° 17.6306'	18.1	Break, Top of Large Bank
25	7+13	5,940,331	339,821	70° 14.6133'	151° 17.6279'	18.6	Grnd Shot, Fnd 8" Spike w/Lath, End Dense Willows
26	7+21	5,940,325	339,827	70° 14.6125'	151° 17.6250'	18.7	Ground at TBM UB US EAST
27	8+10	5,940,264	339,892	70° 14.6027'	151° 17.5929'	15.9	West Edge of Pond, Tall Grass
28	9+85	5,940,145	340,019	70° 14.5836'	151° 17.5299'	16.1	East Edge of Pond, Tall Grass
29	10+11	5,940,127	340,038	70° 14.5807'	151° 17.5208'	17.1	Break, Tundra, Sparse Grass, Short Willows

Table E.11: (Continued)

POINT	STA	Y	X	LATITUDE	LONGITUDE	ELEV.	DESCRIPTION
30	11+04	5,940,063	340,105	70° 14.5705'	151° 17.4873'	16.9	Tundra, Sparse Grass, Short Willows
31	11+89	5,940,003	340,167	70° 14.5609'	151° 17.4570'	18.5	Tundra, Sparse Grass, Short Willows
32	12+88	5,939,936	340,238	70° 14.5501'	151° 17.4216'	19.2	East Edge Old Ice Road, Tundra, Short Grass, Short Willows
33	13+81	5,939,872	340,306	70° 14.5398'	151° 17.3883'	19.2	Tundra, Thick Grass
34	14+71	5,939,810	340,371	70° 14.5299'	151° 17.3557'	19.7	Angle Point in Line, Thick Grass
35	15+68	5,939,768	340,458	70° 14.5233'	151° 17.3133'	20.3	Tundra, Sparse Tall Grass,
36	16+49	5,939,732	340,531	70° 14.5177'	151° 17.2778'	19.9	Break
37	17+55	5,939,685	340,626	70° 14.5103'	151° 17.2313'	23.0	Tundra, Grass, Sparse Short Willows
38	18+07	5,939,659	340,672	70° 14.5063'	151° 17.2086'	25.3	Tundra, Grass, Sparse Short Willows
39	18+75	5,939,604	340,719	70° 14.4973'	151° 17.1854'	26.2	Tundra, Grass, Sparse Short Willows, End Section Line

Notes:

1. Elevations shown are British Petroleum Mean Sea Level.
2. Y,X Coordinates are Alaska State Plane, Zone 4, NAD 27.
3. Geographic Coordinates are NAD 27.
4. Basis of location and elevation is NPRA control monuments per Lounsbury & Associates.
5. Method of survey: Leica Real Time Kinematic GPS, using Geoid96 geoidal model and converting using Corpcon version 5.11.
6. Survey was conducted by Lounsbury & Associates, 2001.