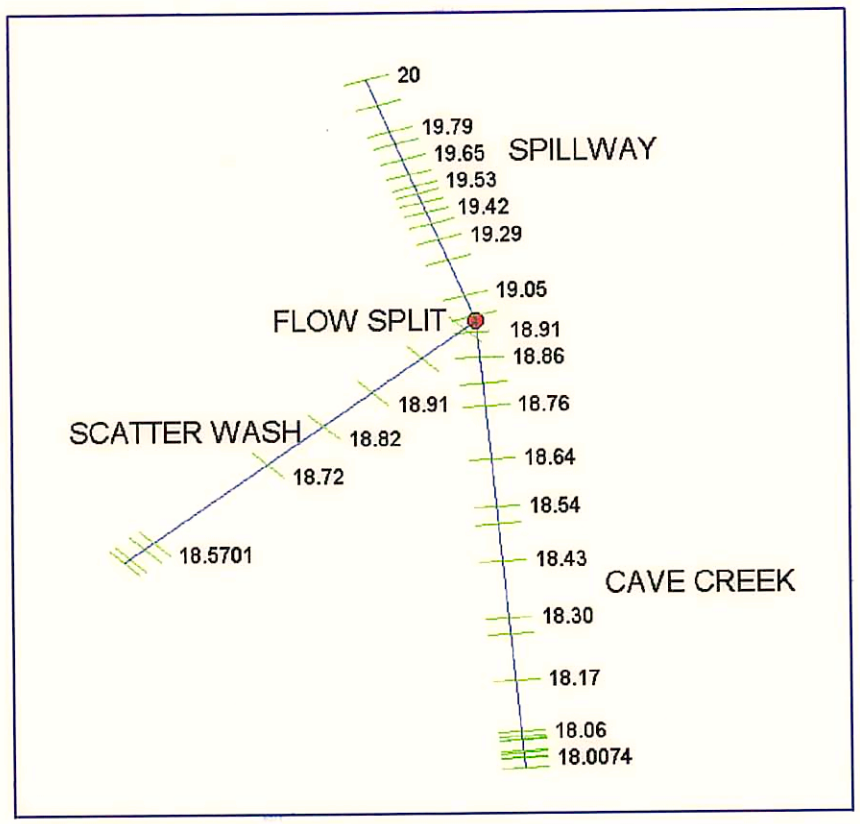
October 1996

22426-APA

Delineation of Spillway Flows for Cave Buttes Dam

FCD 95-36



Submitted to

Flood Control District of Maricopa County

Submitted by

Baker

Michael Baker Jr., Inc.

Phoenix, Arizona

350.907

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

Table Of Contents

Introduction 1

Purpose 1

Data Collection 1

Mapping 2

Flow Discharges 2

Study Reach 3

Description of Inundation Area 3

Hydraulic Analyses 3

- Calibration 3
- Cross Section Layout: 3
- Roughness Characteristics: 4
- Main Channel Station Selection: 4
- Ineffective Flow Areas: 5
- Split Flow Considerations: 5
- Scatter Wash Diversion Flow: 6

Central Arizona Project Overflow Conditions 7

Conclusions 8

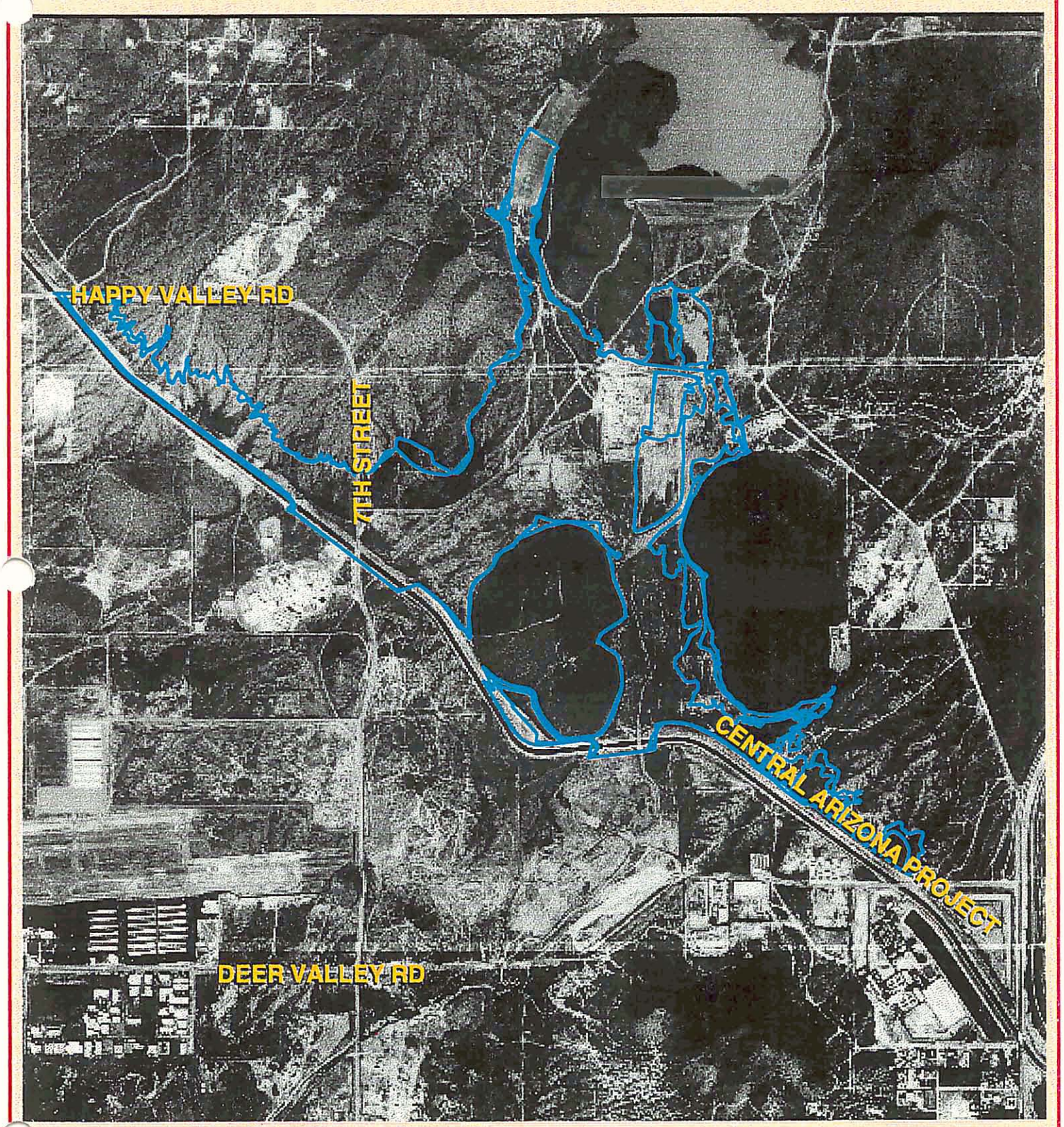
References 9

Appendices

Appendix A: Field Reconnaissance Report
Appendix B: HEC-RAS Output for Full Spillway Discharge
Appendix C: HEC-RAS Output for Two-Thirds Spillway Discharge
Appendix D: HEC-RAS Output for One-Third Spillway Discharge
Appendix E: HEC-RAS Output for No Dam Scenario
Appendix F: HEC-RAS Output for First Split From Cave Creek to Scatter Wash
Appendix G: Exhibits
Appendix H: Meeting Minutes / Phone Conversation Reports

Registered Professional Engineer (Civil)
CERTIFICATE NO. 21674
ROBERT J. DAWES
Date Signed 11-5-96
ARIZONA, U.S.A.

CAVE BUTTES DAM SPILLWAY STUDY AREA



Scale 1" = 2000'

0 1000 2000 4000 8000

VICINITY MAP

Introduction

In February 1996, the Flood Control District of Maricopa County (FCDMC) contracted with Michael Baker Jr., Inc., under FCD 95-36, to provide a spillway inundation study pertinent to the area between Cave Buttes Dam on the north and the Central Arizona Project (CAP) on the south; and, 7th Street on the west and Cave Creek Road on the east (see vicinity map). The study consists of the following flow scenarios:

1. Full spillway design discharge;
2. Two-thirds spillway design discharge;
3. One-third spillway design discharge;
4. The maximum discharge from the spillway that reaches the outlet channel without any diversions to the west; and,
5. Probable maximum flood (PMF) in Cave Creek without Cave Buttes Dam in place. (The *No Dam* scenario.)

Purpose

The primary purpose of the analyses was to determine the inundation limits of various spillway discharges over Cave Buttes Dam. The results of these studies will be compared with a *No Dam* scenario by the FCDMC to determine the changes in inundation limits resulting from the construction of Cave Buttes Dam.

The study results will provide information on velocities, depths of flow, and travel time for the various discharges. This data will provide useful planning information for emergency management services, flood warning, and floodplain management.

Results from this study will provide the basis for the FCDMC to assess securing flowage easements.

Data Collection

Data was collected from a number of sources including the FCDMC, the Bureau of Reclamation, and a field reconnaissance trip. The data collected from these sources provided the base information needed to perform this study.

The FCDMC provided the majority of the data used for this study. This data included:

- Dambreak Analysis of Cave Buttes Dam report by Woodward Clyde.
- Cave Buttes Dam - Dam, Outlet Works and Spillway - Periodic Inspection Report No. 1. USACOE and relevant construction plans for the dam and outlet works.
- Spillway and Outlet Discharge Curves for Cave Buttes Dam USACOE.
- Hard copy and digital topographic mapping for this area from the ACDC ADMS.

The Woodward Clyde report provided some useful background for Baker's project site but it covered a much larger study area particularly downstream of the Central Arizona Project (CAP). The method of analysis and the input data used in the Woodward Clyde report were significantly different from the current study. Woodward Clyde used an unsteady flow model and routed an entire hydrograph through the system. They used USGS topographic mapping with cross sections spaced much farther apart than Baker's approximate 500-foot spacing. The inundation map Woodward Clyde produced was helpful for comparison in preparing the inundation maps for this study. It was difficult to do a meaningful comparison of the model results due to the different modeling methodologies.

The USACOE report and plans provided design data which was used to build the dam and perform the design hydraulic analysis. This data would be very useful if a hydrograph routing analysis is performed. This may be of interest to FCDMC at a later date.

The use of digital topography expedited the baseline and cross section layouts, associated revisions and GIS data packaging. Initially some contours were found which crossed in the project area. These were corrected by Baker in order to proceed with the project.

The Bureau of Reclamation provided construction plans for the CAP cross drainage structures in the project vicinity, the drop structure at the Cave Creek crossing, and the 7th Street Bridge. The Cave Creek drop structure was incorporated into Baker's RAS model for Cave Creek.

The field reconnaissance provided a project site overview and the base data used to develop the 'n' value report included in the Appendix A. Photographs representing the site conditions and vegetation are included in the Appendix A.

Mapping

Mapping and cross section data used in the study was provided by the FCDMC in the form of a Digital Terrain Model (DTM). The original source of this mapping was the ACDC ADMS Phase 1 Topographic Mapping (FCD 90-19). The original data was developed at a scale of 1 in. = 400 ft. with a contour interval of 2 feet.

Flow Discharges

Flow discharges (Qs) used in the analyses were provided by the FCDMC. The full spillway discharge is 100,600 cfs (the peak PMF outflow); the two-thirds spillway discharge is 67,067 cfs; the one-third spillway discharge is 33,533 cfs; and, the PMF discharge is 186,000 cfs (the 6-hour PMF storm).

Study Reach

The study reach was the centerline of the Cave Buttes Dam emergency spillway crest to the CAP for scenarios 1 through 4; and, the downstream toe of the Cave Buttes Dam embankment to the CAP for the *No Dam* scenario.

Description of Inundation Area

The area between the CAP and the Cave Buttes Dam and spillway is primarily open desert. Several dirt roads are present in the area. One such road leads to a construction company with accompanying equipment storage area. A large excavated pit (possibly from a previous sand and gravel operation) exists adjacent to the construction company. Besides this area, no development currently exists in the potential inundation areas.

Hydraulic Analyses

The U.S. Army Corps of Engineers HEC-RAS (River Analysis System), Version 1.1, was used to perform the hydraulic modeling. The severity of the slope immediately downstream of the spillway and flow over and through the CAP suggested supercritical flow conditions. The embankment for the CAP suggested ponding and flows of a subcritical nature immediately upstream of the CAP. Therefore, a mixed flow regime was assumed in each of the models.

The version of HEC-RAS used for this project supports one-dimensional, steady flow, water surface profile calculations. This version also supports only fixed channel bed conditions and does not have sediment transport capabilities.

Calibration

Calibration of the HEC-RAS model with historical data is an important part of the model development. The procedure involves adjusting model parameters until a satisfactory system simulating the observed physical process is obtained which also produces reliable results. A common way in which the HEC-RAS model can be calibrated is to use high water marks at a control section for an observed event (Q) and adjust the manning 'n' values to simulate the event. There has been no flow over the spillway since the dam has been constructed and there are no high water marks or discharges to calibrate against.

Cross Section Layout:

Cross sections were oriented perpendicular to the anticipated flow paths. Spacing of cross sections was approximately every 500 feet except where topographical features warranted a deviation from this spacing.

Cross sections were cut using the DTM provided by the FCDMC and Intergraph In-Express.

Roughness Characteristics:

Manning's 'n' values were determined based on field observation using the *Estimated Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona* manual developed by the U.S. Geological Survey for the FCDMC. A separate Manning's 'n' value report is contained in Appendix A.

Characteristic vegetation in the floodplain includes Big Galletta, Triangle Bursage, White Ratany, Creosotebush, Bush Muhly, Littleleaf Paloverde, Burrowbush, other annual grasses and forbs, other perennial forbs, and other shrubs. Representative photos of the vegetation are included in the Manning's 'n' value report.

During flooding events, the vegetation will be bent over as the water rises and will offer less resistance to the flow. The more significant events will erode away the smaller vegetation and carry it downstream. It is expected that a full spillway flow would clean out most of the vegetation in the main channel. It is likely that drainage patterns will vary to some degree over time due to normal storm runoff.

A sensitivity analysis was performed to judge the effects of varying the 'n' value plus or minus 0.01 in the channel and in the overbank areas. Several multiple profile models were prepared with various discharges. The results showed that varying the 'n' values within the supercritical regions could change the water surface elevation by several feet. Within the subcritical regions, a change in 'n' value had less substantial impact. Water surface elevations in these areas typically changed by only several hundredths to several tenths of a foot. Therefore, Baker believes the 'n' values estimated are appropriate for this study.

Main Channel Station Selection:

There are no well-defined channels within the study area. Only a low flow channel is present. Generally, the 10-year frequency storm is assumed to form the channel under typical riverine conditions. In this study, with flows being of a considerably lower frequency than those normally studied, the existing channel for Cave Creek becomes merely a low flow channel which does not represent the center of the mass of flow. Flows have never occurred over the Cave Buttes Dam emergency spillway. Minor channels which have formed below the spillway and through the Scatter Wash area are the result of small amounts of runoff from the immediate area prior to the construction of the dam and do not reflect a channel condition appropriate to this study. Therefore, main channel stations were selected based on engineering judgment with consideration to topographic features and the center of the mass of flow within each cross section. Stations were selected to provide a smooth transition from one cross section to the next.

Channel stations selected for the full spillway discharge were used for the two-thirds spillway discharge except at sections where channel stations under the full spillway discharge scenario would have been located in ineffective areas under the two-thirds scenario. At these sections, channel stations were revised

in the two-thirds scenario to include only effective flow area. Adjustments were made to the channel stationing along Cave Creek between sections 18.76 and 18.96 in the one-third spillway discharge model to allow for a change in flow path in the vicinity of the existing construction company.

All new channel stationing was developed along Cave Creek for the *No Dam* scenario. No changes were made to the Scatter Wash channel stationing for this model.

Ineffective Flow Areas:

Horizontal ineffective flow areas were coded out using the *Ineffective Flow Area* option of HEC-RAS. This option was used to eliminate isolated low areas and to model 1:1 contraction and 4:1 expansion of flows in the vicinity of the CAP.

The process of identifying horizontal ineffective flow areas was multi-stepped. First an initial run was performed with the flood flow discharge. Then, the results of this run were reviewed with each cross section being analyzed. Horizontal ineffective flow areas were coded out. HEC-RAS was then re-run and the results again reviewed. Many iterations of this process were performed until fairly smooth transitions were obtained.

Vertical ineffective flow areas were identified for the excavated area in the vicinity of cross sections 18.76 through 18.91. The elevation of the top of the downstream berm adjoining the excavation (approximately el. 1535) was assumed to be the upper limit of the ineffective flow area. The *Blocked Obstruction* option of HEC-RAS was used to eliminate vertical ineffective flow areas from the cross-sectional data.

Split Flow Considerations:

The drainage divide between Cave Creek and Scatter Wash begins at the north tip of the western-most butte shown on the plan view and continues up high ground until it intersects what appears to be the main flow path directing flows to Cave Creek. A cross section was developed along this divide and is contained in Appendix G to this report. This section was used as a basis to evaluate flow distribution and to set ineffective flow boundaries to balance the water surface elevations at the split.

Each flood flow scenario was independently developed. Each flow was routed through the study reach to determine the extent of inundation. The downstream section which yielded a continuous water surface over the entire inundation area was assumed to be the section of the split between flows to Cave Creek and those diverted to the west toward Scatter Wash. After this section was identified, upstream and downstream flows were evaluated to determine the approximate distribution of flows in the channels diverting to the Scatter Wash (west) side. The section of continuous water surface was divided into a Cave Creek effective flow area and a Scatter Wash effective flow area using the HEC-RAS ineffective flow area option. A series of rating curves were then developed based around this approximate

distribution of flows shown in the upstream cross sections. Multiple flow profiles were developed to further refine the division of flows until a suitable match in energy grade was obtained.

The flow split was modeled using the HEC-RAS Stream Junction option. Scatter Wash has a subcritical flow regime. Cave Creek has a mostly supercritical flow regime. The spillway reach is supercritical.

A mixed flow regime was specified for this simulation. The momentum based Stream Junction method was specified. The momentum based method is appropriate for supercritical flow. Frictional and weight forces of water were considered using the momentum approach.

The mixed flow split at the junction first calculates a subcritical water surface profile for both of the downstream reaches. The program then calculates the specific force (momentum) at the two locations. The cross section with the greater specific force is used as the downstream boundary for calculating the water surface across the junction to the first upstream reach cross section. A supercritical flow pass is then made through the junction. If the upstream reach cross section is supercritical, forewater calculations are performed across the junction to both of the downstream reaches. The specific force is then calculated for both the subcritical and supercritical answers for each downstream reach. The greater specific force is assumed correct for each location. Normal mixed flow regime calculations proceed downstream.

Currently the HEC-RAS program assumes that the user has entered the correct flow for each of the three reaches. Since the split flow amounts are unknown in the beginning, the correct flow distribution is obtained through a trial and error process across the junction and balancing the energies.

For the *No Dam* scenario, the procedure was basically the same except that the split to Scatter Wash was occurring over cross sections 20 and 21. A cross section was developed for the high ground dividing the two drainage courses. The initial analysis included an evaluation of the split to Scatter Wash as a weir flow and as a normal depth calculation. It was determined that weir flow was not appropriate. Multiple profiles were then developed based around the normal depth calculation of the split. The split was considered balanced when the computed energy grade elevation along the split equaled the average computed energy grade elevation between cross sections 20 and 21 on Cave Creek.

For the *No Dam* scenario, the momentum based junction method gave unrealistic results in regard to computed water surface elevations across the junction. The energy based junction method gave more reasonable results and, therefore, was used for the analyses.

Scatter Wash Diversion Flow:

The maximum discharge from the spillway without diversions to Scatter Wash was determined by evaluating both the flow levels and the energy grade elevation at the cross sections. Effective flow limits were set to define the flow split between Cave Creek and Scatter Wash along cross sections 18.95

through 19.54. Multiple profiles were then calculated using various flow discharges. The point at which flows would just begin to cross over the drainage divide if the effective flow limits were removed was assumed to be the maximum discharge from the spillway without diversions to Scatter Wash. Based on water surface elevations, this was calculated to be approximately 5000 cfs with breakouts nearly, or just barely, occurring at cross sections 18.95, 19.3, and 19.37. Based on energy grade elevations, this was determined to be approximately 2000 cfs with breakouts at cross sections 19.3, 19.51, and 19.54. Using cross section 19.21 would indicate that even lower level discharges find their way to Scatter Wash. The accuracy of the topographic data makes it difficult to access the split at this location. However, with the supercritical flow conditions and high velocities through the study reach, it is easily conceivable that lower discharges may cut channels or spill over to the Scatter Wash drainage basin. A summary printout with cross section plots in the split area is provided in the Appendix F to this report. (The data used to develop the HEC-RAS model for the first split to Scatter Wash is contained on the diskette provided to the FCDMC. Several cross section locations used in this model vary from those in the delineation scenarios. These differences are due to modification of the cross sections made during the modeling of the flood flow scenarios. These modifications will have no impact on the calculations for the first split to Scatter Wash.)

Central Arizona Project Overflow Conditions

At the downstream boundary of this study lies the CAP. The scope of this project did not require a hydrograph to be routed through the system. Therefore storage conditions behind the CAP were not taken into account. It required a HEC-RAS Water Surface Profile Simulation for three 'with dam' scenarios and one 'no dam' scenario, each scenario having a single event peak discharge. Based on the various scenarios analyzed, it is evident that flow overtops the CAP. The 100,600 cfs HEC-RAS run will be discussed. Referring to Cave Creek cross section 18.0484 (just upstream of the CAP), it is seen that the main CAP berm next to the drop structure at Sta. 10000 would be overtopped at about elevation 1522. The berm is very irregular for some reason in this vicinity as indicated at stations 10700 and 11300. Flow would actually begin overtopping the CAP berm in this vicinity at about elevation 1517. By creating a multiple profile rating curve for this cross section elevation 1517 occurs at discharge of about 8250.

Similarly, closer to 7th Street , flow begins to overtop the CAP berm at about elevation 1517.3. Please refer to cross section 18.50 Scatter Wash. There are no cross drainage structures in this vicinity since volume behind cap was not considered in this analysis and there is no outlet structure across the cap, an overtopping discharge could not be determined.

Lateral extent of floodplain downstream of the CAP has not been determined. Downstream conditions beyond the CAP, including ineffective flow limits, were not considered for this project.

Conclusions

Construction of the Cave Buttes Dam has decreased the peak flow to the Scatter Wash drainage area. However, flows begin breaking over into Scatter Wash at an earlier point along the discharge hydrograph than under the pre-dam construction conditions.

For the first four flow scenarios, the inundation zone is fairly well confined in the upper reach where the ground slope is steep and the flow is supercritical. As the ground slope flattens out the inundation area widens and is less confined. The inundation areas for all of the flow scenarios have been plotted on Exhibits 1 - 5 (see Appendix G).

References

Burgess & Niple, Inc., *Flood Boundary and Floodway Map* (scale 1 in = 200 ft, 2 ft contour interval) *Middle Cave Creek Floodplain Delineation Study, FCD 88-56*, Phoenix, Arizona, March 1991.

Chow, Ven Te, *Open Channel Flow*, McGraw-Hill Book Company, New York, NY, 1959.

Kenney Aerial Mapping, Inc., aerial photographs and topographic mapping (scale 1 in = 400 ft, 2 ft contour interval) for *Arizona Canal Diversion Channel, Area Drainage Master Study, Phase 1*, Phoenix, Arizona, July 11, 1994.

King, H.W. and E.F. Brater. *Handbook of Hydraulics*, Sixth Edition, McGraw-Hill Book Company, New York, NY, 1982.

U.S. Army Corps of Engineers, Los Angeles District. *Cave Buttes Dam, Gila River Basin, New River and Phoenix City Streams, Arizona, Dam, Outlet Works and Spillway, Periodic Inspections Report No. 1* February 1980.

U.S. Army Corps of Engineers, Hydrologic Engineering Center, *HEC-RAS River Analysis System, Hydraulic Reference Manual, Version 1.0*, Davis, CA, July 1995.

U.S. Army Corps of Engineers, Hydrologic Engineering Center, *HEC-RAS River Analysis System, User's Manual, Version 1.0*, Davis, CA, July 1995.

U.S. Department of the Interior, Bureau of Reclamation, construction plans for *Granite Reef Aqueduct, Reach 10, Station 775+38.33, Wash Siphon*, June 30, 1975.

U.S. Geological Survey, Water Resources Division, for the Flood Control District of Maricopa County, *Estimated Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona*, Tucson, Arizona, April 1991.

Woodward-Clyde Consultants, April 1990. *Dambreak Analysis of Cave Buttes Dam, Near Phoenix, Arizona*, Phoenix, Arizona.

LOCATION: Cave Buttes Dam Spillway

APPLICABLE CROSS SECTIONS: Sections 19.89 through 20.00

CROSS SECTION DESCRIPTION: Bed material consists of bedrock. The spillway is trapezoidal in shape. Bottom and sideslopes are essentially void of vegetation. (Photographs 1 - 3)

'N' VALUE CALCULATION FOR SPILLWAY CAPACITY DISCHARGE (100,600 CFS)

Portion of Cross section	Components	Weighted and Composite Values
Channel	$n_b = 0.025$	
	$n_1 = 0.000$	
	$n_2 = 0.000$	
	$n_3 = 0.000$	**n = 0.025**

Photo 1. On emergency spillway looking east.

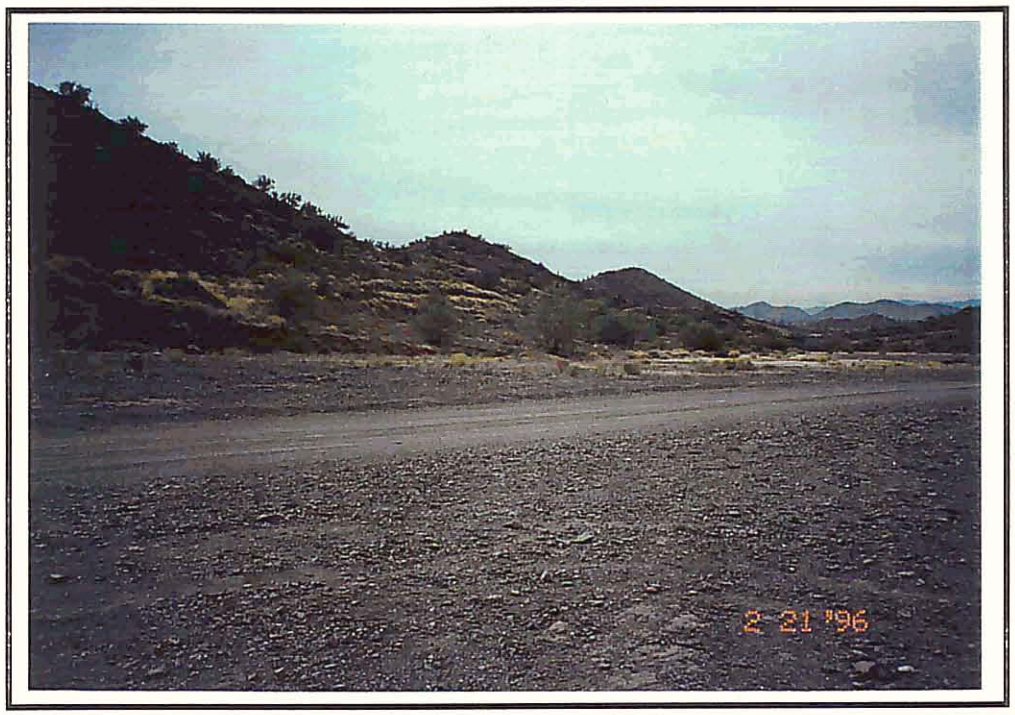


Photo 2. On emergency spillway looking downstream (southeast).

Photo 3. On emergency spillway. Typical bed conditions.

Photo 4. At emergency spillway outlet looking downstream (south).

Photo 5. Downstream of emergency spillway outlet looking downstream (south) through main channel.

Photo 6. Approximately 500 ft downstream of emergency spillway outlet looking downstream (south).

LOCATION: Downstream of the power lines along the Cave Creek split flow area.

APPLICABLE CROSS SECTIONS: Sections 18.08 through 19.05 along Cave Creek; and, the No Dam Spill reach of the *No Dam Scenario*.

CROSS SECTION DESCRIPTION: The bed material is cobbles. The channel bottom is clear of vegetation. The channel sideslopes and overbank vegetation consists of desert scrub. Significant open spaces exist amongst the vegetation. (Photographs 10 - 12)

'N' VALUE CALCULATION FOR SPILLWAY CAPACITY DISCHARGE (100,600 CFS)

Portion of Cross section	**Components**	**Weighted and Composite Values**
Channel and overbanks	$n_b = 0.030$	
	$n_1 = 0.000$	
	$n_2 = 0.000$	
	$n_3 = 0.005$	**n = 0.035**

Photo 7. At powerlines looking south.

Photo 8. At powerlines on east side of equipment storage yard looking southeast.

Photo 9. At powerlines on east side of equipment storage yard looking southwest.

LOCATION: Downstream of the east-west power lines along the Scatter Wash split flow area.

APPLICABLE CROSS SECTIONS: *Sections 18.46 through 19.03 along the Scatter Wash.*

CROSS SECTION DESCRIPTION: The bed material is cobbles. Flow across the area travels in several shallow, relatively undefined channels. Overbank conditions prevail. The vegetation consists of desert scrub. Some saguaros are present. Significant open spaces exist amongst the vegetation. There is no discernible difference between the vegetation in the channel and that in the overbanks. (Photographs 10 - 12)

'N' VALUE CALCULATION FOR SPILLWAY CAPACITY DISCHARGE (100,600 CFS)

Portion of Cross section	**Components**	**Weighted and Composite Values**
Channel and Overbanks	$n_b = 0.030$	
	$n_1 = 0.000$	
	$n_2 = 0.000$	
	$n_3 = 0.005$	**n = 0.035**

Photo 10. At top of CAP berm just east of 7th Street looking north.

Photo 11. At top of CAP berm just east of 7th Street looking northeast.

Photo 12. At top of CAP berm just east of 7th Street looking east.

LOCATION: CAP overchute on Cave Creek below Cave Buttes Dam.

APPLICABLE CROSS SECTIONS: Sections 18.0599 through 18.0796 along Cave Creek.

CROSS SECTION DESCRIPTION: Concrete spillway with concrete sidewalls. Concrete baffles at extreme downstream portion. Mannings n value adjusted up to 0.04 to account for effects of baffles. (Photograph 13)

'N' VALUE CALCULATION FOR SPILLWAY CAPACITY DISCHARGE (100,600 CFS)

Portion of Cross section	Components	Weighted and Composite Values
Concrete Overchute	$n_b =$	
	$n_1 =$	
	$n_2 =$	
	$n_3 =$	n = 0.014

Photo 13. At CAP overchute on Cave Creek looking north through energy dissipaters from south side of the CAP.

HEC-RAS Version 1.1 January 1996
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
XXXXXXX  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: 100600 cfs discharge out em spillway
Project File : 100s2.prj
Run Date and Time: 10/1/96 12:21:22 PM

Project in English units

PLAN DATA

Plan Title: Plan 03
Plan File : p:\proj\cb-dam\engfiles\submit3e\100s2.p03

Geometry Title: Plan 03
Geometry File : p:\proj\cb-dam\engfiles\submit3e\100s2.p03

Flow Title : Plan 03
Flow File : p:\proj\cb-dam\engfiles\submit3e\100s2.p03

Plan Summary Information:

Number of:	Cross Sections	= 46	Mulitple Openings	=	0
	Culverts	= 0	Inline Weirs	=	0
	Bridges	= 0			

Computational Information

Water surface calculation tolerance	=	.01
Critical depth calculaton tolerance	=	.01
Maximum number of interations	=	20
Maximum difference tolerance	=	.3
Flow tolerance factor	=	.001

Computational Flow Regime: Mixed Flow

Encroachment Data: None

Flow Distribution Locations

Reach	RS Start	RS End	LOB	Channel	ROB
SPILLWAY	20.00	18.96	15	15	15
CAVE CREEK	18.91	17.99	15	15	15
SCATTER WASH	19.03	18.4601	15	15	15

FLOW DATA

Flow Title: 100600 cfs (72450cc/28150sw)
Flow File : p:\proj\cb-dam\engfiles\submit3e\100s2.f01

Flow Data (cfs)

Reach	Riv Sta	PF#1
SPILLWAY	20.00	100600
CAVE CREEK	18.91	72450
SCATTER WASH	19.03	28150

Boundary Conditions

Reach	Profile	Upstream	Downstream
SPILLWAY	1	Critical	
CAVE CREEK	1		Critical
SCATTER WASH	1		Critical

GEOMETRY DATA

Geometry Title: 100600 cfs (72450cc/28150sw)
Geometry File : p:\proj\cb-dam\engfiles\submit3e\100s2.g01

Reach Connection Table

Reach Name	Upstream Boundary	Downstream Boundary
SPILLWAY		FLOW SPLIT
CAVE CREEK	FLOW SPLIT	
SCATTER WASH	FLOW SPLIT	

JUNCTION INFORMATION

Name: FLOW SPLIT
Description: ESTIMATED FLOW SPLIT
Momentum computation Method
Add Friction
Add Weight

Length across Junction Reaches		Length	Tributary Angle
SPILLWAY	to SCATTER WASH	237.9	70
SPILLWAY	to CAVE CREEK	237.9	12

CROSS SECTION INPUT Reach: SPILLWAY River Station: 20.00
Description: 20.00

Station Elevation Data, num = 41

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9695.26	1690	9706.52	1680	9715.4	1670	9725.57	1660	9733.78	1656.1
9743.35	1656	9746.57	1655.68	9759.77	1655.67	9778.43	1655.4	9788.91	1655.4
9809.05	1655.27	9835.95	1655.4	9863.6	1655.42	9873.92	1655.34	9927.49	1655.3
9958.15	1655.35	9975.69	1655.22	10000	1655.21	10028.15	1655.27	10071.39	1655.1
10094.7	1654.96	10115.07	1654.96	10128.41	1655.05	10157.82	1655.15	10167.19	1655.1
10193.69	1655.49	10200.28	1655.46	10212.03	1655.62	10221.6	1656	10230.63	1657.3
10232.85	1658.05	10235.9	1660	10246.69	1670	10247.68	1671.81	10249.58	1674.2
10257.04	1679.72	10258.3	1680	10259.3	1681.67	10265.15	1686.2	10269.06	1688.2
10279.54	1690.42								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9695.26	.035	9725.57	.025	10235.9	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9725.57	10235.9	597.8	597.8	597.8	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 20.00 Profile # 1

W.S. Elev (ft)	1666.04	Element	Left OB	Channel	Right OB

Vel Head (ft)	5.31	Wt. n-Val.	0.035	0.025	0.035
E.G. Elev (ft)	1671.35	Reach Len. (ft)	597.80	597.80	597.80
E.G. Slope (ft/ft)	0.004161	Flow Area (sq ft)	18.55	5427.68	19.68
Q Total (cfs)	100600.00	Flow (cfs)	84.69	100423.70	91.56
Top Width (ft)	522.99	Top Width (ft)	6.14	510.33	6.52
Vel Total (ft/s)	18.41	Avg. Vel. (ft/s)	4.57	18.50	4.65
Max Chl Dpth (ft)	11.08	Hydr. Depth (ft)	3.02	10.64	3.02
Crit W.S. (ft)	1666.04	Wetted Per. (ft)	8.61	512.03	8.88
Conv. Total (cfs)	1559473.0	Conv. (cfs)	1312.9	1556741.0	1419.3

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 20.00 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9717.49	9719.51	0.00	0.00	0.11	0.0	0.04	0.22
9719.51	9721.53	0.00	2.17	2.84	76.9	1.07	1.96
9721.53	9723.55	0.02	6.18	2.83	441.3	3.06	3.94
9723.55	9725.57	0.06	10.20	2.83	1016.3	5.05	5.50
9725.57	9759.59	5.59	329.00	34.92	87231.0	9.67	17.08
9759.59	9793.61	6.59	359.46	34.02	102871.6	10.57	18.44
9793.61	9827.64	6.75	364.79	34.02	105425.2	10.72	18.62
9827.64	9861.66	6.66	361.89	34.02	104034.3	10.64	18.52
9861.66	9895.68	6.72	363.62	34.02	104864.3	10.69	18.58
9895.68	9929.70	6.76	364.98	34.02	105520.3	10.73	18.63
9929.70	9963.72	6.74	364.45	34.02	105260.5	10.71	18.61
9963.72	9997.75	6.84	367.76	34.02	106860.0	10.81	18.72
9997.75	10031.77	6.84	367.56	34.02	106764.5	10.80	18.72
10031.77	10065.79	6.89	369.14	34.02	107533.9	10.85	18.77
10065.79	10099.81	7.05	374.47	34.02	110126.7	11.01	18.95
10099.81	10133.83	7.10	375.79	34.02	110780.4	11.05	18.99
10133.83	10167.86	6.97	371.72	34.02	108784.1	10.93	18.86
10167.86	10201.88	6.73	363.94	34.02	105013.4	10.70	18.59
10201.88	10235.90	5.60	329.12	34.82	87454.3	9.67	17.12
10235.90	10238.81	0.07	13.65	3.97	1320.5	4.69	5.40
10238.81	10241.72	0.02	5.80	3.97	317.6	1.99	3.05
10241.72	10244.63	0.00	0.23	0.95	3.7	0.32	0.91

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.89
Description: 19.89

Station Elevation Data, num = 41

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9615.64	1663.42	9628.81	1660	9670.29	1649.53	9678.23	1647.55	9694.47	1644
9707.59	1642	9710.45	1641.8	9744.62	1641.55	9776.51	1641.72	9815.46	1641.72
9838.33	1641.54	9856.78	1641.5	9883.54	1641.71	9918.86	1641.79	9963.06	1641.77
9997.21	1641.91	0051.57	1641.81	0098.91	1641.91	10123.47	1641.79	10143.68	1641.62

```
10155.61  1641.510200.31    164210217.95    164210220.15 1642.7210222.56    1644
10224.94    164610228.44  1647.310232.73    164810238.66 1648.4210251.71 1650.75
10263.94    165210267.78    1652 10285.1    165410305.01  1656.110316.92 1656.91
10322.42 1657.0710325.81  1657.410334.53 1657.5110337.94    165810356.24 1659.86
10362.92 1660.78

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9615.64    .035 9694.47    .02510228.44    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9694.4710228.44             619.5   619.5   619.5             .1       .3

CROSS SECTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.89     Profile # 1

  W.S. Elev (ft)       1647.45   Element              Left OB    Channel   Right OB
  Vel Head (ft)          17.32   Wt. n-Val.             0.035      0.025      0.035
  E.G. Elev (ft)       1664.78   Reach Len. (ft)       619.50     619.50     619.50
  E.G. Slope (ft/ft)  0.031840   Flow Area (sq ft)      27.30    2999.08       0.07
  Q Total (cfs)      100600.00   Flow (cfs)            293.09  100306.80       0.10
  Top Width (ft)        550.72   Top Width (ft)         15.80     533.97       0.95
  Vel Total (ft/s)       33.24   Avg. Vel. (ft/s)       10.74      33.45       1.36
  Max Chl Dpth (ft)       5.95   Hydr. Depth (ft)        1.73       5.62       0.08
  Crit W.S. (ft)       1652.18   Wetted Per. (ft)       16.18     535.53       0.96
  Conv. Total (cfs)   563782.8   Conv. (cfs)           1642.5   562139.7        0.6


Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
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.

FLOW DISTRIBUTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.89     Profile # 1
```

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9678.70	9683.96	0.01	3.06	5.38	89.2	0.58	4.45
9683.96	9689.21	0.08	9.10	5.38	548.4	1.73	9.21
9689.21	9694.47	0.19	15.14	5.38	1280.7	2.88	12.93
9694.47	9730.07	5.91	186.67	35.76	33388.4	5.24	31.85
9730.07	9765.67	7.11	208.24	35.60	40181.8	5.85	34.36
9765.67	9801.26	6.90	204.45	35.60	38972.5	5.74	33.95
9801.26	9836.86	6.98	205.95	35.60	39447.2	5.79	34.11
9836.86	9872.46	7.25	210.57	35.60	40934.6	5.92	34.62
9872.46	9908.06	6.89	204.30	35.60	38922.8	5.74	33.93
9908.06	9943.66	6.76	201.92	35.60	38171.5	5.67	33.66
9943.66	9979.25	6.75	201.77	35.60	38125.1	5.67	33.65
9979.25	10014.85	6.57	198.64	35.60	37141.4	5.58	33.30
10014.85	10050.45	6.65	200.05	35.60	37584.1	5.62	33.46
10050.45	10086.05	6.65	199.91	35.60	37539.3	5.62	33.44
10086.05	10121.65	6.59	198.83	35.60	37203.2	5.59	33.32
10121.65	10157.24	7.02	206.56	35.60	39643.1	5.80	34.18
10157.24	10192.84	6.89	204.24	35.60	38901.7	5.74	33.92
10192.84	10228.44	4.80	167.00	36.99	27110.9	4.69	28.91
10228.44	10237.41	0.00	0.07	0.96	0.6	0.08	1.36

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may
                indicate the need for additional cross sections.
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.
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 INPUT Reach: SPILLWAY River Station: 19.79
Description: 19.79

Station Elevation Data, num = 44

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9736.86	1628.5	9744.92	1627.33	9756.21	1626	9776.58	1624.76	9790.49	1624.53
9797.83	1624	9835.62	1624	9847.93	1622	9864.7	1620	9882.28	1618.33
9887.43	1617.73	9892.96	1618	9927.84	1618	9936.92	1616.71	9952.87	1615.14
9961.03	1614	9966.98	1612.73	9974.08	1612	9989.96	1612	10001.07	1614
10010.79	1614.97	10018.96	1615.64	10025.12	1615.61	10067.11	1614	10080.63	1613.78
10083.52	1614	10099.87	1614	10109.46	1614.31	10132.62	1614.71	10139.66	1615.04
10147.05	1616	10167.02	1616	10185.06	1618	10192.11	1618.53	10220.61	1620.64
10226.47	1621.02	10250.21	1622	10264.16	1622	10274.45	1622.59	10291.97	1623.4
10302.54	1624	10304.76	1624	10342.54	1626	10377.56	1629.06		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9736.86	.035	9952.87	.035	10185.06	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9952.87	10185.06	281.9	281.9	281.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.79 Profile # 1

W.S. Elev (ft)	1623.91	Element	Left OB	Channel	Right OB
Vel Head (ft)	18.93	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1642.84	Reach Len. (ft)	281.90	281.90	281.90
E.G. Slope (ft/ft)	0.039157	Flow Area (sq ft)	600.14	2172.80	299.63
Q Total (cfs)	100600.00	Flow (cfs)	14973.80	80889.17	4737.03
Top Width (ft)	464.77	Top Width (ft)	116.69	232.19	115.89
Vel Total (ft/s)	32.74	Avg. Vel. (ft/s)	24.95	37.23	15.81
Max Chl Dpth (ft)	11.91	Hydr. Depth (ft)	5.14	9.36	2.59
Crit W.S. (ft)	1629.49	Wetted Per. (ft)	117.26	232.92	116.07
Conv. Total (cfs)	508382.5	Conv. (cfs)	75670.2	408773.8	23938.6

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.79 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9823.26	9837.67	0.00	0.18	1.51	1.9	0.12	1.87
9837.67	9852.07	0.19	19.96	14.56	1045.6	1.39	9.52
9852.07	9866.47	0.79	46.93	14.50	4359.8	3.26	16.88
9866.47	9880.87	1.48	68.57	14.47	8214.7	4.76	21.76
9880.87	9895.27	2.13	85.13	14.45	11790.9	5.91	25.16
9895.27	9909.67	2.13	85.10	14.40	11809.7	5.91	25.21
9909.67	9924.07	2.13	85.10	14.40	11809.7	5.91	25.21
9924.07	9938.47	2.46	93.08	14.50	13649.6	6.46	26.64
9938.47	9952.87	3.57	116.08	14.47	19749.3	8.06	30.91
9952.87	9968.35	5.86	154.36	15.70	30075.6	9.97	38.19
9968.35	9983.83	7.82	182.67	15.51	40144.5	11.80	43.07
9983.83	9999.31	7.35	176.48	15.63	37710.8	11.40	41.88
9999.31	10014.79	5.27	144.43	15.57	27071.2	9.33	36.74
10014.79	10030.27	4.41	129.56	15.50	22656.7	8.37	34.27
10030.27	10045.75	4.80	136.23	15.49	24641.4	8.80	35.45
10045.75	10061.23	5.35	145.36	15.49	27455.0	9.39	37.02
10061.23	10076.70	5.86	153.48	15.48	30065.7	9.92	38.39
10076.70	10092.18	5.92	154.45	15.49	30379.6	9.98	38.55
10092.18	10107.66	5.79	152.45	15.48	29731.4	9.85	38.22
10107.66	10123.14	5.46	147.15	15.48	28029.3	9.51	37.33
10123.14	10138.62	5.17	142.36	15.49	26519.8	9.20	36.51
10138.62	10154.10	4.26	127.00	15.54	21873.9	8.20	33.76
10154.10	10169.58	4.00	122.07	15.50	20519.6	7.89	32.94

10169.58	10185.06	3.09	104.76	15.57	15848.6	6.77	29.65
10185.06	10197.89	1.50	69.67	12.87	9119.2	5.43	21.61
10197.89	10210.73	1.09	57.45	12.87	6612.8	4.48	19.00
10210.73	10223.56	0.73	45.29	12.87	4449.9	3.53	16.22
10223.56	10236.39	0.48	35.32	12.85	2943.4	2.75	13.76
10236.39	10249.23	0.34	28.43	12.84	2049.8	2.22	11.90
10249.23	10262.06	0.26	24.53	12.83	1603.6	1.91	10.79
10262.06	10274.89	0.21	21.21	12.85	1257.2	1.65	9.79
10274.89	10287.73	0.09	12.87	12.85	546.7	1.00	7.02
10287.73	10300.56	0.02	4.86	12.85	108.0	0.38	3.67
10300.56	10313.39	0.00	0.00	0.39	0.0	0.01	0.35

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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 INPUT Reach: SPILLWAY River Station: 19.72
Description: 19.72

Station Elevation Data, num = 40

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9799.29	1628.47	9836.99	1620	9857.97	1616.4	9870.69	1614	9881.27	1611.47
9886.38	1610	9891.03	1608.46	9891.55	1608	9899.02	1606	9902.06	1606.03
9914.37	1608	9923.9	1609.13	9926.95	1609.3	9938.14	1608.51	9945.09	1606
9947.88	1604.67	9950.07	1604	9956.25	1604	9977.32	1606	9997.49	1608
10013.72	1608	10017.01	1607.38	10021.36	1606	10035.89	1606	10050.21	1608.56
10062.83	1610.12	10083.78	1612	10138.54	1612	10144.21	1612.27	10158.98	1613.02
10160.97	1613.01	10188.28	1614.31	10214.98	1616	10232.84	1618	10240.35	1618.6
10261.06	1620.27	10285.44	1622.18	10304.43	1624	10313.81	1625.14	10346.44	1628.87

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9799.29	.035	9926.95	.035	10083.78	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9926.95	10083.78	355.3	355.3	355.3	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.72 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1619.95	Element			
Vel Head (ft)	13.36	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1633.31	Reach Len. (ft)	355.30	355.30	355.30
E.G. Slope (ft/ft)	0.020942	Flow Area (sq ft)	716.14	1957.91	977.65
Q Total (cfs)	100600.00	Flow (cfs)	17329.03	64259.87	19011.10
Top Width (ft)	419.82	Top Width (ft)	89.67	156.83	173.32
Vel Total (ft/s)	27.55	Avg. Vel. (ft/s)	24.20	32.82	19.45
Max Chl Dpth (ft)	15.95	Hydr. Depth (ft)	7.99	12.48	5.64
Crit W.S. (ft)	1624.27	Wetted Per. (ft)	91.62	158.57	173.62
Conv. Total (cfs)	695170.3	Conv. (cfs)	119747.8	444051.2	131371.3

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.72 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9833.33	9841.84	0.00	1.79	4.63	40.3	0.39	2.77
9841.84	9850.35	0.09	12.88	8.64	714.1	1.51	6.83

9850.35	9858.87	0.27	25.32	8.64	2201.5	2.97	10.71
9858.87	9867.38	0.54	38.48	8.66	4416.3	4.52	14.13
9867.38	9875.89	0.91	52.84	8.72	7457.6	6.21	17.38
9875.89	9884.40	1.45	70.12	8.79	11885.0	8.24	20.87
9884.40	9892.91	2.22	91.58	9.06	18175.5	10.76	24.43
9892.91	9901.42	3.27	113.70	8.73	26729.0	13.36	28.94
9901.42	9909.93	3.29	113.52	8.61	26896.6	13.34	29.17
9909.93	9918.44	2.77	102.31	8.60	22641.4	12.02	27.25
9918.44	9926.95	2.40	93.60	8.55	19586.4	11.00	25.76
9926.95	9937.41	3.43	115.21	10.48	24181.6	11.02	29.95
9937.41	9947.86	4.39	137.12	11.20	30928.6	13.11	32.19
9947.86	9958.32	6.26	165.82	10.57	44125.1	15.86	37.97
9958.32	9968.77	5.89	159.53	10.50	41540.0	15.26	37.16
9968.77	9979.23	5.27	149.14	10.50	37130.5	14.27	35.52
9979.23	9989.68	4.65	138.47	10.51	32799.8	13.24	33.80
9989.68	10000.14	4.08	127.97	10.49	28783.9	12.24	32.10
10000.14	10010.59	3.93	124.95	10.46	27727.4	11.95	31.67
10010.59	10021.05	4.19	131.05	10.71	29543.1	12.54	32.17
10021.05	10031.50	5.08	145.85	10.47	35847.0	13.95	35.07
10031.50	10041.96	4.87	142.56	10.55	34334.6	13.64	34.37
10041.96	10052.41	3.89	124.87	10.60	27443.6	11.94	31.36
10052.41	10062.87	3.14	109.49	10.53	22136.7	10.47	28.85
10062.87	10073.33	2.61	97.85	10.50	18398.2	9.36	26.83
10073.33	10083.78	2.19	88.03	10.50	15426.3	8.42	25.01
10083.78	10101.29	3.04	139.22	17.51	23545.4	7.95	21.96
10101.29	10118.80	3.04	139.22	17.51	23545.4	7.95	21.96
10118.80	10136.31	3.04	139.22	17.51	23545.4	7.95	21.96
10136.31	10153.82	2.83	133.51	17.53	21942.9	7.62	21.34
10153.82	10171.33	2.36	119.59	17.53	18264.0	6.83	19.83
10171.33	10188.84	1.92	105.60	17.53	14841.2	6.03	18.25
10188.84	10206.36	1.42	88.44	17.55	11038.5	5.05	16.20
10206.36	10223.87	0.90	67.11	17.58	6958.5	3.83	13.46
10223.87	10241.38	0.31	35.76	17.59	2435.6	2.04	8.84
10241.38	10258.89	0.04	9.97	15.77	311.6	0.63	4.06

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.65
Description: 19.65

Station Elevation Data, num = 33

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9707.37	1627.7	9745.38	1619.99	9758.47	1618	9765.47	1617.09	9771.64	1616.6
9801.22	1615.4	9816.86	1614.37	9821.09	1614	9847.64	1612.32	9854	1612
9875.21	1610.7	9891.95	1609.3	9914.39	1608	9925.59	1605.86	9950.15	1600
9953.62	1599.1	9956.2	1598	9962.83	1596	9974.33	1596	9977.46	1596
9987.84	1598.2	10003.64	1600	10020.53	1602.37	10049.96	1605.83	10067.61	1608
10105.51	1612	10127.9	1614	10143.47	1616	10158.21	1618.47	10169.25	1620
10188.48	1624	10199.97	1626	10219.85	1629.15				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9707.37	.035	9914.39	.035	10067.61	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9914.39	10067.61	351.9	351.9	351.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.65 Profile # 1

W.S. Elev (ft)	1622.47	Element	Left OB	Channel	Right OB
Vel Head (ft)	6.07	Wt. n-Val.	0.035	0.035	0.035

E.G. Elev (ft)	1628.54	Reach Len. (ft)	351.90	351.90	351.90
E.G. Slope (ft/ft)	0.004957	Flow Area (sq ft)	1541.94	3158.24	928.23
Q Total (cfs)	100600.00	Flow (cfs)	19155.77	70247.47	11196.76
Top Width (ft)	447.95	Top Width (ft)	181.22	153.22	113.50
Vel Total (ft/s)	17.87	Avg. Vel. (ft/s)	12.42	22.24	12.06
Max Chl Dpth (ft)	26.47	Hydr. Depth (ft)	8.51	20.61	8.18
Crit W.S. (ft)	1622.47	Wetted Per. (ft)	181.97	155.58	114.50
Conv. Total (cfs)	1428885.0	Conv. (cfs)	272081.3	997768.6	159034.5

Warning - The energy equation could not be balanced within the specified number of iterations. The program selected the water surface that had the least amount of error between computed and assumed values.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.65 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9721.17	9734.97	0.00	0.33	1.84	4.5	0.18	0.86
9734.97	9748.77	0.09	24.09	14.05	1464.7	1.75	3.88
9748.77	9762.58	0.38	55.61	13.95	5936.1	4.03	6.81
9762.58	9776.38	0.66	77.96	13.85	10474.6	5.65	8.57
9776.38	9790.18	0.81	87.49	13.81	12717.0	6.34	9.27
9790.18	9803.98	0.93	95.32	13.82	14666.4	6.91	9.81
9803.98	9817.78	1.11	106.33	13.83	17582.4	7.70	10.55
9817.78	9831.58	1.36	119.87	13.84	21468.3	8.69	11.42
9831.58	9845.38	1.60	132.05	13.83	25233.2	9.57	12.19
9845.38	9859.18	1.84	143.39	13.82	28955.2	10.39	12.88
9859.18	9872.99	2.08	154.68	13.83	32849.3	11.21	13.55
9872.99	9886.79	2.38	167.87	13.85	37611.0	12.16	14.29
9886.79	9900.59	2.75	182.77	13.83	43366.3	13.24	15.13
9900.59	9914.39	3.04	194.16	13.82	47983.3	14.07	15.76
9914.39	9924.60	2.82	157.75	10.40	41040.5	15.44	18.00
9924.60	9934.82	3.49	179.71	10.49	50699.1	17.59	19.52
9934.82	9945.03	4.33	204.59	10.50	62886.0	20.03	21.27
9945.03	9955.25	5.22	229.95	10.61	75868.6	22.51	22.83
9955.25	9965.46	6.48	261.64	10.59	94206.3	25.61	24.92
9965.46	9975.68	7.01	270.36	10.21	101941.5	26.47	26.09
9975.68	9985.89	6.61	262.83	10.40	96079.2	25.73	25.30
9985.89	9996.11	5.89	244.40	10.31	85613.6	23.93	24.24
9996.11	10006.32	5.42	232.23	10.29	78738.3	22.73	23.46
10006.32	10016.54	4.88	218.34	10.31	70930.4	21.37	22.48
10016.54	10026.75	4.37	204.14	10.30	63484.0	19.98	21.52
10026.75	10036.97	3.93	191.67	10.28	57201.7	18.77	20.65
10036.97	10047.18	3.52	179.42	10.29	51236.9	17.56	19.76
10047.18	10057.40	3.13	167.01	10.29	45450.8	16.35	18.83
10057.40	10067.61	2.74	154.20	10.29	39786.6	15.10	17.85
10067.61	10077.76	2.13	141.40	10.21	34630.4	13.93	15.16
10077.76	10087.91	1.87	130.53	10.21	30307.5	12.86	14.37
10087.91	10098.06	1.61	119.66	10.21	26218.1	11.79	13.56
10098.06	10108.21	1.38	108.84	10.20	22393.7	10.72	12.74
10108.21	10118.36	1.18	99.19	10.19	19199.8	9.77	11.98
10118.36	10128.51	1.00	89.99	10.19	16319.4	8.87	11.23
10128.51	10138.66	0.80	78.54	10.23	12973.1	7.74	10.23
10138.66	10148.80	0.58	64.75	10.26	9385.0	6.38	8.97
10148.80	10158.95	0.35	47.95	10.29	5679.7	4.72	7.33
10158.95	10169.10	0.18	32.39	10.25	2961.7	3.19	5.66
10169.10	10179.25	0.05	14.64	10.36	782.5	1.44	3.31
10179.25	10189.40	0.00	0.36	1.90	5.0	0.19	0.87

Warning - The energy equation could not be balanced within the specified number of iterations. The program selected the water surface that had the least amount of error between computed and assumed values.

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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.58
Description: 19.58

Station Elevation Data, num = 42

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9782.8	1630	9802.36	1622.4	9810	1619.67	9831.14	1613.82	9840.5	1611.05
9845.27	1610	9852.91	1607.8	9860.45	1606	9873.39	1603.72	9893.27	1600.48
9896.88	1600	9903.54	1598	9910.72	1596	9916.24	1594	9923.21	1592
9931.74	1590	9947.82	1590	9976.78	1596.89	9991.62	1600	9999.42	1602.61
10004.85	1604	10013.77	1606	10017.89	1607.07	10033.48	1610	10038.44	1611.08
10043.81	1612	10064.88	1612	10085.6	1610	10106	1609.07	10122.71	1608
10127.48	1608	10142.93	1608.81	10159.82	1610	10178.39	1612	10191.02	1613.07
10201.07	1614	10218.53	1616	10237.78	1618	10255.65	1620	10270.99	1622.01
10303.08	1626	10319.95	1628						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9782.8	.035	9896.88	.035	10004.85	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9896.88	10004.85	267.4	267.4	267.4	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.58 Profile # 1

W.S. Elev (ft)	1618.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	8.07	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1626.43	Reach Len. (ft)	267.40	267.40	267.40
E.G. Slope (ft/ft)	0.006036	Flow Area (sq ft)	852.02	2509.15	1725.72
Q Total (cfs)	100600.00	Flow (cfs)	13138.36	66114.13	21347.52
Top Width (ft)	426.25	Top Width (ft)	82.14	107.97	236.14
Vel Total (ft/s)	19.78	Avg. Vel. (ft/s)	15.42	26.35	12.37
Max Chl Dpth (ft)	28.36	Hydr. Depth (ft)	10.37	23.24	7.31
Crit W.S. (ft)	1620.06	Wetted Per. (ft)	84.29	111.13	237.61
Conv. Total (cfs)	1294844.0	Conv. (cfs)	169106.6	850969.0	274768.4

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.58 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9813.22	9820.83	0.01	5.13	6.32	189.5	0.84	2.47
9820.83	9828.43	0.11	20.82	7.89	1687.4	2.74	5.42
9828.43	9836.04	0.29	37.05	7.92	4401.7	4.87	7.94
9836.04	9843.64	0.55	53.73	7.87	8207.2	7.06	10.21
9843.64	9851.25	0.82	68.43	7.89	12265.8	9.00	11.98
9851.25	9858.85	1.15	84.12	7.84	17374.5	11.06	13.81
9858.85	9866.46	1.47	96.87	7.74	22164.3	12.74	15.30
9866.46	9874.06	1.75	107.13	7.72	26262.7	14.09	16.39
9874.06	9881.67	2.02	116.88	7.71	30407.4	15.37	17.39
9881.67	9889.27	2.30	126.31	7.71	34603.6	16.61	18.31
9889.27	9896.88	2.59	135.54	7.69	38974.0	17.82	19.22
9896.88	9904.08	3.17	139.93	7.51	41742.5	19.44	22.75
9904.08	9911.28	3.76	154.83	7.49	49533.2	21.51	24.40
9911.28	9918.47	4.41	171.59	7.60	58172.8	23.84	25.86
9918.47	9925.67	5.17	187.23	7.46	68161.8	26.01	27.77

9925.67	9932.87	5.81	199.82	7.36	76610.3	27.76	29.24
9932.87	9940.07	6.11	204.11	7.20	80583.0	28.36	30.11
9940.07	9947.27	6.11	204.13	7.20	80593.9	28.36	30.11
9947.27	9954.46	5.75	198.88	7.38	75871.4	27.63	29.10
9954.46	9961.66	5.17	186.59	7.40	68123.4	25.92	27.85
9961.66	9968.86	4.61	174.24	7.40	60781.1	24.21	26.61
9968.86	9976.06	4.08	161.94	7.40	53793.0	22.50	25.34
9976.06	9983.26	3.61	150.21	7.36	47627.7	20.87	24.19
9983.26	9990.45	3.19	139.34	7.35	42041.8	19.36	23.01
9990.45	9997.65	2.66	126.19	7.55	35017.7	17.53	21.17
9997.65	10004.85	2.13	110.11	7.47	28105.7	15.30	19.47
10004.85	10025.86	3.90	251.85	21.50	55141.1	11.99	15.56
10025.86	10046.86	1.92	164.00	21.33	27119.6	7.81	11.75
10046.86	10067.87	1.38	134.01	21.02	19561.4	6.38	10.38
10067.87	10088.88	1.87	160.66	21.09	26405.8	7.65	11.68
10088.88	10109.88	2.45	188.93	21.03	34660.5	8.99	13.04
10109.88	10130.89	2.97	212.04	21.04	42003.8	10.09	14.08
10130.89	10151.90	2.73	201.70	21.05	38636.0	9.60	13.62
10151.90	10172.90	2.02	168.61	21.10	28608.6	8.03	12.06
10172.90	10193.91	1.23	124.97	21.10	17368.9	5.95	9.88
10193.91	10214.92	0.62	82.96	21.13	8765.6	3.95	7.51
10214.92	10235.92	0.14	34.58	21.12	2039.6	1.65	4.19
10235.92	10256.93	0.00	1.42	5.09	25.8	0.28	1.29

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.53
Description: 19.53

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9812.31	1619.4	9836.38	1612	9841.94	1610	9853.65	1608	9864.37	1606
9872.09	1604	9877.64	1602	9885.8	1600	9894.69	1598	9902.11	1596
9910.89	1594	9916.8	1592	9921.11	1591.21	9925.77	1590	9932.63	1588
9940.68	1585.9	9947.31	1584	9955.63	1582	9960.56	1582	9968.41	1585.18
9971.35	1586.7	9976.63	1588.36	9979.55	1590	9987.15	1592	9995.67	1592
10007.63	1593.1	10017.6	1593.37	10025.11	1593.41	10038.32	1593.87	10050.56	1594.04
10057.4	1594.51	10087.74	1597.09	10096.92	1598	10113.04	1600.19	10137.03	1603.61
10151.03	1605.71	10156.03	1606	10161.7	1606	10172.6	1606	10182.85	1605.65
10194.09	1605.81	10198.28	1606	10213.25	1607.51	10220.86	1608.95	10225.97	1609.54
10237.54	1608	10258.64	1607.27	10275.23	1606.57	10279.53	1606.49		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9812.31	.035	9916.8	.035	10007.63	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9916.81	10007.63	169.2	169.2	169.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10225	10279.53	1615

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.53 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1606.89	Element			
Vel Head (ft)	16.22	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1623.10	Reach Len. (ft)	169.20	169.20	169.20
E.G. Slope (ft/ft)	0.016400	Flow Area (sq ft)	416.15	1709.16	1410.27
Q Total (cfs)	100600.00	Flow (cfs)	8307.60	64209.65	28082.75
Top Width (ft)	359.29	Top Width (ft)	57.18	90.83	211.29
Vel Total (ft/s)	28.45	Avg. Vel. (ft/s)	19.96	37.57	19.91
Max Chl Dpth (ft)	24.89	Hydr. Depth (ft)	7.28	18.82	6.67
Crit W.S. (ft)	1615.00	Wetted Per. (ft)	59.15	94.10	212.48

Conv. Total (cfs) 785553.5 Conv. (cfs) 64871.4 501392.8 219289.3

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.53 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9854.11	9861.07	0.00	0.20	1.48	2.2	0.14	1.19
9861.07	9868.04	0.03	6.90	7.14	286.3	0.99	4.45
9868.04	9875.00	0.17	19.51	7.28	1597.3	2.80	8.79
9875.00	9881.97	0.45	35.08	7.26	4257.0	5.04	13.02
9881.97	9888.94	0.75	47.28	7.16	7065.6	6.79	16.04
9888.94	9895.90	1.07	58.37	7.15	10044.9	8.38	18.47
9895.90	9902.87	1.47	70.71	7.21	13757.4	10.15	20.88
9902.87	9909.83	1.91	82.56	7.14	17915.9	11.85	23.29
9909.83	9916.80	2.40	95.55	7.32	22483.0	13.72	25.26
9916.80	9922.86	3.04	93.62	6.19	24321.0	15.46	32.67
9922.86	9928.91	3.50	102.58	6.28	28028.3	16.94	34.36
9928.91	9934.97	4.12	113.06	6.29	32942.1	18.67	36.64
9934.97	9941.02	4.74	122.84	6.26	37940.1	20.29	38.84
9941.02	9947.08	5.39	132.91	6.30	43089.2	21.95	40.77
9947.08	9953.13	6.10	142.66	6.23	48833.2	23.56	43.04
9953.13	9959.19	6.71	149.95	6.13	53664.9	24.76	45.00
9959.19	9965.24	6.23	146.24	6.42	49865.9	24.15	42.88
9965.24	9971.30	5.08	131.32	6.67	40655.3	21.69	38.93
9971.30	9977.35	4.27	116.51	6.42	34147.7	19.24	36.86
9977.35	9983.41	3.37	101.64	6.51	26957.3	16.79	33.35
9983.41	9989.46	2.95	91.99	6.18	23623.4	15.19	32.29
9989.46	9995.52	2.89	90.15	6.06	23159.2	14.89	32.31
9995.52	10001.57	2.80	88.53	6.08	22411.8	14.62	31.83
10001.57	10007.63	2.63	85.17	6.08	21009.6	14.06	31.02
10007.63	10025.76	5.87	246.17	18.13	59479.2	13.58	23.99
10025.76	10043.88	5.57	238.46	18.13	56402.5	13.16	23.48
10043.88	10062.01	5.18	228.57	18.16	52507.0	12.61	22.81
10062.01	10080.14	4.26	203.37	18.19	43163.8	11.22	21.07
10080.14	10098.26	3.30	174.52	18.21	33426.9	9.63	19.02
10098.26	10116.39	2.15	135.41	18.30	21832.0	7.47	16.01
10116.39	10134.52	1.08	89.30	18.31	10903.9	4.93	12.12
10134.52	10152.64	0.30	41.76	18.31	3071.5	2.30	7.30
10152.64	10170.77	0.06	16.41	18.13	651.6	0.91	3.94
10170.77	10188.90	0.09	19.73	18.13	885.9	1.09	4.46
10188.90	10207.02	0.05	13.87	18.18	491.7	0.77	3.52

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The

program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.50
Description: 19.50

Station Elevation Data, num = 34

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9853.99	1604	9860.4	1602.78	9871.79	1600	9879.79	1598.79	9890.41	1596.6
9895.55	1595.46	9907.69	1594	9914.87	1592	9920.91	1591.05	9926.44	1590
9946.34	1586	9961.18	1582	9968.7	1580	9977.07	1579.22	9986.15	1582.2
10002.21	158810006.31	1589.29	10011.55	1590	10052	1590	10082.6	1588	
10091.42	158810110.69	158810120.95	1588.68	10138.25	159010178.75	1592.8			
10192.64	159410204.93	1595.35	10212.15	1596	10230.9	159810251.34	1600		
10259.72	1601.26	10267.85	160210279.75	1603.41	10288.57	1604.01			

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9853.99	.035	9946.34	.035	10002.21	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9946.34	10002.21	211.8	211.8	211.8	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.50 Profile # 1

W.S. Elev (ft)	1598.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	20.39	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1618.96	Reach Len. (ft)	211.80	211.80	211.80
E.G. Slope (ft/ft)	0.030928	Flow Area (sq ft)	406.72	885.76	1751.50
Q Total (cfs)	100600.00	Flow (cfs)	10129.21	40619.83	49850.96
Top Width (ft)	355.93	Top Width (ft)	65.50	55.87	234.56
Vel Total (ft/s)	33.05	Avg. Vel. (ft/s)	24.90	45.86	28.46
Max Chl Dpth (ft)	19.35	Hydr. Depth (ft)	6.21	15.85	7.47
Crit W.S. (ft)	1604.83	Wetted Per. (ft)	66.76	58.19	235.33
Conv. Total (cfs)	572035.4	Conv. (cfs)	57597.1	230973.9	283464.4

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.50 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9878.62	9884.77	0.01	1.60	4.02	36.7	0.41	3.40
9884.77	9890.93	0.07	8.91	6.29	476.9	1.45	7.93
9890.93	9897.09	0.21	16.95	6.28	1394.7	2.75	12.19
9897.09	9903.24	0.33	22.59	6.20	2270.3	3.67	14.89
9903.24	9909.40	0.46	27.38	6.25	3110.9	4.45	16.84
9909.40	9915.56	0.73	36.34	6.37	4924.5	5.90	20.08
9915.56	9921.71	1.02	44.13	6.24	6904.6	7.17	23.19
9921.71	9927.87	1.28	50.88	6.27	8721.4	8.26	25.40
9927.87	9934.03	1.61	58.36	6.28	10952.9	9.48	27.81
9934.03	9940.18	1.98	65.99	6.28	13440.5	10.72	30.18
9940.18	9946.34	2.37	73.60	6.28	16122.8	11.96	32.46
9946.34	9950.06	1.93	48.70	3.86	11211.0	13.08	39.89
9950.06	9953.79	2.18	52.44	3.86	12681.9	14.08	41.90
9953.79	9957.51	2.45	56.18	3.86	14224.7	15.08	43.87
9957.51	9961.24	2.73	59.92	3.86	15837.4	16.09	45.80
9961.24	9964.96	3.02	63.63	3.85	17517.3	17.08	47.70
9964.96	9968.69	3.31	67.32	3.85	19242.4	18.08	49.52
9968.69	9972.41	3.59	69.82	3.74	20857.1	18.75	51.76
9972.41	9976.14	3.71	71.13	3.74	21511.9	19.09	52.40
9976.14	9979.86	3.59	70.77	3.88	20834.4	19.00	51.01
9979.86	9983.59	3.20	66.40	3.92	18591.3	17.83	48.52
9983.59	9987.31	2.84	61.82	3.93	16470.8	16.60	46.16

9987.31	9991.04	2.46	56.92	3.96	14285.5	15.28	43.49
9991.04	9994.76	2.11	51.91	3.96	12251.8	13.94	40.90
9994.76	9998.49	1.78	46.90	3.96	10345.2	12.59	38.22
9998.49	10002.21	1.48	41.89	3.96	8569.6	11.25	35.45
10002.21	10021.30	4.98	171.10	19.34	31075.4	8.96	29.29
10021.30	10040.39	4.67	163.68	19.09	29110.9	8.57	28.68
10040.39	10059.48	4.75	165.51	19.11	29638.7	8.67	28.88
10059.48	10078.57	5.71	184.92	19.13	35624.8	9.69	31.07
10078.57	10097.66	6.59	201.34	19.10	41094.4	10.55	32.92
10097.66	10116.75	6.55	200.65	19.10	40853.8	10.51	32.84
10116.75	10135.84	5.51	181.00	19.14	34360.5	9.48	30.62
10135.84	10154.94	4.22	154.28	19.14	26334.3	8.08	27.53
10154.94	10174.03	3.14	129.06	19.14	19559.3	6.76	24.44
10174.03	10193.12	2.12	102.08	19.16	13221.8	5.35	20.89
10193.12	10212.21	1.04	66.83	19.19	6518.0	3.50	15.73
10212.21	10231.30	0.27	29.58	19.20	1675.7	1.55	9.14
10231.30	10250.39	0.00	1.46	5.49	25.7	0.27	2.83

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.46
Description: 19.46

Station Elevation Data, num = 45

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9744	1601.98	9764.15	1598	9777.67	1595.67	9788.16	1594	9816.74	1590
9837.81	1587.87	9858.88	1586	9901.8	1586	9924.9	1585.3	9943.41	1584
9956.62	1579.54	9966.28	1576	9978.42	1576	9994.83	158010003.16		1582
10008.57	1583.1410013.14		1583.810021.28		1583.6710037.66		1582.8510043.22		1582.83
10047.41	1583.06	10052	158410061.01		1584.7210081.69		158610114.03		1586
10131.46	158410138.45		158310151.86		1582.7510167.43		158410180.79		1584
10200.1	1582.3710205.21		1582.110209.14		1582.3110227.08		158410237.39		1584.76
10258.31	1586.5810270.44		158810288.96		1590	10310.4	159210321.13		1592.57
10345.8	159410360.23		159510373.25		1596	10387	1597.4310394.54		1598

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9744	.035	9943.41	.03510013.14		.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9943.4110013.14		228.1	228.1	228.1	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.46 Profile # 1

W.S. Elev (ft)	1590.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	20.07	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1610.83	Reach Len. (ft)	228.10	228.10	228.10
E.G. Slope (ft/ft)	0.047363	Flow Area (sq ft)	557.05	792.00	1686.47
Q Total (cfs)	100600.00	Flow (cfs)	13411.64	36202.72	50985.64
Top Width (ft)	485.87	Top Width (ft)	132.13	69.73	284.01
Vel Total (ft/s)	33.14	Avg. Vel. (ft/s)	24.08	45.71	30.23
Max Chl Dpth (ft)	14.76	Hydr. Depth (ft)	4.22	11.36	5.94
Crit W.S. (ft)	1596.26	Wetted Per. (ft)	132.43	71.97	284.93
Conv. Total (cfs)	462252.5	Conv. (cfs)	61625.9	166349.9	234276.8

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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.46 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)

9810.47	9823.76	0.07	9.94	12.57	361.0	0.80	7.32
9823.76	9837.06	0.40	28.53	13.36	2008.0	2.15	14.20
9837.06	9850.35	0.87	45.43	13.35	4363.3	3.42	19.38
9850.35	9863.65	1.40	60.10	13.33	6965.0	4.52	23.38
9863.65	9876.94	1.53	63.33	13.29	7612.1	4.76	24.25
9876.94	9890.23	1.53	63.33	13.29	7612.1	4.76	24.25
9890.23	9903.53	1.53	63.37	13.29	7620.8	4.77	24.26
9903.53	9916.82	1.66	66.70	13.30	8297.3	5.02	25.09
9916.82	9930.12	1.92	72.60	13.31	9550.8	5.46	26.54
9930.12	9943.41	2.43	83.71	13.33	12099.0	6.30	29.15
9943.41	9948.06	1.16	35.09	4.91	5529.8	7.55	33.26
9948.06	9952.71	1.59	42.38	4.91	7575.9	9.12	37.73
9952.71	9957.36	2.07	49.70	4.91	9867.1	10.69	41.91
9957.36	9962.00	2.62	57.39	4.95	12478.4	12.35	45.90
9962.00	9966.65	3.26	65.28	4.93	15518.9	14.04	50.18
9966.65	9971.30	3.68	68.63	4.65	17534.7	14.76	53.93
9971.30	9975.95	3.68	68.63	4.65	17534.7	14.76	53.93
9975.95	9980.60	3.60	68.06	4.71	17136.1	14.64	53.14
9980.60	9985.25	3.17	63.53	4.78	15122.2	13.67	50.24
9985.25	9989.90	2.75	58.26	4.78	13090.7	12.53	47.43
9989.90	9994.54	2.35	52.99	4.78	11178.2	11.40	44.52
9994.54	9999.19	1.97	47.76	4.78	9405.0	10.27	41.56
9999.19	10003.84	1.63	42.59	4.78	7773.2	9.16	38.53
10003.84	10008.49	1.34	37.79	4.75	6394.2	8.13	35.71
10008.49	10013.14	1.13	33.93	4.70	5382.8	7.30	33.48
10013.14	10038.57	6.13	187.30	25.45	30088.1	7.37	32.94
10038.57	10063.99	5.63	178.30	25.56	27633.3	7.01	31.78
10063.99	10089.42	3.37	130.82	25.46	16537.6	5.14	25.92
10089.42	10114.85	2.97	121.17	25.43	14564.9	4.77	24.65
10114.85	10140.27	4.77	161.50	25.61	23403.7	6.35	29.72
10140.27	10165.70	6.54	194.82	25.47	32107.5	7.66	33.80
10165.70	10191.13	5.56	176.61	25.47	27265.6	6.95	31.66
10191.13	10216.55	7.36	209.22	25.50	36128.7	8.23	35.41
10216.55	10241.98	5.15	168.88	25.52	25272.5	6.64	30.69
10241.98	10267.41	2.64	113.14	25.55	12952.1	4.45	23.48
10267.41	10292.83	0.54	43.85	25.57	2666.8	1.72	12.47
10292.83	10318.26	0.00	0.87	4.33	12.6	0.20	2.98

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 INPUT Reach: SPILLWAY River Station: 19.42
Description: 19.42

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9518.41	1590.66	9521.93	1590	9532.05	1588.4	9536.31	1588	9551.92	1586
9586.41	1581.89	9594.28	1581.13	9606	1580.8	9629.56	1582.03	9651.84	1582
9671.03	1581.16	9682.17	1580.56	9690.43	1580.4	9719.63	1580.9	9734.92	1580.55
9749.13	1580	9766.42	1578	9781.1	1578	9795.75	1580	9819.09	1581.59
9830.89	1582.12	9847.03	1582.44	9894.19	1582.1	9899.3	1582	9935.48	1580
9950.42	1579.14	9952.14	1578.87	9957.39	1578	9965.69	1575.58	9971.89	1574
9992.83	157410013.89	1576.4610035.46	157810055.98	158010096.67	1581.68				
10101.48	158210143.07	158210158.14	1581.110170.18	1580.8810183.98	1580				
10203.75	157810204.89	157810215.89	1579.310259.02	158210273.46	1582.82				
10291.21	158410318.22	158610339.48	158810357.65	1590					

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9518.41	.035	9952.14	.035	10055.98	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9952.14	10055.98	257.9	257.9	257.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.42 Profile # 1

W.S. Elev (ft) 1585.57 Element Left OB Channel Right OB

Vel Head (ft)	13.06	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1598.63	Reach Len. (ft)	257.90	257.90	257.90
E.G. Slope (ft/ft)	0.041302	Flow Area (sq ft)	1755.02	952.41	1074.05
Q Total (cfs)	100600.00	Flow (cfs)	40758.20	35796.92	24044.88
Top Width (ft)	756.99	Top Width (ft)	396.65	103.84	256.50
Vel Total (ft/s)	26.60	Avg. Vel. (ft/s)	23.22	37.59	22.39
Max Chl Dpth (ft)	11.57	Hydr. Depth (ft)	4.42	9.17	4.19
Crit W.S. (ft)	1589.19	Wetted Per. (ft)	397.42	104.75	256.98
Conv. Total (cfs)	495008.3	Conv. (cfs)	200553.1	176140.9	118314.2

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.42 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9547.33	9576.24	0.24	25.66	20.90	1249.0	1.24	9.44
9576.24	9605.16	2.30	113.30	29.03	11924.8	3.92	20.40
9605.16	9634.07	2.46	118.02	28.95	12788.2	4.08	21.00
9634.07	9662.99	2.06	105.87	28.93	10674.7	3.66	19.55
9662.99	9691.90	3.13	136.30	28.94	16257.7	4.71	23.12
9691.90	9720.82	3.35	141.77	28.92	17368.3	4.90	23.75
9720.82	9749.73	3.57	147.27	28.93	18501.2	5.09	24.35
9749.73	9778.65	6.07	202.92	29.03	31496.6	7.02	30.09
9778.65	9807.56	4.78	176.00	29.08	24815.5	6.09	27.33
9807.56	9836.48	2.30	113.34	28.95	11952.3	3.92	20.44
9836.48	9865.39	1.66	92.96	28.92	8596.3	3.21	17.93
9865.39	9894.31	1.79	97.48	28.92	9305.0	3.37	18.50
9894.31	9923.22	2.50	118.94	28.95	12952.6	4.11	21.11
9923.22	9952.14	4.31	165.18	28.98	22375.8	5.71	26.26
9952.14	9959.06	1.57	50.56	7.06	7972.7	7.30	31.31
9959.06	9965.99	2.23	62.80	7.21	11288.4	9.07	35.70
9965.99	9972.91	3.07	75.69	7.11	15547.4	10.93	40.79
9972.91	9979.83	3.44	80.12	6.92	17404.7	11.57	43.14
9979.83	9986.75	3.44	80.13	6.92	17407.2	11.57	43.14
9986.75	9993.68	3.43	80.09	6.93	17382.5	11.57	43.10
9993.68	10000.60	3.18	76.65	6.97	16091.6	11.07	41.69
10000.60	10007.52	2.80	71.05	6.97	14180.9	10.26	39.64
10007.52	10014.44	2.44	65.46	6.97	12373.0	9.46	37.54
10014.44	10021.37	2.18	61.12	6.94	11064.2	8.83	35.95
10021.37	10028.29	1.98	57.69	6.94	10051.1	8.33	34.60
10028.29	10035.21	1.79	54.26	6.94	9076.1	7.84	33.21
10035.21	10042.13	1.57	50.27	6.96	7978.2	7.26	31.52
10042.13	10049.06	1.34	45.60	6.96	6781.1	6.59	29.53
10049.06	10055.98	1.12	40.93	6.96	5663.4	5.91	27.48
10055.98	10076.09	2.46	103.76	20.13	13146.1	5.16	23.81
10076.09	10096.20	1.83	87.06	20.13	9812.6	4.33	21.18
10096.20	10116.31	1.36	72.82	20.12	7286.4	3.62	18.81
10116.31	10136.43	1.33	71.89	20.11	7135.7	3.57	18.65
10136.43	10156.54	1.50	77.31	20.14	8047.5	3.84	19.56
10156.54	10176.65	2.08	94.00	20.13	11148.9	4.67	22.29
10176.65	10196.76	3.06	118.66	20.19	16405.9	5.90	25.98
10196.76	10216.87	4.10	141.41	20.23	21951.2	7.03	29.17
10216.87	10236.98	2.80	112.30	20.15	14985.7	5.58	25.08
10236.98	10257.09	1.83	86.98	20.15	9789.0	4.32	21.15
10257.09	10277.21	1.06	62.55	20.15	5651.7	3.11	16.98
10277.21	10297.32	0.44	36.81	20.16	2334.5	1.83	11.92
10297.32	10317.43	0.05	8.51	15.20	245.4	0.56	5.42

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.37
Description: 19.37

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9473.71	1588	9506.54	1584	9516.44	1583.18	9526.83	1582	9546.05	1580.51
9561.62	1578.68	9569.53	1578	9588.36	1576	9599.3	1576	9614.55	1576.51
9615.92	1576.44	9632.32	1577.06	9650.84	1578	9663.93	1578.5	9688.79	1578.27
9713.63	1578.59	9728.31	1578	9758.8	1576	9780.93	1574	9797.55	1574
9817.7	1576	9840.24	1577.49	9853.03	1577.7	9860.5	1578	9895.23	1578
9921.6	1576	9943.79	1574.83	9956.18	1574	9969.36	1572	9981.56	1570
9988.65	157	10009.74	157	10024.43	1573.59	10054.63	157	10071.46	1576.19
10100.59	1576.79	10133.21	1576.67	10154.58	1576.74	10191.51	157	10206.22	1575.49
10236.67	1574.08	10246.06	1574.32	10291.73	1576.08	10316.26	1576.71	10356.52	1576.47
10371.26	157	10384.78	157	10399.67	157	10408.96	157	10419.96	1574
10445.46	157	10476.91	157	10517.88	1581.15	10530.24	1581.81	10534.92	1582
10569.82	1582.98	10584.47	158	10603.93	158	10620.52	1588.1		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9473.71	.035	9956.18	.035	10054.63	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9956.18	10054.63	383.6	383.6	383.6	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.37 Profile # 1

W.S. Elev (ft)	1581.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	7.44	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1588.51	Reach Len. (ft)	383.60	383.60	383.60
E.G. Slope (ft/ft)	0.026751	Flow Area (sq ft)	1690.93	831.15	2313.88
Q Total (cfs)	100600.00	Flow (cfs)	29803.40	23833.79	46962.80
Top Width (ft)	978.01	Top Width (ft)	417.35	98.45	462.21
Vel Total (ft/s)	20.80	Avg. Vel. (ft/s)	17.63	28.68	20.30
Max Chl Dpth (ft)	11.07	Hydr. Depth (ft)	4.05	8.44	5.01
Crit W.S. (ft)	1583.34	Wetted Per. (ft)	418.13	99.04	463.04
Conv. Total (cfs)	615071.6	Conv. (cfs)	182219.0	145720.5	287132.1

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.37 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9538.04	9570.20	0.42	48.68	31.54	2759.9	1.55	8.69
9570.20	9602.37	2.57	145.41	32.27	16842.3	4.52	17.75
9602.37	9634.53	2.53	143.93	32.19	16584.2	4.47	17.66
9634.53	9666.70	1.40	100.88	32.20	9170.1	3.14	13.93
9666.70	9698.86	1.10	87.15	32.17	7190.8	2.71	12.65
9698.86	9731.03	1.10	87.35	32.18	7216.0	2.72	12.66
9731.03	9763.19	2.37	138.65	32.24	15565.8	4.31	17.21
9763.19	9795.36	4.86	213.19	32.24	31888.5	6.63	22.93
9795.36	9827.52	3.81	184.43	32.29	25020.8	5.73	20.80
9827.52	9859.69	1.79	116.87	32.20	11718.0	3.63	15.37
9859.69	9891.85	1.35	98.76	32.17	8857.6	3.07	13.75
9891.85	9924.01	2.13	130.10	32.24	13998.8	4.04	16.49
9924.01	9956.18	4.21	195.54	32.22	27621.7	6.08	21.65
9956.18	9962.74	1.28	49.67	6.64	8067.5	7.57	25.93
9962.74	9969.31	1.57	56.21	6.64	9913.4	8.56	28.15
9969.31	9975.87	1.90	63.00	6.65	11975.4	9.60	30.34
9975.87	9982.43	2.27	69.99	6.64	14288.4	10.67	32.59
9982.43	9989.00	2.43	72.65	6.57	15317.4	11.07	33.66
9989.00	9995.56	2.30	70.40	6.59	14493.1	10.73	32.86
9995.56	10002.12	2.08	66.31	6.59	13118.8	10.10	31.58

10002.12	10008.69	1.87	62.23	6.59	11799.8	9.48	30.27
10008.69	10015.25	1.66	57.94	6.60	10467.9	8.83	28.84
10015.25	10021.81	1.44	53.29	6.60	9102.7	8.12	27.27
10021.81	10028.38	1.25	48.84	6.59	7882.0	7.44	25.76
10028.38	10034.94	1.10	45.30	6.58	6958.3	6.90	24.52
10034.94	10041.50	0.97	41.87	6.58	6101.8	6.38	23.26
10041.50	10048.07	0.84	38.43	6.58	5289.9	5.86	21.97
10048.07	10054.63	0.72	35.00	6.58	4525.0	5.33	20.64
10054.63	10092.36	3.39	181.21	37.73	21898.8	4.80	18.81
10092.36	10130.08	2.86	163.77	37.73	18501.3	4.34	17.58
10130.08	10167.81	2.93	166.06	37.73	18933.8	4.40	17.74
10167.81	10205.53	3.64	189.06	37.74	23498.9	5.01	19.34
10205.53	10243.26	5.43	240.71	37.76	35133.2	6.38	22.71
10243.26	10280.99	5.08	231.25	37.75	32867.1	6.13	22.12
10280.99	10318.71	3.39	181.38	37.74	21928.7	4.81	18.81
10318.71	10356.44	3.03	169.46	37.73	19585.7	4.49	17.99
10356.44	10394.16	4.87	225.98	37.97	31509.3	5.99	21.70
10394.16	10431.89	7.80	299.70	37.99	50420.1	7.94	26.18
10431.89	10469.62	3.34	179.94	37.82	21611.7	4.77	18.69
10469.62	10507.34	0.90	81.91	37.83	5820.3	2.17	11.06
10507.34	10545.07	0.01	3.47	9.53	75.1	0.37	3.37

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.29
Description: 19.29

Station Elevation Data, num = 62

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9535.53	1576.71	9565.5	1576	9608.28	1574.71	9626.57	1574	9644.46	1573.4
9666.5	1573.17	9673.04	1573	9702.04	1572	9735.08	1572	9752	1570
9770.44	1568	9791.57	1568	9798.17	1568.93	9808.86	1570	9857.31	1570
9873.26	1567.96	9889.29	1566	9894.06	1566.25	9909.54	1568.03	9940.35	1570
9964.44	1570	9972.99	1569	9979.08	1568	9992.61	1566	10049.68	1566
10072.87	1568	10081.33	1568	10101.39	1568.61	10141.94	1569.11	10160.11	1569.28
10197.78	1569.31	10204.38	1569.41	10211.46	1569.24	10245.53	1569.81	10254.73	1570
10320.91	1570	10342.69	1568	10351.62	1568.24	10371.13	1569.47	10383.4	1570
10421.64	1570	10456.56	1570.9	10480	1571.01	10533.5	1570.14	10541.43	1570
10608.66	1570	10627.81	1569.91	10641.49	1569.55	10661.34	1568	10677.4	1566
10685.23	1566	10708.33	1565.71	10728.37	1566.95	10738.63	1568	10756.03	1569.35
10763.42	1570	10784.98	1570.71	10801.92	1571.16	10825.6	1572	10866.05	1574
10875.39	1574.62	10917.36	1577.7						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9535.53	.035	9964.44	.035	10072.87	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964.44	10072.87	473.7	473.7	473.7	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.29 Profile # 1

W.S. Elev (ft)	1574.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	4.73	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1579.06	Reach Len. (ft)	473.70	473.70	473.70
E.G. Slope (ft/ft)	0.019159	Flow Area (sq ft)	1384.43	821.34	3742.10
Q Total (cfs)	100600.00	Flow (cfs)	20458.39	18573.80	61567.81
Top Width (ft)	1252.95	Top Width (ft)	346.37	108.43	798.15
Vel Total (ft/s)	16.91	Avg. Vel. (ft/s)	14.78	22.61	16.45
Max Chl Dpth (ft)	8.63	Hydr. Depth (ft)	4.00	7.57	4.69
Crit W.S. (ft)	1575.61	Wetted Per. (ft)	347.17	108.80	798.80
Conv. Total (cfs)	726787.4	Conv. (cfs)	147802.2	134186.9	444798.3

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.29 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9592.72	9621.31	0.00	0.20	3.24	1.4	0.06	0.81
9621.31	9649.91	0.07	17.69	28.61	545.0	0.62	3.71
9649.91	9678.50	0.19	33.73	28.60	1598.4	1.18	5.70
9678.50	9707.09	0.46	57.07	28.61	3839.5	2.00	8.09
9707.09	9735.69	0.59	66.64	28.60	4973.2	2.33	8.98
9735.69	9764.28	1.50	116.27	28.78	12520.6	4.07	12.95
9764.28	9792.88	3.08	178.82	28.64	25740.3	6.25	17.31
9792.88	9821.47	1.98	137.17	28.70	16523.8	4.80	14.49
9821.47	9850.06	1.67	123.81	28.59	13963.8	4.33	13.57
9850.06	9878.66	2.36	152.87	28.76	19765.9	5.35	15.55
9878.66	9907.25	4.25	217.37	28.77	35537.1	7.60	19.66
9907.25	9935.85	2.51	158.32	28.66	21002.7	5.54	15.96
9935.85	9964.44	1.68	124.46	28.60	14082.9	4.35	13.61
9964.44	9971.67	0.56	34.35	7.28	4104.3	4.75	16.34
9971.67	9978.90	0.76	41.29	7.32	5556.5	5.71	18.40
9978.90	9986.13	1.02	49.42	7.31	7503.9	6.84	20.76
9986.13	9993.36	1.30	57.11	7.30	9556.1	7.90	22.88
9993.36	10000.58	1.43	60.21	7.23	10504.6	8.33	23.86
10000.58	10007.81	1.43	60.21	7.23	10504.6	8.33	23.86
10007.81	10015.04	1.43	60.21	7.23	10504.6	8.33	23.86
10015.04	10022.27	1.43	60.21	7.23	10504.6	8.33	23.86
10022.27	10029.50	1.43	60.21	7.23	10504.6	8.33	23.86
10029.50	10036.73	1.43	60.21	7.23	10504.6	8.33	23.86
10036.73	10043.96	1.43	60.21	7.23	10504.6	8.33	23.86
10043.96	10051.18	1.42	60.12	7.24	10472.3	8.32	23.82
10051.18	10058.41	1.30	57.02	7.26	9569.6	7.89	22.95
10058.41	10065.64	1.13	52.52	7.26	8342.6	7.27	21.72
10065.64	10072.87	0.98	48.01	7.26	7184.0	6.64	20.46
10072.87	10129.17	5.93	328.84	56.31	45272.4	5.84	18.14
10129.17	10185.47	4.78	288.79	56.30	36466.1	5.13	16.63
10185.47	10241.77	4.45	276.75	56.31	33965.5	4.92	16.17
10241.77	10298.07	3.64	245.48	56.30	27814.4	4.36	14.93
10298.07	10354.37	4.72	286.94	56.40	36035.2	5.10	16.54
10354.37	10410.67	4.13	264.77	56.34	31535.4	4.70	15.69
10410.67	10466.97	3.00	218.44	56.31	22895.7	3.88	13.81
10466.97	10523.26	2.64	202.53	56.30	20185.1	3.60	13.13
10523.26	10579.56	3.53	240.94	56.30	26961.5	4.28	14.74
10579.56	10635.86	3.66	246.36	56.30	27981.7	4.38	14.96
10635.86	10692.16	7.45	377.76	56.49	56928.3	6.71	19.85
10692.16	10748.46	9.15	427.06	56.42	69894.6	7.59	21.56
10748.46	10804.76	3.18	226.58	56.37	24318.0	4.02	14.14
10804.76	10861.06	0.92	107.79	56.36	7051.1	1.91	8.62
10861.06	10917.36	0.01	3.08	9.98	59.8	0.31	2.56

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.20
Description: 19.20

Station Elevation Data, num = 112

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9306.78	1571.3	9327.81	1570.63	9353.47	1569.7	9363.92	1569.3	9417.52	1568
9495.9	1568	9506.04	1567.52	9520.6	1567.53	9558.31	1566.24	9564.21	1566
9591.99	1566	9594.07	1566.55	9602.17	1568	9648.05	1569.5	9657.45	1569.64
9669.24	1569.9	9688.62	1570	9696.24	1569.56	9716.17	1567.51	9757.67	1565.73

```
 9783.34  1564.3 9798.17 1563.93 9841.19 1563.31  9847.5 1563.12 9864.24 1562.85
 9871.16  1562.7 9892.64 1563.02 9905.19 1562.59 9907.22  1562.6 9915.39    1562
 9952.88    1562 9957.91 1561.44  9995.7 1561.1810001.74 1561.3410012.72    1562
10083.83    156210106.82    156210198.45    156210200.75 1561.8810220.08  1561.5
   10229  1561.510271.36    156210275.31 1561.9810287.07    156010289.61 1560.87
10319.27    156010327.53    156010358.83  1562.610368.23 1562.99 10400.8 1563.06
10406.35    156310416.05 1562.8410431.13 1562.7510447.15 1562.7910459.69 1562.63
10476.88  1562.610513.22    156210547.84    156210561.48 1560.2210564.39    1560
10572.39    156010586.03 1559.54 10608.6 1560.8110627.85    156210641.72    1562
10651.26  1561.810677.35 1560.9410701.26 1560.1810704.28    156010719.86 1558.35
10726.62  1558.110746.51    156010767.27 1561.2610781.62    156210789.73    1562
10823.93    156410847.95    156410884.97    156210908.41    156210931.22 1561.54
10943.17  1561.510960.72    156110993.16 1562.0311019.57 1564.01 11078.4 1564.38
11086.63  1564.111091.02    156411106.88 1563.1111123.99    156211138.41 1560.99
11145.55  1561.111179.14    156211188.31 1562.1711205.33 1562.6311223.67 1562.82
11251.96  1563.3 11273.3 1562.8111301.64 1561.9411307.21    156211327.67    1562
11349.76  1562.511381.41    156311397.02 1562.8711412.23    156211430.11    1562
11441.38  1561.611462.86    156211483.07 1562.5411511.78    156411538.57 1566.02
11582.05    157011605.43    1572

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9306.78    .035 9864.24    .03510012.72    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9864.2410012.72             832.7   832.7   832.7             .1       .3

CROSS SECTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.20     Profile # 1

  W.S. Elev (ft)       1566.05   Element              Left OB    Channel   Right OB
  Vel Head (ft)           3.40   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1569.45   Reach Len. (ft)       832.70     832.70     832.70
  E.G. Slope (ft/ft)  0.019747   Flow Area (sq ft)     231.62     599.33    6009.59
  Q Total (cfs)      100600.00   Flow (cfs)           2193.96    9060.93   89345.11
  Top Width (ft)       1817.89   Top Width (ft)        143.23     148.48    1526.18
  Vel Total (ft/s)       14.71   Avg. Vel. (ft/s)        9.47      15.12      14.87
  Max Chl Dpth (ft)       7.95   Hydr. Depth (ft)        1.62       4.04       3.94
  Crit W.S. (ft)       1566.90   Wetted Per. (ft)      143.30     148.57    1527.64
  Conv. Total (cfs)   715892.1   Conv. (cfs)          15612.7    64479.6   635799.8


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.20     Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9529.76      9566.93        0.00       0.17      3.95        0.9       0.04       0.66
  9566.93      9604.09        0.00       1.26     25.26        7.2       0.05       0.74
  9604.09      9715.58
  9715.58      9752.75        0.00       0.14      2.54        0.8       0.05       0.79
  9752.75      9789.91        0.23      39.67     37.21     1757.3       1.07       5.71
  9789.91      9827.08        0.79      83.96     37.17     6136.3       2.26       9.42
  9827.08      9864.24        1.17     106.44     37.17     9111.8       2.86      11.04
  9864.24      9874.14        0.42      32.58      9.90     3059.5       3.29      13.04
  9874.14      9884.04        0.41      31.99      9.90     2968.7       3.23      12.88
  9884.04      9893.94        0.38      30.58      9.90     2752.7       3.09      12.50
  9893.94      9903.83        0.41      32.11      9.90     2986.4       3.24      12.91
  9903.83      9913.73        0.49      35.70      9.92     3560.2       3.61      13.84
  9913.73      9923.63        0.59      39.99      9.90     4305.0       4.04      14.95
  9923.63      9933.53        0.60      40.09      9.90     4324.4       4.05      14.98
  9933.53      9943.43        0.60      40.09      9.90     4324.8       4.05      14.98
  9943.43      9953.33        0.60      40.10      9.90     4325.6       4.05      14.98
  9953.33      9963.23        0.71      44.56      9.93     5148.2       4.50      16.04
  9963.23      9973.13        0.76      46.33      9.90     5504.0       4.68      16.49
```

9973.13	9983.02	0.78	47.01	9.90	5638.0	4.75	16.65
9983.02	9992.92	0.80	47.68	9.90	5774.0	4.82	16.81
9992.92	10002.82	0.79	47.49	9.90	5733.3	4.80	16.76
10002.82	10012.72	0.67	43.03	9.92	4860.9	4.35	15.68
10012.72	10118.90	6.30	430.04	106.18	46388.1	4.05	14.73
10118.90	10225.08	6.51	438.67	106.19	47948.0	4.13	14.92
10225.08	10331.26	8.85	528.30	106.52	65229.6	4.98	16.86
10331.26	10437.44	4.96	372.79	106.29	36536.1	3.51	13.38
10437.44	10543.62	5.40	392.11	106.19	39770.2	3.69	13.85
10543.62	10649.80	9.40	547.42	106.39	69268.6	5.16	17.28
10649.80	10755.98	11.92	631.37	106.41	87850.4	5.95	19.00
10755.98	10862.17	4.30	342.35	106.30	31697.4	3.22	12.64
10862.17	10968.35	6.71	446.84	106.23	49432.1	4.21	15.10
10968.35	11074.53	3.30	292.17	106.27	24343.5	2.75	11.38
11074.53	11180.71	5.31	388.47	106.30	39129.5	3.66	13.75
11180.71	11286.89	4.43	348.50	106.21	32671.6	3.28	12.80
11286.89	11393.07	5.29	387.40	106.20	38974.1	3.65	13.73
11393.07	11499.25	5.71	405.62	106.24	42064.7	3.82	14.16
11499.25	11605.43	0.42	57.55	39.74	3127.2	1.45	7.42

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.05
Description: 19.05

Station Elevation Data, num = 146

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8728.41	1559.9	8749.09	1557.42	8761.93	1556	8767.62	1556	8776.15	1554.76
8785.52	1552	8797.1	1552	8805.89	1554.59	8811.79	1556.66	8817.37	1557.83
8820.8	1558	8833.88	1557.2	8860.47	1556.26	8867.27	1555.98	8883.93	1555.31
8913.02	1554	8919.39	1553.65	8927.21	1553.53	8970.3	1552	8985.9	1552
8994.37	1554	9013.96	1554	9022.4	1552	9071.95	1552	9090.2	1552.26
9110.6	1552.5	9120.8	1552	9146.41	1552	9151.49	1554	9160.57	1556.3
9170.47	1556.9	9188.8	1555.09	9197.23	1554	9205.66	1552.74	9211.73	1552
9398.68	1552	9443.85	1551.28	9498.04	1550.38	9536.11	1550	9581.95	1550
9604.53	1549.7	9640.2	1549.68	9663.15	1549.61	9672.43	1549.63	9705.54	1549.44
9792.06	1549.3	9805.85	1549.27	9858.05	1549.44	9894.44	1549.59	9912.55	1549.5
9986.45	1549.4	10019.79	1549.49	10040.4	1549.49	10078.34	1549.65	10098.92	1549.63
10174.83	155	10189.62	1549.99	10296.31	1549.95	10328.79	155	10367.95	1550
10376.28	1550.3	10407.05	1550.35	10416.84	1550.32	10439.1	1550.55	10476.74	1551.44
10487.45	1551.6	10502.39	1551.88	10513	1551.85	10555.67	1551.57	10580.4	1551.7
10584.84	1551.6	10647.1	1551.39	10671.5	1551.49	10691.82	1551.37	10725.7	1550.83
10754.58	155	10770.09	155	10775.56	1551.21	10798.95	1550.84	10850.57	1551.5
10876.42	155	10925.78	1553.22	10944.57	1553.57	10959.24	1553.71	10971.78	1554
11032.72	1554	11072.6	1552.37	11084.75	155	11108.18	155	11121.81	1550.07
11162.9	155	11237.64	155	11264.95	1550.19	11269.7	1549.79	11292.29	1548.92
11317.38	1549.2	11335.53	155	11344.13	155	11366.49	155	11439.85	1552
11455.32	1550.6	11458.92	1550.41	11470.46	1550.44	11494.63	155	11521.18	1553.67
11531.09	155	11583.46	1553.99	11613.88	1552.99	11635.91	155	11655.39	1550.46
11663.31	1550.7	11675.95	155	11688.64	1552.81	11699.8	1553.14	11715.2	1553.16
11736.87	1552.8	11753.08	155	11776.74	155	11793.82	1550.73	11802.78	1550
11838.79	1550	11849.2	1550.43	11874.59	1551.79	11877.64	155	11917.89	1553.93
11938.49	1553.8	11945.38	1553.67	11979.18	1552.69	11995.04	1552.53	12013.16	1552.76
12018.28	1552.9	12031.85	155	12057.42	1553.72	12069.3	1553.85	12079.16	1553.72
12094.59	155	12102.52	155	12117.05	1550.35	12125.38	155	12155.55	1550
12189.86	1552.1	12212.3	155	12233.64	155	12253.17	155	12295.61	1560
12321.78	1561.4								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8728.41	.035	9581.95	.035	10174.83	.035

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

9581.9510174.83 410 477.6 477.6 .1 .3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8728.41	8920	1560

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.05 Profile # 1

W.S. Elev (ft)	1557.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1557.84	Reach Len. (ft)	410.00	477.60	477.60
E.G. Slope (ft/ft)	0.001249	Flow Area (sq ft)	3536.64	4680.53	11818.10
Q Total (cfs)	100600.00	Flow (cfs)	13656.18	37977.45	48966.37
Top Width (ft)	3484.11	Top Width (ft)	818.42	592.88	2072.82
Vel Total (ft/s)	5.02	Avg. Vel. (ft/s)	4.58	5.95	4.79
Max Chl Dpth (ft)	8.51	Hydr. Depth (ft)	5.34	7.89	5.70
Crit W.S. (ft)	1554.59	Wetted Per. (ft)	663.46	592.88	2074.49
Conv. Total (cfs)	2846434.0	Conv. (cfs)	458181.2	787841.3	1600411.0

Warning - Divided flow computed for this cross-section.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.05 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8899.12	8956.02	0.22	42.90	36.04	2045.3	1.19	5.09
8956.02	9012.92	0.48	82.98	57.15	4517.6	1.46	5.81
9012.92	9069.83	0.91	121.66	57.14	8549.2	2.14	7.50
9069.83	9126.73	0.88	119.50	56.92	8318.7	2.10	7.43
9126.73	9183.63	0.38	52.64	26.46	3535.9	2.02	7.17
9183.63	9240.53	0.60	87.20	45.96	5673.5	1.90	6.95
9240.53	9297.44	1.04	132.18	56.90	9842.4	2.32	7.95
9297.44	9354.34	1.04	132.18	56.90	9842.6	2.32	7.95
9354.34	9411.24	1.06	133.43	56.90	9998.8	2.34	8.00
9411.24	9468.14	1.58	169.57	56.91	14907.0	2.98	9.38
9468.14	9525.05	2.45	220.58	56.91	23107.3	3.88	11.18
9525.05	9581.95	2.93	245.37	56.90	27597.9	4.31	12.01
9581.95	9621.48	2.30	179.41	39.53	20881.4	4.54	12.92
9621.48	9661.00	2.41	184.07	39.53	21793.1	4.66	13.15
9661.00	9700.53	2.49	187.88	39.53	22550.0	4.75	13.33
9700.53	9740.05	2.62	193.89	39.53	23764.9	4.91	13.61
9740.05	9779.58	2.68	196.47	39.53	24294.0	4.97	13.73
9779.58	9819.10	2.73	198.72	39.53	24760.3	5.03	13.84
9819.10	9858.63	2.66	195.47	39.53	24088.2	4.95	13.68
9858.63	9898.15	2.53	189.74	39.52	22923.9	4.80	13.42
9898.15	9937.68	2.55	190.54	39.53	23083.9	4.82	13.45
9937.68	9977.20	2.60	193.03	39.53	23588.7	4.88	13.57
9977.20	10016.73	2.61	193.28	39.53	23641.1	4.89	13.58
10016.73	10056.25	2.55	190.50	39.53	23077.2	4.82	13.45
10056.25	10095.78	2.44	185.87	39.53	22149.7	4.70	13.23
10095.78	10135.30	2.37	182.26	39.53	21436.0	4.61	13.06
10135.30	10174.83	2.20	174.67	39.53	19969.7	4.42	12.70
10174.83	10317.96	7.17	622.73	143.13	70460.2	4.35	11.58
10317.96	10461.09	6.31	576.80	143.14	62009.0	4.03	11.00
10461.09	10604.22	3.23	385.93	143.14	31740.1	2.70	8.42
10604.22	10747.35	4.07	443.34	143.14	39991.4	3.10	9.23
10747.35	10890.48	4.24	454.50	143.28	41657.6	3.18	9.38
10890.48	11033.61	0.38	107.63	143.15	3778.4	0.75	3.59
11033.61	11176.74	3.07	374.60	143.30	30179.3	2.62	8.25
11176.74	11319.87	5.09	507.09	143.23	50008.9	3.54	10.09
11319.87	11463.00	3.89	431.49	143.30	38197.5	3.01	9.06
11463.00	11606.13	0.92	181.56	143.25	9027.5	1.27	5.09
11606.13	11749.26	1.96	286.28	143.34	19275.3	2.00	6.89
11749.26	11892.39	4.42	465.91	143.28	43414.9	3.26	9.54
11892.39	12035.52	0.79	166.23	143.18	7795.3	1.16	4.80
12035.52	12178.65	2.81	355.20	143.36	27612.0	2.48	7.96
12178.65	12321.78	0.34	57.88	37.21	3299.2	1.56	5.83

Warning - Divided flow computed for this cross-section.
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 INPUT Reach: SPILLWAY River Station: 18.96
Description: 18.96

Station Elevation Data, num = 239

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8136.62	1553.1	8143.98	1554	8147.15	1554.78	8153.97	1556	8156.79	1557.1
8164.48	1558	8169.66	1559.4	8170.73	1559.47	8177.45	1558	8179.34	1557.82
8185.27	1556	8190.35	1554.67	8198.78	1552.83	8201.73	1552	8207.53	1551.61
8243.33	1550	8246.96	1550	8260.51	1549.23	8280.31	1548	8304.56	1546.43
8314.41	1546	8342.26	1544.53	8349.43	1544.36	8350.69	1544	8363.14	1544
8373.68	1543.1	8377.48	1542.88	8387.48	1542	8406.62	1542	8421.34	1541.17
8439.04	1540	8468.98	1540	8474.4	1542	8484.7	1543.38	8507.71	1543.52
8525.53	1543.5	8552.33	1543.31	8568.17	1543.16	8624.18	1542.76	8631.96	1542.61
8647.17	1542	8674.08	1541.25	8677.96	1540.93	8695.41	1540	8734.23	1540
8746.21	1544	8753.47	1546.03	8784.73	1548	8786.45	1549.46	8794.16	1552.11
8799.92	1555	8803.03	1556	8805.24	1555.53	8811.78	1553.71	8818.94	1552
8823.58	1551.3	8833.15	1551.54	8837.74	1551.68	8923.74	1550	8930.28	1550.13
8949.93	1550	9064.98	1550	9069.83	1552	9072.55	1553.63	9079.42	1555.12
9086.08	1555.1	9095.02	1553.76	9101.81	1552	9108.59	1550	9136.72	1550
9154.82	1549.6	9245.18	1549.94	9260.94	1550	9299.78	1550	9409.35	1550
9410.53	1550.5	9420.36	1552	9477.21	1552	9489.49	1554	9504.12	1554.97
9516.08	1556	9548.49	1556	9560.65	1555.49	9583.48	1554.84	9590.79	1554
9601.28	1554	9605.42	1551.9	9613.86	1552	9618.9	1554	9631.22	1558
9637.79	1559.4	9641.6	1560.38	9646.11	1562	9658.31	1565.36	9674	1568.59
9688.85	1572	9703.67	1576	9717.26	1580.35	9722.36	1580.99	9724.03	1582
9726.11	1582	9730.36	1579.83	9733.46	1577.79	9737.31	1576	9741.75	1572
9748.3	1568.9	9755.94	1564	9760.14	1561.85	9762.13	1560	9764.9	1556
9765.41	1556.8	9768.45	1556.14	9772.38	1553.03	9775.4	1550	9781.77	1548
9786.95	1546.8	9790.2	1545.66	9799.81	1544.09	9804.13	1543.95	9850.91	1544
9862.94	1543.1	9873.99	1542	9942.47	1542	9970.16	1542.67	9977.87	1543.01
10002.54	154	10010.05	154	10019.66	1548.2	10026.51	1550.14	10034.49	1552.26
10041.75	1554.4	10050.58	155	10068.99	1558	10180.6	155	10185.91	1558.71
10193.21	156	10197.43	156	10199.66	1560.25	10222.05	1558.77	10237.26	1557.56
10245.21	1557.3	10280.39	1557.63	10291.33	1557.59	10299.64	1557.41	10305.86	1557.09
10319.86	155	10330.72	1554.99	10342.92	155	10351.18	1553.19	10364.97	1551.52
10375.92	1550.5	10391.37	1549.59	10400.77	1549.46	10409.41	1549.06	10422.91	1547.36
10429.94	1546.9	10432.15	1546.49	10439.77	154	10442.08	1545.45	10450.06	1544
10462.18	1543.9	10472.17	1543.77	10555.43	1543.66	10587.63	1543.85	10639.13	1544.11
10693.57	1544.3	10743.38	1544.58	10798.92	1544.54	10872.16	1544.8	10884.69	1544.82
10914.1	1544.9	10942.73	1544.84	10973.99	1544.91	11000.35	1544.91	11065.59	1545.14
11104.88	1545.3	11129.61	1545.59	11160.04	154	11205.45	154	11257.69	1545.35
11315.94	1545.4	11352.31	1546.08	11420.43	1546.44	11453.01	1546	11469.5	1546
11486.03	1545.7	11586.46	1545.82	11597.75	154	11679.29	154	11710.93	1545.23
11740.73	1544.5	11757.86	1544.18	11774.25	1545.43	11781.88	1545.93	11790.79	1545.99
11820.83	1545.8	11830.71	1545.67	11837.29	1545.47	11863.75	1544.96	11876.18	1546
11890.89	154	11937.26	154	11978.62	154	11990.07	1548.11	12016.17	1548.51
12053.27	154	12074.24	1547.95	12077.3	154	12100.31	1548	12105.8	1547.63
12133.92	1546	12144.1	1545.54	12174.99	154	12222.42	154	12256.64	1545.84
12265.45	1545.7	12302.02	154	12364.36	1544	12370.3	1544.31	12408.18	1546
12432.27	154	12453.04	1547.46	12466.62	1547.59	12482.77	1547.58	12505.14	1547.55
12522.17	1547.4	12536.45	1547.14	12578.48	1546.11	12584.31	154	12655.79	1546
12661.52	1546.4	12675.9	154	12690.06	155	12694.99	1550.12	12752.26	1552.03
12804.49	155	12864.28	1556	12907.7	155	12968.89	1560.09		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8136.62	.035	8949.93	.035	10026.51	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8949.93	10026.51		0	0	0 .1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev

8136.62 8981 1585

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 18.96 Profile # 1

W.S. Elev (ft)	1557.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1557.56	Reach Len. (ft)	237.90	237.90	237.90
E.G. Slope (ft/ft)	0.000197	Flow Area (sq ft)		7347.99	28427.05
Q Total (cfs)	100600.00	Flow (cfs)		17503.26	83096.74
Top Width (ft)	4388.15	Top Width (ft)	792.41	942.17	2653.57
Vel Total (ft/s)	2.81	Avg. Vel. (ft/s)		2.38	2.92
Max Chl Dpth (ft)	17.44	Hydr. Depth (ft)		8.06	10.71
Crit W.S. (ft)		Wetted Per. (ft)		919.95	2656.02
Conv. Total (cfs)	7164381.0	Conv. (cfs)		1246521.0	5917860.0

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 18.96 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8949.93	9021.70	0.61	302.78	40.70	48983.9	7.44	2.02
9021.70	9093.47	0.72	423.69	72.86	58167.3	5.90	1.71
9093.47	9165.25	0.98	509.16	72.31	79414.6	7.09	1.94
9165.25	9237.02	1.12	550.10	71.77	90788.9	7.66	2.06
9237.02	9308.79	1.07	534.99	71.77	86669.9	7.45	2.02
9308.79	9380.56	1.07	533.90	71.77	86375.0	7.44	2.02
9380.56	9452.33	0.83	457.37	71.99	66610.2	6.37	1.82
9452.33	9524.11	0.34	267.94	72.01	27314.1	3.73	1.27
9524.11	9595.88	0.12	147.16	71.84	10076.8	2.05	0.85
9595.88	9667.65	0.15	124.07	35.04	12236.2	3.69	1.23
9667.65	9739.42						
9739.42	9811.19	1.00	449.44	51.66	80713.8	9.50	2.24
9811.19	9882.97	3.07	1004.77	71.86	247577.0	14.00	3.07
9882.97	9954.74	3.60	1106.25	71.78	290869.8	15.41	3.28
9954.74	10026.51	2.71	936.37	72.58	218664.3	13.05	2.91
10026.51	10222.67	0.13	108.92	38.12	9310.1	2.92	1.16
10222.67	10418.83	0.88	588.09	140.00	64999.7	4.21	1.50
10418.83	10614.99	8.35	2602.62	196.46	618634.6	13.27	3.23
10614.99	10811.14	8.15	2563.92	196.16	603986.3	13.07	3.20
10811.14	11007.30	7.69	2475.83	196.16	569799.9	12.62	3.12
11007.30	11203.46	7.05	2350.56	196.16	522554.3	11.98	3.02
11203.46	11399.62	6.79	2296.97	196.17	502841.6	11.71	2.97
11399.62	11595.78	6.59	2256.23	196.17	488071.0	11.50	2.94
11595.78	11791.94	7.00	2340.69	196.24	518764.5	11.93	3.01
11791.94	11988.10	5.99	2131.18	196.26	443689.2	10.86	2.83
11988.10	12184.25	5.51	2028.23	196.27	408521.3	10.34	2.73
12184.25	12380.41	8.08	2551.66	196.27	598960.8	13.01	3.19
12380.41	12576.57	5.82	2095.27	196.25	431304.8	10.68	2.79
12576.57	12772.73	4.27	1740.37	196.45	316343.0	8.87	2.47
12772.73	12968.89	0.31	296.53	122.88	22649.4	2.41	1.04

Warning - The energy equation could not be balanced within the specified number

of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.91
Description: 18.91

Station Elevation Data, num = 155

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8149.34	1549.73	8171.29	1548	8178.79	1546.79	8185.19	1546	8190.56	1545
8201.69	1543.3	8208.31	1542	8220.55	1540	8228.35	1538.49	8231.64	1538
8244.84	1536.54	8248.38	1536	8260.58	1535.53	8295.83	1534	8316.32	1534
8368.62	1535.74	8379.16	1536	8407.92	1536	8425.55	1534	8440.05	1532
8458.16	1530	8518.4	1526.9	8534.55	1526	8538.93	1526.04	8630.11	1530
8638.25	1532	8650.68	1532	8658.37	1530	8662.19	1526	8755.91	1526
8776.07	1527.14	8789.13	1527.7	8799.94	1527.87	8804.87	1527.58	8821.89	1526
8833.46	1526	8836.63	1527.3	8838.3	1527.35	8846.96	1528.83	8852.34	1529.3
8857.6	1529	8872.69	1527.97	8877.68	1528.17	8947.11	1528.15	8965.37	1528
8998.32	1528.64	9047.47	1529.29	9060.63	1529.47	9064.54	1530.39	9072.72	1532
9084.78	1534	9087.93	1534.62	9098.52	1536	9116.98	1537.46	9124.96	1538
9131.51	1538.76	9137.12	1540	9144.15	1541.13	9156.79	1542.05	9165.2	1542.2
9173.88	1542.29	9213.23	1541.92	9231.46	1541.8	9261.03	1541.71	9272.06	1541.6
9306.83	1541.57	9314.62	1541.43	9331.59	1541.35	9351.25	1540.91	9367.09	1540
9371.2	1539.6	9376.52	1540	9380.96	1542.63	9386.19	1545.05	9389.36	1546
9395.86	1546	9397.74	1546.49	9406.45	1544.7	9413.15	1542	9441.97	1541.1
9461.89	1540.83	9472.02	1540.57	9480.77	1540	9491.01	1539.05	9503.77	1538.5
9518.08	1538.21	9520.83	1538	9532.06	1538	9543.27	1536.69	9552.71	1536
9560.3	1533.36	9566.04	1532	9569.34	1531.57	9586.74	1528.49	9593.63	1527.5
9603.66	1526.48	9619.94	1525.33	9639.9	1524.25	9653.69	1523.79	9672.44	1523.5
9682.58	1523.5	9719.68	1524.21	9732.57	1524.75	9737.02	1525.05	9750.63	1526.5
9761.29	1528	9766.83	1528.63	9776.88	1530	9795.02	1531.75	9812.73	1534
9836.54	1535.82	9840.48	1536.18	9848.92	1536.52	9861.95	1536.04	9871.88	1537.1
9877.06	1538	9878.91	1538.64	9888.17	1540.08	9899.78	1541.02	9915.21	1542
9948.94	1542.43	9966.85	1542	9977.05	1541.44	10016.62	1540	10129.89	1540
10135.11	1540.42	10144.37	1539.67	10153.64	1538.63	10161.12	1538	10172.24	1538
10177.54	1540	10181.88	1542	10184.41	1543.51	10186.15	1543.96	10191.72	1542
10197.78	1540.62	10205.53	1540.34	10212.51	1540.22	10223.59	1540.37	10272.85	1540.8
10301.09	1540.81	10328.18	1540.77	10352.37	1540.82	10378.09	1540.93	10403.9	1541
10469.08	1540.93	10509.93	1540.77	10536.15	1540.74	10571.7	1540.91	10631.63	1541
10665.63	1541.33	10678.91	1541.28	10719.3	1541.91	0722.38	1542	10757.15	1542

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8149.34	.035	8965.37	.035	10186.15	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8965.37	10186.15	1015	295.64	295.64	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8149.34	8970	1546	10757.15	10757.15	1546

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9447	9900	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.91 Profile # 1

W.S. Elev (ft)	1542.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.88	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1544.72	Reach Len. (ft)	1015.00	295.64	295.64
E.G. Slope (ft/ft)	0.008596	Flow Area (sq ft)		5827.33	1050.26
Q Total (cfs)	72450.00	Flow (cfs)		66229.39	6220.62
Top Width (ft)	2517.43	Top Width (ft)	761.34	1188.27	567.82
Vel Total (ft/s)	10.53	Avg. Vel. (ft/s)		11.37	5.92
Max Chl Dpth (ft)	16.84	Hydr. Depth (ft)		4.92	1.85
Crit W.S. (ft)		Wetted Per. (ft)		1187.69	568.98
Conv. Total (cfs)	781439.5	Conv. (cfs)		714344.5	67095.0

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.91 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8965.37	9046.76	26.41	1082.29	76.77	268156.3	14.10	17.68
9046.76	9128.14	12.99	726.29	82.06	131932.8	8.92	12.96
9128.14	9209.53	0.50	102.45	81.67	5059.3	1.26	3.52
9209.53	9290.91	0.40	89.98	81.39	4084.3	1.11	3.24
9290.91	9372.30	0.87	142.64	81.44	8799.0	1.75	4.40
9372.30	9453.68	0.43	78.90	52.70	4384.1	1.52	3.96
9453.68	9535.07	2.87	292.62	81.49	29130.1	3.60	7.10
9535.07	9616.45	9.65	606.22	81.64	97963.1	7.45	11.53
9616.45	9697.84	10.53	638.14	81.38	106928.9	7.84	11.95
9697.84	9779.22	10.53	638.15	81.39	106930.2	7.84	11.95
9779.22	9860.61	9.58	603.17	81.45	97290.2	7.41	11.51
9860.61	9941.99	1.57	204.45	81.81	15985.2	2.51	5.58
9941.99	10023.38	0.73	128.95	81.43	7437.3	1.58	4.11
10023.38	10104.76	1.94	231.22	81.38	19691.2	2.84	6.08
10104.76	10186.15	2.42	261.85	79.69	24570.4	3.33	6.69
10186.15	10224.22	0.68	76.22	35.19	5416.3	2.18	6.44
10224.22	10262.28	0.81	87.53	38.07	6474.0	2.30	6.70
10262.28	10300.35	0.67	78.05	38.07	5347.6	2.05	6.21
10300.35	10338.42	0.67	78.16	38.07	5360.2	2.05	6.22
10338.42	10376.48	0.64	75.89	38.07	5103.8	1.99	6.10
10376.48	10414.55	0.57	71.17	38.07	4585.1	1.87	5.84
10414.55	10452.62	0.58	71.30	38.07	4599.1	1.87	5.85
10452.62	10490.68	0.61	73.51	38.07	4840.0	1.93	5.97
10490.68	10528.75	0.67	78.31	38.07	5378.2	2.06	6.23
10528.75	10566.82	0.66	77.70	38.07	5308.1	2.04	6.19
10566.82	10604.88	0.59	72.74	38.07	4755.2	1.91	5.93
10604.88	10642.95	0.56	70.00	38.07	4460.4	1.84	5.78
10642.95	10681.02	0.44	60.42	38.07	3490.3	1.59	5.24
10681.02	10719.08	0.29	47.07	38.07	2302.0	1.24	4.43
10719.08	10757.15	0.15	32.19	38.91	1204.5	0.85	3.39

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.86
Description: 18.86

Station Elevation Data, num = 82

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8879.72	1550	8898.27	1539.97	8900.17	1538	8903.59	1537.45	8909.68	1536
8944.88	1536	8950.51	1534	8953.67	1532	8977.97	1532	8986.06	1534
8992.87	1536	8995.65	1536.29	9008.76	1537.15	9012.06	1537.74	9013.82	1538
9032.29	1538	9054.18	1534	9077.26	1530	9082.15	1528.95	9091.65	1526
9103.65	1526	9107.37	1525.9	9185.28	1524.84	9189.82	1526	9198.63	1526
9202.7	1527.9	9208	1530	9216.56	1532	9235.26	1536	9239.6	1536
9249.88	1532	9258.04	1529.17	9269.02	1527.15	9274.36	1526	9295.79	1521.9
9325.11	1516	9427.87	1516	9431.23	1517.01	9436.15	1518	9451.37	1518
9476.23	1516.63	9488.19	1516.17	9528.18	1516	9607.33	1516	9615.82	1516.8
9626.34	1518	9638.07	1522	9647.88	1524.39	9654.72	1524.98	9660.39	1525.3
9669.64	1526	9695.49	1527.19	9711.87	1527.81	9715.63	1527.73	9721.54	1527.9
9726.23	1526.54	9732.77	1523.63	9735.58	1522	9741.47	1520.35	9751.01	1520.1
9762.06	1520.42	9803.45	1522	9827.09	1524	9830.79	1524.4	9842.45	1526
9855.48	1530.23	9864.3	1533.28	9867.28	1534	9871.13	1536	9876.82	1537.3
9894.79	1544	9948.05	1544	9963.78	1541.56	9972.85	1540	9983.06	1538.3
9985.97	1538	10150	153810500.59		153810575.63		1538.6610696.09		1539.78

10724.63 1539.910737.64 1539.81

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8879.72	.035	9032.29	.035	10150	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9032.29	10150	245	281.3	281.3	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8879.72	9000	1545	1072410737.64		1545

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9231	9890	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.86 Profile # 1

W.S. Elev (ft)	1542.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.85	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1542.88	Reach Len. (ft)	245.00	281.30	281.30
E.G. Slope (ft/ft)	0.002255	Flow Area (sq ft)	142.24	7945.92	2091.66
Q Total (cfs)	72450.00	Flow (cfs)	414.72	68502.49	3532.79
Top Width (ft)	1771.96	Top Width (ft)	137.83	1046.49	587.64
Vel Total (ft/s)	7.12	Avg. Vel. (ft/s)	5.41	7.76	4.77
Max Chl Dpth (ft)	17.19	Hydr. Depth (ft)	4.40	7.59	3.64
Crit W.S. (ft)	1539.77	Wetted Per. (ft)	32.38	1051.14	574.01
Conv. Total (cfs)	1525826.0	Conv. (cfs)	16196.5	1299349.0	210281.2

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 parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.86 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8991.60	9001.78	0.06	5.25	1.78	458.9	2.96	8.33
9001.78	9011.95	0.26	25.52	10.24	1991.7	2.51	7.45
9011.95	9022.12	0.13	16.44	10.19	960.1	1.62	5.57
9022.12	9032.29	0.12	16.18	10.17	936.2	1.59	5.52
9032.29	9106.80	12.41	624.46	75.78	108159.5	8.38	14.40
9106.80	9181.32	30.19	1057.37	74.52	263097.4	14.19	20.69
9181.32	9255.83	12.11	617.16	76.32	105555.4	8.28	14.22
9255.83	9330.35	4.60	342.09	74.51	40117.4	4.59	9.75
9330.35	9404.86	4.60	342.09	74.51	40117.9	4.59	9.75
9404.86	9479.37	4.60	342.09	74.51	40117.4	4.59	9.75
9479.37	9553.89	4.60	342.09	74.51	40117.4	4.59	9.75
9553.89	9628.40	4.60	342.09	74.51	40117.9	4.59	9.75
9628.40	9702.92	4.60	342.09	74.51	40117.4	4.59	9.75
9702.92	9777.43	4.60	342.09	74.51	40117.4	4.59	9.75
9777.43	9851.94	4.60	342.09	74.51	40117.9	4.59	9.75
9851.94	9926.46	1.24	110.89	31.82	10820.3	3.57	8.11
9926.46	10000.97	0.19	33.06	25.79	1656.8	1.29	4.17
10000.97	10075.49	0.79	118.55	74.51	6859.0	1.59	4.81
10075.49	10150.00	0.79	118.55	74.51	6858.9	1.59	4.81
10150.00	10189.18	0.46	62.33	39.18	3606.1	1.59	5.32
10189.18	10228.35	0.46	62.33	39.18	3606.1	1.59	5.32
10228.35	10267.53	0.46	62.33	39.18	3606.2	1.59	5.32
10267.53	10306.70	0.46	62.33	39.18	3606.1	1.59	5.32
10306.70	10345.88	0.46	62.33	39.18	3606.1	1.59	5.32
10345.88	10385.06	0.46	62.33	39.18	3606.1	1.59	5.32
10385.06	10424.23	0.46	62.33	39.18	3606.1	1.59	5.32

10424.23	10463.41	0.46	62.33	39.18	3606.2	1.59	5.32
10463.41	10502.58	0.46	62.31	39.18	3604.4	1.59	5.32
10502.58	10541.76	0.37	54.89	39.18	2917.8	1.40	4.89
10541.76	10580.94	0.23	41.38	39.18	1822.4	1.06	4.05
10580.94	10620.11	0.12	27.40	39.18	916.7	0.70	3.08
10620.11	10659.29	0.03	13.13	39.18	269.0	0.34	1.89
10659.29	10698.46	0.00	1.26	16.47	9.6	0.08	0.70

Warning - Divided flow computed for this cross-section.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.80
Description: 18.80

Station Elevation Data, num = 65

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9009.97	1560	9026.32	1550	9032.94	1545.49	9041.37	1540	9044.12	1538
9056.71	1536	9069.72	1535.14	9092.5	1534	9102.11	1532	9110.79	1530
9118.67	1526	9220.45	1526	9230.14	1530	9238.76	1532	9249.33	1534
9261.37	1534	9270.71	1530	9287.63	1523.65	9291.8	1522	9302.56	1520
9339.38	1518	9380.2	1518	9385	1520	9386.85	1520.1	9417.84	1520.15
9427.09	1517.52	9431.68	1516	9697.91	1516	9714.36	1515.8	9718.83	1515.48
9734.88	1514.88	9741.61	1514	9854.43	1514	9872.93	1517.5	9885.33	1520
9894.57	1522	9902.78	1524	9909.61	1526.15	9918.08	1529.2	9928.07	1532.61
9931.12	1534	9933.75	1535.6	9941.31	1538.46	9943.67	1538.8	9950.53	1541.32
9951.61	1542	9956.03	1542	9969.39	1538	9976.49	1538	9981.25	1534
9992.96	1530	10004.38	1530	10016.43	1530.94	10027.97	1532	10050.13	1532.85
10077.05	1534	10098.58	1535.34	10150.35	1538	10215.89	1538	10748.55	1538
10751.62	1538.01	10985.14	1539.98	10987.33	1540	11108.15	1550	11131.95	1555.75

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9009.97	.035	9069.72	.035	10150.35	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9069.72	10150.35	455	245.2	245.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
9009.97	9050	1550

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9257	9952	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.80 Profile # 1

W.S. Elev (ft)	1541.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1542.25	Reach Len. (ft)	455.00	245.20	245.20
E.G. Slope (ft/ft)	0.002028	Flow Area (sq ft)	110.48	8210.71	2706.30
Q Total (cfs)	72450.00	Flow (cfs)	663.68	60634.41	11151.90
Top Width (ft)	1959.50	Top Width (ft)	30.65	1073.75	855.10
Vel Total (ft/s)	6.57	Avg. Vel. (ft/s)	6.01	7.38	4.12
Max Chl Dpth (ft)	15.50	Hydr. Depth (ft)	5.60	7.65	3.16
Crit W.S. (ft)	1539.32	Wetted Per. (ft)	19.83	1081.46	855.17
Conv. Total (cfs)	1608940.0	Conv. (cfs)	14738.8	1346544.0	247656.9

Warning - Divided flow computed for this cross-section.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical

depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.80 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9049.80	9053.79	0.13	17.93	3.83	2128.2	4.73	5.32
9053.79	9057.77	0.17	21.27	4.02	2740.2	5.34	5.77
9057.77	9061.75	0.19	22.71	3.99	3073.0	5.70	6.06
9061.75	9065.74	0.20	23.76	3.99	3313.1	5.97	6.25
9065.74	9069.72	0.22	24.81	3.99	3560.4	6.23	6.43
9069.72	9141.76	9.70	794.99	73.46	165130.9	11.04	8.84
9141.76	9213.80	17.30	1116.65	72.04	294712.8	15.50	11.23
9213.80	9285.85	7.05	659.21	74.25	119994.4	9.15	7.74
9285.85	9357.89	4.07	468.27	72.04	69241.8	6.50	6.29
9357.89	9429.93	4.07	468.27	72.04	69241.8	6.50	6.29
9429.93	9501.97	4.07	468.27	72.04	69241.8	6.50	6.29
9501.97	9574.01	4.07	468.27	72.04	69241.8	6.50	6.29
9574.01	9646.06	4.07	468.27	72.04	69241.8	6.50	6.29
9646.06	9718.10	4.07	468.27	72.04	69241.8	6.50	6.29
9718.10	9790.14	4.07	468.27	72.04	69241.8	6.50	6.29
9790.14	9862.18	4.07	468.27	72.04	69241.8	6.50	6.29
9862.18	9934.22	4.05	467.65	72.24	68960.2	6.49	6.27
9934.22	10006.27	3.00	383.33	68.81	51140.0	5.88	5.68
10006.27	10078.31	7.10	654.98	72.16	120990.9	9.09	7.86
10078.31	10150.35	2.97	387.72	72.15	50500.3	5.38	5.54
10150.35	10215.79	1.36	229.04	65.44	22415.8	3.50	4.30
10215.79	10281.23	1.36	229.04	65.44	22415.4	3.50	4.30
10281.23	10346.67	1.36	229.04	65.44	22415.8	3.50	4.30
10346.67	10412.11	1.36	229.04	65.44	22415.4	3.50	4.30
10412.11	10477.55	1.36	229.04	65.44	22415.8	3.50	4.30
10477.55	10542.99	1.36	229.04	65.44	22415.8	3.50	4.30
10542.99	10608.43	1.36	229.04	65.44	22415.4	3.50	4.30
10608.43	10673.87	1.36	229.04	65.44	22415.8	3.50	4.30
10673.87	10739.31	1.36	229.04	65.44	22415.4	3.50	4.30
10739.31	10804.75	1.24	216.59	65.44	20420.9	3.31	4.15
10804.75	10870.19	0.92	180.99	65.44	15139.7	2.77	3.68
10870.19	10935.63	0.63	144.87	65.44	10446.5	2.21	3.17
10935.63	11001.07	0.35	101.70	65.49	5790.2	1.55	2.50
11001.07	11066.51	0.00	0.80	4.40	10.8	0.18	0.60

Warning - Divided flow computed for this cross-section.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.76
Description: 18.76

Station Elevation Data, num = 71

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9117.03	1550.94	9136.73	1538.94	9145.51	1533.88	9149.18	1532	9153.27	1532
9156.37	1532.83	9167.14	1534	9179.71	1535.95	9200.27	1534	9203.81	1533.7
9221.81	1532	9232.63	1530	9242.97	1526	9253.35	1525.94	9263.68	1524
9346.12	1524	9354.82	1526	9363.09	1526	9372.76	1530	9377.6	1530.7
9388.19	1532.83	9394.33	1532	9399.18	1532	9412.09	1526	9416.05	1524
9422.55	1521.23	9428.88	1518	9435.83	1516	9468.23	1516	9506.35	1516
9555.49	1514.28	9565.2	1514	9895.4	1514	9909.42	1518.25	9916.62	1520.3
9928.49	1524.21	9940.23	1528.98	9950.93	1534	9952.72	1536.06	9953.46	1538
9966.13	1538	9968.16	1537.26	9975.57	1534	9989.16	1530	9996.06	1526.7
9998.51	1526	10001.16	1526	10009.98	1529.14	10011.92	1530	10016.2	1530.9
10030.1	1533.2	10039.13	1534.93	10046.78	1534.54	10054.69	1534	10086.26	1534
10110.53	1533.13	10135.81	1532	10153.13	1532.04	10164.28	1534	10183.26	1534.5
10253.09	1535.76	10294.02	1536.67	10335.22	1538	10454.29	1538	10475.64	1538.2
10527.47	1538.59	10577.43	1538.92	10720.98	1540	10797.46	1547.23	10826.12	1550

10836.15 1552.8

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9117.03	.035	9179.71	.035	10039.13	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9179.71	10039.13	410	599.9	550	.1	.3

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9400	9960	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.76 Profile # 1

W.S. Elev (ft)	1540.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1541.64	Reach Len. (ft)	410.00	599.90	550.00
E.G. Slope (ft/ft)	0.002776	Flow Area (sq ft)	276.58	6636.25	2473.57
Q Total (cfs)	72450.00	Flow (cfs)	1979.47	57493.04	12977.50
Top Width (ft)	1593.53	Top Width (ft)	45.73	859.42	688.38
Vel Total (ft/s)	7.72	Avg. Vel. (ft/s)	7.16	8.66	5.25
Max Chl Dpth (ft)	16.62	Hydr. Depth (ft)	6.05	7.72	3.59
Crit W.S. (ft)		Wetted Per. (ft)	48.33	870.75	688.71
Conv. Total (cfs)	1374969.0	Conv. (cfs)	37566.7	1091113.0	246289.1

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.76 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9133.75	9137.92	0.01	4.72	4.60	203.9	1.20	2.11
9137.92	9142.10	0.09	14.91	4.82	1344.0	3.57	4.39
9142.10	9146.28	0.21	24.96	4.80	3180.8	5.97	6.21
9146.28	9150.46	0.37	33.85	4.54	5487.7	8.10	7.91
9150.46	9154.64	0.42	35.76	4.23	6302.9	8.56	8.60
9154.64	9158.82	0.36	32.62	4.25	5384.4	7.81	8.05
9158.82	9163.00	0.33	30.48	4.20	4848.4	7.29	7.76
9163.00	9167.17	0.29	28.58	4.20	4355.8	6.84	7.43
9167.17	9171.35	0.25	26.27	4.23	3770.1	6.29	7.00
9171.35	9175.53	0.21	23.57	4.23	3144.8	5.64	6.51
9175.53	9179.71	0.17	20.86	4.23	2565.8	4.99	6.00
9179.71	9237.00	4.59	433.98	57.98	70501.2	7.57	7.67
9237.00	9294.30	15.58	902.78	57.91	239196.2	15.76	12.50
9294.30	9351.59	17.01	948.64	57.44	261193.5	16.56	12.99
9351.59	9408.89	7.21	583.99	61.96	110630.7	10.19	8.94
9408.89	9466.18	2.81	321.84	57.29	43175.9	5.62	6.33
9466.18	9523.48	2.81	321.83	57.29	43175.2	5.62	6.33
9523.48	9580.77	2.81	321.84	57.29	43175.9	5.62	6.33
9580.77	9638.07	2.81	321.84	57.29	43175.9	5.62	6.33
9638.07	9695.36	2.81	321.84	57.29	43175.9	5.62	6.33
9695.36	9752.66	2.81	321.83	57.29	43175.2	5.62	6.33
9752.66	9809.95	2.81	321.84	57.29	43175.9	5.62	6.33
9809.95	9867.25	2.81	321.84	57.29	43175.9	5.62	6.33
9867.25	9924.54	2.81	321.84	57.29	43175.9	5.62	6.33
9924.54	9981.83	2.21	283.86	60.19	33889.6	4.95	5.63
9981.83	10039.13	7.45	586.48	59.62	114307.2	10.24	9.20
10039.13	10092.26	3.05	344.49	53.17	50830.7	6.48	6.41
10092.26	10145.40	4.19	416.86	53.17	69843.8	7.85	7.28
10145.40	10198.53	3.32	363.26	53.31	55428.2	6.84	6.63
10198.53	10251.67	2.22	284.92	53.14	37053.4	5.36	5.65

10251.67	10304.80	1.53	227.79	53.15	25515.7	4.29	4.86
10304.80	10357.94	0.80	154.00	53.15	13287.2	2.90	3.75
10357.94	10411.07	0.67	139.06	53.13	11212.4	2.62	3.50
10411.07	10464.21	0.67	138.60	53.13	11150.3	2.61	3.49
10464.21	10517.34	0.54	122.51	53.14	9076.9	2.31	3.22
10517.34	10570.48	0.40	101.99	53.14	6687.6	1.92	2.85
10570.48	10623.61	0.28	82.31	53.14	4678.8	1.55	2.47
10623.61	10676.75	0.17	61.10	53.14	2846.8	1.15	2.02
10676.75	10729.88	0.08	36.68	50.79	1253.2	0.72	1.48

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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 INPUT Reach: CAVE CREEK River Station: 18.64
Description: *18.64*

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9054.07	1575.2	9070.38	1570	9084.35	1565.27	9098.46	1560	9106.68	1$56.77
9126.28	1550	9135.06	1546.63	9154.07	1540	9166.83	1535.37	9177.47	1532
9231.03	1532	9278.8	1532.99	9299.89	1533.32	9313.85	1533.47	9354.85	1$33.45
9377.62	1533.6	9406.26	1532	9446.75	1532	9456.69	1530	9483.04	1530
9499.19	1530.9	9518.08	1532	9605.58	1532	9652.41	1530.62	9672.86	1530.4
9697.14	1530	9821.47	1530	9841.81	1530	9892.31	1526	9924.59	1526
9946.01	1522.9	9953.16	152	210008.15	152	210022.49	152	410032.84	1526
10043.68	152	610050.42	1528.17	10058.55	1530.92	10069	1532.79	10074.43	1534
10093.77	153	410129.09	1535.29	10154.07	1535.39	10169.1	1535.63	10205.09	1$35.94
10258.9	1535.41	0282.39	1534.66	10316.29	1533.46	10339.03	1532.72		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9054.07	.035	9605.58	.035	10093.77	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9605.58	10093.77	170	538.2	538.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10106	10339.03	1540

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.64 Profile # 1

W.S. Elev (ft)	1536.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.82	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1539.03	Reach Len. (ft)	170.00	538.20	538.20
E.G. Slope (ft/ft)	0.007304	Flow Area (sq ft)	1745.14	3903.65	24.35
Q Total (cfs)	72450.00	Flow (cfs)	15816.74	56493.49	139.76
Top Width (ft)	1174.53	Top Width (ft)	441.08	488.19	245.26
Vel Total (ft/s)	12.77	Avg. Vel. (ft/s)	9.06	14.47	5.74
Max Chl Dpth (ft)	14.21	Hydr. Depth (ft)	3.96	8.00	1.99
Crit W.S. (ft)	1536.21	Wetted Per. (ft)	442.06	490.07	12.24
Conv. Total (cfs)	847703.9	Conv. (cfs)	185064.4	661004.2	1635.3

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.64 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9164.37	9201.14	1.41	127.64	37.31	12304.8	3.48	8.01
9201.14	9237.91	1.96	154.46	36.77	17072.0	4.20	9.18
9237.91	9274.67	1.58	135.69	36.77	13756.1	3.69	8.42
9274.67	9311.44	1.12	110.72	36.77	9800.9	3.01	7.35
9311.44	9348.21	0.97	101.22	36.77	8440.8	2.75	6.93
9348.21	9384.98	0.95	100.33	36.78	8315.2	2.73	6.89
9384.98	9421.74	1.71	142.29	36.80	14881.9	3.87	8.69
9421.74	9458.51	2.26	168.53	36.97	19671.6	4.58	9.70
9458.51	9495.28	3.64	224.31	36.79	31784.3	6.10	11.77
9495.28	9532.05	2.30	170.07	36.81	20029.9	4.63	9.78
9532.05	9568.81	1.97	154.94	36.77	17162.4	4.21	9.20
9568.81	9605.58	1.97	154.95	36.77	17162.9	4.21	9.20
9605.58	9638.13	1.96	152.76	32.56	18176.2	4.69	9.31
9638.13	9670.67	2.60	180.86	32.55	24085.5	5.56	10.42
9670.67	9703.22	2.99	196.49	32.55	27656.8	6.04	11.01
9703.22	9735.76	3.13	202.25	32.55	29022.6	6.21	11.22
9735.76	9768.31	3.13	202.25	32.55	29022.6	6.21	11.22
9768.31	9800.86	3.13	202.25	32.55	29022.6	6.21	11.22
9800.86	9833.40	3.13	202.25	32.55	29022.6	6.21	11.22
9833.40	9865.95	3.75	225.33	32.62	34696.2	6.92	12.04
9865.95	9898.49	6.20	304.91	32.63	57431.3	9.37	14.73
9898.49	9931.04	7.27	335.44	32.61	67353.7	10.31	15.70
9931.04	9963.59	10.95	429.71	32.76	101469.5	13.20	18.47
9963.59	9996.13	12.44	462.61	32.55	115246.9	14.21	19.48
9996.13	10028.68	11.05	432.20	32.80	102367.4	13.28	18.52
10028.68	10061.22	5.42	284.18	33.46	50222.8	8.73	13.82
10061.22	10093.77	0.81	90.17	32.80	7511.8	2.77	6.52
10093.77	10110.12	0.19	24.35	12.24	1635.3	1.99	5.74

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.54
Description: 18.54

Station Elevation Data, num = 57

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8791.77	1537.4	8804.47	1534	8807.88	1533.63	8836.07	1531.97	8838.37	1531.9
8858.09	1531.5	8860.88	1531.41	8871.74	1531.32	8894.39	1530.91	8928.58	1530.34
8933.99	1530.4	8953.16	1531.21	8966.02	1531.66	8981.06	1532	9032.95	1532
9058.9	1531.5	9080.89	1531.07	9096.07	1530.65	9112.71	1530.71	9133.3	1531.02
9144.49	1531	9163.09	1531.41	9175.31	1531.61	9177.25	1531.54	9184.14	1530
9192.88	1526	9217.86	1526	9230.36	1527.04	9248.98	1528.14	9262.89	1528.85
9274.45	1529.6	9290.79	1530	9312.3	1530	9387.82	1526.06	9392.63	1526
9441.33	1526	9471.9	1530	9477.65	1530	9524.11	1529.29	9551.09	1530
9612.9	1530	9618.82	1529.74	9713.93	1526	9811.25	1526	9841.75	1524.93
9869.92	1524	9915.14	1522.69	9945.69	1522	9975.51	1522	9991.26	1520
10010.79	1520	10013.94	1521.25	10016.93	1522	10024.8	1526	10027.84	1526

10030.6 153010036.44 1534.23

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8791.77	.035	9612.9	.035	10030.6	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9612.9	10030.6	240	193.6	193.6	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.54 Profile # 1

W.S. Elev (ft)	1533.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.58	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1535.78	Reach Len. (ft)	240.00	193.60	193.60
E.G. Slope (ft/ft)	0.007072	Flow Area (sq ft)	2742.67	3454.54	7.08
Q Total (cfs)	72450.00	Flow (cfs)	22234.75	50185.33	29.92
Top Width (ft)	1219.89	Top Width (ft)	797.76	417.70	4.42
Vel Total (ft/s)	11.68	Avg. Vel. (ft/s)	8.12	14.52	4.25
Max Chl Dpth (ft)	13.20	Hydr. Depth (ft)	3.44	8.27	1.60
Crit W.S. (ft)		Wetted Per. (ft)	799.41	421.36	5.46
Conv. Total (cfs)	861549.0	Conv. (cfs)	264871.6	596319.9	357.5

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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.54 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8791.77	8846.51	0.10	26.80	31.26	1027.2	0.86	2.81
8846.51	8901.25	0.71	106.09	54.75	7000.8	1.94	4.84
8901.25	8956.00	1.10	138.29	54.77	10887.2	2.53	5.78
8956.00	9010.74	0.38	73.05	54.75	3758.5	1.33	3.78
9010.74	9065.48	0.40	75.53	54.75	3973.6	1.38	3.86
9065.48	9120.22	0.94	125.87	54.75	9308.6	2.30	5.43
9120.22	9174.96	0.77	111.15	54.75	7565.5	2.03	4.99
9174.96	9229.71	4.52	324.84	55.83	44615.8	5.93	10.08
9229.71	9284.45	3.04	254.31	54.82	30030.2	4.65	8.66
9284.45	9339.19	1.94	194.17	54.78	19163.2	3.55	7.24
9339.19	9393.93	4.67	329.03	54.81	46140.6	6.01	10.29
9393.93	9448.67	6.21	390.24	54.80	61321.8	7.13	11.53
9448.67	9503.42	2.30	215.18	54.94	22697.4	3.93	7.74
9503.42	9558.16	1.97	195.81	54.75	19440.2	3.58	7.28
9558.16	9612.90	1.63	174.81	54.74	16093.9	3.19	6.76
9612.90	9640.75	1.20	104.85	27.87	10767.3	3.77	8.28
9640.75	9668.59	1.84	135.42	27.87	16494.2	4.86	9.82
9668.59	9696.44	2.58	165.91	27.87	23138.1	5.96	11.25
9696.44	9724.29	3.35	194.30	27.86	30110.3	6.98	12.50
9724.29	9752.13	3.53	200.31	27.85	31689.8	7.19	12.76
9752.13	9779.98	3.53	200.31	27.85	31689.8	7.19	12.76
9779.98	9807.83	3.53	200.31	27.85	31689.8	7.19	12.76
9807.83	9835.67	3.84	210.77	27.86	34482.9	7.57	13.19
9835.67	9863.52	4.68	237.28	27.86	42010.3	8.52	14.28
9863.52	9891.37	5.52	261.99	27.86	49555.6	9.41	15.25
9891.37	9919.21	6.33	284.49	27.86	56850.2	10.22	16.11
9919.21	9947.06	7.06	303.78	27.85	63427.7	10.91	16.84
9947.06	9974.91	7.37	311.70	27.85	66216.8	11.19	17.13
9974.91	10002.75	8.93	350.43	27.97	80249.8	12.58	18.47
10002.75	10030.60	6.01	288.77	31.24	54000.4	10.37	15.08
10030.60	10030.99	0.01	1.19	0.48	92.3	3.05	5.50
10030.99	10031.38	0.01	1.08	0.48	78.3	2.77	5.16
10031.38	10031.77	0.01	0.97	0.48	65.7	2.49	4.80
10031.77	10032.16	0.01	0.86	0.48	53.7	2.21	4.43
10032.16	10032.55	0.00	0.75	0.48	42.8	1.92	4.05
10032.55	10032.94	0.00	0.64	0.48	32.8	1.64	3.64
10032.94	10033.33	0.00	0.53	0.48	24.0	1.36	3.21
10033.33	10033.71	0.00	0.42	0.48	16.3	1.08	2.75
10033.71	10034.10	0.00	0.31	0.48	9.8	0.80	2.25

10034.10	10034.49	0.00	0.20	0.48	4.7	0.51	1.68
10034.49	10034.88	0.00	0.09	0.48	1.3	0.23	0.99
10034.88	10035.27	0.00	0.01	0.16	0.0	0.05	0.34

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 INPUT Reach: CAVE CREEK River Station: 18.50
Description: 18.50

Station Elevation Data, num = 43

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8791.13	1536	8804.32	1534	8815.11	1532	8844.4	1530.21	8874.4	1530
8926.85	1530	8942.56	1528.63	8969.74	1526	9008.12	1526	9025.7	1528.5
9030.8	1528.86	9050.51	1530	9265.42	1530	9299.64	1527.07	9303.68	1526
9314.18	1526	9318.25	1525.66	9363.97	1525.45	9368.18	1525.46	9387.7	1526
9584.22	1526	9588.15	1526.13	9650.89	1527.63	9666.48	1527.52	9687.05	1527
9703.9	1526.82	9742.56	1526	9830.95	1526	9855.25	1525.32	9905.83	1523.7
9965.17	1522	9968.4	1521.53	9986.01	1520	10016.96	1518.61	10026.83	1518
10032.15	1518.01	10040.75	1520.84	10047.83	1524	10051.83	1526	10055.68	1526
10059.08	1530	10066.7	1534	10070.69	1538				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8791.13	.035	9666.48	.035	10051.83	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9666.48	10051.83	465	409.9	385	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.50 Profile # 1

W.S. Elev (ft)	1531.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.32	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1534.20	Reach Len. (ft)	465.00	409.90	385.00
E.G. Slope (ft/ft)	0.007193	Flow Area (sq ft)	3336.72	2998.60	39.25
Q Total (cfs)	72450.00	Flow (cfs)	29892.08	42265.04	292.87
Top Width (ft)	1245.67	Top Width (ft)	849.48	385.35	10.84
Vel Total (ft/s)	11.37	Avg. Vel. (ft/s)	8.96	14.09	7.46
Max Chl Dpth (ft)	13.88	Hydr. Depth (ft)	3.93	7.78	3.62
Crit W.S. (ft)	1531.88	Wetted Per. (ft)	850.25	387.18	13.16
Conv. Total (cfs)	854232.4	Conv. (cfs)	352447.0	498332.3	3453.2

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.50 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8791.13	8849.49	0.14	31.56	32.54	1312.6	0.97	3.14
8849.49	8907.84	0.72	107.82	58.36	6892.1	1.85	4.82
8907.84	8966.20	1.69	180.18	58.53	16187.7	3.09	6.78
8966.20	9024.56	4.47	323.60	58.54	42951.4	5.55	10.02
9024.56	9082.91	0.98	129.76	58.41	9379.3	2.22	5.45
9082.91	9141.27	0.74	109.99	58.36	7125.0	1.88	4.89

9141.27	9199.63	0.74	109.99	58.36	7124.9	1.88	4.89
9199.63	9257.98	0.74	109.99	58.36	7124.9	1.88	4.89
9257.98	9316.34	2.44	224.96	58.63	23407.2	3.85	7.85
9316.34	9374.70	5.59	369.49	58.37	53680.7	6.33	10.96
9374.70	9433.05	5.01	345.75	58.36	48060.3	5.92	10.49
9433.05	9491.41	4.95	343.41	58.36	47522.3	5.88	10.44
9491.41	9549.77	4.95	343.41	58.36	47522.3	5.88	10.44
9549.77	9608.12	4.77	335.80	58.37	45774.3	5.75	10.29
9608.12	9666.48	3.34	271.01	58.37	32022.6	4.64	8.92
9666.48	9692.17	1.58	120.28	25.70	14289.3	4.68	9.53
9692.17	9717.86	1.83	131.44	25.69	16568.5	5.12	10.11
9717.86	9743.55	2.15	144.71	25.70	19447.5	5.63	10.78
9743.55	9769.24	2.32	151.18	25.69	20920.1	5.88	11.10
9769.24	9794.93	2.32	151.18	25.69	20920.9	5.88	11.10
9794.93	9820.62	2.32	151.18	25.69	20920.1	5.88	11.10
9820.62	9846.31	2.40	154.48	25.70	21684.6	6.01	11.26
9846.31	9872.00	2.87	172.02	25.70	25937.4	6.70	12.09
9872.00	9897.69	3.48	193.00	25.70	31420.3	7.51	13.06
9897.69	9923.38	4.12	213.61	25.70	37211.7	8.32	13.97
9923.38	9949.07	4.75	232.64	25.70	42898.5	9.06	14.79
9949.07	9974.76	5.55	255.73	25.75	50156.0	9.95	15.73
9974.76	10000.45	7.43	304.51	25.75	67107.6	11.85	17.67
10000.45	10026.14	8.82	337.50	25.72	79708.7	13.14	18.94
10026.14	10051.83	6.40	285.12	27.29	57847.7	11.10	16.27
10051.83	10053.09	0.09	7.40	1.26	1024.3	5.88	9.30
10053.09	10054.34	0.09	7.40	1.26	1023.5	5.88	9.30
10054.34	10055.60	0.09	7.40	1.26	1024.3	5.88	9.30
10055.60	10056.86	0.06	6.58	1.90	639.4	5.23	6.53
10056.86	10058.12	0.03	4.73	1.94	363.0	3.76	5.16
10058.12	10059.37	0.02	2.89	1.82	167.2	2.30	3.88
10059.37	10060.63	0.01	1.76	1.42	86.3	1.40	3.29
10060.63	10061.89	0.00	0.93	1.42	29.8	0.74	2.15
10061.89	10063.15	0.00	0.16	0.88	2.2	0.21	0.91

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. 'The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.43
Description: 18.43

Station Elevation Data, num = 48

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8825.35	1533.33	8841.68	1530.53	8858.56	1528.25	8879.51	1526	9145.45	1526
9177.3	1524.84	9205.61	1524	9207.48	1523.42	9215.1	1522	9239.56	1522
9253.73	1524	9265.95	1525.53	9280.28	1525.34	9299.06	1524.22	9304	1524
9361.79	1524	9380.62	1525.59	9384.55	1525.41	9388.46	1525.56	9397.16	1524
9402.91	1522	9579.11	1522	9634.78	1522.46	9675.23	1522	9684.75	1521.7
9744.7	1522	9753.86	1522	9795.75	1524	9813.6	1524	9859.65	1523.6
9873.78	1523.44	9933.77	1522.79	9962.33	1522	9970.8	1520.51	9988.7	1518
10000.01	1516	10003.83	1516	10006.99	1516.5	10021.05	1518	10027.41	1519.5
10034.52	1520	10116.32	1520	10119.3	1522.22	10123.24	1524	10126.6	1526
10130.56	1526	10136.73	1530.55	10143.98	1534				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8825.35	.035	9813.6	.035	10123.24	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9813.61	10123.24	641.1	641.1	641.1	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.43 Profile # 1

W.S. Elev (ft)	1527.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.57	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1530.47	Reach Len. (ft)	641.10	641.10	641.10
E.G. Slope (ft/ft)	0.010296	Flow Area (sq ft)	3794.60	2059.86	19.62
Q Total (cfs)	72450.00	Flow (cfs)	41068.07	31258.03	123.91
Top Width (ft)	1271.22	Top Width (ft)	951.69	309.64	9.88
Vel Total (ft/s)	12.33	Avg. Vel. (ft/s)	10.82	15.17	6.31
Max Chl Dpth (ft)	11.89	Hydr. Depth (ft)	3.99	6.65	1.99
Crit W.S. (ft)	1528.17	Wetted Per. (ft)	952.93	311.57	11.06
Conv. Total (cfs)	713996.5	Conv. (cfs)	404726.8	308048.6	1221.1

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.43 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8825.35	8891.23	0.25	38.81	29.43	1981.1	1.32	4.73
8891.23	8957.12	1.03	124.56	65.88	8085.5	1.89	6.01
8957.12	9023.00	1.03	124.56	65.88	8085.6	1.89	6.01
9023.00	9088.88	1.03	124.56	65.88	8085.5	1.89	6.01
9088.88	9154.77	1.06	126.14	65.89	8256.9	1.91	6.06
9154.77	9220.65	3.03	237.73	66.13	23685.3	3.61	9.22
9220.65	9286.53	3.77	271.20	66.13	29497.9	4.12	10.07
9286.53	9352.42	3.26	248.35	65.91	25530.5	3.77	9.52
9352.42	9418.30	3.49	259.40	66.43	27307.7	3.94	9.75
9418.30	9484.18	6.87	388.09	65.88	53740.5	5.89	12.82
9484.18	9550.07	6.87	388.10	65.88	53741.3	5.89	12.82
9550.07	9615.95	6.70	382.49	65.88	52452.4	5.81	12.69
9615.95	9681.83	6.41	372.28	65.89	50138.5	5.65	12.47
9681.83	9747.72	7.16	397.83	65.89	56004.7	6.04	13.03
9747.72	9813.60	4.73	310.51	65.93	37038.4	4.71	11.04
9813.60	9834.24	1.16	82.16	20.64	8760.7	3.98	10.24
9834.24	9854.88	1.25	85.87	20.64	9428.3	4.16	10.54
9854.88	9875.53	1.35	89.90	20.64	10177.8	4.35	10.87
9875.53	9896.17	1.47	94.58	20.64	11075.5	4.58	11.24
9896.17	9916.81	1.59	99.19	20.64	11990.5	4.81	11.61
9916.81	9937.46	1.72	103.92	20.64	12958.3	5.03	11.97
9937.46	9958.10	1.98	113.29	20.65	14960.4	5.49	12.68
9958.10	9978.74	2.94	143.91	20.85	22148.0	6.97	14.78
9978.74	9999.38	5.38	207.31	20.91	40622.9	10.04	18.82
9999.38	10020.03	6.39	229.04	20.77	48183.4	11.10	20.20
10020.03	10040.67	4.06	174.71	20.84	30610.2	8.46	16.82
10040.67	10061.31	3.63	162.89	20.64	27409.3	7.89	16.16
10061.31	10081.96	3.63	162.88	20.64	27408.0	7.89	16.16
10081.96	10102.60	3.63	162.88	20.64	27408.0	7.89	16.16
10102.60	10123.24	2.97	147.32	21.76	22382.1	7.14	14.59
10123.24	10124.62	0.05	4.81	1.61	423.8	3.48	8.07
10124.62	10126.01	0.03	3.67	1.61	270.2	2.66	6.74
10126.01	10127.39	0.02	2.72	1.48	173.2	1.97	5.84
10127.39	10128.77	0.02	2.61	1.38	169.6	1.89	5.95
10128.77	10130.15	0.02	2.61	1.38	169.7	1.89	5.95
10130.15	10131.54	0.02	2.26	1.62	120.1	1.64	4.86
10131.54	10132.92	0.00	0.91	1.72	25.5	0.66	2.55
10132.92	10134.30	0.00	0.02	0.25	0.1	0.08	0.60

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.30
Description: 18.30

Station Elevation Data, num = 57

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8890.57	1528	8916.81	1526.84	8937.6	1526	8977	1525.57	9007.02	1525.34
9165.29	1524	9260.26	1524	9281.52	1523.5	9299.2	1523.37	9316.04	1522
9323.16	1520.31	9325.38	1520	9331.05	1518	9335.33	1518	9345.49	1520
9401.04	1520	9439.89	1518.42	9453.12	1518	9455.82	1518	9462.75	1519.03
9468.54	1518	9517.63	1518	9549.4	1517.4	9592.87	1516	9644.13	1516
9649.8	1516.43	9661.16	1517.82	9666.92	1518	9678.59	1518	9699.54	1518.13
9764.31	1518.39	9879.13	1518.19	9901.5	1518	9958.86	1518	9973.78	1516.55
9981.59	1516	9984.02	1515.17	9988.75	1514	10008.8	1514	10033.75	1515.16
10050.2	1515.6	10051.9	1516	10058.28	1516	10125.51	1517.34	10134.98	1518
10136.96	1518.85	10148.82	1522	10185.31	1522	10201.58	1520.34	10209.52	1518.97
10214.15	1518	10234.61	1516	10426.7	1516	10432.18	1516	10439.67	1520
10450.3	1526.38	10455.97	1530						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8890.57	.035	9764.31	.035	10136.96	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9764.31	10136.96	225	173.9	173.9	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.30 Profile # 1

W.S. Elev (ft)	1525.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.93	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1526.72	Reach Len. (ft)	225.00	173.90	173.90
E.G. Slope (ft/ft)	0.002334	Flow Area (sq ft)	3950.29	3231.13	2560.35
Q Total (cfs)	72450.00	Flow (cfs)	24114.03	27884.02	20451.95
Top Width (ft)	1492.60	Top Width (ft)	807.59	372.65	312.36
Vel Total (ft/s)	7.44	Avg. Vel. (ft/s)	5.90	8.65	8.28
Max Chl Dpth (ft)	11.79	Hydr. Depth (ft)	4.89	8.67	8.20
Crit W.S. (ft)		Wetted Per. (ft)	808.75	373.31	315.78
Conv. Total (cfs)	1499783.0	Conv. (cfs)	482798.3	578279.5	438705.4

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.30 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9298.32	9356.56	1.35	126.51	49.48	10043.3	2.60	7.72
9356.56	9414.81	1.77	159.06	58.26	13190.8	2.73	8.07
9414.81	9473.06	3.48	239.05	58.44	25957.3	4.10	10.56
9473.06	9531.31	4.37	273.47	58.25	32550.9	4.69	11.58
9531.31	9589.56	5.96	329.53	58.27	44406.0	5.66	13.11
9589.56	9647.81	7.81	387.51	58.26	58184.2	6.65	14.61
9647.81	9706.06	4.63	283.14	58.34	34456.2	4.86	11.84
9706.06	9764.31	3.91	255.79	58.25	29121.3	4.39	11.07
9764.31	9789.15	1.63	106.73	24.84	11974.7	4.30	11.04
9789.15	9814.00	1.65	107.80	24.84	12175.9	4.34	11.12
9814.00	9838.84	1.68	108.88	24.84	12379.5	4.38	11.19
9838.84	9863.68	1.71	109.95	24.84	12583.4	4.43	11.26
9863.68	9888.53	1.75	111.33	24.84	12846.9	4.48	11.36
9888.53	9913.37	1.85	115.17	24.84	13593.4	4.64	11.62
9913.37	9938.21	1.87	115.88	24.84	13733.8	4.66	11.66
9938.21	9963.06	1.89	116.74	24.86	13896.4	4.70	11.71
9963.06	9987.90	3.10	158.02	25.17	22832.4	6.36	14.22
9987.90	10012.74	5.21	214.81	24.87	38386.5	8.65	17.59
10012.74	10037.59	4.50	196.50	24.87	33095.5	7.91	16.57
10037.59	10062.43	3.63	172.90	24.89	26721.8	6.96	15.21

10062.43	10087.27	3.11	157.36	24.85	22868.0	6.33	14.30
10087.27	10112.12	2.71	145.06	24.85	19966.4	5.84	13.55
10112.12	10136.96	2.21	128.79	25.04	16291.1	5.18	12.45
10136.96	10158.23	0.23	32.81	21.68	1836.3	1.54	5.09
10158.23	10179.49	0.06	14.13	21.27	456.8	0.66	2.94
10179.49	10200.76	0.16	26.31	21.35	1284.1	1.24	4.44
10200.76	10222.03	1.13	84.90	21.53	8997.4	3.99	9.63
10222.03	10243.30	2.43	134.00	21.33	19370.5	6.30	13.14
10243.30	10264.56	2.67	141.73	21.27	21309.0	6.66	13.66
10264.56	10285.83	2.67	141.74	21.27	21310.0	6.66	13.66
10285.83	10307.10	2.67	141.74	21.27	21310.0	6.66	13.66
10307.10	10328.37	2.67	141.74	21.27	21310.0	6.66	13.66
10328.37	10349.63	2.67	141.73	21.27	21309.0	6.66	13.66
10349.63	10370.90	2.67	141.74	21.27	21310.0	6.66	13.66
10370.90	10392.17	2.67	141.74	21.27	21310.0	6.66	13.66
10392.17	10413.44	2.67	141.74	21.27	21310.0	6.66	13.66
10413.44	10434.70	2.59	140.03	21.60	20667.1	6.58	13.41
10434.70	10455.97	0.24	25.74	10.81	1948.7	2.74	6.88

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.27
Description: 18.27

Station Elevation Data, num = 69

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8632.78	1529.8	8650.17	1528	8672.95	1526.96	8695.06	1526	8770.25	1524
8776.21	1524	8892.3	1522	8929.13	1522	8974.46	1520.13	8992	1520
9155.46	1520	9181.79	1520.63	9205.68	1521.03	9250.98	1521.44	9292.36	1521.28
9362.25	1520.9	9394.79	1520.98	9443.43	1521.12	9494.5	1520.66	9536.96	1520
9546.1	1520	9551.9	1519.14	9559.62	1517.09	9561.92	1516	9567.53	1516
9603.76	1516	9632.5	1515.42	9695.86	1514.39	9712.31	1514.11	9721.33	1514.11
9723.43	1514.4	9728.61	1516	9734.04	1518	9750.5	1518	9793.98	1518
9807.24	1516	9842.03	1516	9852.12	1514	9861.6	1514	9875.11	1516
9888.87	1516	9909.4	1517.42	9915	1518	9938.58	1518	9951.7	1517.44
9974.5	1516	9980.82	1514	9990.81	151210002.59		151210005.57		1512.99
10007.41	151410042.42		151410069.31		1514.6810115.88		1515.73	10134.3	1516
10225.33	151610244.75		1517.1310260.91		1517.3510290.41		1517.3410307.94		1517.18
10412.04	151610426.98		1514.1710427.86		1514.1810436.14		1519.1910441.29		1519.63
10442.27	1521.210444.84		1522.5410447.69		1524.610455.34		1530.6		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8632.78	.035	9793.98	.035	10134.3	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9793.98	10134.3	500	523.2	385	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8632.78	8730	1528

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.27 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1525.70	Element			
Vel Head (ft)	0.59	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1526.29	Reach Len. (ft)	500.00	523.20	385.00
E.G. Slope (ft/ft)	0.001293	Flow Area (sq ft)	5993.21	3474.21	2838.88
Q Total (cfs)	72450.00	Flow (cfs)	28941.25	24882.35	18626.40
Top Width (ft)	1742.92	Top Width (ft)	1087.81	340.32	314.80
Vel Total (ft/s)	5.89	Avg. Vel. (ft/s)	4.83	7.16	6.56
Max Chl Dpth (ft)	13.70	Hydr. Depth (ft)	5.63	10.21	9.02
Crit W.S. (ft)	1522.45	Wetted Per. (ft)	1065.28	341.90	318.62
Conv. Total (cfs)	2014824.0	Conv. (cfs)	804851.9	691974.4	517997.3

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with

the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.27 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8710.19	8787.61	0.18	77.76	57.62	4031.2	1.35	1.68
8787.61	8865.02	0.71	198.76	77.42	15821.0	2.57	2.59
8865.02	8942.43	1.29	284.01	77.43	28677.3	3.67	3.28
8942.43	9019.85	2.42	415.13	77.44	53982.9	5.36	4.23
9019.85	9097.26	2.68	441.60	77.41	59853.6	5.70	4.40
9097.26	9174.67	2.64	437.17	77.42	58855.7	5.65	4.38
9174.67	9252.09	1.91	360.35	77.42	42647.6	4.65	3.85
9252.09	9329.50	1.76	343.12	77.41	39305.0	4.43	3.72
9329.50	9406.91	1.97	366.52	77.41	43874.8	4.73	3.89
9406.91	9484.33	1.95	364.34	77.41	43439.6	4.71	3.87
9484.33	9561.74	2.70	444.68	77.98	60260.3	5.74	4.40
9561.74	9639.15	6.69	763.79	77.44	149133.6	9.87	6.35
9639.15	9716.57	8.05	853.25	77.42	179390.8	11.02	6.83
9716.57	9793.98	4.99	642.74	78.03	111295.4	8.30	5.63
9793.98	9816.67	1.88	206.91	22.84	38175.9	9.12	6.57
9816.67	9839.36	2.09	220.18	22.69	42528.1	9.70	6.88
9839.36	9862.04	2.57	250.09	22.89	52280.7	11.02	7.44
9862.04	9884.73	2.28	232.81	22.83	46479.2	10.26	7.11
9884.73	9907.42	1.90	208.27	22.73	38714.3	9.18	6.62
9907.42	9930.11	1.46	177.71	22.72	29725.3	7.83	5.95
9930.11	9952.80	1.48	179.12	22.70	30138.4	7.90	5.99
9952.80	9975.48	1.86	205.45	22.78	37793.8	9.06	6.55
9975.48	9998.17	3.18	285.75	23.15	64801.3	12.60	8.07
9998.17	10020.86	3.08	279.80	23.11	62639.5	12.33	7.97
10020.86	10043.55	2.86	265.53	22.69	58109.1	11.70	7.79
10043.55	10066.24	2.73	258.40	22.70	55519.3	11.39	7.65
10066.24	10088.92	2.51	245.90	22.69	51118.5	10.84	7.40
10088.92	10111.61	2.32	234.29	22.69	47159.2	10.33	7.17
10111.61	10134.30	2.15	224.01	22.69	43767.2	9.87	6.96
10134.30	10155.70	1.97	207.70	21.40	40117.3	9.70	6.86
10155.70	10177.11	1.97	207.71	21.40	40119.2	9.70	6.86
10177.11	10198.51	1.97	207.70	21.40	40117.3	9.70	6.86
10198.51	10219.91	1.97	207.70	21.40	40117.3	9.70	6.86
10219.91	10241.31	1.85	200.27	21.43	37723.3	9.36	6.69
10241.31	10262.72	1.57	181.68	21.41	32089.9	8.49	6.27
10262.72	10284.12	1.53	178.89	21.40	31281.1	8.36	6.21
10284.12	10305.52	1.55	180.06	21.40	31619.9	8.41	6.23
10305.52	10326.92	1.61	184.46	21.40	32917.2	8.62	6.34
10326.92	10348.33	1.69	189.64	21.40	34473.8	8.86	6.45
10348.33	10369.73	1.77	194.84	21.40	36063.0	9.10	6.57
10369.73	10391.13	1.85	200.03	21.40	37677.3	9.35	6.69
10391.13	10412.53	1.93	205.23	21.41	39321.3	9.59	6.80
10412.53	10433.94	2.14	222.85	22.54	43586.7	10.41	6.94
10433.94	10455.34	0.36	70.13	17.80	7427.3	4.63	3.76

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.17
Description: 18.17

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8526.29	1529.42	8549.08	1528	8555.1	1527.71	8597.58	1526	8604.75	1525.5
8612.9	1525.26	8637.84	1524	8688.75	1522	8777.17	1522	8811.59	1520.5
8826.09	1520.15	8926.08	1522	8944.37	1521.82	8970.04	1521.96	8979.55	1521.9
9093.84	1521.87	9117.34	1521.97	9127.15	1521.65	9149.46	1520	9165.15	1520
9188.43	1520	9214	1518	9232.04	1518	9233.92	1517.91	9279.94	1517.3
9288.61	1517.25	9370.59	1516.21	9384.3	1516	9527.4	1516	9643.84	1516
9646.96	1515.56	9661.39	1512.69	9663.99	1512	9691.78	1512	9805.26	1513.7

```
 9830.77    1514 9901.83    1514 9908.15 1512.95 9913.23 1511.15 9924.43  1511.4
 9931.71    1512 9978.61    1512  9983.8 1509.35 9986.88    1508 10004.4    1508
 10008.4    150810012.65    151010018.64    151210069.69    151210076.47  1512.4
10123.41    151410195.77    1514 10232.9 1512.6910291.69    151410302.83    1514
10313.25    152010315.06 1521.3110322.58 1525.7810327.92    1530

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8526.29    .035 9646.96    .03510123.41    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9646.9610123.41              600   573.1     705             .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

 8526.29    9200    1528
```

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.17 Profile # 1

W.S. Elev (ft)	1525.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1525.80	Reach Len. (ft)	600.00	573.10	705.00
E.G. Slope (ft/ft)	0.000807	Flow Area (sq ft)	3903.84	6050.38	2184.38
Q Total (cfs)	72450.00	Flow (cfs)	19964.95	39576.40	12908.65
Top Width (ft)	1708.13	Top Width (ft)	1033.44	476.45	198.24
Vel Total (ft/s)	5.97	Avg. Vel. (ft/s)	5.11	6.54	5.91
Max Chl Dpth (ft)	17.23	Hydr. Depth (ft)	8.73	12.70	11.02
Crit W.S. (ft)	1519.73	Wetted Per. (ft)	447.05	478.99	201.38
Conv. Total (cfs)	2550438.0	Conv. (cfs)	702820.6	1393197.0	454419.7

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.17 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9198.69	9273.40	3.35	536.90	73.45	85851.6	7.31	4.53
9273.40	9348.11	4.19	617.71	74.72	107224.9	8.27	4.91
9348.11	9422.83	4.92	680.12	74.72	125881.0	9.10	5.24
9422.83	9497.54	5.03	689.47	74.71	128784.7	9.23	5.29
9497.54	9572.25	5.03	689.48	74.71	128786.4	9.23	5.29
9572.25	9646.96	5.04	690.16	74.74	128963.0	9.24	5.29
9646.96	9678.72	3.39	388.63	32.14	86926.0	12.23	6.33
9678.72	9710.49	3.86	417.55	31.76	98737.1	13.15	6.69
9710.49	9742.25	3.64	403.73	31.77	93344.0	12.71	6.54
9742.25	9774.01	3.42	388.61	31.77	87592.9	12.23	6.38
9774.01	9805.78	3.20	373.49	31.77	81987.1	11.76	6.21
9805.78	9837.54	3.02	360.33	31.77	77231.8	11.34	6.06
9837.54	9869.30	2.96	356.66	31.76	75926.8	11.23	6.02
9869.30	9901.07	2.96	356.65	31.76	75924.5	11.23	6.02
9901.07	9932.83	3.85	419.39	32.19	98588.8	13.20	6.65
9932.83	9964.59	3.90	420.19	31.76	99779.9	13.23	6.72
9964.59	9996.36	4.69	475.20	32.68	120180.8	14.96	7.15
9996.36	10028.12	4.90	487.10	32.54	125617.8	15.34	7.30
10028.12	10059.88	3.90	420.19	31.76	99779.9	13.23	6.72
10059.88	10091.65	3.72	408.82	31.78	95283.1	12.87	6.59
10091.65	10123.41	3.21	373.85	31.78	82093.2	11.77	6.21
10123.41	10137.04	1.25	153.09	13.63	32589.7	11.23	5.90
10137.04	10150.68	1.25	153.09	13.63	32589.7	11.23	5.90
10150.68	10164.31	1.25	153.10	13.63	32592.1	11.23	5.90
10164.31	10177.95	1.25	153.09	13.63	32589.7	11.23	5.90
10177.95	10191.58	1.25	153.09	13.63	32589.7	11.23	5.90

10191.58	10205.21	1.27	154.66	13.64	33140.5	11.34	5.93
10205.21	10218.85	1.35	160.91	13.64	35397.4	11.80	6.09
10218.85	10232.48	1.45	167.48	13.64	37837.1	12.28	6.26
10232.48	10246.12	1.47	169.00	13.64	38422.0	12.40	6.30
10246.12	10259.75	1.41	164.86	13.64	36867.6	12.09	6.19
10259.75	10273.38	1.35	160.72	13.64	35337.0	11.79	6.09
10273.38	10287.02	1.29	156.58	13.64	33832.1	11.48	5.98
10287.02	10300.65	1.25	153.34	13.64	32676.6	11.25	5.90
10300.65	10314.29	0.71	115.22	15.48	18647.6	8.45	4.48
10314.29	10327.92	0.04	16.16	8.62	1043.1	2.19	1.79

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT **Reach: CAVE CREEK** River Station: 18.06
Description: 18.06

Station Elevation Data, num = 107

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7830.3	1519.6	7853.34	1519.01	7881.52	1518	7904.93	1518	7934.94	1516.26
7948.65	1516	7969.95	1516.55	7982.4	1516.71	7995.5	1516.45	8000.3	1516
8051.88	1516	8063.39	1516.76	8071.84	1517.04	8094.06	1517.55	8105.45	1517.5
8119.83	1516.9	8146.93	1516.83	8188.38	1516.38	8225.77	1516.04	8313.35	1516.67
8337.01	1516.7	8353.64	1516	8415.94	1516	8448.24	1515.07	8457.75	1514.95
8459.17	1514.7	8468.8	1512	8490.2	1512	8493.99	1512.31	8542.15	1515.51
8562.78	1515.6	8596.5	1516	8709.21	1516	8749.42	1515.71	8804.98	1515
8845.85	1514	8869.22	1514.49	8879.4	1514.14	8882.63	1514	8906.37	1514
8914.76	1514.4	8931.25	1514.55	8951.56	1515.21	8970.96	1515.5	8987.65	1515.55
8990.37	1515.4	9014.34	1515.46	9019.45	1514.58	9028.36	1513.82	9048.79	1513.12
9067.78	1513.1	9075.13	1513.52	9082.55	1514.47	9083.82	1514.79	9120.61	1514.55
9134.54	1515.5	9148.32	1515.4	9160.21	1515.87	9205.34	1515.82	9216.87	1515.72
9265.15	1515.7	9275.83	1515.56	9324.59	1515.61	9325.98	1515.64	9359.45	1515.67
9377.47	1513.4	9381.46	1512	9532.62	1512	9591.09	1512	9608.42	1512.56
9616.25	1512	9674.47	1512	9718.77	1511.33	9754.85	1511.07	9756.5	1511.02
9788.2	1510.9	9809.86	1510	9846.72	1510	9850.65	1509.65	9874.05	1509.48
9877.53	1509.4	9894.43	1509.28	9931.8	1508	10039.63	1508	10049.91	1510
10054.52	1510	10069.95	1510.41	10074.89	1510.4	10094.2	1510.99	10112.81	1512
10186.89	1512	10196.83	1512.57	10225.98	1512.93	10277.68	1513.15	10283.5	1512.94
10296.25	1512.7	10305.59	1512.62	10311.18	1512.36	10359.65	1510.58	10379.02	1510
10402.24	1510	10489.96	1510	10501.63	1514	10508.81	1518.57	10518.27	1523.61
10528.08	1530	10543.77	1536						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7830.3	.035	9381.46	.035	10518.27	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9381.46	10518.27	55.4	55.4	55.4	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
7830.3	9400	1530

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.06 Profile # 1

W.S. Elev (ft)	1525.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1525.43	Reach Len. (ft)	55.40	55.40	55.40
E.G. Slope (ft/ft)	0.000353	Flow Area (sq ft)		15669.02	1.69
Q Total (cfs)	72450.00	Flow (cfs)		72449.02	0.98
Top Width (ft)	2690.25	Top Width (ft)	1551.16	1136.81	2.28
Vel Total (ft/s)	4.62	Avg. Vel. (ft/s)		4.62	0.58

Max Chl Dpth (ft)	17.10	Hydr. Depth (ft)	14.01	0.74
Crit W.S. (ft)	1516.06	Wetted Per. (ft)	1121.93	2.72
Conv. Total (cfs)	3857974.0	Conv. (cfs)	3857922.0	52.4

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.06 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9381.46	9457.25	4.56	749.66	57.25	176821.4	13.10	4.40
9457.25	9533.03	6.03	992.45	75.79	234086.8	13.10	4.40
9533.03	9608.82	5.98	987.39	75.80	232078.6	13.03	4.39
9608.82	9684.61	6.02	991.25	75.81	233575.5	13.08	4.40
9684.61	9760.40	6.53	1040.80	75.79	253389.2	13.73	4.54
9760.40	9836.18	7.24	1107.79	75.81	281116.4	14.62	4.74
9836.18	9911.97	8.11	1185.89	75.81	314894.3	15.65	4.96
9911.97	9987.76	9.32	1288.88	75.80	361828.4	17.01	5.24
9987.76	10063.55	8.93	1256.96	75.98	346460.1	16.59	5.15
10063.55	10139.33	6.58	1045.65	75.83	255286.6	13.80	4.56
10139.33	10215.12	5.88	977.13	75.80	228058.4	12.89	4.36
10215.12	10290.91	5.28	916.78	75.79	205091.1	12.10	4.18
10290.91	10366.70	6.27	1015.99	75.83	243318.9	13.41	4.47
10366.70	10442.48	7.62	1141.75	75.79	295660.6	15.07	4.83
10442.48	10518.27	5.65	970.65	79.04	219340.8	12.81	4.22
10518.27	10519.97	0.00	1.58	2.03	57.0	0.93	0.61
10519.97	10521.67	0.00	0.11	0.69	1.4	0.19	0.21

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: CAVE CREEK River Station: 18.05
Description: 18.05

Station Elevation Data, num = 60

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9413.15	1532	9441.97	1530	9460.39	1528.99	9473.8	1528.35	9479.97	1528
9486.48	1528	9498.36	1527.4	9501.83	1527.4	9533.23	1526	9566.44	1524.52
9582.66	1523.6	9615.76	1522	9669.4	1521.98	9679.05	1521.23	9689.64	1520.54
9706.56	1519.6	9728.14	1518	9746.53	1516	9762.98	1514	9765.87	1514
9795.08	1512.9	9816.6	1513.71	9828.71	1514	9840.75	1513.96	9856.87	1513.71
9860.22	1513.5	9874.17	1512.89	9886.21	1511.83	9892.12	1510	9905.12	1508
9931.53	1508	9982.5	1506.27	9995.52	1506	10008.74	1506	10016.82	1506.36
10025.14	1507	10042.88	1508	10051.61	1508	10084.68	1509.33	10095.09	1510
10097.18	1510.5	10109.14	1512.04	10116.15	1514	10136.54	1514.37	10150.31	1514.56
10167.5	1514.7	10187.67	1515.3	10208.3	1515.52	10230.3	1516	10258.85	1517.83
10264.63	1518.3	10289.84	1520	10304.11	1520.62	10331.75	1521.11	10340.73	1521.32
10351.04	1521.4	10365.38	1522	10448.52	1522	10471.72	1520.39	10483.92	1520

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9413.15	.035	9669.4	.035	10116.15	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9669.4	10116.15	28	28	28	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.05 Profile # 1

W.S. Elev (ft)	1523.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.11	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1525.21	Reach Len. (ft)	28.00	28.00	28.00
E.G. Slope (ft/ft)	0.003308	Flow Area (sq ft)	71.80	5068.17	1561.44
Q Total (cfs)	72450.00	Flow (cfs)	168.29	62344.90	9936.81
Top Width (ft)	890.85	Top Width (ft)	76.33	446.75	367.77
Vel Total (ft/s)	10.81	Avg. Vel. (ft/s)	2.34	12.30	6.36
Max Chl Dpth (ft)	17.10	Hydr. Depth (ft)	0.94	11.34	4.25
Crit W.S. (ft)		Wetted Per. (ft)	76.35	448.22	371.12
Conv. Total (cfs)	1259663.0	Conv. (cfs)	2926.1	1083969.0	172767.8

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.05 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.98	9601.07	0.00	1.54	8.00	21.9	0.19	0.77
9601.07	9618.15	0.04	13.52	17.10	490.7	0.79	1.98
9618.15	9635.23	0.06	18.80	17.08	851.1	1.10	2.46
9635.23	9652.32	0.06	18.92	17.08	859.4	1.11	2.47
9652.32	9669.40	0.07	19.02	17.08	867.6	1.11	2.48
9669.40	9699.18	0.34	64.75	29.85	4606.0	2.17	3.76
9699.18	9728.97	0.96	121.26	29.86	13103.5	4.07	5.71
9728.97	9758.75	2.26	203.67	29.98	31017.1	6.84	8.05
9758.75	9788.53	3.85	279.52	29.83	52743.6	9.38	9.98
9788.53	9818.32	4.16	292.74	29.80	57001.7	9.83	10.30
9818.32	9848.10	3.71	273.18	29.79	50813.5	9.17	9.84
9848.10	9877.88	4.10	290.16	29.82	56147.1	9.74	10.23
9877.88	9907.67	6.49	384.46	30.25	88900.9	12.91	12.23
9907.67	9937.45	8.53	450.22	29.79	116848.9	15.12	13.72
9937.45	9967.23	9.18	470.67	29.80	125786.2	15.80	14.13
9967.23	9997.02	10.13	499.36	29.79	138842.0	16.77	14.70
9997.02	10026.80	10.16	500.36	29.82	139229.8	16.80	14.71
10026.80	10056.58	8.72	456.42	29.81	119470.8	15.32	13.84
10056.58	10086.37	7.77	425.80	29.81	106421.8	14.30	13.22
10086.37	10116.15	5.70	355.63	30.23	78098.6	11.94	11.61
10116.15	10140.67	2.47	217.61	24.52	39600.5	8.88	8.21
10140.67	10165.19	2.31	209.05	24.52	37038.3	8.53	8.00
10165.19	10189.70	2.12	198.59	24.53	33997.4	8.10	7.73
10189.70	10214.22	1.92	187.23	24.52	30821.7	7.64	7.43
10214.22	10238.74	1.71	174.53	24.54	27403.5	7.12	7.09
10238.74	10263.26	1.20	141.30	24.57	19253.3	5.76	6.15
10263.26	10287.78	0.67	99.62	24.58	10752.2	4.06	4.87
10287.78	10312.29	0.34	65.98	24.54	5416.1	2.69	3.70
10312.29	10336.81	0.23	51.77	24.52	3616.6	2.11	3.15
10336.81	10361.33	0.15	40.29	24.53	2381.2	1.64	2.67
10361.33	10385.85	0.08	27.23	24.52	1239.8	1.11	2.05
10385.85	10410.37	0.08	26.89	24.52	1214.0	1.10	2.04
10410.37	10434.88	0.08	26.89	24.52	1214.0	1.10	2.04
10434.88	10459.40	0.10	31.00	24.54	1537.7	1.26	2.24
10459.40	10483.92	0.29	63.48	27.65	4689.7	2.59	3.33

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: CAVE CREEK River Station: 18.0484
Description: 18.0484

Station Elevation Data, num = 113

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8355.54	1538	8368.06	1537.83	8384.21	1537.42	8403.37	1536	8435.44	1536
8442.41	1535.83	8462.81	1534	8504.12	1534	8510.82	1533.76	8550.9	1532.9
8594.58	1532	8937.98	1532	8956.99	1531.51	8964.47	1531.18	8972.74	1530
9039.55	1530	9078.66	1530	9094.27	1531.39	9120.74	1531.65	9142.28	1532
9340.54	1532	9345.68	1532.55	9365.83	1532	9389.59	1531.17	9393.81	1531
9422.25	1530	9438.4	1529.16	9443.71	1529.42	9449.95	1529.12	9461.91	1528.8
9472.85	1528	9484.51	1528	9501.13	1526.89	9505.67	1526.52	9519.59	1526
9542.97	1524.58	9553.61	1524	9576.83	1523.01	9595.95	1522	9657.31	1519.4
9666.34	1519.01	9702.29	1517.25	9710.1	1516.8	9727.97	1515.45	9745.36	1514
9910.11	1514	9916.25	1513.28	9925.6	1512	9933.33	1509.83	9937.88	1508
9950.58	1507.61	9974.37	150	610018.36	150	610033.71	1506.98	10041.68	1507.1
10066.72	1508	10076	151	010078.43	1511.5	10080.62	151	210085.33	1514
10128.53	1514.83	10154.44	1515.32	10173.29	1515.67	10184.5	151	610198.07	1517
10215.45	1518.19	10227.73	1519.27	10238.41	152	010275.02	1521.75	10288.34	1522
10404.41	152	210494.64	152	210501.32	1521.44	10520.32	1521.21	0537.15	1520.9
10559.15	1520.79	10581.59	152	010657.22	152	010657.82	1519.84	10694.34	1519
10700.93	152	010764.69	152	010776.24	1521.42	10787.56	1521.85	10796.68	1522
10837.93	152	210851.13	1522.3	10863.1	1522.23	10947.34	1522.77	10959.87	1523.5
10969.76	1523.62	10984.5	1523.45	10994.92	1523.74	11001.39	1523.78	11022.56	1523.5
11044.37	1523.73	11057.55	1523.5	11059.96	1523.1	11075.46	1523.06	11096.52	1522
11117.67	152	211126.76	1521.33	11131.9	1521.21	11154.66	152	011231.47	1520
11234.23	1519.79	11262.16	1517.24	11284.72	1517.23	11306.31	1517.05	11425.18	1519.4
11434.32	1519.49	11454.11	152	011489.94	1520				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8355.54	.035	9657.31	.03	510275.02	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9657.31	10275.02	1	1	1	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10500	11489.94	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0484 Profile # 1

W.S. Elev (ft)	1521.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.72	Wt. n-Val.	0.035	0.035	
E.G. Elev (ft)	1524.90	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.008809	Flow Area (sq ft)	37.21	4665.29	
Q Total (cfs)	72450.00	Flow (cfs)	136.88	72313.12	
Top Width (ft)	1257.58	Top Width (ft)	41.91	605.70	609.97
Vel Total (ft/s)	15.41	Avg. Vel. (ft/s)	3.68	15.50	
Max Chl Dpth (ft)	15.18	Hydr. Depth (ft)	0.89	7.70	
Crit W.S. (ft)	1521.18	Wetted Per. (ft)	41.95	608.06	
Conv. Total (cfs)	771934.3	Conv. (cfs)	1458.4	770475.8	

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0484 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9570.53	9657.31	0.19	37.21	41.95	1458.4	0.89	3.68
9657.31	9698.49	1.05	112.73	41.23	9358.2	2.74	6.77
9698.49	9739.67	2.97	209.94	41.29	26355.6	5.10	10.23
9739.67	9780.85	5.21	294.15	41.20	46303.9	7.14	12.83
9780.85	9822.03	5.25	295.50	41.18	46673.4	7.18	12.87
9822.03	9863.21	5.25	295.50	41.18	46673.4	7.18	12.87
9863.21	9904.39	5.25	295.50	41.18	46673.4	7.18	12.87
9904.39	9945.57	8.75	404.49	41.97	77774.1	9.82	15.67
9945.57	9986.75	16.95	597.35	41.24	150702.0	14.51	20.56
9986.75	10027.94	18.15	622.02	41.20	161313.5	15.10	21.14
10027.94	10069.12	15.57	567.84	41.26	138438.1	13.79	19.87
10069.12	10110.30	6.51	339.69	42.23	57894.8	8.25	13.89
10110.30	10151.48	4.23	259.54	41.19	37591.2	6.30	11.81
10151.48	10192.66	3.31	224.16	41.21	29432.9	5.44	10.70
10192.66	10233.84	1.27	126.31	41.30	11299.6	3.07	7.29
10233.84	10275.02	0.08	20.55	29.21	690.1	0.70	2.74

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0482
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10749.69	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9500	1525	10500	10749.69	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0482 Profile # 1

W.S. Elev (ft)	1522.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.21	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1524.07	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.002281	Flow Area (sq ft)	3628.63	1247.06	3628.63
Q Total (cfs)	72450.00	Flow (cfs)	23317.25	25815.51	23317.25
Top Width (ft)	2686.69	Top Width (ft)	1901.00	72.00	713.69
Vel Total (ft/s)	8.52	Avg. Vel. (ft/s)	7.99	11.61	7.99
Max Chl Dpth (ft)	17.32	Hydr. Depth (ft)	7.82	17.32	7.82
Crit W.S. (ft)	1520.48	Wetted Per. (ft)	464.00	91.00	464.00
Conv. Total (cfs)	1517086.0	Conv. (cfs)	606948.6	303188.8	606948.6

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0482 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9457.07	9583.80	5.81	309.72	83.80	31432.2	3.70	13.60
9583.80	9710.53	8.79	468.40	126.73	47536.0	3.70	13.60
9710.53	9837.27	8.79	468.40	126.73	47536.0	3.70	13.60
9837.27	9964.00	8.79	468.40	126.73	47536.0	3.70	13.60
9964.00	9968.80	1.23	63.34	14.30	7252.4	13.20	14.09
9968.80	9973.60	2.55	63.34	4.80	15015.9	13.20	29.18
9973.60	9978.40	2.55	63.35	4.80	15018.9	13.20	29.18
9978.40	9983.20	2.55	63.34	4.80	15015.9	13.20	29.18
9983.20	9988.00	2.55	63.34	4.80	15015.9	13.20	29.18
9988.00	9992.80	2.55	63.34	4.80	15015.9	13.20	29.18
9992.80	9997.60	2.55	63.34	4.80	15015.9	13.20	29.18
9997.60	10002.40	2.55	63.35	4.80	15018.9	13.20	29.18
10002.40	10007.20	2.55	63.34	4.80	15015.9	13.20	29.18
10007.20	10012.00	2.55	63.34	4.80	15015.9	13.20	29.18
10012.00	10016.80	2.55	63.34	4.80	15015.9	13.20	29.18
10016.80	10021.60	2.55	63.34	4.80	15015.9	13.20	29.18
10021.60	10026.40	2.55	63.35	4.80	15018.9	13.20	29.18
10026.40	10031.20	2.55	63.34	4.80	15015.9	13.20	29.18
10031.20	10036.00	1.23	63.34	14.30	7252.4	13.20	14.09
10036.00	10083.58	3.30	175.85	47.58	17846.3	3.70	13.60
10083.58	10131.16	3.30	175.85	47.58	17846.7	3.70	13.60
10131.16	10178.74	3.30	175.85	47.58	17846.3	3.70	13.60
10178.74	10226.32	3.30	175.85	47.58	17846.3	3.70	13.60
10226.32	10273.90	3.30	175.85	47.58	17846.3	3.70	13.60
10273.90	10321.48	3.30	175.85	47.58	17846.7	3.70	13.60
10321.48	10369.06	3.30	175.85	47.58	17846.3	3.70	13.60
10369.06	10416.63	3.30	175.85	47.58	17846.3	3.70	13.60
10416.63	10464.21	3.30	175.85	47.58	17846.3	3.70	13.60
10464.21	10511.79	2.48	132.26	35.79	13422.9	3.70	13.60

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0480
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10750	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	128.2	128.2	128.2	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9500	1525	10500	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0480 Profile # 1

W.S. Elev (ft)	1521.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.65	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1523.93	Reach Len. (ft)	128.20	128.20	128.20
E.G. Slope (ft/ft)	0.001188	Flow Area (sq ft)	2892.75	1132.88	2892.75
Q Total (cfs)	72450.00	Flow (cfs)	25093.81	22262.37	25093.81
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	10.47	Avg. Vel. (ft/s)	8.67	19.65	8.67
Max Chl Dpth (ft)	15.73	Hydr. Depth (ft)	6.23	15.73	6.23
Crit W.S. (ft)	1521.27	Wetted Per. (ft)	464.00	91.00	464.00
Conv. Total (cfs)	2101889.0	Conv. (cfs)	728011.1	645866.6	728011.1

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0480 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9457.07	9583.80	6.26	522.44	83.80	131481.0	6.23	8.67
9583.80	9710.53	9.46	790.10	126.73	198843.4	6.23	8.67
9710.53	9837.27	9.46	790.10	126.73	198843.4	6.23	8.67
9837.27	9964.00	9.46	790.10	126.73	198843.4	6.23	8.67
9964.00	9968.80	1.06	75.52	14.30	24309.1	15.73	10.19
9968.80	9973.60	2.20	75.52	4.80	50331.5	15.73	21.11
9973.60	9978.40	2.20	75.54	4.80	50341.7	15.73	21.11
9978.40	9983.20	2.20	75.52	4.80	50331.5	15.73	21.11
9983.20	9988.00	2.20	75.52	4.80	50331.5	15.73	21.11
9988.00	9992.80	2.20	75.52	4.80	50331.5	15.73	21.11
9992.80	9997.60	2.20	75.52	4.80	50331.5	15.73	21.11
9997.60	10002.40	2.20	75.54	4.80	50341.7	15.73	21.11
10002.40	10007.20	2.20	75.52	4.80	50331.5	15.73	21.11
10007.20	10012.00	2.20	75.52	4.80	50331.5	15.73	21.11
10012.00	10016.80	2.20	75.52	4.80	50331.5	15.73	21.11
10016.80	10021.60	2.20	75.52	4.80	50331.5	15.73	21.11
10021.60	10026.40	2.20	75.54	4.80	50341.7	15.73	21.11
10026.40	10031.20	2.20	75.52	4.80	50331.5	15.73	21.11
10031.20	10036.00	1.06	75.52	14.30	24309.1	15.73	10.19
10036.00	10083.60	3.55	296.75	47.60	74683.3	6.23	8.67
10083.60	10131.20	3.55	296.76	47.60	74684.8	6.23	8.67
10131.20	10178.80	3.55	296.75	47.60	74683.3	6.23	8.67

10178.80	10226.40	3.55	296.76	47.60	74684.8	6.23	8.67
10226.40	10274.00	3.55	296.75	47.60	74683.3	6.23	8.67
10274.00	10321.60	3.55	296.75	47.60	74683.3	6.23	8.67
10321.60	10369.20	3.55	296.76	47.60	74684.8	6.23	8.67
10369.20	10416.80	3.55	296.75	47.60	74683.3	6.23	8.67
10416.80	10464.40	3.55	296.76	47.60	74684.8	6.23	8.67
10464.40	10512.00	2.66	221.94	35.60	55855.4	6.23	8.67

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0237
Description: Downstream side of top of sply

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10749.81	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	20	20	20	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9469	1525	10531	10749.81	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0237 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1520.55	Element			
Vel Head (ft)	3.16	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1523.71	Reach Len. (ft)	20.00	20.00	20.00
E.G. Slope (ft/ft)	0.001511	Flow Area (sq ft)	2729.81	1081.06	2729.81
Q Total (cfs)	72450.00	Flow (cfs)	24612.34	23225.31	24612.34
Top Width (ft)	2686.81	Top Width (ft)	1901.00	72.00	713.81
Vel Total (ft/s)	11.08	Avg. Vel. (ft/s)	9.02	21.48	9.02
Max Chl Dpth (ft)	15.01	Hydr. Depth (ft)	5.51	15.01	5.51
Crit W.S. (ft)	1521.08	Wetted Per. (ft)	495.00	91.00	495.00
Conv. Total (cfs)	1863524.0	Conv. (cfs)	633066.7	597390.3	633066.7

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0237 Profile # 1

Left Sta	Right Sta	%Q	Area	W.P.	Conv.	Hydr D.	Velocity

(ft)	(ft)		(sq ft)	(ft)	(cfs)	(ft)	(ft/s)
9457.07	9583.80	7.88	633.09	114.80	146820.1	5.51	9.02
9583.80	9710.53	8.70	698.91	126.73	162082.2	5.51	9.02
9710.53	9837.27	8.70	698.91	126.73	162082.2	5.51	9.02
9837.27	9964.00	8.70	698.91	126.73	162082.2	5.51	9.02
9964.00	9968.80	1.11	72.07	14.30	22484.5	15.01	11.14
9968.80	9973.60	2.30	72.07	4.80	46553.8	15.01	23.07
9973.60	9978.40	2.30	72.08	4.80	46563.3	15.01	23.07
9978.40	9983.20	2.30	72.07	4.80	46553.8	15.01	23.07
9983.20	9988.00	2.30	72.07	4.80	46553.8	15.01	23.07
9988.00	9992.80	2.30	72.07	4.80	46553.8	15.01	23.07
9992.80	9997.60	2.30	72.07	4.80	46553.8	15.01	23.07
9997.60	10002.40	2.30	72.08	4.80	46563.3	15.01	23.07
10002.40	10007.20	2.30	72.07	4.80	46553.8	15.01	23.07
10007.20	10012.00	2.30	72.07	4.80	46553.8	15.01	23.07
10012.00	10016.80	2.30	72.07	4.80	46553.8	15.01	23.07
10016.80	10021.60	2.30	72.07	4.80	46553.8	15.01	23.07
10021.60	10026.40	2.30	72.08	4.80	46563.3	15.01	23.07
10026.40	10031.20	2.30	72.07	4.80	46553.8	15.01	23.07
10031.20	10036.00	1.11	72.07	14.30	22484.5	15.01	11.14
10036.00	10083.59	3.27	262.43	47.59	60860.0	5.51	9.02
10083.59	10131.17	3.27	262.44	47.59	60861.2	5.51	9.02
10131.17	10178.76	3.27	262.43	47.59	60860.0	5.51	9.02
10178.76	10226.35	3.27	262.44	47.59	60861.2	5.51	9.02
10226.35	10273.94	3.27	262.43	47.59	60860.0	5.51	9.02
10273.94	10321.52	3.27	262.43	47.59	60860.0	5.51	9.02
10321.52	10369.11	3.27	262.44	47.59	60861.2	5.51	9.02
10369.11	10416.70	3.27	262.43	47.59	60860.0	5.51	9.02
10416.70	10464.29	3.27	262.44	47.59	60861.2	5.51	9.02
10464.29	10511.87	3.27	262.43	47.59	60860.0	5.51	9.02
10511.87	10559.46	1.31	105.48	19.13	24461.9	5.51	9.02

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0199
Description: Begin baffled drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10750	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.04	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	50	50	50	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9464	1525	10536	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0199 Profile # 1

W.S. Elev (ft)	1518.05	Element	Left OB	Channel	Right OB
Vel Head (ft)	5.37	Wt. n-Val.	0.020	0.040	0.020
E.G. Elev (ft)	1523.42	Reach Len. (ft)	50.00	50.00	50.00
E.G. Slope (ft/ft)	0.013678	Flow Area (sq ft)	1503.23	900.47	1503.23

Q Total (cfs)	72450.00	Flow (cfs)	27209.13	18031.74	27209.13
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	18.54	Avg. Vel. (ft/s)	18.10	20.02	18.10
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)	3.01	12.51	3.01
Crit W.S. (ft)	1519.61	Wetted Per. (ft)	500.00	91.00	500.00
Conv. Total (cfs)	619470.1	Conv. (cfs)	232646.5	154177.0	232646.5

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0199 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9457.07	9583.80	9.00	360.17	119.80	55742.0	3.01	18.10
9583.80	9710.53	9.52	381.02	126.73	58968.2	3.01	18.10
9710.53	9837.27	9.52	381.02	126.73	58968.2	3.01	18.10
9837.27	9964.00	9.52	381.02	126.73	58968.2	3.01	18.10
9964.00	9968.80	0.86	60.03	14.30	5802.9	12.51	10.39
9968.80	9973.60	1.78	60.03	4.80	12014.8	12.51	21.51
9973.60	9978.40	1.78	60.04	4.80	12017.2	12.51	21.51
9978.40	9983.20	1.78	60.03	4.80	12014.8	12.51	21.51
9983.20	9988.00	1.78	60.03	4.80	12014.8	12.51	21.51
9988.00	9992.80	1.78	60.03	4.80	12014.8	12.51	21.51
9992.80	9997.60	1.78	60.03	4.80	12014.8	12.51	21.51
9997.60	10002.40	1.78	60.04	4.80	12017.2	12.51	21.51
10002.40	10007.20	1.78	60.03	4.80	12014.8	12.51	21.51
10007.20	10012.00	1.78	60.03	4.80	12014.8	12.51	21.51
10012.00	10016.80	1.78	60.03	4.80	12014.8	12.51	21.51
10016.80	10021.60	1.78	60.03	4.80	12014.8	12.51	21.51
10021.60	10026.40	1.78	60.04	4.80	12017.2	12.51	21.51
10026.40	10031.20	1.78	60.03	4.80	12014.8	12.51	21.51
10031.20	10036.00	0.86	60.03	14.30	5802.9	12.51	10.39
10036.00	10083.60	3.58	143.11	47.60	22147.8	3.01	18.10
10083.60	10131.20	3.58	143.11	47.60	22148.2	3.01	18.10
10131.20	10178.80	3.58	143.11	47.60	22147.8	3.01	18.10
10178.80	10226.40	3.58	143.11	47.60	22148.2	3.01	18.10
10226.40	10274.00	3.58	143.11	47.60	22147.8	3.01	18.10
10274.00	10321.60	3.58	143.11	47.60	22147.8	3.01	18.10
10321.60	10369.20	3.58	143.11	47.60	22148.2	3.01	18.10
10369.20	10416.80	3.58	143.11	47.60	22147.8	3.01	18.10
10416.80	10464.40	3.58	143.11	47.60	22148.2	3.01	18.10
10464.40	10512.00	3.58	143.11	47.60	22147.8	3.01	18.10
10512.00	10559.60	1.80	72.16	24.00	11167.0	3.01	18.10

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0104

Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10737	1501	10750	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.04	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9452	1525	10548	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0104 Profile # 1

W.S. Elev (ft)	1520.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.035	0.040	0.035
E.G. Elev (ft)	1520.24	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.000118	Flow Area (sq ft)	9766.94	2453.48	9766.94
Q Total (cfs)	72450.00	Flow (cfs)	11701.32	49047.37	11701.32
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	3.30	Avg. Vel. (ft/s)	3.29	3.36	3.29
Max Chl Dpth (ft)	34.08	Hydr. Depth (ft)	19.08	34.08	19.08
Crit W.S. (ft)	1506.00	Wetted Per. (ft)	512.00	102.00	512.00
Conv. Total (cfs)	6680179.0	Conv. (cfs)	2960360.0	759459.5	2960360.0

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

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0104 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9330.33	9457.07	0.16	8.89	5.07	549.2	1.75	13.02
9457.07	9583.80	4.00	222.40	126.73	13737.2	1.75	13.02
9583.80	9710.53	4.00	222.40	126.73	13737.2	1.75	13.02
9710.53	9837.27	4.00	222.40	126.73	13737.2	1.75	13.02
9837.27	9964.00	4.00	222.40	126.73	13737.2	1.75	13.02
9964.00	9968.80	1.91	80.42	19.80	7605.1	16.75	17.21
9968.80	9973.60	4.91	80.42	4.80	19561.2	16.75	44.26
9973.60	9978.40	4.91	80.44	4.80	19565.1	16.75	44.26
9978.40	9983.20	4.91	80.42	4.80	19561.2	16.75	44.26
9983.20	9988.00	4.91	80.42	4.80	19561.2	16.75	44.26
9988.00	9992.80	4.91	80.42	4.80	19561.2	16.75	44.26
9992.80	9997.60	4.91	80.42	4.80	19561.2	16.75	44.26
9997.60	10002.40	4.91	80.44	4.80	19565.1	16.75	44.26
10002.40	10007.20	4.91	80.42	4.80	19561.2	16.75	44.26
10007.20	10012.00	4.91	80.42	4.80	19561.2	16.75	44.26
10012.00	10016.80	4.91	80.42	4.80	19561.2	16.75	44.26
10016.80	10021.60	4.91	80.42	4.80	19561.2	16.75	44.26
10021.60	10026.40	4.91	80.44	4.80	19565.1	16.75	44.26
10026.40	10031.20	4.91	80.42	4.80	19561.2	16.75	44.26
10031.20	10036.00	1.91	80.42	19.80	7605.1	16.75	17.21
10036.00	10083.60	1.50	83.53	47.60	5159.5	1.75	13.02
10083.60	10131.20	1.50	83.53	47.60	5159.6	1.75	13.02
10131.20	10178.80	1.50	83.53	47.60	5159.5	1.75	13.02
10178.80	10226.40	1.50	83.53	47.60	5159.6	1.75	13.02
10226.40	10274.00	1.50	83.53	47.60	5159.5	1.75	13.02
10274.00	10321.60	1.50	83.53	47.60	5159.5	1.75	13.02
10321.60	10369.20	1.50	83.53	47.60	5159.6	1.75	13.02

10369.20	10416.80	1.50	83.53	47.60	5159.5	1.75	13.02
10416.80	10464.40	1.50	83.53	47.60	5159.6	1.75	13.02
10464.40	10512.00	1.50	83.53	47.60	5159.5	1.75	13.02
10512.00	10559.60	1.14	63.18	36.00	3902.2	1.75	13.02

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0103
Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10737	1501	10750	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	15	15	15	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9452	1525	10548	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0103 Profile # 1

W.S. Elev (ft)	1520.07	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1520.24	Reach Len. (ft)	15.00	15.00	15.00
E.G. Slope (ft/ft)	0.000114	Flow Area (sq ft)	9766.13	2453.36	9766.13
Q Total (cfs)	72450.00	Flow (cfs)	31593.27	9263.46	31593.27
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	3.30	Avg. Vel. (ft/s)	3.23	3.78	3.23
Max Chl Dpth (ft)	34.07	Hydr. Depth (ft)	19.07	34.07	19.07
Crit W.S. (ft)	1506.25	Wetted Per. (ft)	512.00	102.00	512.00
Conv. Total (cfs)	6787785.0	Conv. (cfs)	2959949.0	867886.4	2959949.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0103 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9330.33	9457.07	0.43	96.64	5.07	29289.7	19.07	3.23
9457.07	9583.80	10.79	2417.37	126.73	732664.9	19.07	3.23
9583.80	9710.53	10.79	2417.37	126.73	732664.9	19.07	3.23
9710.53	9837.27	10.79	2417.37	126.73	732664.9	19.07	3.23
9837.27	9964.00	10.79	2417.37	126.73	732664.9	19.07	3.23
9964.00	9968.80	0.36	163.55	19.80	28373.1	34.07	1.60
9968.80	9973.60	0.93	163.55	4.80	72979.2	34.07	4.11
9973.60	9978.40	0.93	163.58	4.80	72994.0	34.07	4.11
9978.40	9983.20	0.93	163.55	4.80	72979.2	34.07	4.11

9983.20	9988.00	0.93	163.55	4.80	72979.2	34.07	4.11
9988.00	9992.80	0.93	163.55	4.80	72979.2	34.07	4.11
9992.80	9997.60	0.93	163.55	4.80	72979.2	34.07	4.11
9997.60	10002.40	0.93	163.58	4.80	72994.0	34.07	4.11
10002.40	10007.20	0.93	163.55	4.80	72979.2	34.07	4.11
10007.20	10012.00	0.93	163.55	4.80	72979.2	34.07	4.11
10012.00	10016.80	0.93	163.55	4.80	72979.2	34.07	4.11
10016.80	10021.60	0.93	163.55	4.80	72979.2	34.07	4.11
10021.60	10026.40	0.93	163.58	4.80	72994.0	34.07	4.11
10026.40	10031.20	0.93	163.55	4.80	72979.2	34.07	4.11
10031.20	10036.00	0.36	163.55	19.80	28373.1	34.07	1.60
10036.00	10083.60	4.05	907.94	47.60	275180.5	19.07	3.23
10083.60	10131.20	4.05	907.96	47.60	275186.2	19.07	3.23
10131.20	10178.80	4.05	907.94	47.60	275180.5	19.07	3.23
10178.80	10226.40	4.05	907.96	47.60	275186.2	19.07	3.23
10226.40	10274.00	4.05	907.94	47.60	275180.5	19.07	3.23
10274.00	10321.60	4.05	907.94	47.60	275180.5	19.07	3.23
10321.60	10369.20	4.05	907.96	47.60	275186.2	19.07	3.23
10369.20	10416.80	4.05	907.94	47.60	275180.5	19.07	3.23
10416.80	10464.40	4.05	907.96	47.60	275186.2	19.07	3.23
10464.40	10512.00	4.05	907.94	47.60	275180.5	19.07	3.23
10512.00	10559.60	3.07	686.68	36.00	208121.4	19.07	3.23

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0074
Description: 18.0074

Station Elevation Data, num = 101

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7998.57	1514	8484.19	1514	8488.76	1513.86	8545.67	1513.78	8557.93	1514
8886.13	1514	9134.19	1514	9577.51	1514	9673.62	1514	9684.68	1513.93
9761.49	1513.6	9782.91	1512.93	9801.23	1512.86	9813.8	1512	9829.42	1511.56
9842.85	1512.1	9856.24	1514	9881.52	1514	9890.62	1513.54	9899.39	1513.27
9907.48	1512.8	9929.62	1511.96	9956.6	1511.23	9964.98	1510	9969.93	1508.32
9970.47	1507.7	9974.63	1506	9979.68	1504.57	10042.83	1506.41	10048.31	1506.6
10055.85	1507.5	10057.07	1508	10064.48	1509.76	10080.72	1509.92	10081.75	1510
10087.34	1511.4	10096.69	1512	10121.23	1512.65	10135.09	1512.82	10141.14	1512.75
10175.03	1512	10178.67	1511.01	10188.43	1509.93	10211.98	1509.09	10226.29	1508.59
10232.1	1509.31	10252.26	1509.33	10257.82	1509.49	10274.91	1509.66	10286.35	1510
10299.74	1511	10303.72	1511.25	10312.95	1511.45	10325.48	1512	10335.73	1513.34
10350.72	1513.41	10356.29	1513.58	10370.59	1513.57	10382.04	1513.43	10412.51	1513.21
10500.12	1512.91	10579.24	1512.94	10642.57	1512.18	10648.62	1512.61	10651.09	1512.25
10666.58	1512	10732.08	1511.21	10740.13	1510.67	10744.02	1510.64	10762.63	1510
10783.21	1509.81	10808.27	1509.55	10822.69	1509.19	10857.17	1508.91	10879.43	1508.78
10892.58	1508.71	10916.54	1508.83	10937.09	1509.11	10954.75	1509.15	10972.43	1509.35
10975.51	1509.41	11008.08	1509.71	11012.6	1509.85	11026.76	1510	11036.95	1510.27
11046.95	1510.31	11070.81	1510.83	11094.51	1511.76	11128.22	1511.92	11149.96	1511.89
11241.48	1511.5	11246.77	1511.22	11263.2	1510.54	11272.33	1510.51	1281.94	1510
11309.44	1509.91	11328.11	1510	11359.78	1510.64	11425.3	1510.99	11510.05	1511.12
11527.57	1511								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7998.57	.035	9881.52	.035	10135.09	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9881.52	10135.09	106.4	106.4	106.4	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7998.57	9448	1530	10552	11527.57	1530

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0074 Profile # 1

W.S. Elev (ft)	1517.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.54	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1520.00	Reach Len. (ft)	106.40	106.40	106.40
E.G. Slope (ft/ft)	0.008136	Flow Area (sq ft)	1649.18	1968.76	2308.17
Q Total (cfs)	72450.00	Flow (cfs)	15385.81	29420.48	27643.71
Top Width (ft)	3529.00	Top Width (ft)	1882.95	253.57	1392.48
Vel Total (ft/s)	12.23	Avg. Vel. (ft/s)	9.33	14.94	11.98
Max Chl Dpth (ft)	12.89	Hydr. Depth (ft)	3.80	7.76	5.54
Crit W.S. (ft)	1517.46	Wetted Per. (ft)	433.71	255.40	417.34
Conv. Total (cfs)	803197.9	Conv. (cfs)	170570.8	326162.4	306464.7

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0074 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9379.40	9504.93	2.36	196.78	56.93	19098.6	3.46	8.68
9504.93	9630.46	5.20	433.90	125.53	42112.6	3.46	8.68
9630.46	9755.99	5.53	450.20	125.53	44781.5	3.59	8.90
9755.99	9881.52	8.15	568.30	125.72	65959.8	4.53	10.39
9881.52	9898.42	0.78	65.05	16.92	6777.7	3.85	8.69
9898.42	9915.33	1.05	77.52	16.93	9076.5	4.59	9.77
9915.33	9932.23	1.32	89.13	16.92	11458.8	5.27	10.73
9932.23	9949.14	1.55	97.98	16.91	13419.0	5.80	11.43
9949.14	9966.04	1.90	111.16	17.06	16464.6	6.58	12.36
9966.04	9982.95	4.31	185.59	17.94	37411.4	10.98	16.82
9982.95	9999.85	5.60	212.11	16.91	48609.8	12.55	19.12
9999.85	10016.76	5.24	203.82	16.91	45485.4	12.06	18.62
10016.76	10033.66	4.89	195.55	16.91	42449.3	11.57	18.11
10033.66	10050.57	4.53	186.82	16.93	39314.7	11.05	17.56
10050.57	10067.47	3.19	152.64	17.25	27727.6	9.03	15.16
10067.47	10084.38	2.38	127.16	16.99	20655.2	7.52	13.55
10084.38	10101.28	1.53	97.64	17.02	13286.6	5.78	11.35
10101.28	10118.19	1.25	86.40	16.91	10881.9	5.11	10.51
10118.19	10135.09	1.11	80.20	16.91	9612.0	4.74	10.00
10135.09	10227.92	11.09	615.08	93.07	91962.6	6.63	13.06
10227.92	10320.75	13.32	686.21	92.93	110474.9	7.39	14.06
10320.75	10413.59	5.20	390.11	92.93	43100.1	4.20	9.65
10413.59	10506.42	5.64	409.73	92.83	46805.6	4.41	9.98
10506.42	10599.25	2.91	207.03	45.58	24105.3	4.54	10.17

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 17.99
Description: 17.99

Station Elevation Data, num = 115

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9278.98	1514	9321.78	1513.02	9341.09	1512.71	9358.58	1512	9365.82	1510
9371.57	1507.92	9374.38	1506	9402.69	1506	9420.63	1507.2	9428.65	1507.9
9445.16	1509.67	9446.89	1510	9523.63	1510	9532.36	1509.1	9534.26	1509.11
9547.74	1508.12	9558.27	1508.58	9578.18	1509.2	9598.83	1508.9	9612.4	1508.65
9646.79	1507.42	9678.28	1506.59	9694.33	1506	9728.35	1506	9740.16	1507.57
9743.82	1508.31	9747.3	1510	9764.35	1510	9778.75	1508.9	9784.62	1508
9815.92	1508	9822.01	1508.31	9833.33	1508	9838.59	1507.5	9884.06	1506.34
9890.09	1506	9894.18	1505.57	9919.02	1504.63	9923.23	1504	9934.89	1502.63
9942.33	1502	9957.78	1500	9964.21	1498.91	9970.67	1498	9984.43	1497.36
10009.01	1496	10025.5	149	10043.89	1497.43	10052.1	149	10060.97	1499.6
10062.11	150	10079.84	150	10083.44	1502.48	10090.75	150	10103.06	1506
10115.08	150	10125.46	150	10138.12	1505.96	10143.1	150	10150.89	1501.55
10159.37	150	10182.67	1499.06	10191.32	1498.65	10211.59	149	10244.26	1498
10250.2	1497.78	10268.37	1497.78	10296.27	149	10312.16	1498.41	0323.49	1498.39
10341.85	149	10362.89	1497.72	10395.04	1497.55	10415.88	1497.41	0435.61	1497.53
10472.13	149	10500.49	1498.66	10525.3	1498.89	10535.94	1498.6	10552.1	1498
10571.57	1497.76	10602.27	1497.76	10635.51	149	10642.88	1499.41	0648.81	1498.88
10653.35	149	10678.88	149	10684.89	1498.63	10694.66	1498.71	0716.08	1498.33
10725.97	1498.34	10738.45	1498.61	10752.16	1499.17	10765.54	1499.11	0804.07	1499.41
10814.92	1499.45	10821.36	1499.61	10829.22	150	10851.89	1503.41	0854.71	1504
10889.46	1504.89	10908.95	150	10918.54	1506.1	10946	150	11014.83	1506
11026.62	1505.14	11042.26	150	11050.89	150	11065.42	1506.61	1077.07	1506.79
11096.51	1507.21	1128.05	1507.58	11192.02	1508.03	11221.27	1508.11	1248.19	1508.12

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9278.98	.035	9934.89	.035	10083.44	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9934.89	10083.44		0	0	0 .1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
9278.98	9443	1530	10557	11248.19	1530

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 17.99 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1502.56	Element			
Vel Head (ft)	14.36	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1516.92	Reach Len. (ft)			
E.G. Slope (ft/ft)	0.073910	Flow Area (sq ft)		604.46	1779.23
Q Total (cfs)	72450.00	Flow (cfs)		17787.20	54662.79
Top Width (ft)	846.65	Top Width (ft)		147.69	698.96
Vel Total (ft/s)	30.39	Avg. Vel. (ft/s)		29.43	30.72
Max Chl Dpth (ft)	6.56	Hydr. Depth (ft)		4.09	4.34
Crit W.S. (ft)	1506.46	Wetted Per. (ft)		148.48	410.07
Conv. Total (cfs)	266492.8	Conv. (cfs)		65426.7	201066.1

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may

indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 17.99 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9934.89	9944.79	0.03	3.60	9.09	82.4	0.40	5.41
9944.79	9954.70	0.27	15.02	9.99	837.5	1.52	13.18
9954.70	9964.60	0.80	28.65	10.02	2449.5	2.89	20.21
9964.60	9974.50	1.57	42.88	9.97	4815.1	4.33	26.55
9974.50	9984.41	1.98	49.18	9.91	6072.8	4.97	29.19
9984.41	9994.31	2.33	54.17	9.92	7132.4	5.47	31.13
9994.31	10004.21	2.73	59.60	9.92	8362.5	6.02	33.17
10004.21	10014.12	3.10	64.31	9.91	9497.5	6.49	34.91
10014.12	10024.02	3.15	64.94	9.90	9658.5	6.56	35.16
10024.02	10033.92	2.93	62.18	9.93	8969.0	6.28	34.10
10033.92	10043.83	2.36	54.64	9.93	7228.1	5.52	31.27
10043.83	10053.73	1.85	47.27	9.95	5671.0	4.77	28.36
10053.73	10063.63	1.01	33.04	10.10	3092.3	3.34	22.12
10063.63	10073.54	0.37	18.09	9.97	1142.9	1.83	14.94
10073.54	10083.44	0.07	6.89	9.98	228.8	0.70	7.85
10083.44	10161.09	0.44	21.20	14.08	1182.5	1.54	14.97
10161.09	10238.74	12.11	307.62	77.69	32687.1	3.96	28.53
10238.74	10316.39	15.51	356.73	77.66	41849.5	4.59	31.49
10316.39	10394.04	15.87	361.73	77.66	42833.7	4.66	31.79
10394.04	10471.69	17.56	384.39	77.65	47400.0	4.95	33.10
10471.69	10549.34	12.45	312.65	77.67	33588.2	4.03	28.84
10549.34	10626.99	1.51	34.91	7.66	4073.8	4.56	31.33

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 19.03
Description: 19.03

Station Elevation Data, num = 64

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8185.25	1542	8264.23	1542	8282.14	1542	8360.85	1542.3	8428.15	1542.35
8528.55	1542.1	8551.13	1542.07	8598.29	1542.15	8628.73	1542.14	8680.07	1541.97
8733.38	1542	8759.7	1541.63	8799.06	1540	8804.83	1539	8836.33	1540.43
8867.62	1541.8	8877.87	1541.93	8903.83	1541.75	8943.71	1541.71	8974.5	1541.51
8979.98	1542	9124.47	1542	9129.58	1541.32	9148.41	1541.48	9174.07	1542
9425.36	1542	9446.75	1541.36	9477.42	1541.22	9499.88	1541.48	9510.48	1542
9525.71	1542	9565.73	1543.75	9574.42	1544	9590.16	1544	9628.63	1544.48
9672.63	1544	9727.7	1542	9735.95	1542	9785.72	1540.7	9821.98	1540.25
9848.84	1540.1	9869.35	1540.15	9905.7	1540.46	9949.57	1541.05	9979.34	1542
10071.16	1542	10081.55	1542.52	10106.82	1543.42	10119.22	1543.69	10133.6	1543.64
10135.76	1543.7	10148.87	1543.56	10153.36	1543.6	10201.82	1542.55	10215.9	1542.36

```
10221.06  1542.410257.77 1543.7110302.97 1545.7210328.59 1546.0510353.35 1546.02
10378.77  1546.810408.96 1547.8510412.26    154810443.43 1548.69

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8185.25    .035 9174.07    .03510071.16    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9174.0710071.16             1050     430     330             .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 8185.25 8185.25    1546   1020010443.43    1546

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 19.03     Profile # 1

  W.S. Elev (ft)       1543.90   Element              Left OB    Channel   Right OB
  Vel Head (ft)           0.83   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1544.73   Reach Len. (ft)      1050.00     430.00     330.00
  E.G. Slope (ft/ft)  0.010895   Flow Area (sq ft)    2027.44    1766.10      91.69
  Q Total (cfs)       28150.00   Flow (cfs)          14479.22   13346.99     323.79
  Top Width (ft)       1972.66   Top Width (ft)        988.82     792.87     190.96
  Vel Total (ft/s)        7.25   Avg. Vel. (ft/s)        7.14       7.56       3.53
  Max Chl Dpth (ft)       4.90   Hydr. Depth (ft)        2.05       2.23       0.71
  Crit W.S. (ft)       1543.76   Wetted Per. (ft)      990.98     793.01     128.88
  Conv. Total (cfs)   269688.0   Conv. (cfs)         138716.6   127869.4     3102.0


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 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.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.

FLOW DISTRIBUTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 19.03     Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  8185.25      8251.17        2.88     125.48     67.82     8028.9       1.90       6.45
  8251.17      8317.09        2.84     123.16     65.92     7931.2       1.87       6.49
  8317.09      8383.01        2.32     109.17     65.92     6487.6       1.66       5.99
  8383.01      8448.94        2.13     103.71     65.92     5955.6       1.57       5.79
  8448.94      8514.86        2.40     111.24     65.92     6693.6       1.69       6.07
  8514.86      8580.78        2.69     119.15     65.92     7505.4       1.81       6.35
  8580.78      8646.70        2.60     116.72     65.92     7252.8       1.77       6.27
  8646.70      8712.62        2.92     125.32     65.92     8165.2       1.90       6.57
  8712.62      8778.54        3.72     144.80     65.94    10385.6       2.20       7.23
  8778.54      8844.46        9.58     255.53     66.07    26730.7       3.88      10.55
  8844.46      8910.38        3.90     149.05     65.94    10898.4       2.26       7.37
  8910.38      8976.31        3.83     147.34     65.93    10692.7       2.24       7.32
  8976.31      9042.23        2.95     126.09     65.94     8247.2       1.91       6.60
  9042.23      9108.15        2.93     125.49     65.92     8182.8       1.90       6.58
  9108.15      9174.07        3.74     145.19     65.97    10429.5       2.20       7.24
  9174.07      9233.88        2.58     113.84     59.81     7423.6       1.90       6.37
  9233.88      9293.68        2.58     113.85     59.81     7423.7       1.90       6.37
  9293.68      9353.49        2.58     113.84     59.81     7423.6       1.90       6.37
  9353.49      9413.29        2.58     113.84     59.81     7423.6       1.90       6.37
  9413.29      9473.10        3.60     139.14     59.82    10370.5       2.33       7.28
  9473.10      9532.91        3.36     133.39     59.83     9665.5       2.23       7.08
  9532.91      9592.71        0.36      29.01     38.20     1025.1       0.76       3.45
  9592.71      9652.52
  9652.52      9712.32        0.28      24.91     37.06      811.5       0.67       3.18
  9712.32      9772.13        3.08     126.65     59.83     8864.3       2.12       6.84
  9772.13      9831.94        6.71     202.10     59.81    19319.7       3.38       9.34
  9831.94      9891.74        7.90     222.91     59.81    22749.2       3.73       9.97
  9891.74      9951.55        6.19     192.60     59.81    17831.3       3.22       9.05
```

9951.55	10011.35	3.06	126.17	59.82	8809.4	2.11	6.82
10011.35	10071.16	2.58	113.84	59.81	7423.6	1.90	6.37
10071.16	10095.98	0.54	33.33	24.84	1721.5	1.34	4.58
10095.98	10120.80	0.10	12.00	24.83	313.7	0.48	2.32
10120.80	10145.61	0.03	6.12	24.82	102.1	0.25	1.48
10145.61	10170.43	0.08	10.85	24.82	265.5	0.44	2.17
10170.43	10195.25	0.30	23.39	24.82	954.2	0.94	3.61
10195.25	10220.07	0.09	6.00	4.75	297.4	1.26	4.39

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 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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.99
Description: 18.99

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8314.12	1540.3	8317.26	1539.91	8347.52	1538	8359.78	1537.4	8387.4	1536
8425.18	1535.45	8457.57	1535.05	8510.44	1534.53	8533.6	1534.5	8547.8	1534.48
8577.1	1534.51	8620.3	1534.45	8648.18	1534.45	8662.93	1534.5	8780.58	1534.61
8843.96	1534.93	8910.73	1535.03	9003.51	1535.59	9037.55	1536	9090.41	1536
9160.08	1536	9179.03	1535.65	9198.99	1535.53	9223.53	1535.5	9235.25	1535.54
9319.03	1535.92	9329.62	1536	9502.15	1536	9513.65	1536.8	9516.44	1536.85
9538.55	1536	9634.11	1536	9686.27	1536.04	9754.87	1536.3	9764.93	1536
9848.76	1536	9862.37	1536.33	9870.79	1536.38	9899.51	1536.4	9939.67	1536.62
9954.62	1536.77	9975.7	1536.91	10010.76	1537.21	10080.15	1537.91	10107.95	1538
10133.04	1538.01	10185.43	1538.67	10197.91	1538.81	10238.94	1539.11	10263.58	1539.03
10317.03	1539.36	10327.5	1539.32	10351.32	1540	10366.36	1540	10405.55	1538
10453.4	1538	10497.78	1539.38	10524.06	1539.83	10540.38	1539.9		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8314.12	.035	8347.52	.035	10010.76	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8347.52	10010.76	470	510	480	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10350	10540.38	1540.5

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.99 Profile # 1

W.S. Elev (ft)	1537.97	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.82	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1538.78	Reach Len. (ft)	470.00	510.00	480.00
E.G. Slope (ft/ft)	0.009479	Flow Area (sq ft)		3869.68	29.65
Q Total (cfs)	28150.00	Flow (cfs)		28090.79	59.21
Top Width (ft)	1750.88	Top Width (ft)		1662.59	88.30
Vel Total (ft/s)	7.22	Avg. Vel. (ft/s)		7.26	2.00
Max Chl Dpth (ft)	3.52	Hydr. Depth (ft)		2.33	0.34
Crit W.S. (ft)	1537.71	Wetted Per. (ft)		1662.71	88.30
Conv. Total (cfs)	289127.5	Conv. (cfs)		288519.4	608.1

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.99 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8347.52	8458.40	4.66	213.53	110.29	14082.4	1.94	6.14
8458.40	8569.29	11.58	369.65	110.89	35021.3	3.33	8.82
8569.29	8680.17	12.50	386.99	110.88	37801.7	3.49	9.09
8680.17	8791.05	11.96	376.78	110.88	36155.0	3.40	8.93
8791.05	8901.93	10.15	341.41	110.88	30677.0	3.08	8.37
8901.93	9012.82	7.91	294.12	110.89	23927.3	2.65	7.57
9012.82	9123.70	4.95	221.90	110.88	14960.8	2.00	6.28
9123.70	9234.58	5.91	246.94	110.89	17878.0	2.23	6.74
9234.58	9345.46	5.70	241.57	110.88	17235.1	2.18	6.64
9345.46	9456.35	4.81	218.22	110.88	14549.2	1.97	6.21
9456.35	9567.23	4.23	201.92	110.93	12780.2	1.82	5.89
9567.23	9678.11	4.78	217.47	110.88	14466.5	1.96	6.19
9678.11	9788.99	4.33	204.74	110.89	13082.5	1.85	5.95
9788.99	9899.88	4.22	201.64	110.89	12753.3	1.82	5.89
9899.88	10010.76	2.10	132.80	110.89	6358.3	1.20	4.46
10010.76	10046.07	0.17	20.83	35.31	622.1	0.59	2.33
10046.07	10081.38	0.04	8.26	35.31	133.1	0.23	1.26
10081.38	10116.68	0.00	0.56	17.68	2.4	0.03	0.33

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 INPUT Reach: SCATTER WASH River Station: 18.91
Description: 18.91

Station Elevation Data, num = 55

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8466.74	1538.92	8471.19	1538	8492.23	1536	8515.18	1534	8579.9	1532
8605.71	1531.33	8633.81	1530.6	8642.79	1530.51	8726.06	1530.38	8792.52	1530
8895.33	1530	8953.25	1530.1	8988.82	1530	9095.83	1530	9153.61	1530.24
9175.39	1530.3	9260.84	1530.4	9308.87	1530.48	9334.59	1530.43	9443.27	1530.07
9464.29	1530.09	9473.5	1530.2	9494.24	1530	9559	1530	9585.51	1530.44
9596.92	1530.54	9673.14	1531.6	9701.28	1531.56	9774.96	1531.82	9808.53	1532
9852.35	1532.19	9888.04	1532.4	9950.52	1532.92	10023.32	1533.47	10080.59	1534
10156.22	1534	10190.71	1534.4	10225.81	1534.81	10253.24	1534.93	10262.01	1534.99
10310.44	1534.87	10340.12	1534.5	10382.69	1534.32	10398.36	1534	10428.9	1534
10488.81	1533.73	10532.72	1534	10577.89	1534.21	10607.68	1534.29	10635.42	1534.32
10682.21	1534.28	10751.19	1535.6	10774.78	1536	10834.38	1537.27	10933.49	1539.32

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8466.74	.035	8579.9	.035	10023.32	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8579.91	10023.32	520	500	480	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.91 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1533.42	Element			
Vel Head (ft)	0.85	Wt. n-Val.	0.035	0.035	
E.G. Elev (ft)	1534.26	Reach Len. (ft)	520.00	500.00	480.00
E.G. Slope (ft/ft)	0.008307	Flow Area (sq ft)	32.40	3793.70	
Q Total (cfs)	28150.00	Flow (cfs)	99.51	28050.49	
Top Width (ft)	1481.94	Top Width (ft)	45.79	1436.15	
Vel Total (ft/s)	7.36	Avg. Vel. (ft/s)	3.07	7.39	
Max Chl Dpth (ft)	3.42	Hydr. Depth (ft)	0.71	2.64	
Crit W.S. (ft)		Wetted Per. (ft)	45.81	1436.19	
Conv. Total (cfs)	308861.0	Conv. (cfs)	1091.8	307769.2	

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.91 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8527.09	8534.64	0.00	0.00	0.53	0.0	0.01	0.13
8534.64	8542.18	0.00	1.00	7.55	11.1	0.13	0.85
8542.18	8549.72	0.02	2.76	7.55	60.0	0.37	1.67
8549.72	8557.27	0.04	4.52	7.55	136.3	0.60	2.32
8557.27	8564.81	0.06	6.28	7.55	235.8	0.83	2.89
8564.81	8572.36	0.10	8.04	7.55	355.8	1.07	3.41
8572.36	8579.90	0.14	9.80	7.55	494.8	1.30	3.89
8579.90	8676.13	5.55	237.41	96.25	18401.2	2.47	6.58
8676.13	8772.36	8.03	296.24	96.23	26614.9	3.08	7.63
8772.36	8868.58	9.49	327.46	96.23	31452.5	3.40	8.15
8868.58	8964.81	9.36	324.76	96.23	31021.5	3.37	8.11
8964.81	9061.04	9.50	327.81	96.23	31508.8	3.41	8.16
9061.04	9157.27	9.17	320.79	96.23	30392.6	3.33	8.04
9157.27	9253.50	8.04	296.63	96.23	26673.8	3.08	7.63
9253.50	9349.72	7.60	286.75	96.23	25209.8	2.98	7.46
9349.72	9445.95	8.54	307.39	96.23	28305.8	3.19	7.82
9445.95	9542.18	9.31	323.73	96.23	30856.6	3.36	8.09
9542.18	9638.41	7.43	282.83	96.24	24635.9	2.94	7.39
9638.41	9734.64	3.60	182.98	96.23	11923.0	1.90	5.53
9734.64	9830.86	2.53	148.23	96.23	8394.1	1.54	4.81
9830.86	9927.09	1.33	100.59	96.23	4398.5	1.05	3.71
9927.09	10023.32	0.19	30.10	88.96	620.4	0.34	1.75

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 INPUT Reach: SCATTER WASH River Station: 18.82
Description: 18.82

Station Elevation Data, num = 58

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8396.74	1532.85	8400.48	1532	8413.04	1530	8456.22	1528	8509.84	1526.87
8527.04	1526.65	8566.48	1526	8572.32	1526	8702	1525.84	8790.68	1525.69
8852.66	1525.73	8875.23	1525.66	8932.93	1525.6	9018.74	1525.71	9037.54	1525.71
9161.52	1525.91	9200.84	1526	9252.84	1526.1	9287.96	1526.16	9313.9	1526
9420.93	1526	9461.77	1526	9527.81	1526.9	9531.62	1526.88	9569.85	1526.75
9589.19	1526.94	9607.34	1527.22	9612.21	1527.2	9653.51	1527.35	9665.79	1527.23
9735.03	1526.91	9785.81	1527.12	9820.19	1527.2	9873.95	1527.53	9880.47	1527.54
9952.89	1528.01	9978.44	1528.11	10081.46	1528	10130.99	1527.85	10183.27	1527.72
10204.25	1527.74	10226.54	1527.82	10270.55	1528.11	10341.26	1528.43	10364.49	1528.45
10372.2	1528.41	10388.53	1528	10466.88	1528	10543.96	1527.67	10564.58	1527.62
10596.25	1527.79	10625.6	1527.91	10664.58	1528	10841.82	1528	10898.64	1530
10946.56	1531.72	10953.2	1532	11014.4	1532				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8396.74	.035	8456.22	.035	10081.46	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8456.22	10081.46	530	575	550	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.82 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1528.65	Element			
Vel Head (ft)	0.83	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1529.47	Reach Len. (ft)	530.00	575.00	550.00
E.G. Slope (ft/ft)	0.011158	Flow Area (sq ft)	4.52	3512.16	525.63
Q Total (cfs)	28150.00	Flow (cfs)	9.55	26326.65	1813.80
Top Width (ft)	2417.96	Top Width (ft)	13.97	1625.24	778.74
Vel Total (ft/s)	6.96	Avg. Vel. (ft/s)	2.11	7.50	3.45
Max Chl Dpth (ft)	3.05	Hydr. Depth (ft)	0.32	2.16	0.67
Crit W.S. (ft)	1528.65	Wetted Per. (ft)	13.99	1625.27	778.76
Conv. Total (cfs)	266491.1	Conv. (cfs)	90.4	249229.8	17171.0

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.82 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8440.36	8444.32	0.00	0.10	2.08	0.6	0.05	0.50
8444.32	8448.29	0.00	0.75	3.97	10.4	0.19	1.25
8448.29	8452.25	0.01	1.47	3.97	32.3	0.37	1.97
8452.25	8456.22	0.02	2.20	3.97	63.1	0.56	2.57
8456.22	8564.57	3.89	184.01	108.37	11118.5	1.70	5.94
8564.57	8672.92	8.44	293.02	108.35	24148.0	2.70	8.11
8672.92	8781.27	9.22	308.95	108.35	26374.3	2.85	8.40
8781.27	8889.62	9.75	319.51	108.35	27895.0	2.95	8.59
8889.62	8997.97	10.10	326.47	108.35	28914.0	3.01	8.71
8997.97	9106.32	9.50	314.70	108.35	27197.4	2.90	8.50
9106.32	9214.67	8.57	295.82	108.35	24533.6	2.73	8.16
9214.67	9323.01	7.72	277.75	108.35	22087.2	2.56	7.82
9323.01	9431.36	8.14	286.81	108.35	23300.8	2.65	7.99
9431.36	9539.71	6.33	246.69	108.35	18124.9	2.28	7.23
9539.71	9648.06	3.59	175.47	108.35	10273.4	1.62	5.76
9648.06	9756.41	3.38	169.18	108.35	9666.9	1.56	5.62
9756.41	9864.76	2.96	156.21	108.35	8463.6	1.44	5.33
9864.76	9973.11	1.25	93.09	108.35	3571.8	0.86	3.77
9973.11	10081.46	0.68	64.48	108.35	1936.8	0.60	2.96
10081.46	10143.66	0.58	46.06	62.20	1600.7	0.74	3.53
10143.66	10205.85	0.79	55.46	62.20	2181.7	0.89	4.00
10205.85	10268.05	0.59	46.73	62.20	1639.7	0.75	3.57
10268.05	10330.24	0.22	25.73	62.20	606.5	0.41	2.40
10330.24	10392.44	0.13	19.03	62.20	366.8	0.31	1.96
10392.44	10454.64	0.46	40.25	62.20	1278.3	0.65	3.23
10454.64	10516.83	0.57	45.59	62.20	1573.4	0.73	3.51
10516.83	10579.03	0.89	59.87	62.20	2478.2	0.96	4.21
10579.03	10641.22	0.67	50.46	62.20	1863.2	0.81	3.75
10641.22	10703.42	0.48	40.95	62.20	1315.6	0.66	3.27
10703.42	10765.62	0.46	40.25	62.20	1278.3	0.65	3.23
10765.62	10827.81	0.46	40.25	62.20	1278.3	0.65	3.23
10827.81	10890.01	0.14	15.01	32.40	381.6	0.46	2.58

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.72
Description: 18.72

Station Elevation Data, num = 70

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8157.75	1532	8170.21	1530	8198.2	1528	8262.21	1526	8352.87	1524.35
8369.22	1524	8396.36	1523.7	8523.56	1522.46	8571.68	1522	8599.17	1522
8729.36	1521.21	8769.43	1521.3	8815.29	1521.18	8831.87	1521.09	8866.9	1521.22
8908.19	1521.27	8943.73	1521.4	8990.21	1521.45	9015.9	1521.28	9100.28	1521.23
9198.27	1521.2	9222.28	1521.2	9301.61	1521.05	9353.56	1521.17	9389.77	1521.38
9401.04	1521.38	9501.66	1522	9597.74	1522	9644.97	1521.69	9690.7	1521.82
9726.85	1521.74	9790.45	1521.8	9827.91	1521.86	9867.08	1522.07	9892.55	1522.14
9931.85	1522.08	9973.49	152210000.48		152210061.08		152210116.84		1521.5
10134	1521.5	10253.4	152210353.04		1522.0810390.64		1522.1110478.49		1522.41
10490.55	1522.42	10564.73	1522.210595.01		1522	10663.7	152210715.21		1523.4
10728.78	1523.81	10755.94	1523.8	10782.3	152410804.44		1524	10809.1	1525.58
10816.91	1525.84	10830.54	1525.9	10872.2	1525.5710879.75		1525.7210910.31		1526
10962.1	152610993.93		152711020.56		152811041.14		152811062.75		1528.66
11080.93	1529.03	11097.14	1529.211107.65		153011133.48		153011148.54		1530.61

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8157.75	.035	8571.68	.03	10000.48	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8571.68	10000.48	540	1160	260	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.72 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1526.13	Element			
Vel Head (ft)	0.12	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1526.25	Reach Len. (ft)	540.00	1160.00	260.00
E.G. Slope (ft/ft)	0.000632	Flow Area (sq ft)	757.21	6542.15	3161.23
Q Total (cfs)	28150.00	Flow (cfs)	464.65	21313.63	6371.72
Top Width (ft)	2708.37	Top Width (ft)	313.72	1428.80	965.85
Vel Total (ft/s)	2.69	Avg. Vel. (ft/s)	1.92	2.94	2.35
Max Chl Dpth (ft)	5.08	Hydr. Depth (ft)	2.41	4.58	3.27
Crit W.S. (ft)		Wetted Per. (ft)	313.75	1428.81	966.15
Conv. Total (cfs)	1119488.0	Conv. (cfs)	57840.5	765852.3	295795.1

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.72 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8406.11	8433.70	0.00	1.02	14.47	7.4	0.07	0.72
8433.70	8461.30	0.05	7.60	27.60	136.7	0.28	1.79
8461.30	8488.89	0.15	15.03	27.60	425.4	0.54	2.83
8488.89	8516.49	0.29	22.45	27.60	830.6	0.81	3.69
8516.49	8544.08	0.47	29.83	27.60	1334.1	1.08	4.46
8544.08	8571.68	0.68	37.12	27.60	1920.0	1.35	5.16
8571.68	8666.93	3.74	154.62	95.25	9066.2	1.62	6.82
8666.93	8762.19	5.89	202.90	95.26	14260.9	2.13	8.17
8762.19	8857.44	6.59	217.06	95.25	15957.8	2.28	8.55
8857.44	8952.69	6.16	208.37	95.25	14907.3	2.19	8.32
8952.69	9047.95	5.83	201.76	95.25	14128.0	2.12	8.14
9047.95	9143.20	6.41	213.50	95.25	15524.2	2.24	8.45
9143.20	9238.45	6.57	216.67	95.25	15910.3	2.27	8.54
9238.45	9333.71	7.06	226.21	95.25	17094.6	2.37	8.78
9333.71	9428.96	6.03	205.76	95.25	14597.6	2.16	8.25
9428.96	9524.21	3.84	156.97	95.26	9297.2	1.65	6.88
9524.21	9619.47	3.26	142.23	95.25	7888.5	1.49	6.45
9619.47	9714.72	4.07	162.62	95.25	9862.3	1.71	7.05
9714.72	9809.97	4.04	161.90	95.25	9789.1	1.70	7.03
9809.97	9905.23	3.19	140.50	95.25	7729.0	1.47	6.39

9905.23	10000.48	3.04	136.35	95.25	7352.2	1.43	6.27
10000.48	10077.02	2.59	114.18	76.54	6328.8	1.49	6.38
10077.02	10153.55	3.79	143.40	76.54	9252.2	1.87	7.43
10153.55	10230.09	3.33	132.78	76.54	8138.6	1.73	7.06
10230.09	10306.63	2.55	113.04	76.54	6224.0	1.48	6.34
10306.63	10383.17	2.34	107.42	76.54	5717.0	1.40	6.13
10383.17	10459.70	1.96	96.50	76.54	4781.4	1.26	5.71
10459.70	10536.24	1.58	84.84	76.54	3857.9	1.11	5.24
10536.24	10612.78	2.18	103.11	76.54	5340.0	1.35	5.96
10612.78	10689.32	2.22	104.12	76.55	5426.8	1.36	6.00
10689.32	10765.85	0.10	11.20	28.45	255.4	0.39	2.63

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 INPUT Reach: SCATTER WASH River Station: 18.5701
Description: 18.5701

Station Elevation Data, num = 151

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7270.31	1546.97	7319.52	1540	7335.79	1538	7343.07	1537.21	7355.43	1536
7381.95	1533.19	7392.54	1532	7412.67	1530	7436.38	1528	7442.39	1527.7
7472.93	1526	7491.71	1524	7613.79	1522	7663.71	1522	7717.85	1522
7738.32	1522.48	7791.36	1523.8	7800.41	1524	7803.04	1525.64	7811.09	1530
7822.46	1533.79	7837.18	1540	7854.33	1540	8076.17	1540	8362.42	1540
8366.48	1540	8458.65	1530	8476.15	1537.53	8485.39	1538	8493.88	1538
8502.99	1537.22	8504.44	1537	8537.03	1530	8552.74	1528	8558.22	1526
8582.73	1521.36	8590.75	1520.2	8601.33	1519.66	8618.49	1519.06	8689.96	1518.13
8709.64	1517.81	8722.69	1517.2	8728.49	1517.38	8759.37	1517.37	8779.56	1518
8791.14	1520	8803.48	1521	8817.14	1522.87	8826.89	1524	8841.79	1526
8860.03	1526	8879.13	1527.8	8882.08	1528	8904.33	1528	8926.14	1528
8948.58	1527.36	8960.69	1526	9007.84	1526	9029.25	1525.18	9042.71	1524.88
9056.41	1524.33	9071.41	1523.9	9095.9	1523.61	9113.55	1523.55	9121.38	1523.41
9134	1523.05	9168.17	1522.7	9186.73	1522.72	9199.92	1522.78	9201.65	1522
9255.41	1522	9269.59	1523.2	9297.09	1523.48	9326.12	1523.57	9338.09	1523.55
9352.94	1523.71	9360.93	1523.7	9384.6	1523.37	9414.87	1523.3	9495.44	1523.03
9508.18	1522.96	9548.58	1522	9566.91	1522	9577.26	1524	9585.75	1524
9599.9	1522	9626.81	1520	9676.47	1520	9691.7	1519.37	9711.85	1520
9741.21	1520	9933.84	1520	9959.46	1519.59	9977.5	1519.23	9990.72	1519.03
10006.58	1518	10050.72	1518	10057.68	1518.81	10064.38	1518.88	10118.19	1518.88
10149.87	1519.15	10185.15	1519.8	10195.49	1519.71	10261.68	1520	10287.93	1519.93
10336.05	1520	10454.74	1520	10482.24	1520.75	10497.24	1520.91	10515.4	1520.92
10532.18	1521.15	10558.22	1521.2	10573.57	1521.54	10599.52	1522	10720.2	1522
10728.34	1522.76	10776.28	1523.4	10802.5	1524	10857.98	1524	10873.73	1524.98
10878.66	1525.18	10885.29	1525.2	10894.23	1525.51	10898.76	1525.42	10910.48	1525.46
10932.95	1525.87	10939.21	1526	10970.35	1526	11002.19	1527.16	11021.03	1528
11080.1	1528	11125.48	1529.1	11147.79	1529.71	1157.16	1530	11201.64	1531.17
11227.89	1532	11235.3	1532	11249.86	1533.04	11276.41	1533.12	11308.59	1534
11358.63	1534	11382.58	1534.7	11411.78	1536	11436.97	1536	11446.02	1536.34
11486.89	1538	11512.55	1538	11537.04	1538.62	11577.89	1540	11591.51	1540
11609.01	1540.63								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7270.31	.045	8582.73	.045	10573.57	.045

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8582.73	10573.57	1	90	670	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
7270.31	8526.44	1545

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
7270.31	11026.44	1518

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.5701 Profile # 1

W.S. Elev (ft)	1525.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.045	0.045	0.045
E.G. Elev (ft)	1525.32	Reach Len. (ft)	1.00	90.00	670.00
E.G. Slope (ft/ft)	0.001496	Flow Area (sq ft)	37.82	7802.16	700.32
Q Total (cfs)	28150.00	Flow (cfs)	73.01	26518.07	1558.92
Top Width (ft)	2440.83	Top Width (ft)	341.26	1795.38	304.20
Vel Total (ft/s)	3.30	Avg. Vel. (ft/s)	1.93	3.40	2.23
Max Chl Dpth (ft)	7.14	Hydr. Depth (ft)	1.89	4.35	2.30
Crit W.S. (ft)	1522.30	Wetted Per. (ft)	20.34	1796.78	304.28
Conv. Total (cfs)	727915.2	Conv. (cfs)	1887.8	685716.1	40311.3

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.5701 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8495.24	8582.73	0.26	37.82	20.34	1887.8	1.89	1.93
8582.73	8715.45	11.98	839.05	132.84	94669.8	6.32	4.02
8715.45	8848.18	8.40	651.78	120.44	66339.8	5.43	3.63
8848.18	8980.90						
8980.90	9113.62	0.37	86.10	82.77	2918.9	1.04	1.21
9113.62	9246.34	2.61	336.61	132.90	20652.7	2.54	2.19
9246.34	9379.07	1.51	242.59	132.78	11971.4	1.83	1.76
9379.07	9511.79	1.69	259.19	132.72	13371.8	1.95	1.84
9511.79	9644.51	3.81	422.01	133.14	30068.3	3.18	2.54
9644.51	9777.23	8.73	693.84	132.75	69003.6	5.23	3.54
9777.23	9909.96	8.50	682.70	132.72	67174.0	5.14	3.51
9909.96	10042.68	11.20	805.85	132.76	88542.1	6.07	3.91
10042.68	10175.40	11.65	824.79	132.78	92032.0	6.21	3.97
10175.40	10308.13	8.86	700.07	132.73	70046.2	5.27	3.56
10308.13	10440.85	8.51	683.27	132.72	67267.0	5.15	3.51
10440.85	10573.57	6.37	574.32	132.74	50355.4	4.33	3.12
10573.57	10642.60	2.02	222.98	69.03	16088.9	3.23	2.55
10642.60	10711.63	1.93	217.01	69.03	15378.3	3.14	2.51
10711.63	10780.66	1.11	155.80	69.07	8848.1	2.26	2.01
10780.66	10849.69	0.40	84.41	69.04	3187.3	1.22	1.34
10849.69	10918.72	0.07	20.11	28.11	531.3	0.72	0.94

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.50
Description: Crest of CAP

Station Elevation Data, num = 203

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.

```
 7053.81 1552.23 7068.38    1550 7090.99 1546.97  7140.2    1540 7156.47    1538
 7163.75 1537.21 7176.11    1536 7202.62 1533.19 7213.22    1532 7233.35    1530
 7257.06    1528 7263.07  1527.7 7293.61    1526 7312.39    1524 7434.47    1522
 7484.39    1522 7538.53    1522    7559 1522.48 7612.04  1523.8 7621.09    1524
 7623.72 1525.64 7631.77    1530 7643.14 1533.79 7657.86    1540 7675.01    1540
 7896.85    1540  8183.1    1540 8187.16    1540 8279.33    1530 8296.83 1537.53
 8306.07    1538 8314.56    1538 8323.67 1537.22 8325.12    1537 8357.71    1530
 8373.42    1528  8378.9    1526 8403.41 1521.36 8411.43  1520.2 8422.01 1519.66
 8439.17 1519.06 8510.64 1518.13 8530.32 1517.81 8543.37  1517.2 8549.17 1517.38
 8580.05 1517.37 8600.24    1518 8611.82    1520 8624.16    1521 8637.82 1522.87
 8647.57    1524 8662.47    1526 8680.71    1526 8699.81  1527.8 8702.76    1528
 8725.01    1528 8746.82    1528 8769.26 1527.36 8781.37    1526 8828.52    1526
 8849.93 1525.18 8863.39 1524.88 8877.09 1524.33 8892.09  1523.9 8916.58 1523.61
 8934.23 1523.55 8942.06 1523.41 8954.68 1523.05 8988.85  1522.7 9007.41 1522.72
  9020.6 1522.78 9022.33    1522 9076.09    1522 9090.27  1523.2 9117.77 1523.48
  9146.8 1523.57 9158.77 1523.55 9173.62 1523.71 9181.61  1523.7 9205.28 1523.37
 9235.55  1523.3 9316.12 1523.03 9328.86 1522.96 9369.26    1522 9387.59    1522
 9397.94    1524 9406.43    1524 9420.58    1522 9447.49    1520 9497.15    1520
 9512.38 1519.37 9532.53    1520 9561.89    1520 9616.59    1520 9654.28    1520
 9662.06  1519.8 9678.56    1520 9710.04    1520 9721.92  1521.3 9742.04    1522
 9751.04    1522 9755.92 1522.78 9766.69 1523.13 9774.65    1524 9783.45    1524
 9787.06 1524.79 9792.09 1525.25 9798.16 1525.51 9803.11  1525.5 9814.08 1525.53
  9868.8 1526.23 9876.59 1526.36 9928.78 1526.65 9950.57  1526.7 9959.75 1527.23
 9969.81    1528 9981.19    1528 9997.07 1527.2310011.27 1527.310018.48 1527.31
10028.07 1527.6510032.56    152810058.36    152810065.73 1527.510132.74 1526.73
 10153.6 1526.1210159.79 1525.7310162.23 1525.2610177.64    152410197.45 1523.11
10213.53 1523.09 10227.2    152210248.61    152210274.55 1521.610286.77 1521.25
10342.47 1520.9310407.61 1520.9310418.16 1520.9110490.28    1520 10561.8    1520
10698.19    152010724.33 1521.51 10732.5 1521.8210738.26 1521.610745.18    1522
10754.56    152210772.03    152210774.19  1521.910805.31    152010820.48    1520
10827.48 1520.46 10852.6 1521.7310858.09 1521.7610862.04    152210933.57 1522.92
10983.23 1523.4810995.09 1523.3311003.08 1523.3411011.46 1523.411058.28 1523.59
11107.52    152411442.14    152411449.11 1523.6511452.72 1523.211457.87    1522
11517.44    152211750.63    152212036.62 1520.0812042.97    152012317.89    1518
12498.84    151812522.33    152012653.01    152012666.58    152012693.33    1518
12784.88    151812881.31 1519.1912916.13    152012988.54 1521.513019.71    1522
13210.68    1522 13262.8 1521.8313266.35 1521.8613307.14 1521.413324.28 1521.71
13335.32    152213350.98    152213368.11  1521.913384.13    152213458.54    1522
13480.35 1523.2813486.98 1523.3413500.56 1523.83 13505.5 1523.913519.95 1523.99
13544.59 1523.9613548.47    152413662.24 1523.9913682.57 1523.313728.48 1521.99
13750.54 1521.7613775.87 1521.5313788.84 1521.48

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 7053.81    .035 8314.56    .03510032.56    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       8314.5610032.56             151.3   151.3   151.3             .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 7053.81    8500    1530   1075013788.84    1530

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.50     Profile # 1

  W.S. Elev (ft)       1523.19   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.24   Wt. n-Val.                       0.035      0.035
  E.G. Elev (ft)       1524.43   Reach Len. (ft)       151.30     151.30     151.30
  E.G. Slope (ft/ft)  0.013790   Flow Area (sq ft)              1811.22    1344.65
  Q Total (cfs)       28150.00   Flow (cfs)                    16050.97   12099.03
  Top Width (ft)       3986.71   Top Width (ft)        226.17     869.45    2891.10
  Vel Total (ft/s)        8.92   Avg. Vel. (ft/s)                 8.86       9.00
  Max Chl Dpth (ft)       5.99   Hydr. Depth (ft)                 2.37       2.43
  Crit W.S. (ft)       1523.19   Wetted Per. (ft)               764.24     554.56
  Conv. Total (cfs)   239718.6   Conv. (cfs)                   136686.2   103032.4

Warning - The energy equation could not be balanced within the specified number
          of iterations.  The program used critical depth for the water surface and
          continued on with the calculations.
```

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 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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.50 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8429.09	8543.63	10.09	231.76	43.64	29948.0	5.31	12.26
8543.63	8658.16	16.12	423.16	97.37	47843.7	4.36	10.73
8658.16	8887.23						
8887.23	9001.76	0.12	17.59	52.16	361.8	0.34	1.95
9001.76	9116.29	1.13	82.62	88.67	3346.1	0.93	3.84
9116.29	9230.83						
9230.83	9345.36	0.06	13.70	78.38	181.8	0.17	1.26
9345.36	9459.89	2.92	151.09	96.46	8651.7	1.57	5.43
9459.89	9574.43	11.94	377.04	114.56	35418.9	3.29	8.91
9574.43	9688.96	11.48	368.33	114.54	34068.7	3.22	8.77
9688.96	9803.49	3.16	145.93	78.48	9369.0	1.86	6.09
9803.49	10032.56						
10032.56	10282.98	1.47	86.70	87.47	3659.4	0.99	4.76
10282.98	10533.40	19.88	631.25	250.43	49636.8	2.52	8.87
10533.40	10783.82	21.63	626.70	216.67	54012.7	2.89	9.72

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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 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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.47
Description: 18.47

Station Elevation Data, num = 39

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7530.1	1516	7759.54	1516	8042.21	1516	8458.63	1516	8460.54	1516.82
8465.45	1517	8506.91	1516.4	8527.11	1516	8771.85	1516	9171.77	1516
9179.4	1516.4	9193.22	1516.31	9196.12	1516.55	9203.71	1516.73	9211.33	1517.25
9226.67	1518	9237.12	1518.12	9280.33	1518.4	9290.31	1518.5	9315.32	1520
9354.36	1520	9362.22	1518	9372.08	1516	9376.91	1516	9380.77	1520
9427.27	1520	9441.17	1518	9447.45	1516.66	9451.46	1515.27	9453.61	1514.89
9470.65	1514.5	9550.9	1514	9567.29	1514	9659.47	1514	9704.68	1514.24
9750.29	1514	10396.4	1514	10660	1514	13824.67	1514		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7530.1	.035	9451.46	.035	10660	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9451.46	10660	60.1	60.1	60.1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev

7530.1 8462.5 1519 1078713824.67 1519

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.47 Profile # 1

W.S. Elev (ft)	1515.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	4.25	Wt. n-Val.	0.000	0.035	0.035
E.G. Elev (ft)	1519.56	Reach Len. (ft)	60.10	60.10	60.10
E.G. Slope (ft/ft)	0.110107	Flow Area (sq ft)	0.00	1534.74	166.02
Q Total (cfs)	28150.00	Flow (cfs)	0.00	25353.78	2796.22
Top Width (ft)	4373.32	Top Width (ft)	0.11	1208.54	3164.67
Vel Total (ft/s)	16.55	Avg. Vel. (ft/s)	0.95	16.52	16.84
Max Chl Dpth (ft)	1.31	Hydr. Depth (ft)	0.02	1.27	1.31
Crit W.S. (ft)	1516.56	Wetted Per. (ft)	0.11	1208.58	127.00
Conv. Total (cfs)	84834.0	Conv. (cfs)	0.0	76407.2	8426.8

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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 - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.47 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9323.37	9451.46	0.00	0.00	0.11	0.0	0.02	0.95
9451.46	9532.03	3.35	72.21	80.61	2848.6	0.90	13.04
9532.03	9612.60	6.17	104.22	80.57	5252.5	1.29	16.66
9612.60	9693.17	5.98	102.31	80.57	5093.5	1.27	16.46
9693.17	9773.74	5.51	97.44	80.57	4695.8	1.21	15.93
9773.74	9854.31	6.28	105.32	80.57	5346.0	1.31	16.78
9854.31	9934.88	6.28	105.32	80.57	5346.0	1.31	16.78
9934.88	10015.45	6.28	105.32	80.57	5346.0	1.31	16.78
10015.45	10096.01	6.28	105.32	80.57	5346.0	1.31	16.78
10096.01	10176.58	6.28	105.32	80.57	5346.0	1.31	16.78
10176.58	10257.15	6.28	105.32	80.57	5346.0	1.31	16.78
10257.15	10337.72	6.28	105.32	80.57	5346.0	1.31	16.78
10337.72	10418.29	6.28	105.32	80.57	5346.0	1.31	16.78
10418.29	10498.86	6.28	105.32	80.57	5346.0	1.31	16.78
10498.86	10579.43	6.28	105.32	80.57	5346.0	1.31	16.78
10579.43	10660.00	6.28	105.32	80.57	5346.0	1.31	16.78
10660.00	10870.98	9.93	166.02	127.00	8426.8	1.31	16.84

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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 - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.4601
Description: 18.4601

Station Elevation Data, num = 214

```
    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.

 8003.67 1518.69  8015.7 1518.67 8030.71  1518.4 8048.01 1518.34 8055.69 1518.58
 8064.29 1518.68 8081.89 1519.18 8089.99  1519.2 8104.96 1518.73 8117.57 1518.64
 8125.52 1518.43 8151.87 1518.32 8155.09  1518.2 8169.67  1518.4 8186.69 1518.27
 8198.56    1518 8217.73 1517.12 8225.03  1517.2 8236.25 1516.76 8251.07 1516.71
 8264.95 1516.47 8312.38 1516.15 8351.07    1516 8442.79    1516 8478.61 1514.48
 8484.46    1514 8514.47    1514 8534.64  1512.8 8546.66 1512.94 8564.15 1512.66
 8588.67  1513.7 8623.47 1513.64  8672.9  1513.6 8719.52    1514  8723.6    1514
 8732.94 1514.38  8744.8 1514.74 8754.68  1514.8 8780.73    1514  8919.7    1514
 8942.89 1515.03 8957.11 1515.24  8979.4  1515.3 8988.95 1515.13  9003.4 1515.25
  9028.9 1514.52 9042.38 1514.63 9048.03  1514.4 9057.21 1514.27 9068.41 1514.33
 9080.92  1514.7  9093.5 1515.29 9116.44    1516 9152.85    1516 9166.26 1516.66
 9179.29 1517.23  9197.9 1517.49 9200.46    1518  9212.4    1518 9233.85 1518.87
 9248.77  1519.8  9260.6    1520 9391.09    1520 9404.11 1518.97 9414.41 1518.75
 9416.94 1518.82  9434.1 1519.87 9438.99  1519.8 9443.24 1519.49 9452.68    1518
 9458.37 1516.91 9469.61    1516 9482.89  1515.3 9489.45 1515.37 9511.67 1516.14
 9519.44    1516 9527.32    1516 9550.25  1514.8 9563.25 1514.13 9566.03    1514
 9611.25    1514 9641.53 1513.91 9681.12    1514 9695.84    1516 9840.15    1516
 9852.77    1514 9867.16    1514 9909.45  1513.610003.91 1512.1910020.26    1512
10124.97    151210151.86 1511.8910206.24  1511.910272.54 1511.9710376.29 1511.95
10379.27 1511.9710441.87    151210467.73  1512.3 10483.1 1512.5710500.81 1513.28
10510.87 1513.6210527.29 1513.5710554.87  1514.110580.53 1514.5810590.23 1515.06
10604.13  1515.610635.09 1517.1310647.69  1517.610660.68 1517.8410671.25 1517.66
10685.22 1516.4910694.43 1516.9610710.17  1517.110756.04 1514.9910768.38 1515.17
10784.56 1514.9610800.62 1514.9110814.36  1514.710855.66    151410891.15 1513.83
 10922.9 1513.7711123.75 1513.7511143.88  1513.711220.69 1513.7911238.06 1513.62
11272.66 1512.9911326.26 1512.7811347.24  1513.711442.21 1513.7811480.48  1513.3
 11511.5 1512.8311572.14 1512.6511580.17    151211604.59 1511.8911648.63    1512
11682.46    151211715.71 1512.5611762.82  1513.511775.89 1513.5111815.74 1513.49
 11834.5 1513.5511838.98 1513.6611874.91  1513.811903.01    151411919.52 1514.36
11933.34 1514.3411949.84    151411969.74  1513.812000.02 1513.7312072.93 1513.67
12095.41 1513.6412115.64 1513.4712267.05  1513.412277.83 1513.4812288.62 1513.32
12325.31 1513.4112346.02  1513.212407.36  1513.912432.37 1513.7112439.91 1513.67
12448.94    151412490.71    151612507.37  1516.612512.19 1516.4712522.45    1514
12531.37 1513.8812533.83    151412543.64  1515.412545.67 1515.4112593.47    1513
12612.21    151212621.72  1511.912672.69  1511.612683.61 1511.4512760.69 1511.29
12779.08 1511.3412785.33 1511.2212801.86  1511.312818.84 1511.3912941.08 1511.44
12961.78 1511.7113065.64 1511.6913084.47    151213110.45    151213121.38 1512.71
13124.34    151313150.89    151413176.01    151413193.92 1514.6513208.61    1514
13227.43 1513.4213244.47    151213269.31    151213281.66 1513.1113284.25 1513.25
13311.01    1514 13319.3    151413334.84  1514.813359.49 1514.9413399.71 1515.26
13411.48 1515.47 13430.1 1515.2913440.74  1514.813472.82 1513.9813501.72 1513.35
   13533 1511.9513576.22    151213608.85    151413650.04    151413681.55 1513.71
 13722.5    151413754.13 1515.27 13787.7  1515.313807.13 1514.48

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8003.67    .035 9550.25    .03510590.23    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9550.2510590.23                 0       0       0              .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 8003.67    8450    1518   1079913807.13    1518

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.4601   Profile # 1

  W.S. Elev (ft)        1515.41   Element              Left OB    Channel   Right OB
  Vel Head (ft)            1.35   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)        1516.77   Reach Len. (ft)
  E.G. Slope (ft/ft)   0.015033   Flow Area (sq ft)     818.52    2332.72      20.17
  Q Total (cfs)        28150.00   Flow (cfs)           4980.19   23118.64      51.17
  Top Width (ft)        4572.43   Top Width (ft)        662.55     887.65    3022.23
  Vel Total (ft/s)         8.88   Avg. Vel. (ft/s)        6.08       9.91       2.54
  Max Chl Dpth (ft)        4.19   Hydr. Depth (ft)        1.24       2.63       0.33
  Crit W.S. (ft)        1515.67   Wetted Per. (ft)      662.76     887.94      61.28
  Conv. Total (cfs)    229592.7   Conv. (cfs)          40618.6   188556.7      417.3
```

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.4601 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8416.09	8519.20	1.16	66.89	62.63	2967.0	1.07	4.90
8519.20	8622.30	6.20	222.90	103.16	15816.9	2.16	7.83
8622.30	8725.41	4.11	174.18	103.11	10489.2	1.69	6.65
8725.41	8828.51	2.19	119.34	103.13	5584.8	1.16	5.17
8828.51	8931.62	2.95	142.57	103.12	7511.7	1.38	5.82
8931.62	9034.72	0.32	37.95	103.13	827.4	0.37	2.41
9034.72	9137.83	0.73	50.43	62.79	1849.8	0.80	4.05
9137.83	9447.14						
9447.14	9550.25	0.02	4.26	21.70	61.0	0.20	1.58
9550.25	9619.58	1.91	91.87	69.35	4704.1	1.33	5.86
9619.58	9688.91	2.09	96.90	69.40	5139.2	1.40	6.07
9688.91	9758.25	0.00	0.46	2.63	6.2	0.18	1.52
9758.25	9827.58						
9827.58	9896.91	1.55	72.87	53.17	3817.3	1.37	5.99
9896.91	9966.24	4.28	149.05	69.34	10540.1	2.15	8.09
9966.24	10035.57	8.03	217.36	69.34	19765.3	3.14	10.41
10035.57	10104.91	9.26	236.65	69.33	22776.7	3.41	11.01
10104.91	10174.24	9.51	240.55	69.33	23404.7	3.47	11.13
10174.24	10243.57	9.67	242.94	69.33	23794.5	3.50	11.21
10243.57	10312.90	9.43	239.33	69.33	23208.5	3.45	11.10
10312.90	10382.23	9.45	239.64	69.33	23258.6	3.46	11.11
10382.23	10451.57	9.28	236.96	69.33	22825.7	3.42	11.02
10451.57	10520.90	5.84	179.57	69.36	14374.7	2.59	9.16
10520.90	10590.23	1.80	88.55	69.35	4424.4	1.28	5.72
10590.23	10804.69	0.18	20.17	61.28	408.4	0.33	2.54

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Profile Output Table - Standard Table 1

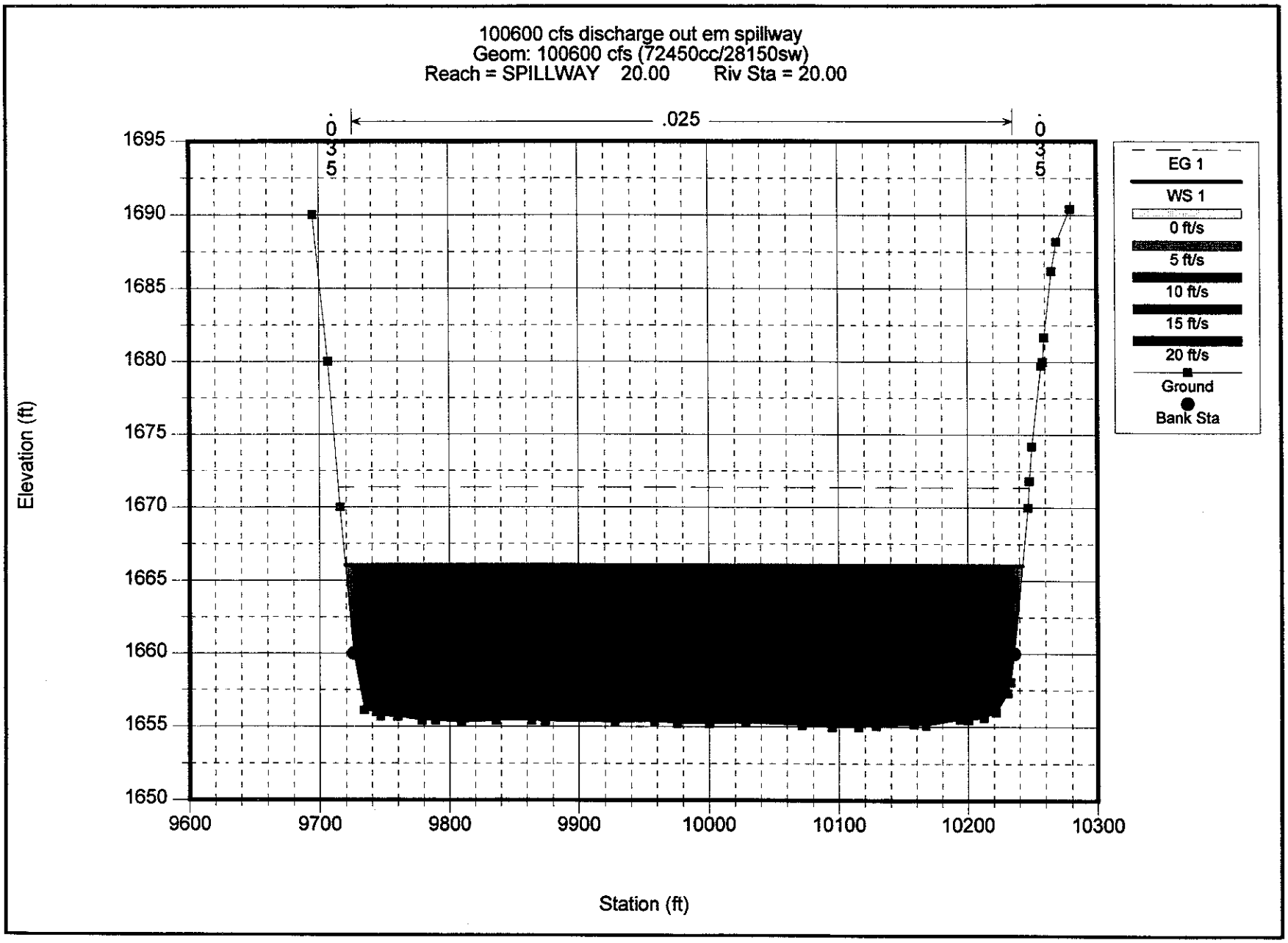
Reach	River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SCATTER WASH	19.03	28150.00	1540.10	1543.90	1543.76	1544.73	0.010895	7.56	3885.23	1972.66	0.89
SCATTER WASH	18.99	28150.00	1534.45	1537.97	1537.71	1538.78	0.009479	7.26	3899.33	1750.88	0.84
SCATTER WASH	18.91	28150.00	1530.00	1533.42		1534.26	0.008307	7.39	3826.10	1481.94	0.80
SCATTER WASH	18.82	28150.00	1525.60	1528.65	1528.65	1529.47	0.011158	7.50	4042.31	2417.96	0.90
SCATTER WASH	18.72	28150.00	1521.05	1526.13		1526.25	0.000632	2.94	10460.59	2708.37	0.24
SCATTER WASH	18.5701	28150.00	1517.20	1525.14	1522.30	1525.32	0.001496	3.40	8540.30	2440.83	0.29
SCATTER WASH	18.50	28150.00	1517.20	1523.19	1523.19	1524.43	0.013790	8.86	3155.86	3986.71	1.02
SCATTER WASH	18.47	28150.00	1514.00	1515.31	1516.56	1519.56	0.110107	16.52	1700.76	4373.32	2.58
SCATTER WASH	18.4601	28150.00	1511.89	1515.41	1515.67	1516.77	0.015033	9.91	3171.41	4572.43	1.08
CAVE CREEK	18.91	72450.00	1523.50	1542.84		1544.72	0.008596	11.37	6877.58	2517.43	0.00
CAVE CREEK	18.86	72450.00	1516.00	1542.03	1539.77	1542.88	0.002255	7.76	10179.81	1771.96	0.50
CAVE CREEK	18.80	72450.00	1514.00	1541.50	1539.32	1542.25	0.002028	7.38	11027.48	1959.50	0.47
CAVE CREEK	18.76	72450.00	1514.00	1540.62		1541.64	0.002776	8.66	9386.41	1593.53	0.55
CAVE CREEK	18.64	72450.00	1522.00	1536.21	1536.21	1539.03	0.007304	14.47	5673.14	1174.53	0.90
CAVE CREEK	18.54	72450.00	1520.00	1533.20		1535.78	0.007072	14.52	6204.30	1219.89	0.89
CAVE CREEK	18.50	72450.00	1518.00	1531.88	1531.88	1534.20	0.007193	14.09	6374.56	1245.67	0.89
CAVE CREEK	18.43	72450.00	1516.00	1527.89	1528.17	1530.47	0.010296	15.17	5874.07	1271.22	1.04
CAVE CREEK	18.30	72450.00	1514.00	1525.79		1526.72	0.002334	8.65	9741.78	1492.60	0.52
CAVE CREEK	18.27	72450.00	1512.00	1525.70	1522.45	1526.29	0.001293	7.16	12306.30	1742.92	0.40
CAVE CREEK	18.17	72450.00	1508.00	1525.23	1519.73	1525.80	0.000807	6.54	12138.61	1708.13	0.32
CAVE CREEK	18.06	72450.00	1508.00	1525.10	1516.06	1525.43	0.000353	4.62	15670.71	2690.25	0.22
CAVE CREEK	18.05	72450.00	1506.00	1523.10		1525.21	0.003308	12.30	6701.41	890.85	0.64
CAVE CREEK	18.0484	72450.00	1506.00	1521.18	1521.18	1524.90	0.008809	15.50	4702.50	1257.58	0.99
CAVE CREEK	18.0482	72450.00	1505.54	1522.86	1520.48	1524.07	0.002281	11.61	8504.31	2686.69	0.49
CAVE CREEK	18.0480	72450.00	1505.54	1521.27	1521.27	1523.93	0.001188	19.65	6918.38	2687.00	0.96
CAVE CREEK	18.0237	72450.00	1505.54	1520.55	1521.08	1523.71	0.001511	21.48	6540.69	2686.81	0.98
CAVE CREEK	18.0199	72450.00	1505.54	1518.05	1519.61	1523.42	0.013678	20.02	3906.94	2687.00	1.00
CAVE CREEK	18.0104	72450.00	1486.00	1520.08	1506.00	1520.24	0.000118	3.36	21987.35	2687.00	0.10
CAVE CREEK	18.0103	72450.00	1486.00	1520.07	1506.25	1520.24	0.000114	3.78	21985.61	2687.00	0.11
CAVE CREEK	18.0074	72450.00	1504.57	1517.46	1517.46	1520.00	0.008136	14.94	5926.10	3529.00	0.95
CAVE CREEK	17.99	72450.00	1496.00	1502.56	1506.46	1516.92	0.073910	29.43	2383.69	846.65	2.56
SPILLWAY	20.00	100600.00	1654.96	1666.04	1666.04	1671.35	0.004161	18.50	5465.90	522.99	1.00
SPILLWAY	19.89	100600.00	1641.50	1647.45	1652.18	1664.78	0.031840	33.45	3026.45	550.72	2.49
SPILLWAY	19.79	100600.00	1612.00	1623.91	1629.49	1642.84	0.039157	37.23	3072.57	464.77	2.14
SPILLWAY	19.72	100600.00	1604.00	1619.95	1624.27	1633.31	0.020942	32.82	3651.70	419.82	1.64
SPILLWAY	19.65	100600.00	1596.00	1622.47	1622.47	1628.54	0.004957	22.24	5628.40	447.95	0.86
SPILLWAY	19.58	100600.00	1590.00	1618.36	1620.06	1626.43	0.006036	26.35	5086.89	426.25	0.96
SPILLWAY	19.53	100600.00	1582.00	1606.89	1615.00	1623.10	0.016400	37.57	3535.58	359.29	1.53
SPILLWAY	19.50	100600.00	1579.22	1598.57	1604.83	1618.96	0.030928	45.86	3043.99	355.93	2.03
SPILLWAY	19.46	100600.00	1576.00	1590.76	1596.26	1610.83	0.047363	45.71	3035.52	485.87	2.39

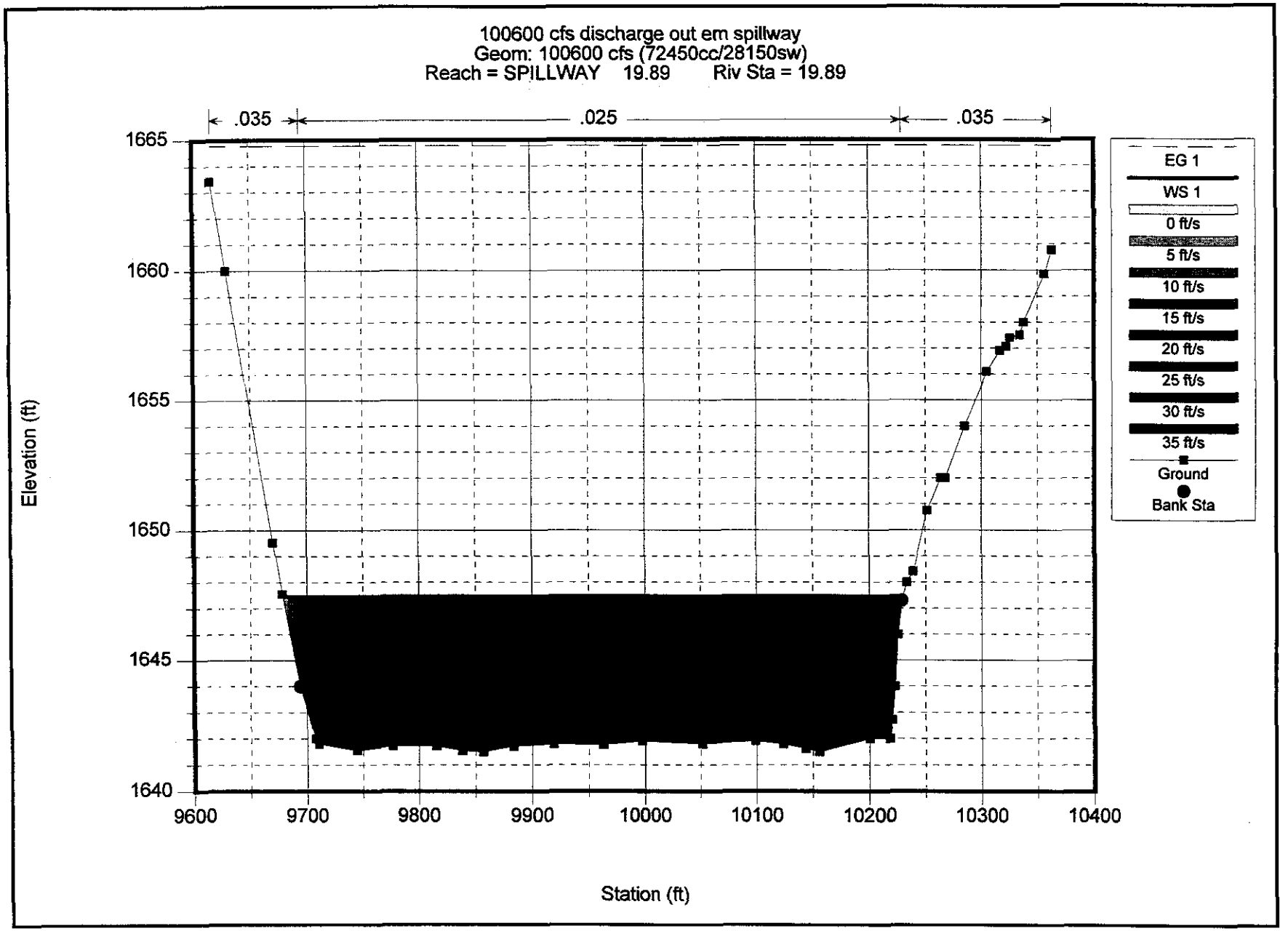
SPILLWAY	19.42	100600.00	1574.00	1585.57	1589.19	1598.63	0.041302	37.59	3781.48	756.99	2.19
SPILLWAY	19.37	100600.00	1570.00	1581.07	1583.34	1588.51	0.026751	28.68	4835.96	978.01	1.74
SPILLWAY	19.29	100600.00	1566.00	1574.33	1575.61	1579.06	0.019159	22.61	5947.88	1252.95	1.45
SPILLWAY	19.20	100600.00	1561.18	1566.05	1566.90	1569.45	0.019747	15.12	6840.54	1817.89	1.33
SPILLWAY	19.05	100600.00	1549.27	1557.43	1554.59	1557.84	0.001249	5.95	20035.28	3484.11	0.37
SPILLWAY	18.96	100600.00	1542.00	1557.44		1557.56	0.000197	2.38	35775.04	4388.15	0.00

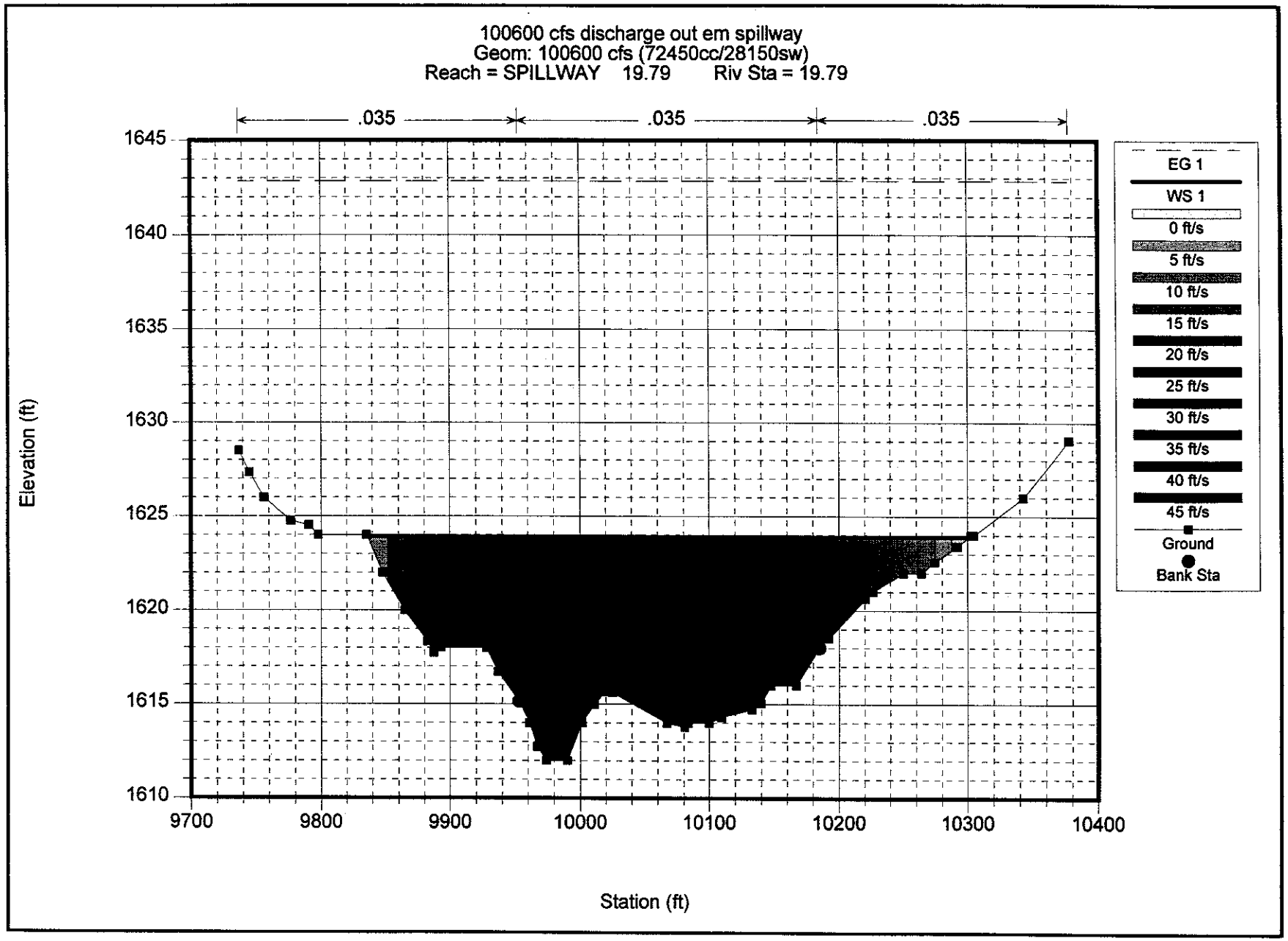
Profile Output Table - Standard Table 2

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)
SCATTER WASH	19.03	1544.73	1543.90	0.83	5.94	0.00	14479.22	13346.99	323.79	1972.66
SCATTER WASH	18.99	1538.78	1537.97	0.82	4.52	0.00		28090.79	59.21	1750.88
SCATTER WASH	18.91	1534.26	1533.42	0.85	4.78	0.01	99.51	28050.49		1481.94
SCATTER WASH	18.82	1529.47	1528.65	0.83	0.94	0.21	9.55	26326.65	1813.80	2417.96
SCATTER WASH	18.72	1526.25	1526.13	0.12	0.93	0.01	464.65	21313.63	6371.72	2708.37
SCATTER WASH	18.5701	1525.32	1525.14	0.17	0.78	0.11	73.00	26518.07	1558.93	2440.83
SCATTER WASH	18.50	1524.43	1523.19	1.24				16050.97	12099.03	3986.71
SCATTER WASH	18.47	1519.56	1515.31	4.25	4.56	0.30	0.00	25353.78	2796.22	4373.32
SCATTER WASH	18.4601	1516.77	1515.41	1.35	1.92	0.87	4980.19	23118.64	51.17	4572.43
CAVE CREEK	18.91	1544.72	1542.84	1.88	0.00	0.00		66229.39	6220.62	2517.43
CAVE CREEK	18.86	1542.88	1542.03	0.85	0.60	0.03	414.72	68502.49	3532.79	1771.96
CAVE CREEK	18.80	1542.25	1541.50	0.75	0.59	0.03	663.68	60634.41	11151.90	1959.50
CAVE CREEK	18.76	1541.64	1540.62	1.02	2.43	0.18	1979.47	57493.04	12977.50	1593.53
CAVE CREEK	18.64	1539.03	1536.21	2.82			15816.74	56493.49	139.76	1174.53
CAVE CREEK	18.54	1535.78	1533.20	2.58	1.50	0.08	22234.75	50185.33	29.92	1219.89
CAVE CREEK	18.50	1534.20	1531.88	2.32	3.42	0.01	29892.08	42265.04	292.87	1245.67
CAVE CREEK	18.43	1530.47	1527.89	2.57	3.72	0.02	41068.07	31258.03	123.91	1271.22
CAVE CREEK	18.30	1526.72	1525.79	0.93	0.33	0.10	24114.03	27884.02	20451.95	1492.60
CAVE CREEK	18.27	1526.29	1525.70	0.59	0.49	0.01	28941.25	24882.35	18626.40	1742.92
CAVE CREEK	18.17	1525.80	1525.23	0.57	0.30	0.07	19964.95	39576.40	12908.65	1708.13
CAVE CREEK	18.06	1525.43	1525.10	0.33	0.04	0.18		72449.02	0.98	2690.25
CAVE CREEK	18.05	1525.21	1523.10	2.11	0.14	0.16	168.29	62344.90	9936.81	890.85
CAVE CREEK	18.0484	1524.90	1521.18	3.72			136.88	72313.12		1257.58
CAVE CREEK	18.0482	1524.07	1522.86	1.21	0.00	0.14	23317.25	25815.51	23317.25	2686.69
CAVE CREEK	18.0480	1523.93	1521.27	2.65			25093.81	22262.37	25093.81	2687.00
CAVE CREEK	18.0237	1523.71	1520.55	3.16	0.17	0.05	24612.34	23225.31	24612.34	2686.81
CAVE CREEK	18.0199	1523.42	1518.05	5.37	0.07	0.22	27209.13	18031.74	27209.13	2687.00
CAVE CREEK	18.0104	1520.24	1520.08	0.17	0.00	0.00	11701.32	49047.37	11701.32	2687.00
CAVE CREEK	18.0103	1520.24	1520.07	0.17	0.01	0.24	31593.27	9263.46	31593.27	2687.00
CAVE CREEK	18.0074	1520.00	1517.46	2.54	0.87	0.11	15385.81	29420.48	27643.71	3529.00
CAVE CREEK	17.99	1516.92	1502.56	14.36	1.95	1.18		17787.20	54662.79	846.65
SPILLWAY	20.00	1671.35	1666.04	5.31	2.46	0.11	84.69	100423.70	91.56	522.99
SPILLWAY	19.89	1664.78	1647.45	17.32	5.37	1.20	293.09	100306.80	0.10	550.72
SPILLWAY	19.79	1642.84	1623.91	18.93	21.80	0.16	14973.80	80889.17	4737.03	464.77
SPILLWAY	19.72	1633.31	1619.95	13.36	7.87	1.68	17329.03	64259.87	19011.10	419.82
SPILLWAY	19.65	1628.54	1622.47	6.07	1.61	0.00	19155.77	70247.47	11196.76	447.95
SPILLWAY	19.58	1626.43	1618.36	8.07	1.92	0.20	13138.36	66114.13	21347.52	426.25
SPILLWAY	19.53	1623.10	1606.89	16.22	2.50	0.82	8307.60	64209.65	28082.75	359.29
SPILLWAY	19.50	1618.96	1598.57	20.39	3.72	0.42	10129.21	40619.83	49850.96	355.93
SPILLWAY	19.46	1610.83	1590.76	20.07	8.02	0.09	13411.64	36202.72	50985.64	485.87

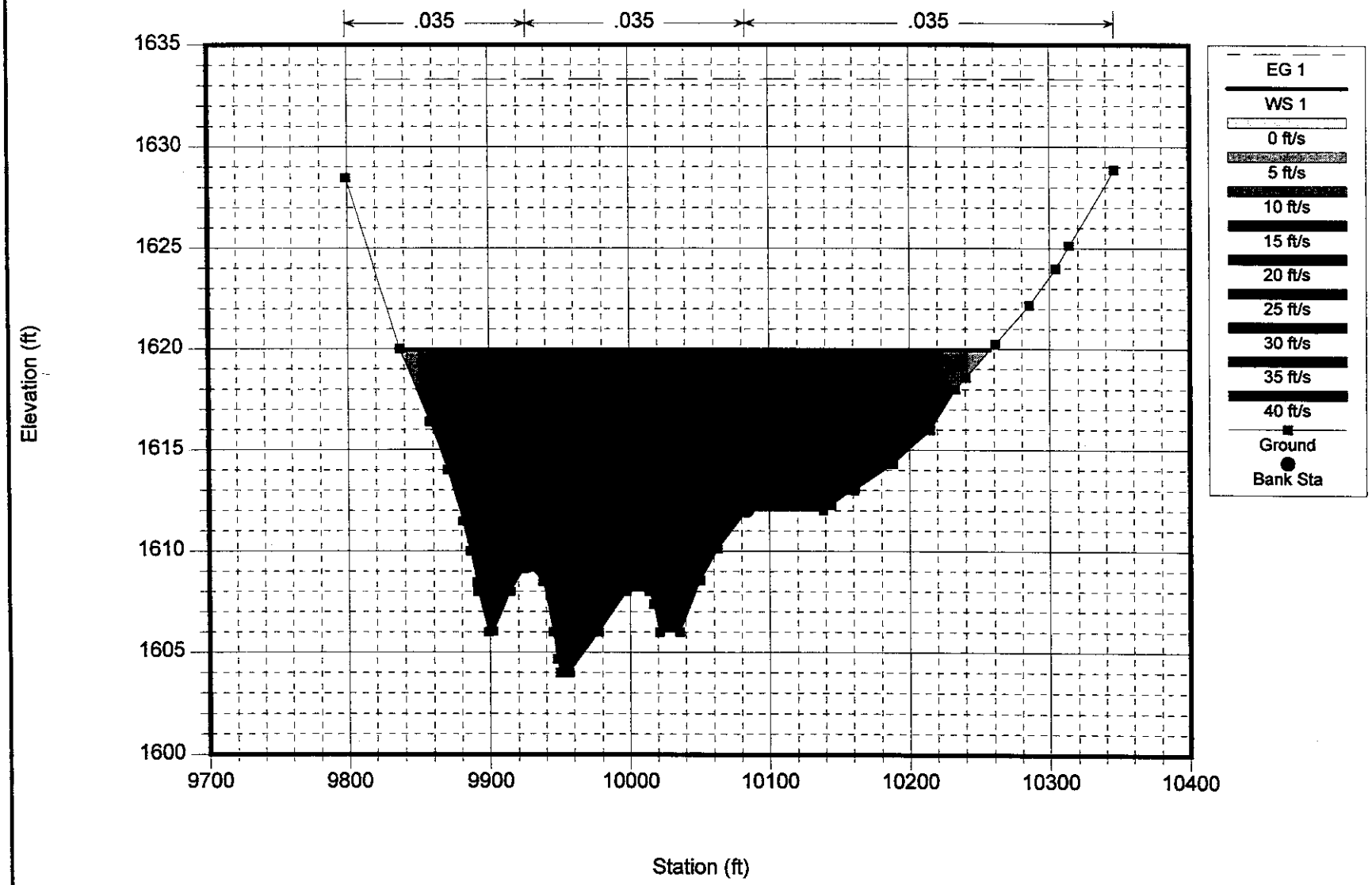
SPILLWAY	19.42	1598.63	1585.57	13.06	10.09	2.10	40758.20	35796.92	24044.88	756.99
SPILLWAY	19.37	1588.51	1581.07	7.44	8.45	1.69	29803.40	23833.79	46962.80	978.01
SPILLWAY	19.29	1579.06	1574.33	4.73	8.63	0.81	20458.39	18573.80	61567.81	1252.95
SPILLWAY	19.20	1569.45	1566.05	3.40	9.21	0.40	2193.96	9060.93	89345.11	1817.89
SPILLWAY	19.05	1557.84	1557.43	0.40	0.19	0.08	13656.18	37977.45	48966.37	3484.11
SPILLWAY	18.96	1557.56	1557.44	0.12	0.00	0.00		17503.26	83096.74	4388.15


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 20.00 Riv Sta = 20.00
.025
0.35
0.35
1695
1690
1685
1680
1675
1670
1665
1660
1655
1650
Elevation (ft)
9600
9700
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta

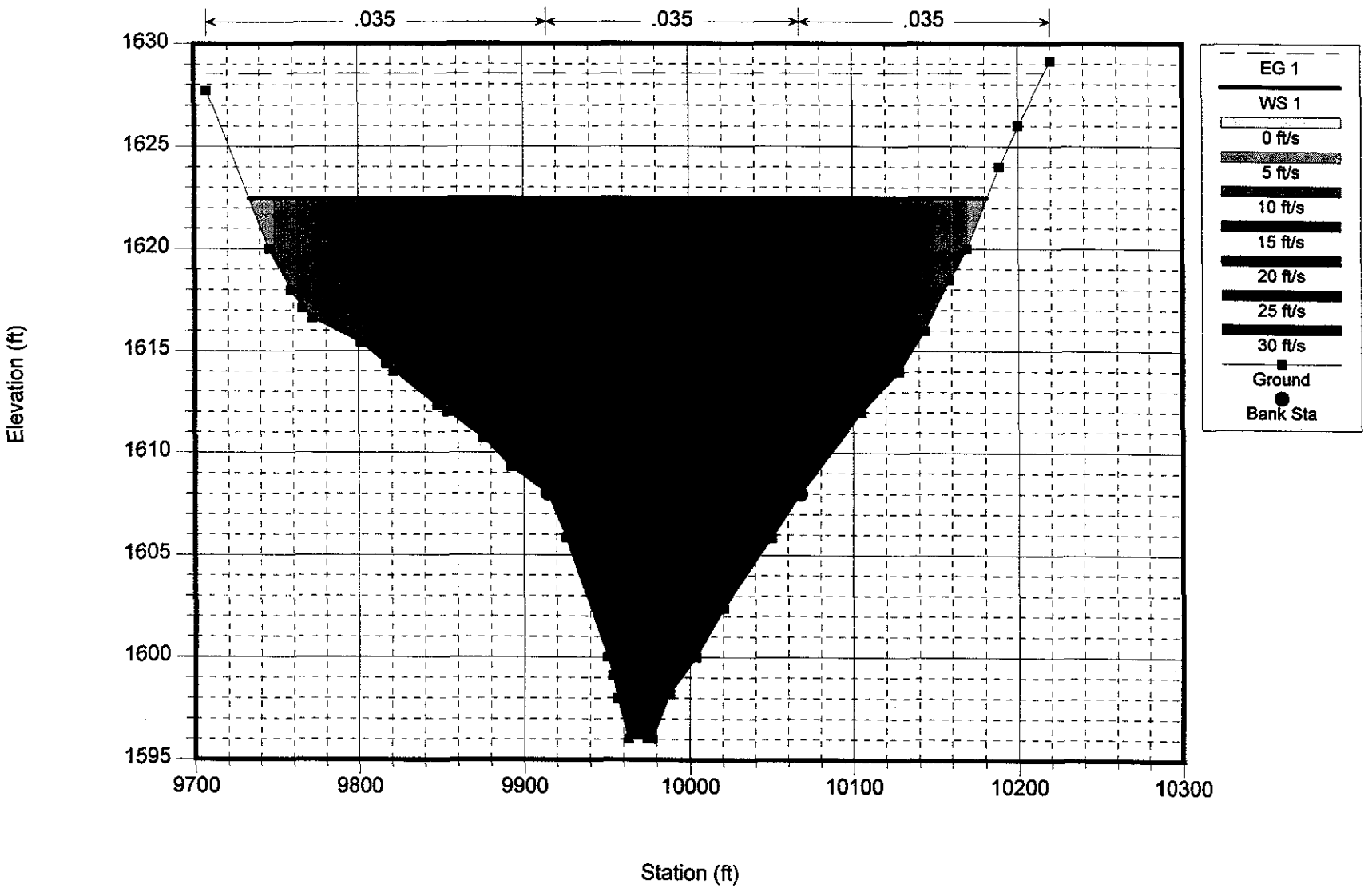

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.89 Riv Sta = 19.89
.035
.025
.035
1665
1660
1655
1650
1645
1640
Elevation (ft)
9600
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
Ground
Bank Sta

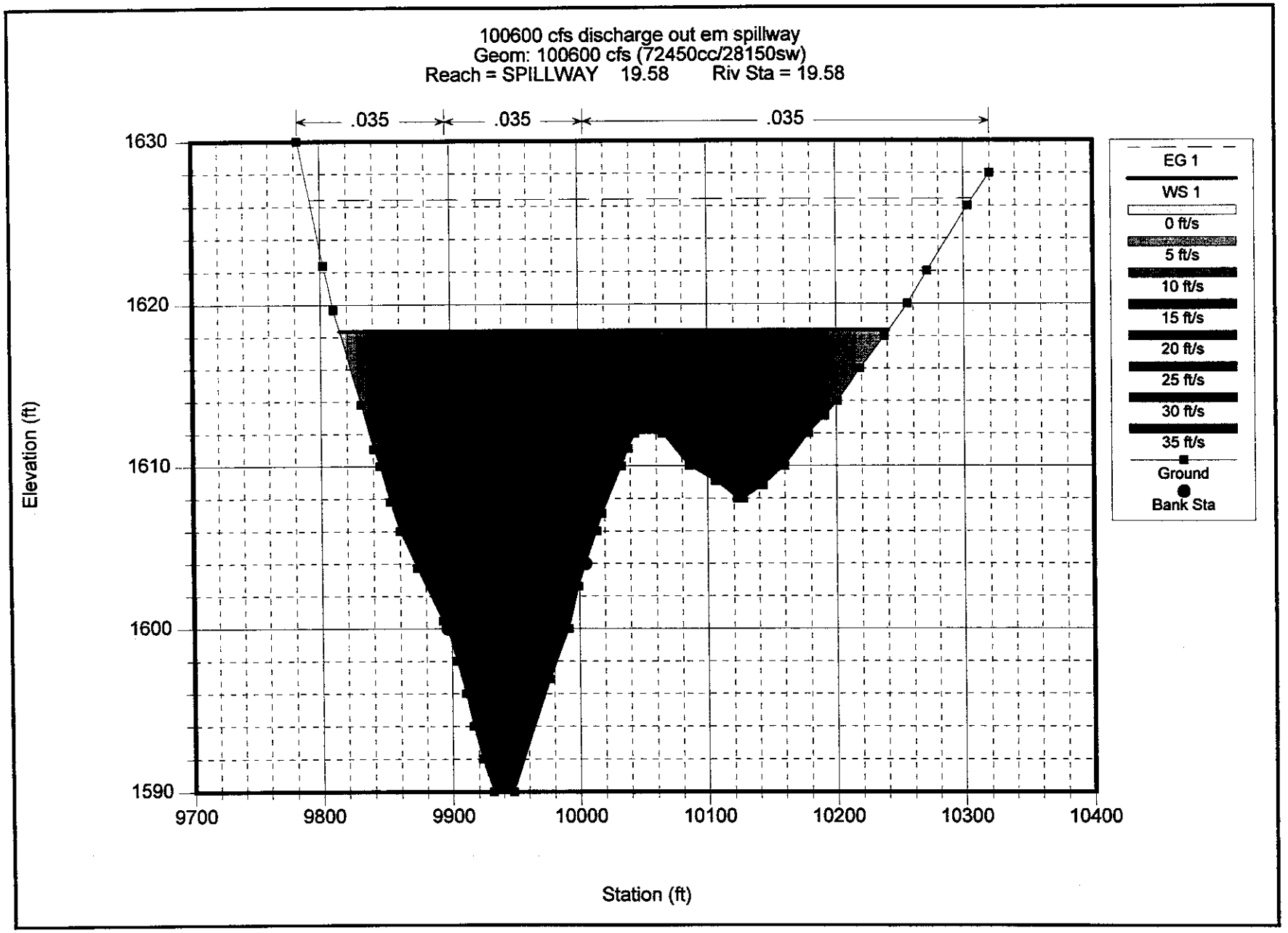

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.79 Riv Sta = 19.79
.035
.035
.035
1645
1640
1635
1630
1625
1620
1615
1610
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
Ground
Bank Sta

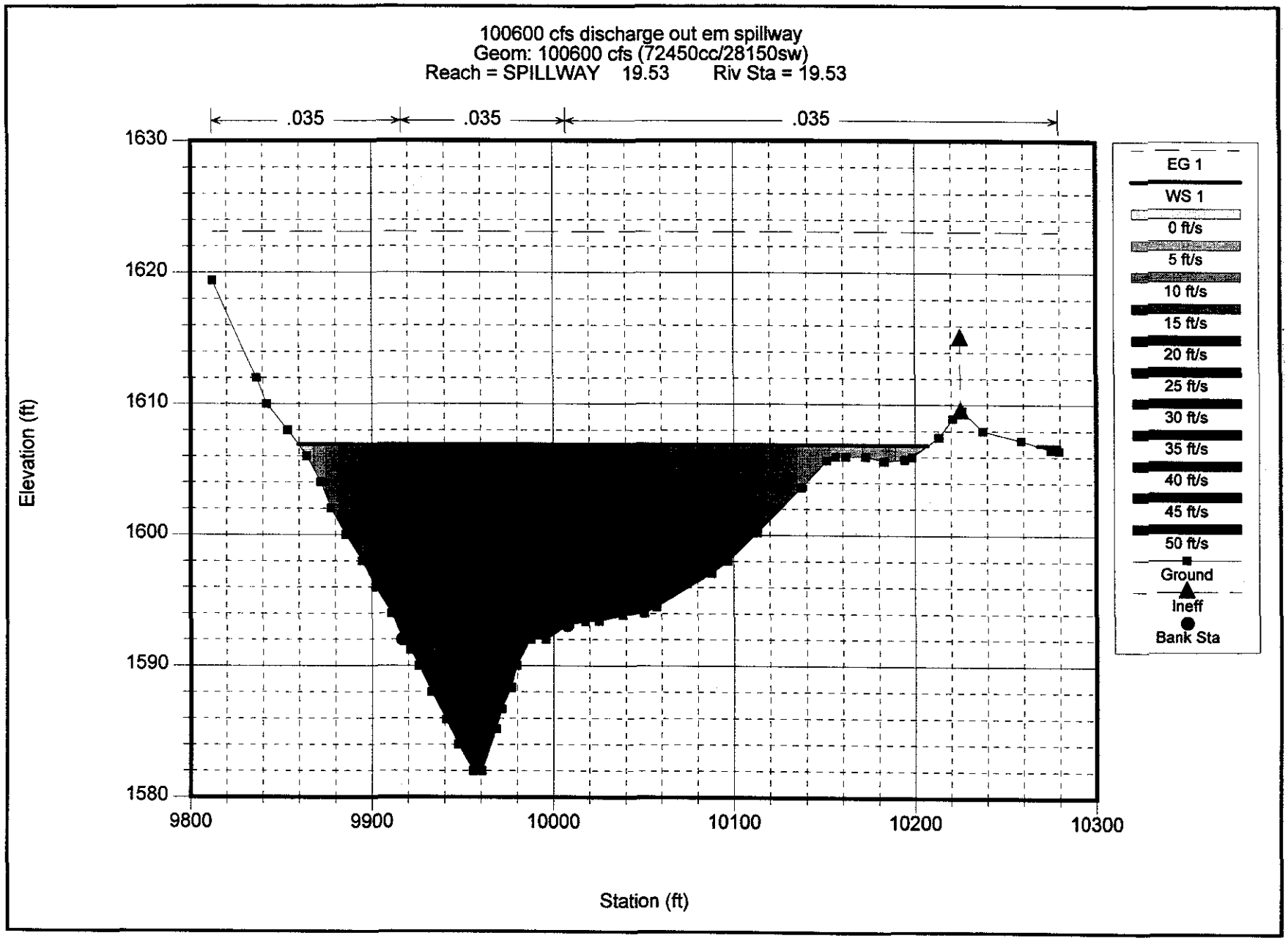
100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.72 Riv Sta = 19.72

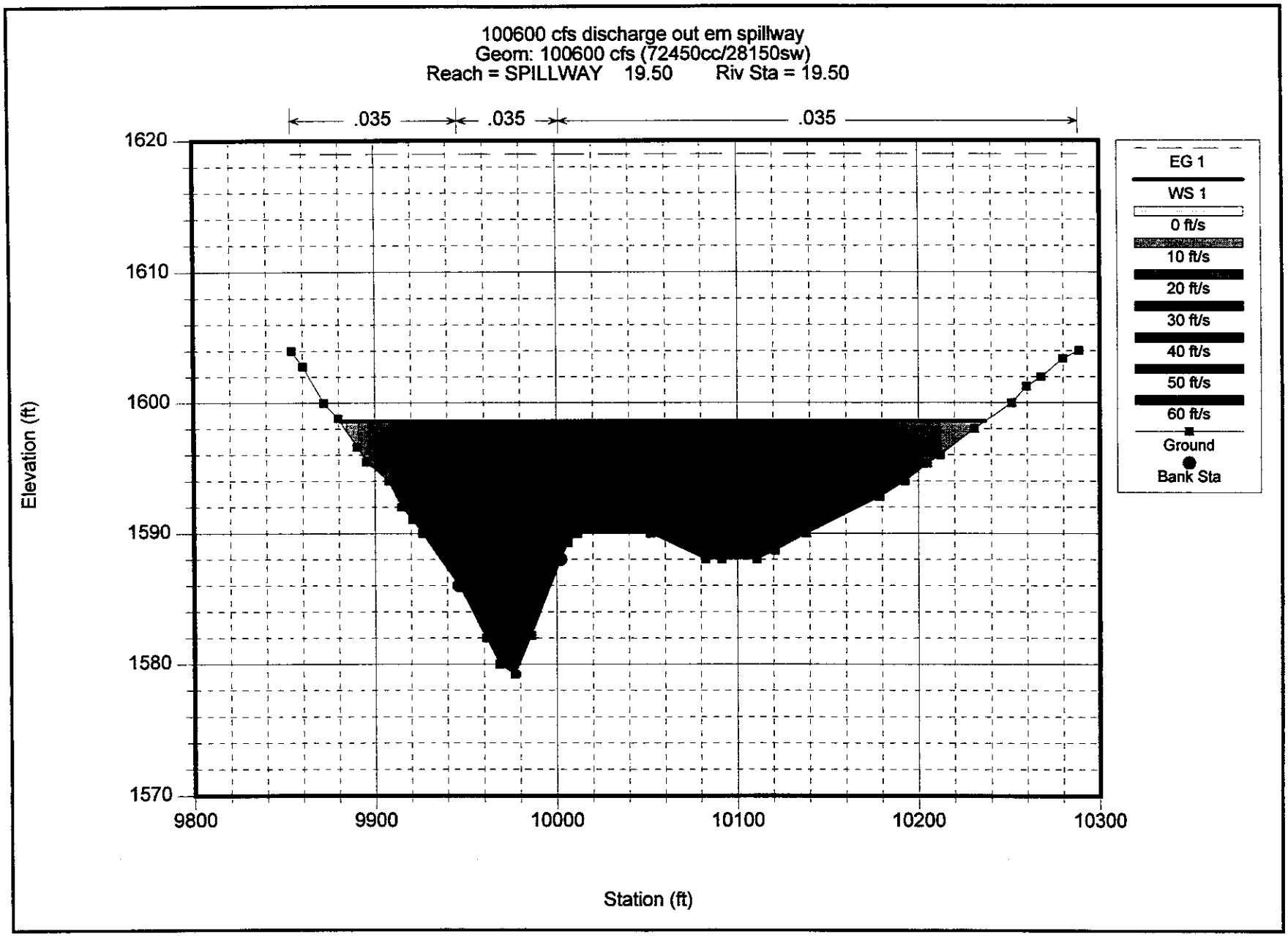


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.65 Riv Sta = 19.65

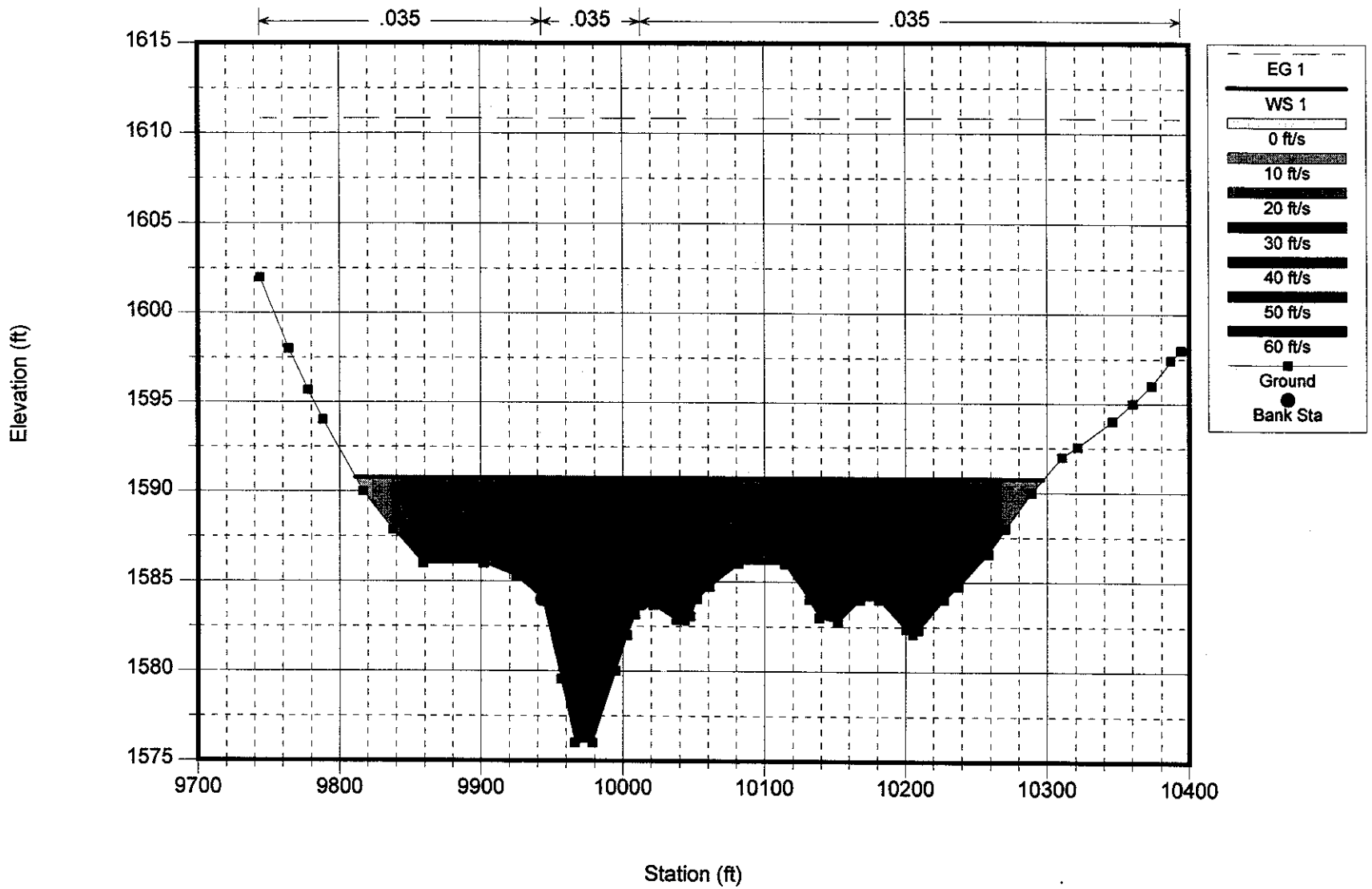


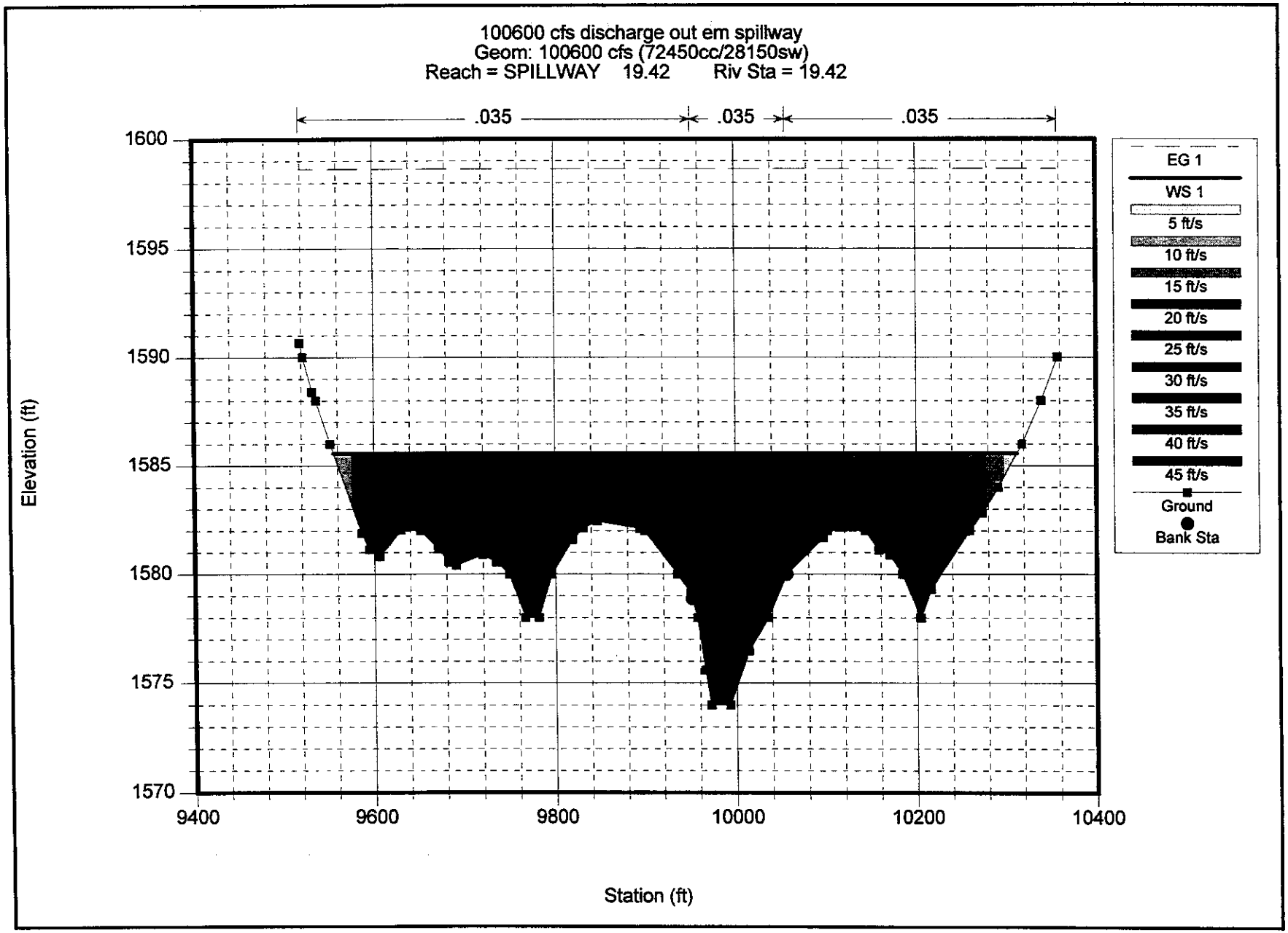

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.58 Riv Sta = 19.58
.035
.035
.035
1630
1620
1610
1600
1590
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
Ground
Bank Sta

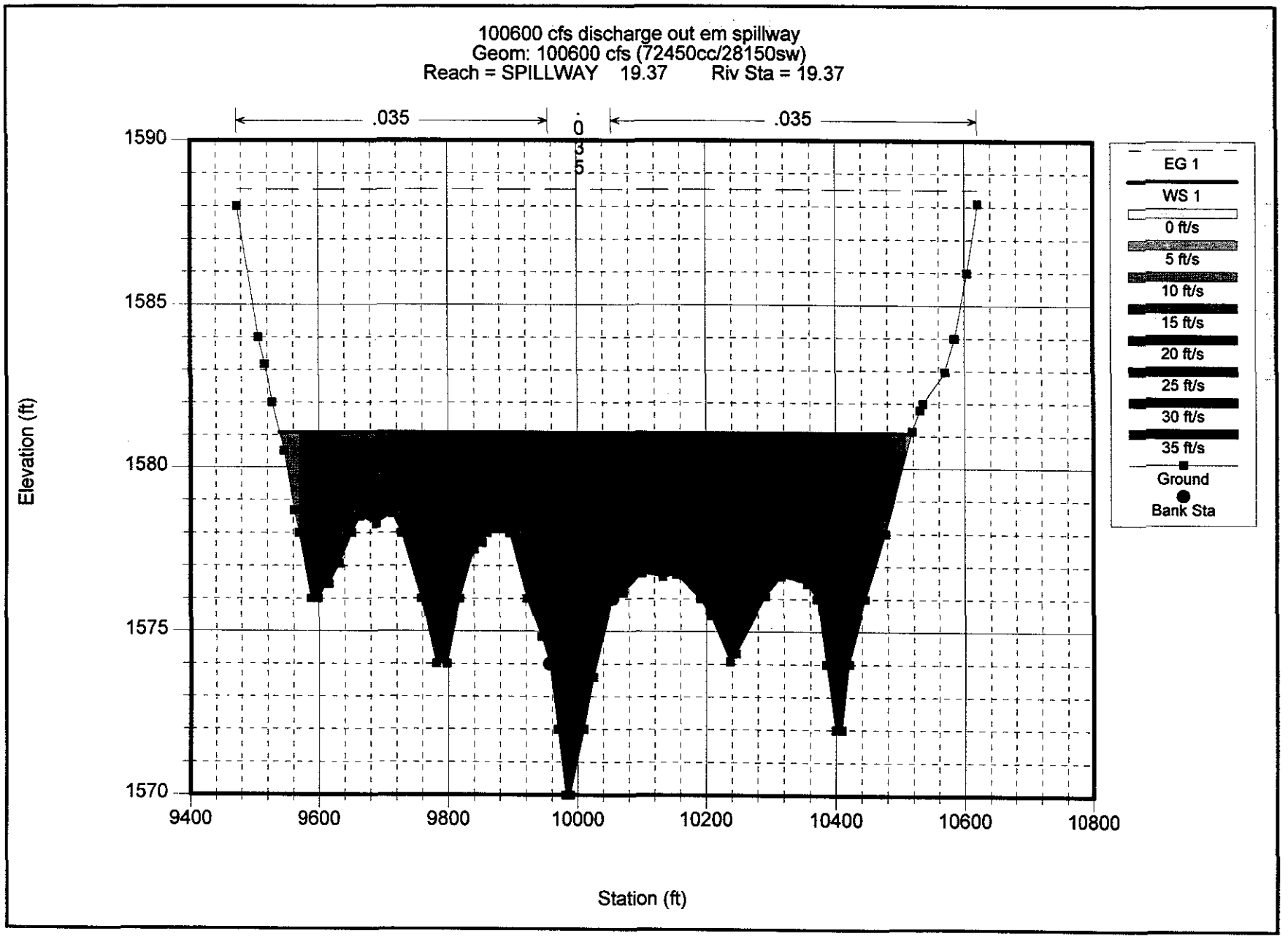

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.53 Riv Sta = 19.53
.035
.035
.035
1630
1620
1610
1600
1590
1580
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
50 ft/s
Ground
Ineff
Bank Sta

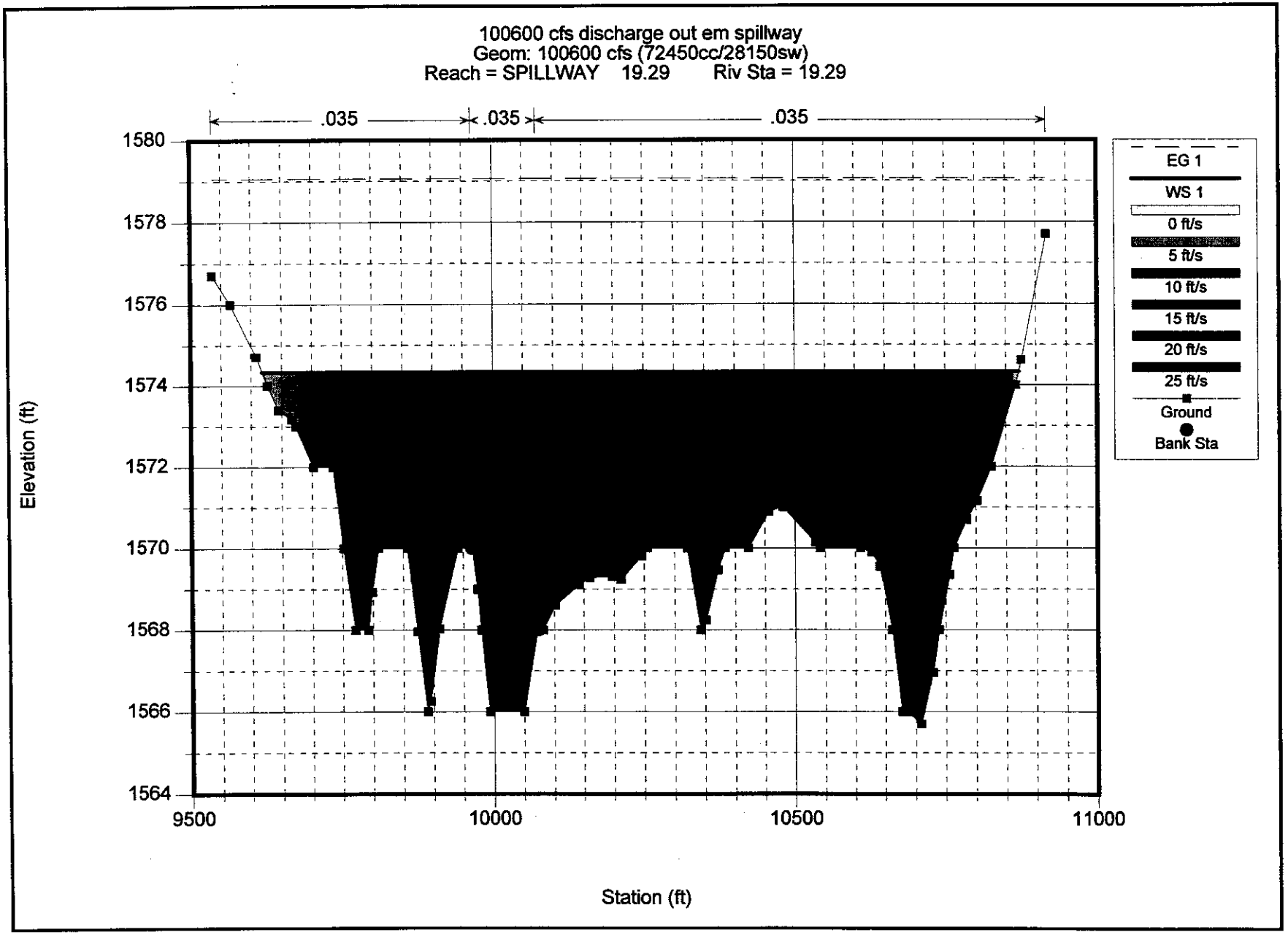

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.50 Riv Sta = 19.50
.035
.035
.035
1620
1610
1600
1590
1580
1570
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
10 ft/s
20 ft/s
30 ft/s
40 ft/s
50 ft/s
60 ft/s
Ground
Bank Sta

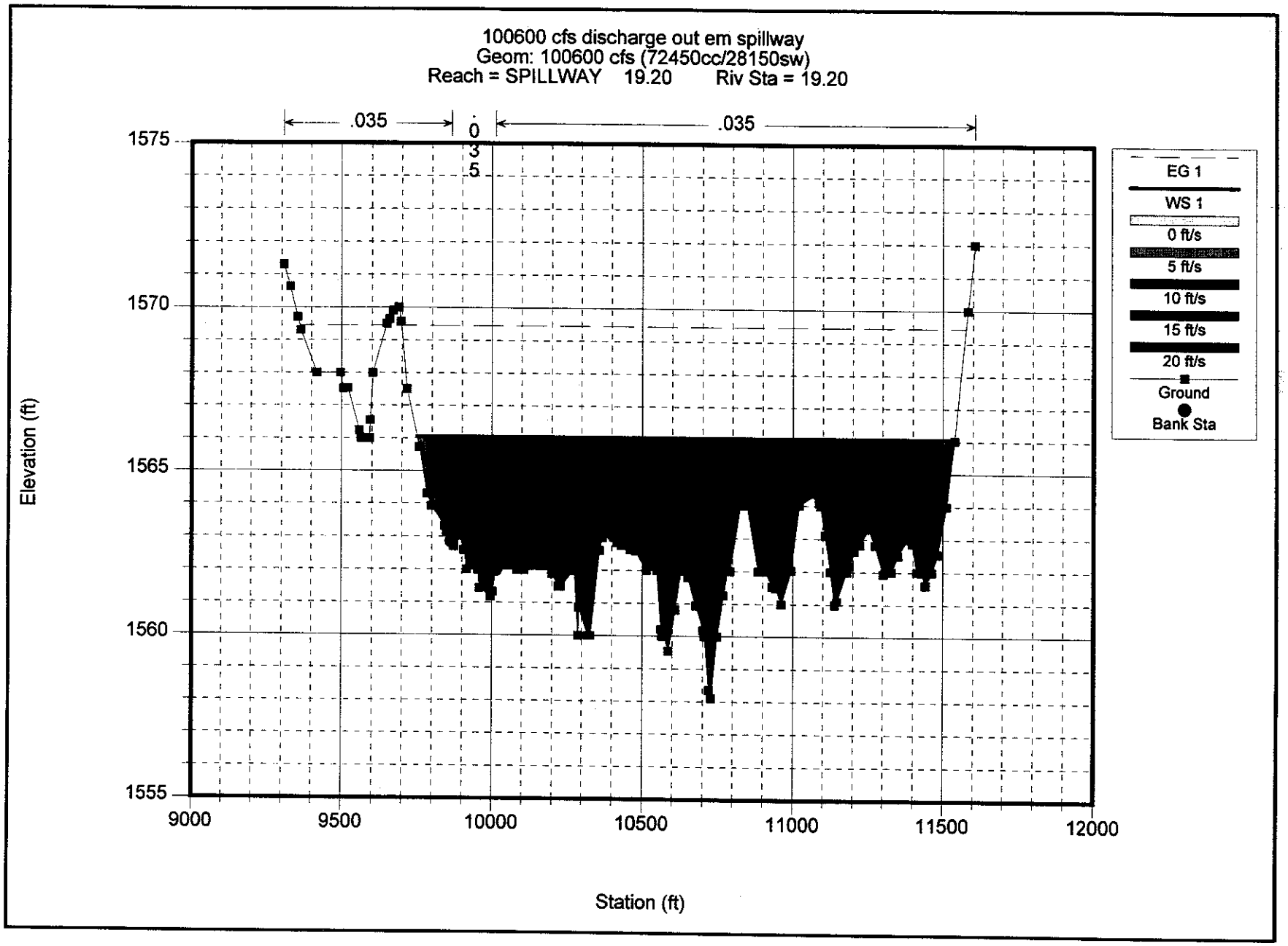
100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.46 Riv Sta = 19.46

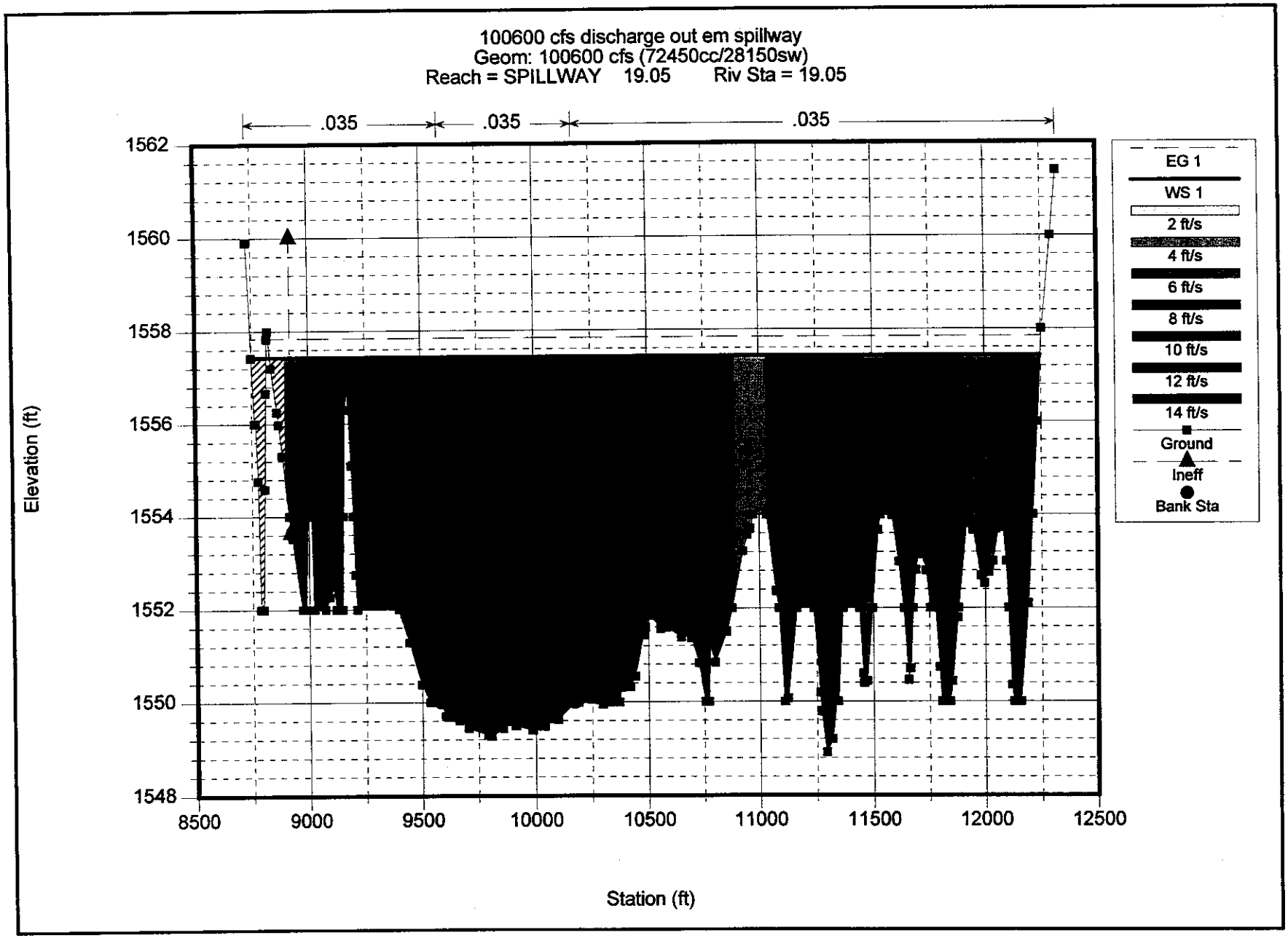


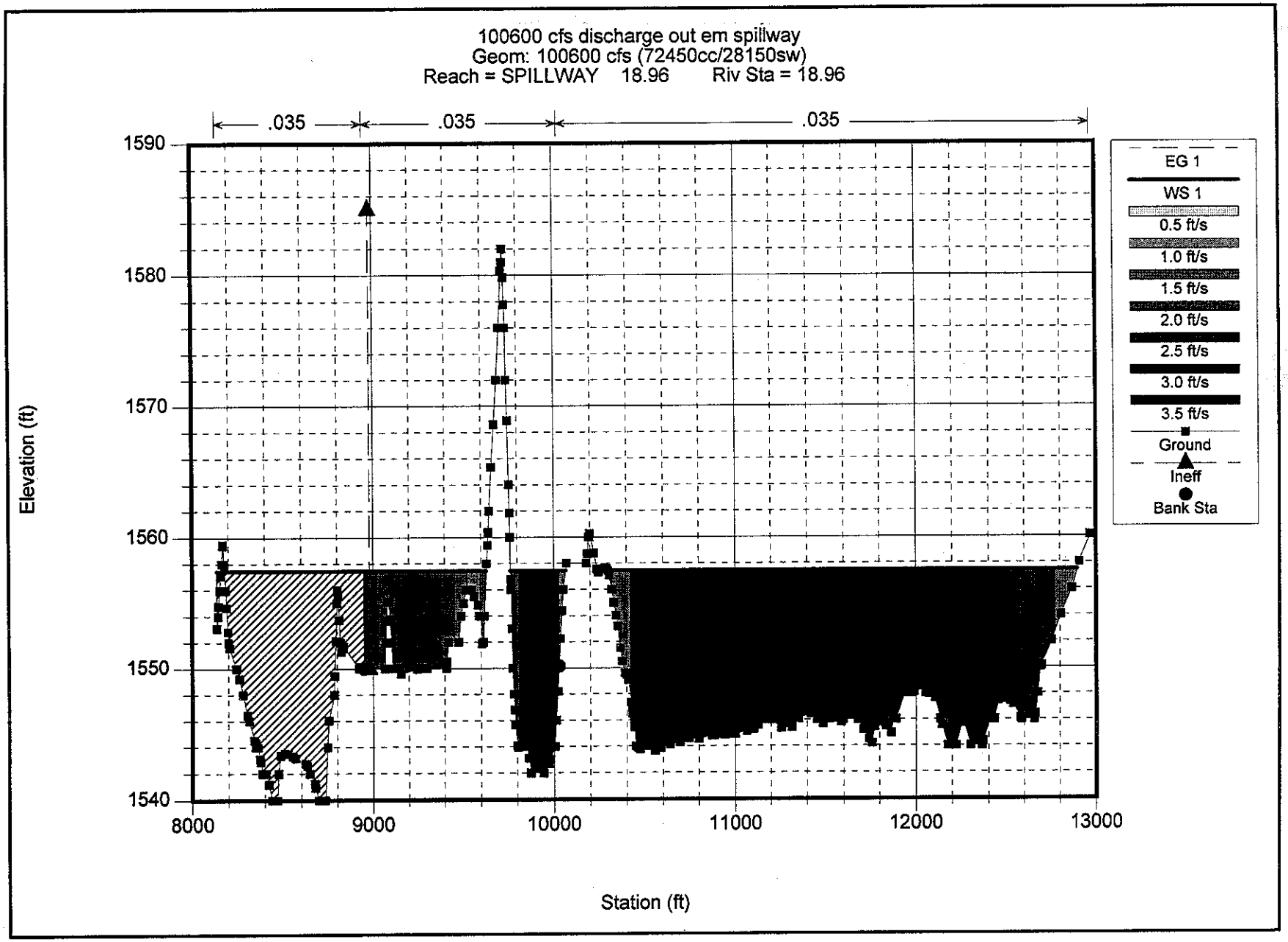

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.42 Riv Sta = 19.42
.035
.035
.035
1600
1595
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
Ground
Bank Sta

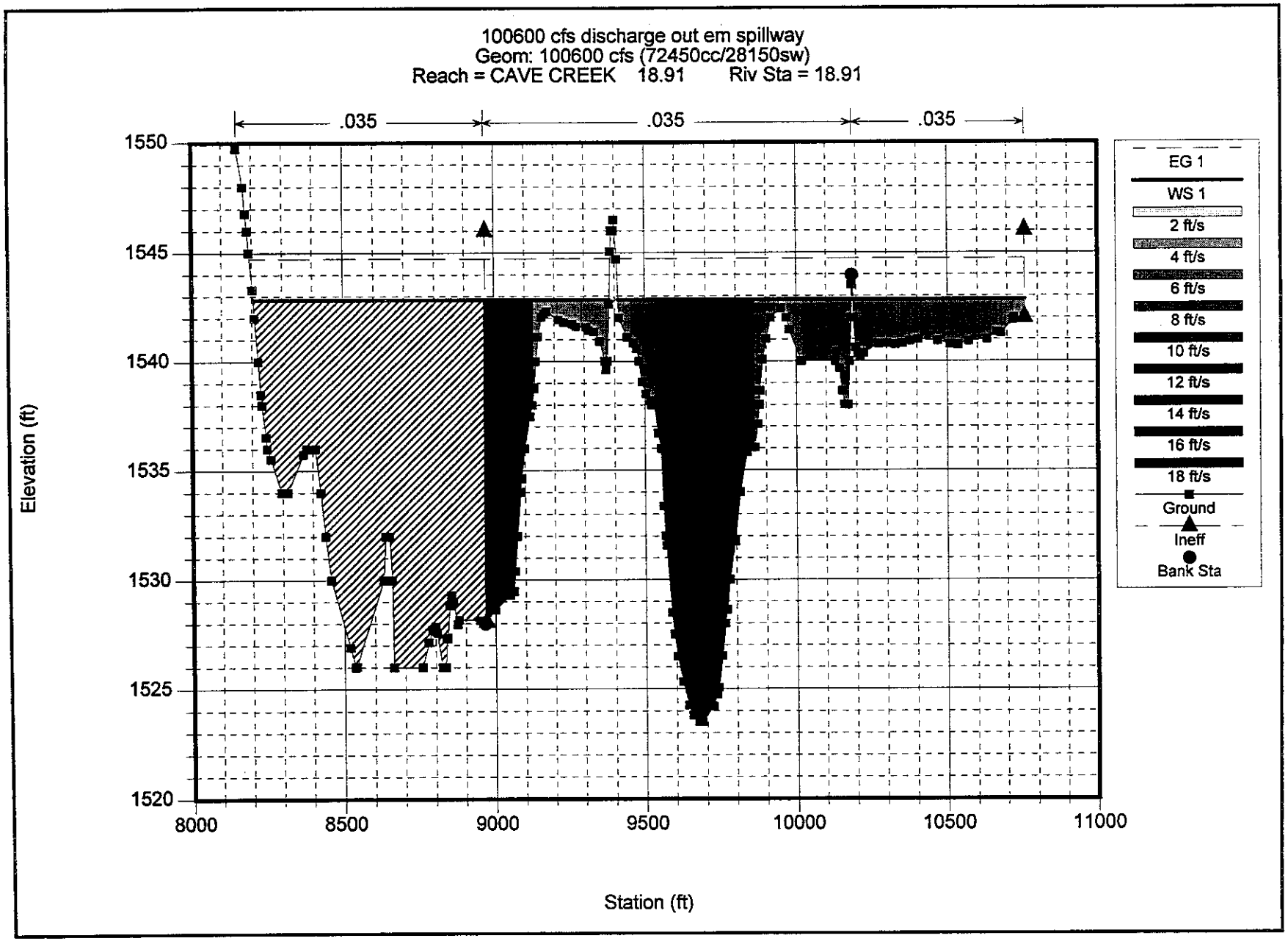

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.37 Riv Sta = 19.37
.035
.035
0
3
5
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
10800
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
Ground
Bank Sta

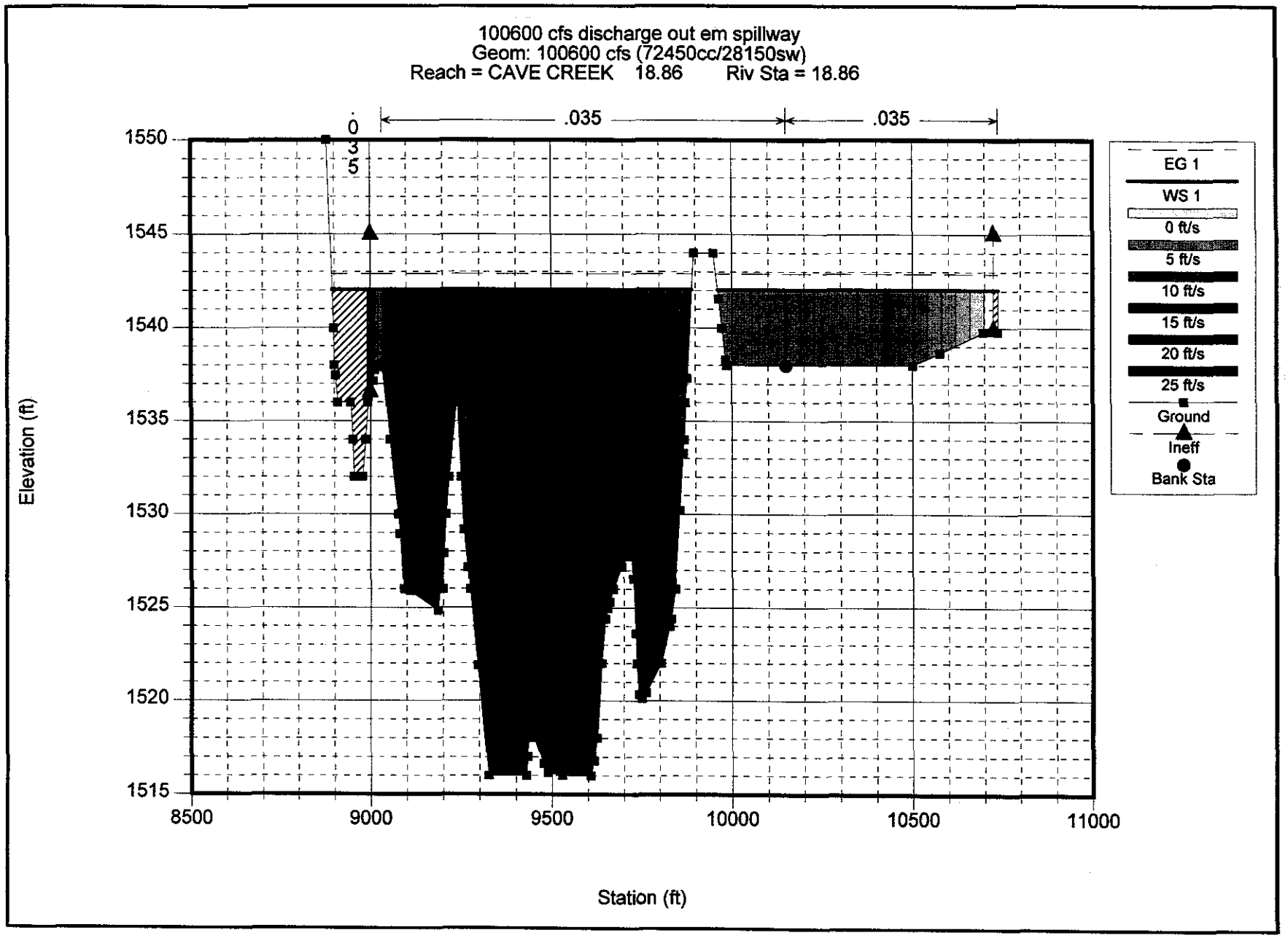

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.29 Riv Sta = 19.29
.035
.035
.035
1580
1578
1576
1574
1572
1570
1568
1566
1564
Elevation (ft)
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

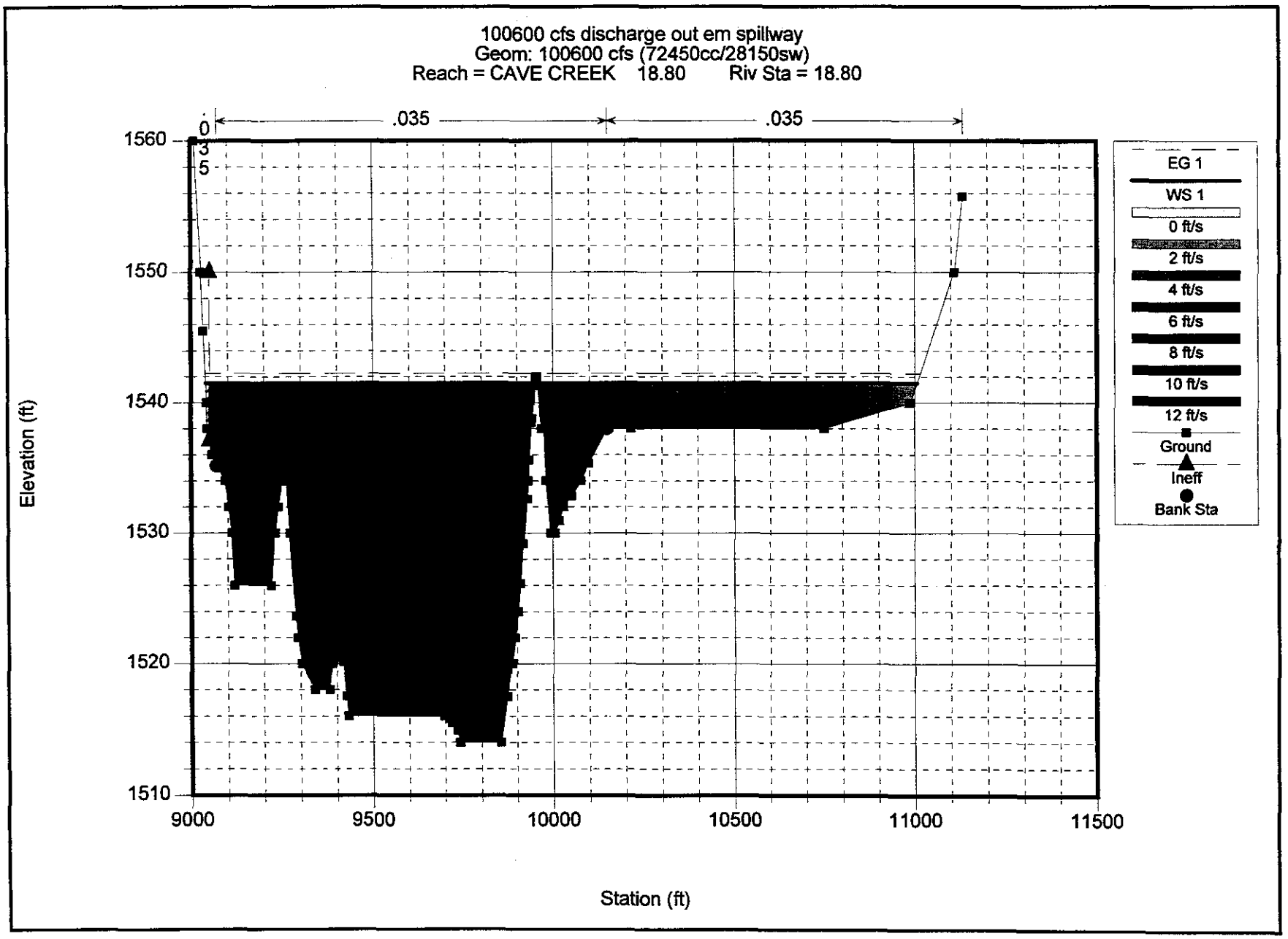

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.20 Riv Sta = 19.20
.035
.035
0.035
1575
1570
1565
1560
1555
Elevation (ft)
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta

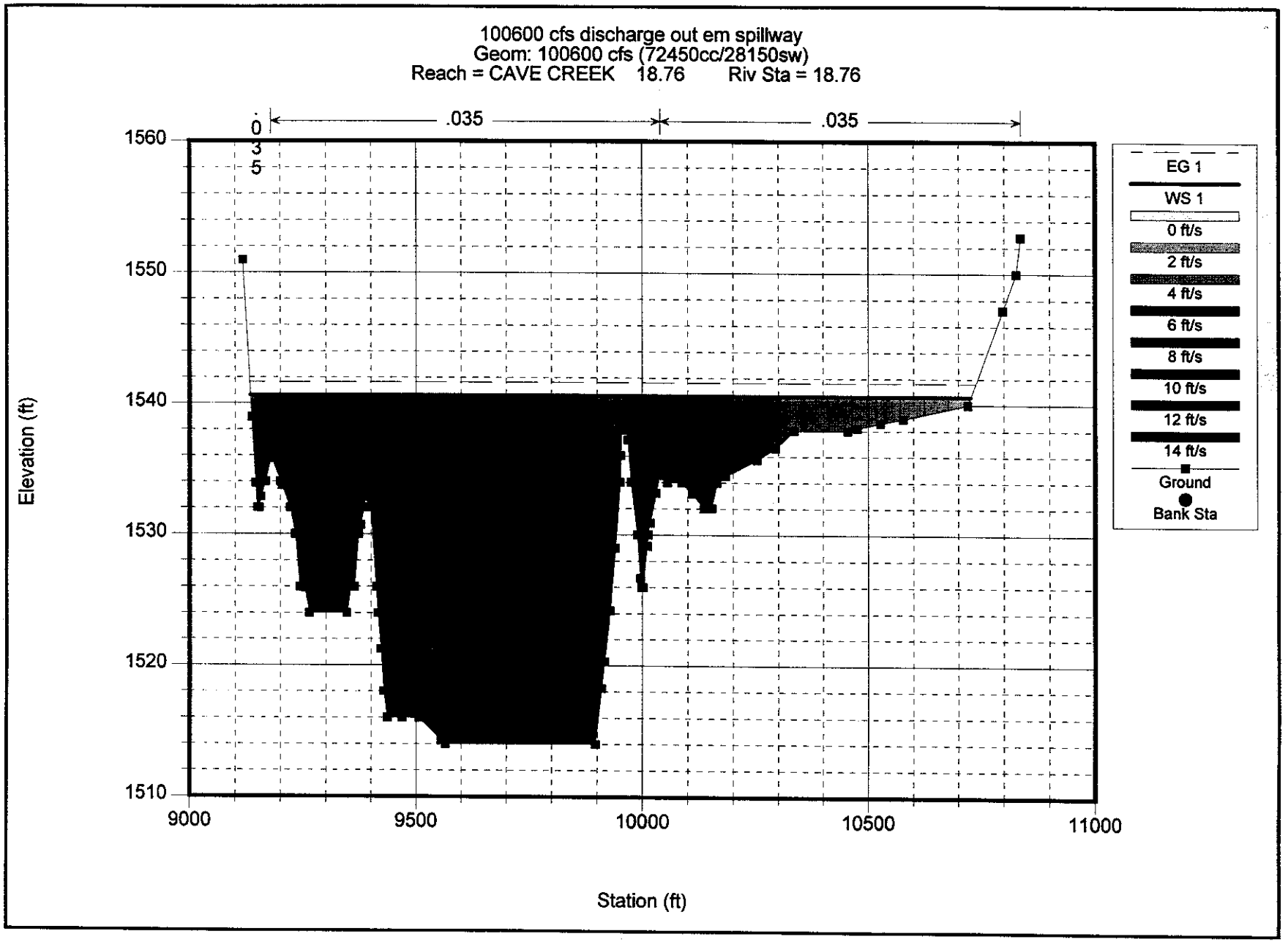

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 19.05 Riv Sta = 19.05
.035
.035
.035
1562
1560
1558
1556
1554
1552
1550
1548
Elevation (ft)
8500
9000
9500
10000
10500
11000
11500
12000
12500
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta

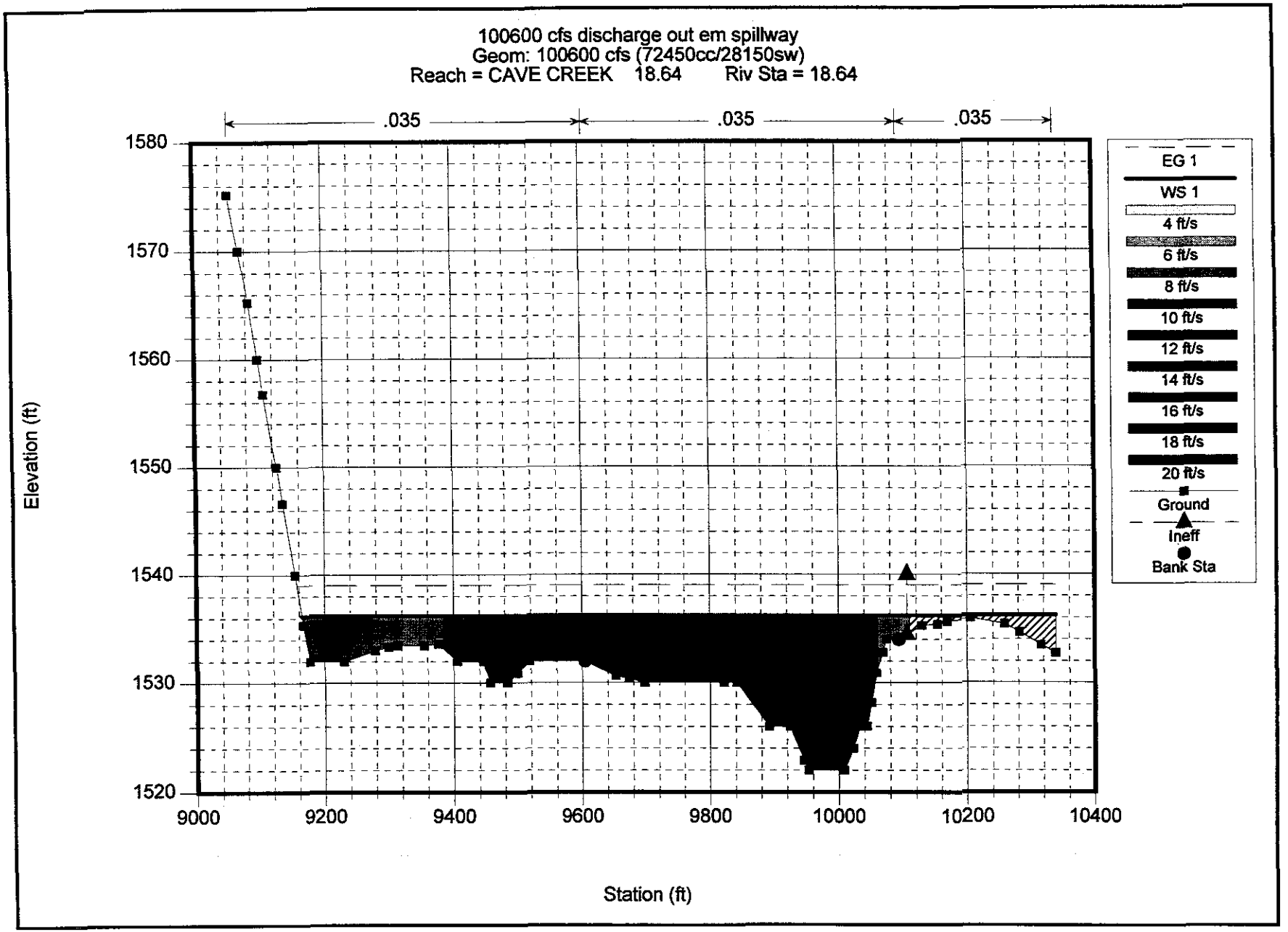

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SPILLWAY 18.96 Riv Sta = 18.96
.035
.035
.035
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
9000
10000
11000
12000
13000
Station (ft)
EG 1
WS 1
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
Ground
Ineff
Bank Sta

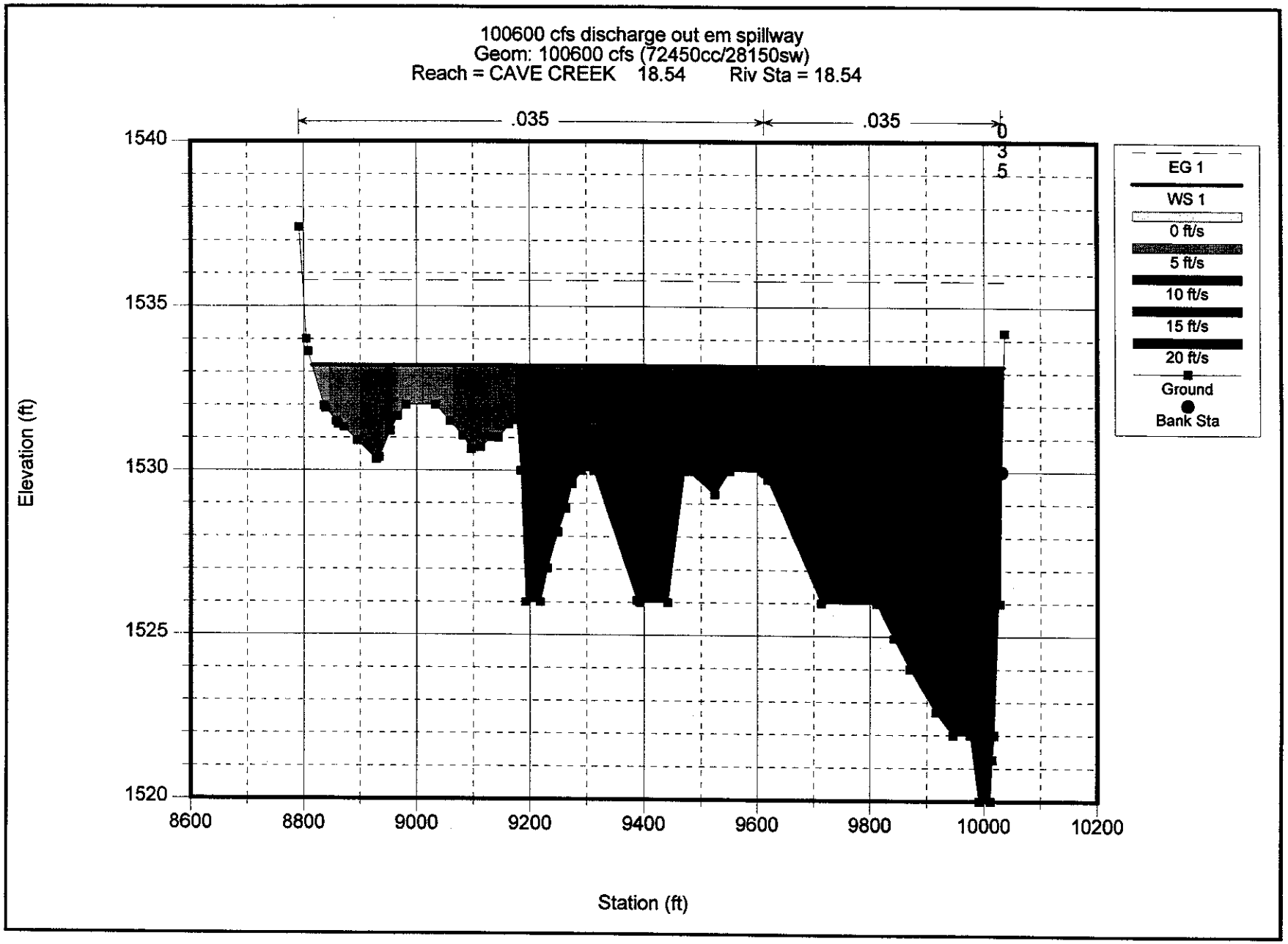

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.91 Riv Sta = 18.91
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Ineff
Bank Sta

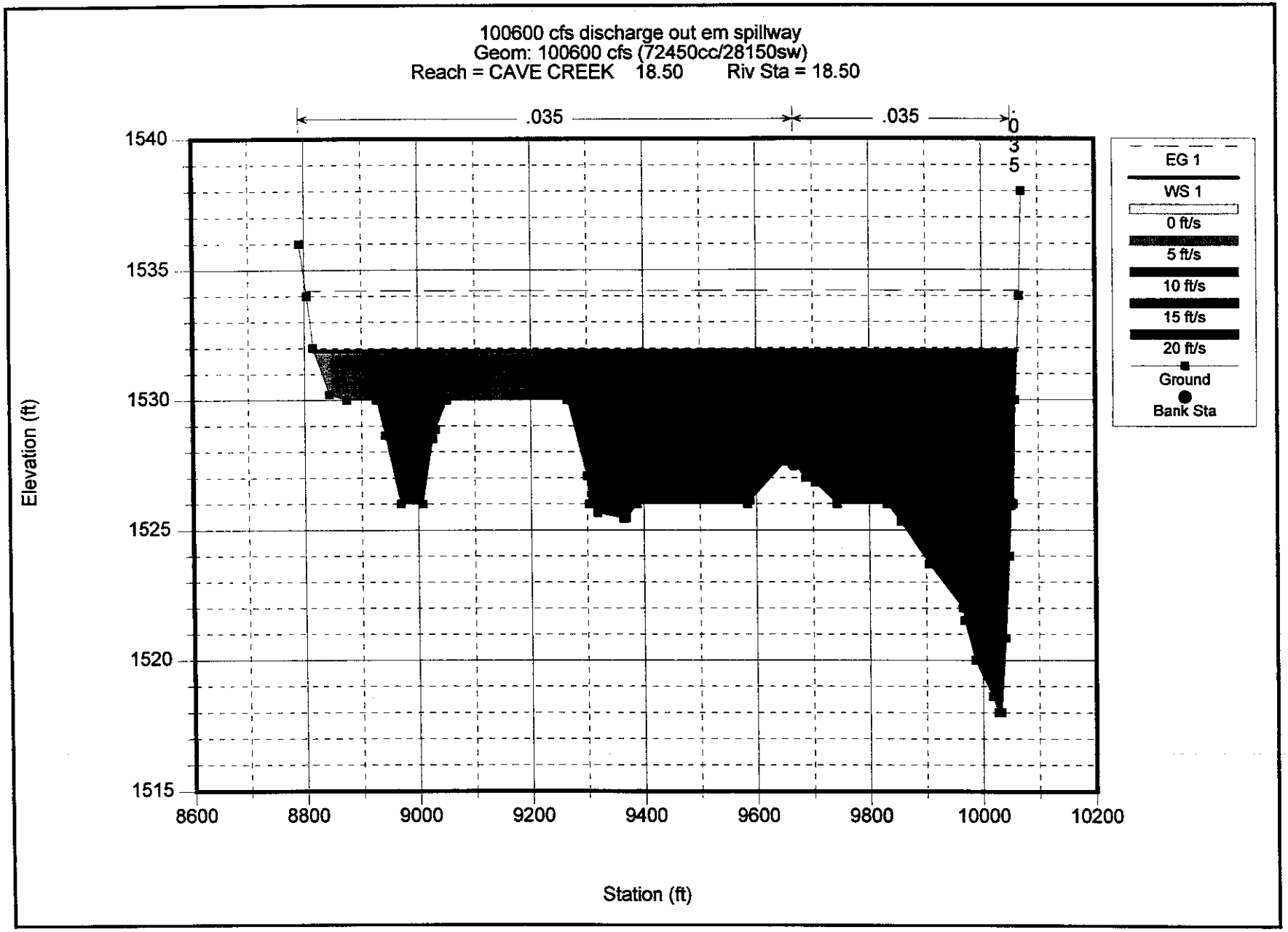

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.86 Riv Sta = 18.86
.035
.035
0.35
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Ineff
Bank Sta

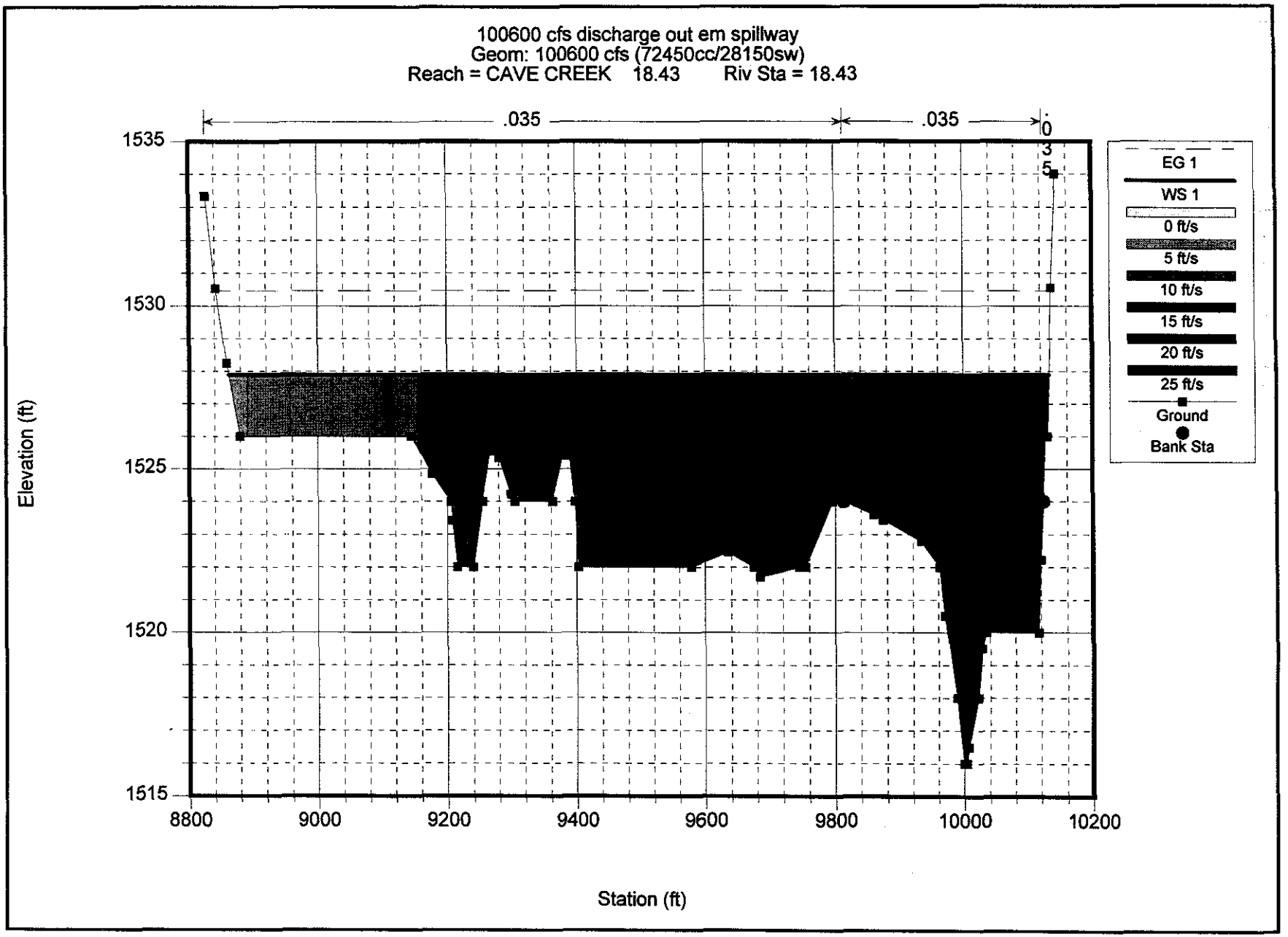

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.80 Riv Sta = 18.80
.035
.035
0
3
5
1560
1550
1540
1530
1520
1510
Elevation (ft)
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta

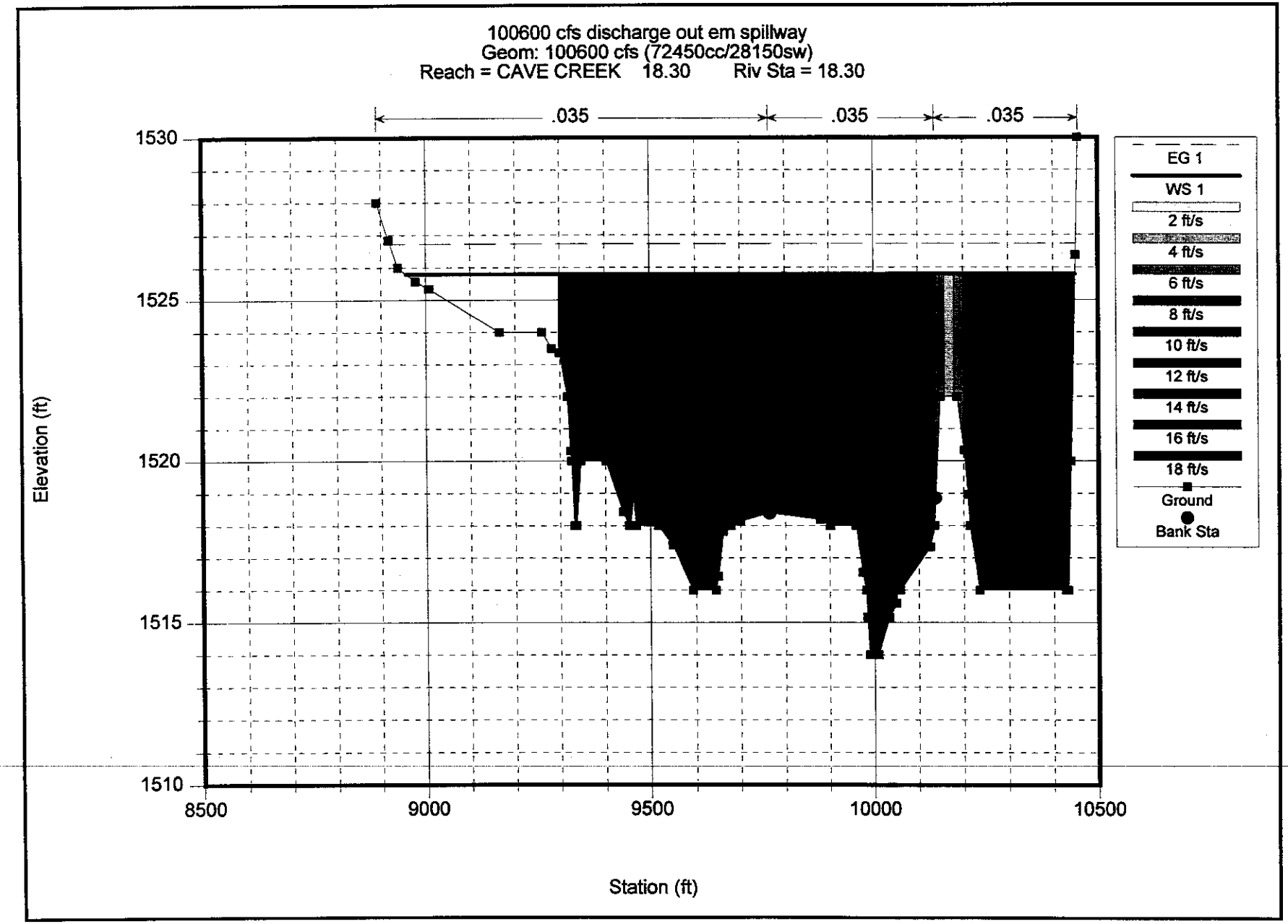

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.76 Riv Sta = 18.76
.035
.035
Elevation (ft)
1560
1550
1540
1530
1520
1510
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Bank Sta

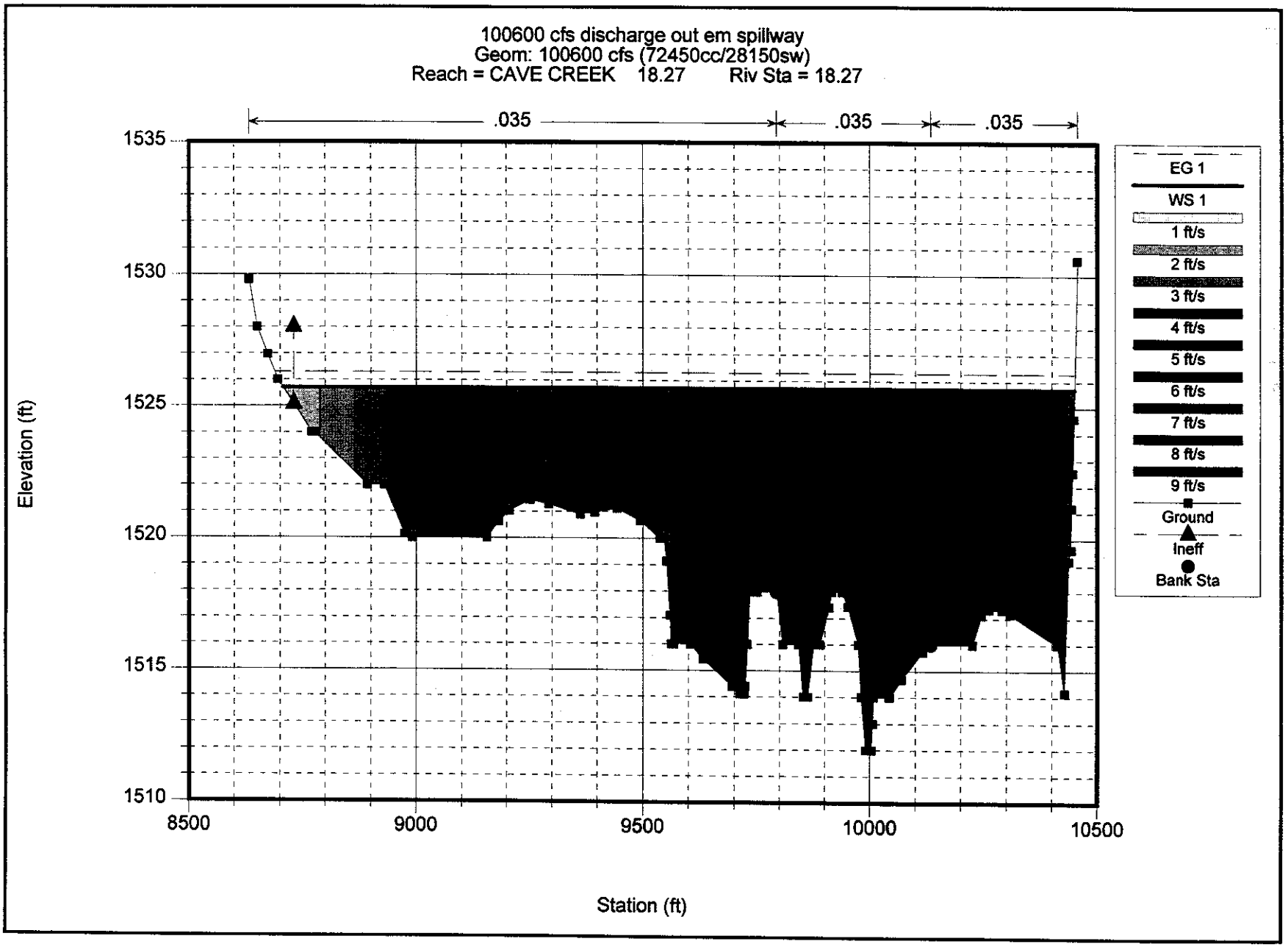

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.64 Riv Sta = 18.64
.035
.035
.035
1580
1570
1560
1550
1540
1530
1520
Elevation (ft)
9000
9200
9400
9600
9800
10000
10200
10400
Station (ft)
EG 1
WS 1
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Ineff
Bank Sta

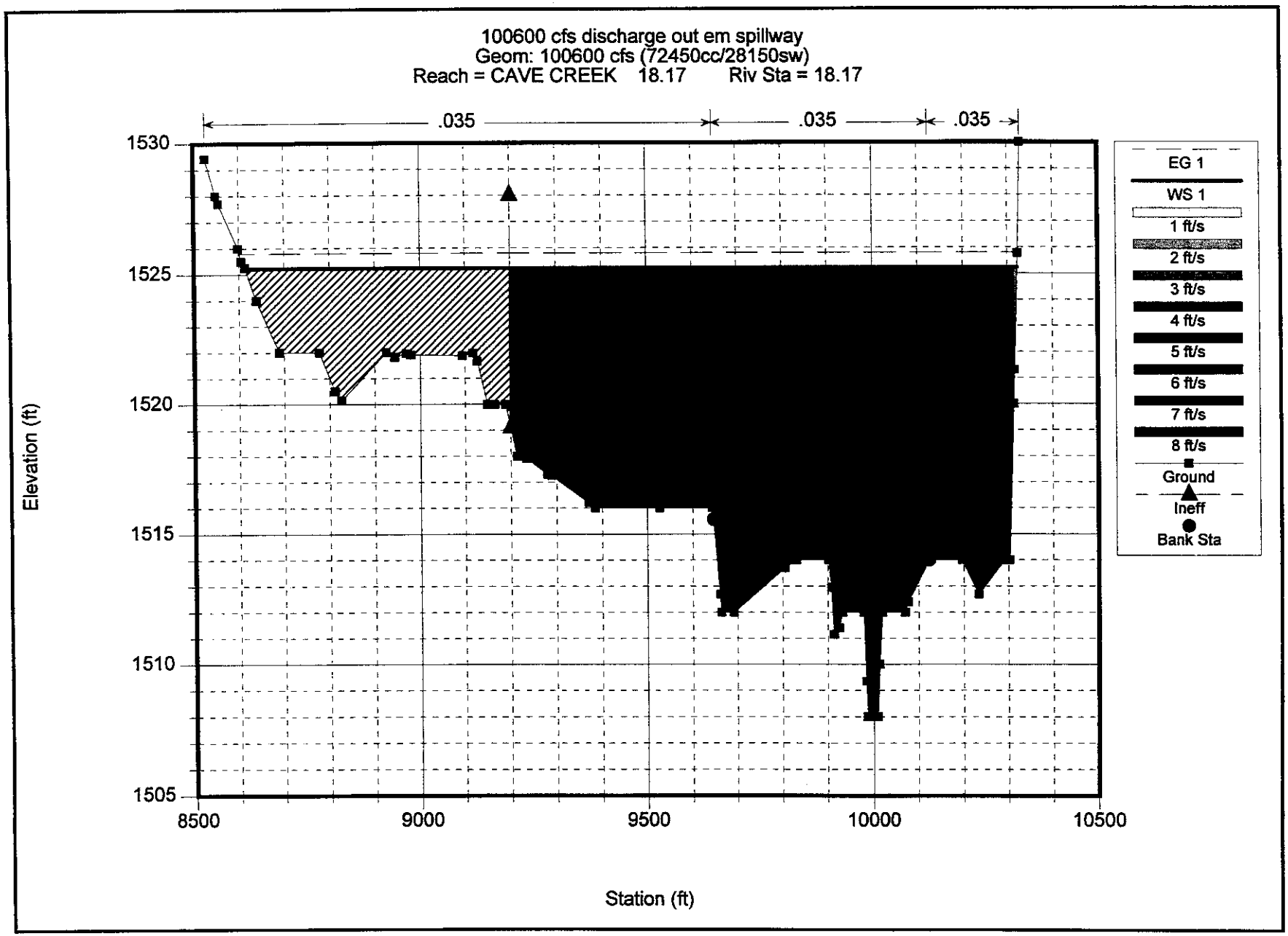

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.54 Riv Sta = 18.54
.035
.035
0
3
5
1540
1535
1530
1525
1520
Elevation (ft)
8600
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta

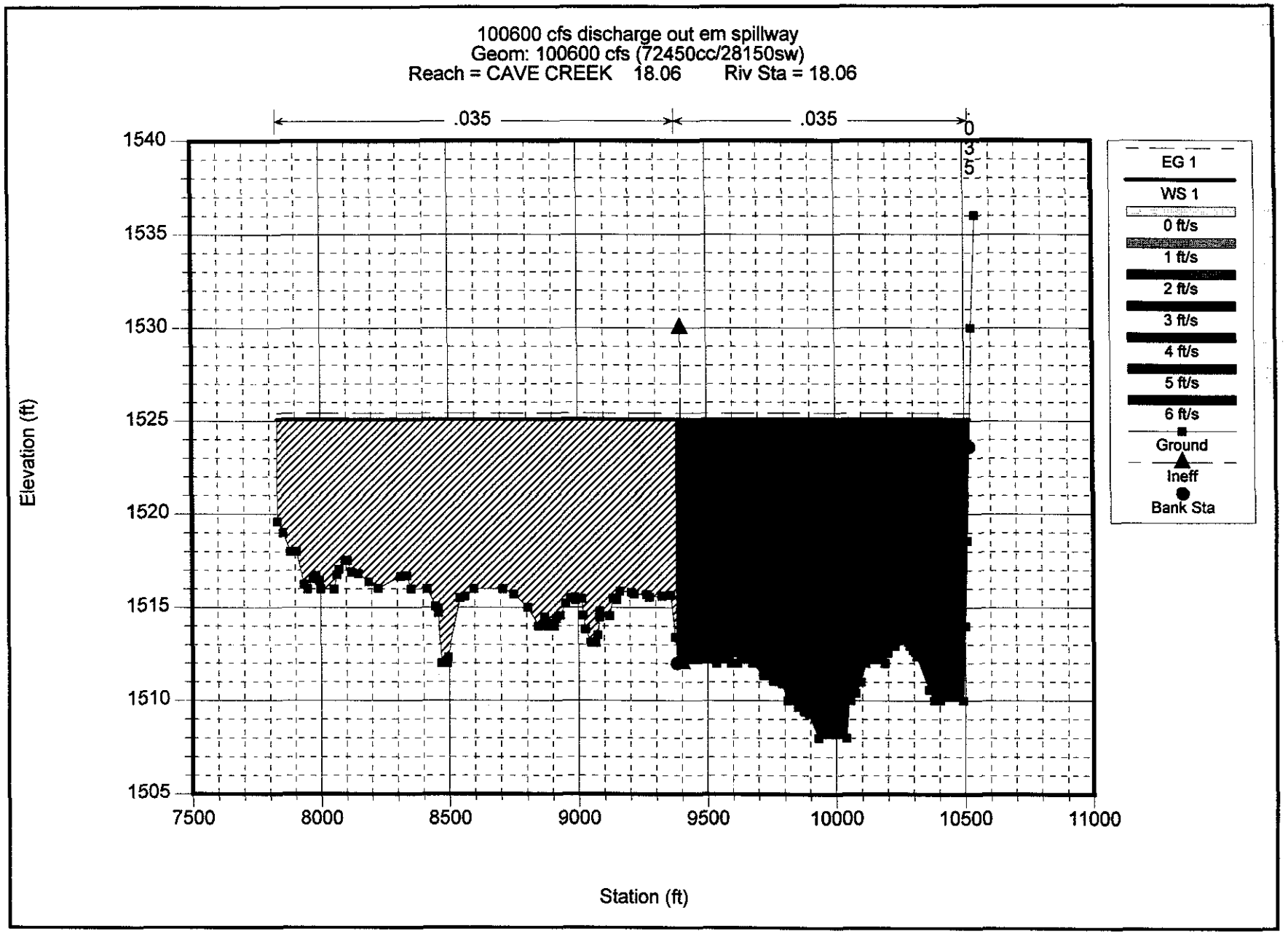

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.50 Riv Sta = 18.50
.035
.035
0.035
1540
1535
1530
1525
1520
1515
Elevation (ft)
8600
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta

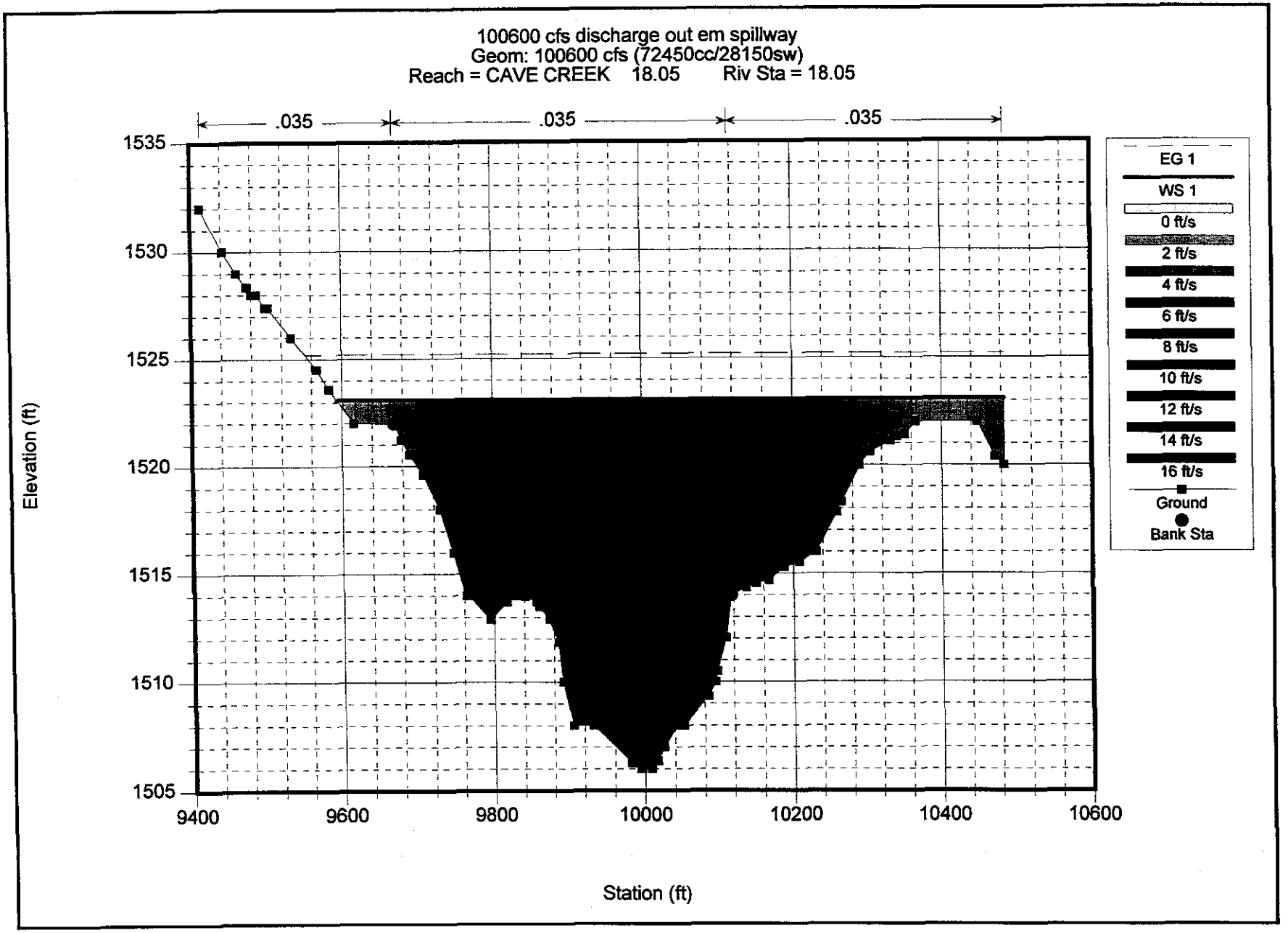

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.43 Riv Sta = 18.43
.035
.035
0
3
5
1535
1530
1525
1520
1515
Elevation (ft)
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

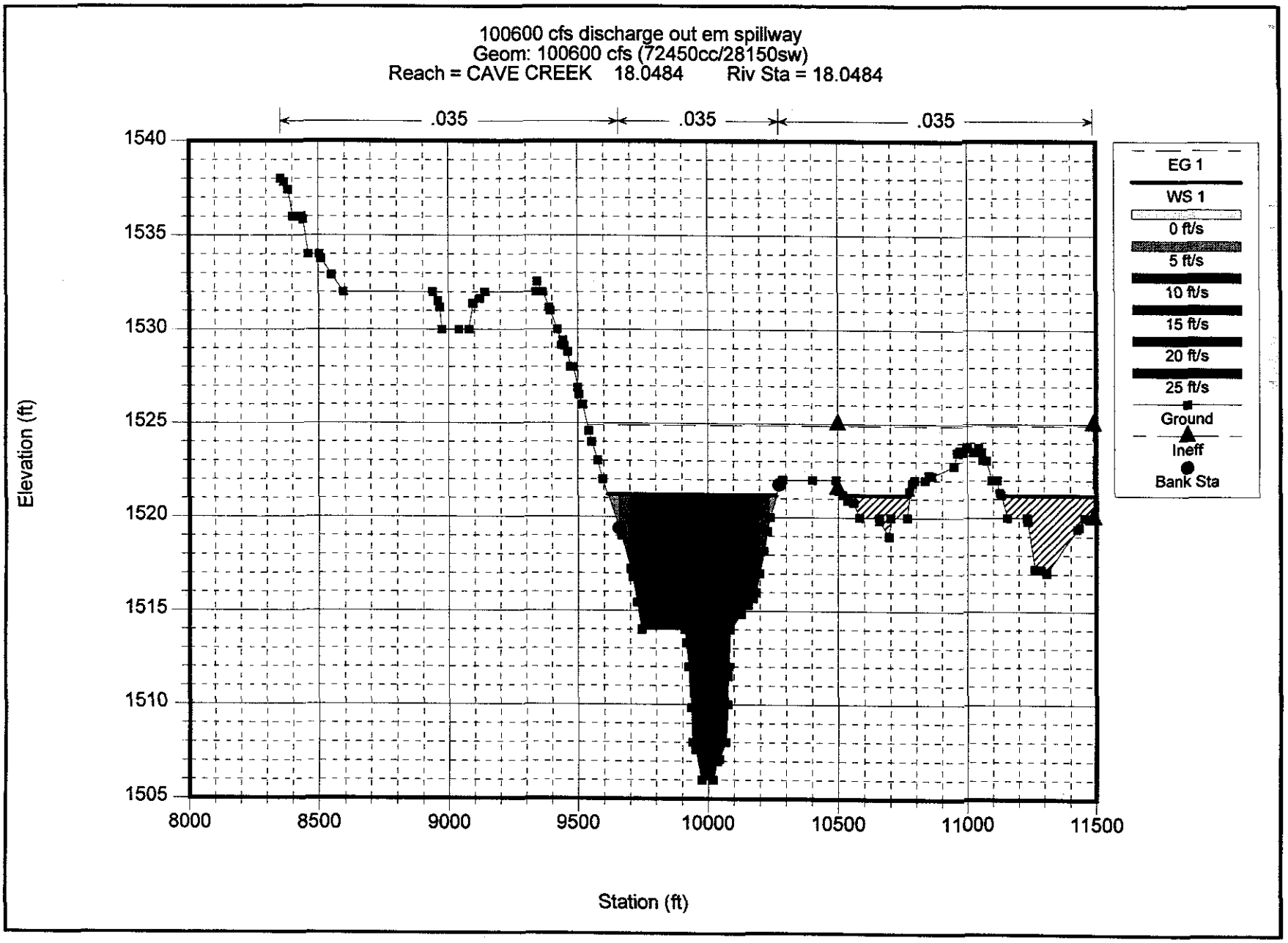

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.30 Riv Sta = 18.30
.035
.035
.035
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Bank Sta


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.27 Riv Sta = 18.27
.035
.035
.035
1535
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Ineff
Bank Sta

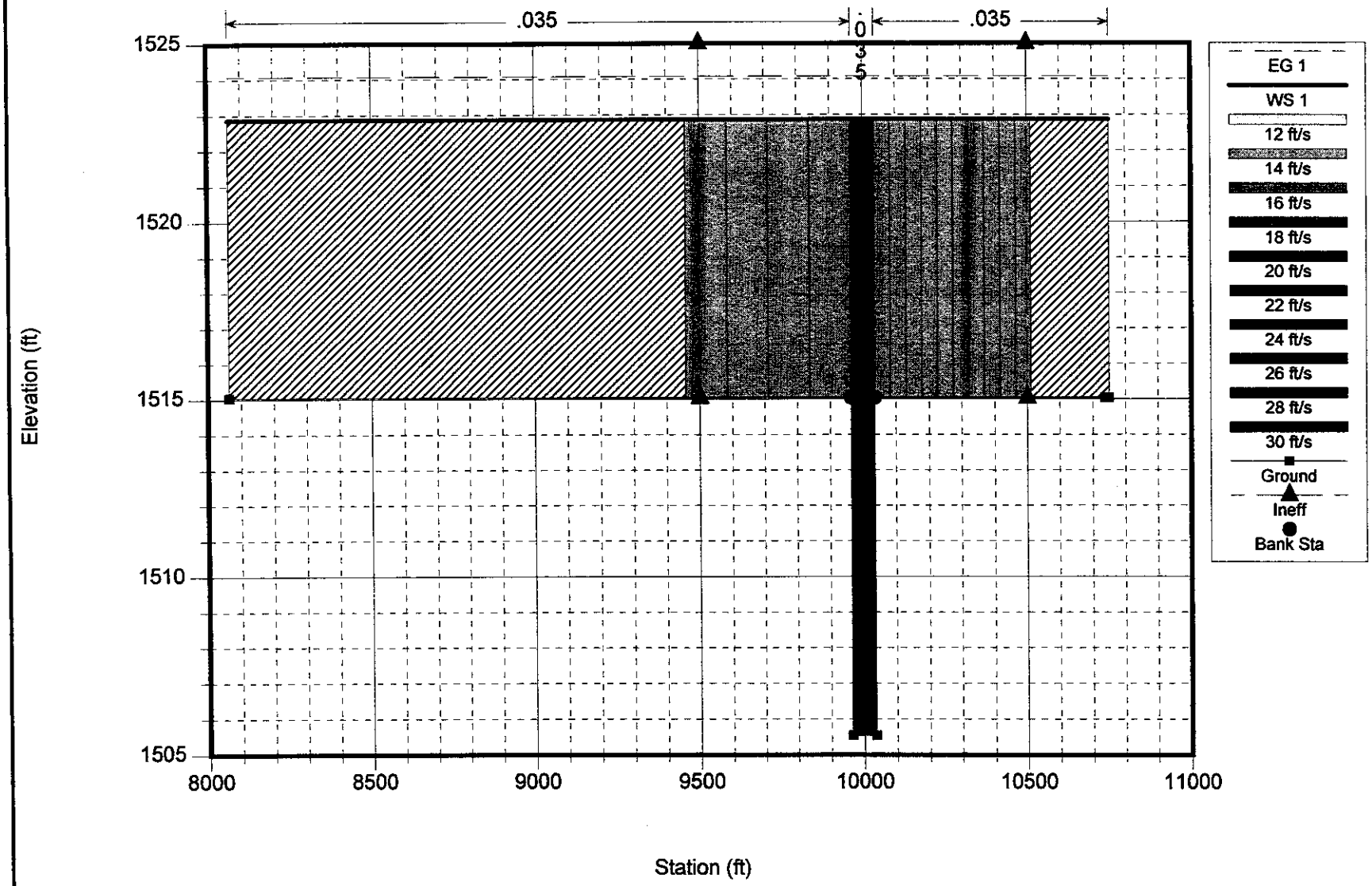

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.17 Riv Sta = 18.17
.035
.035
.035
1530
1525
1520
1515
1510
1505
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
Ground
Ineff
Bank Sta

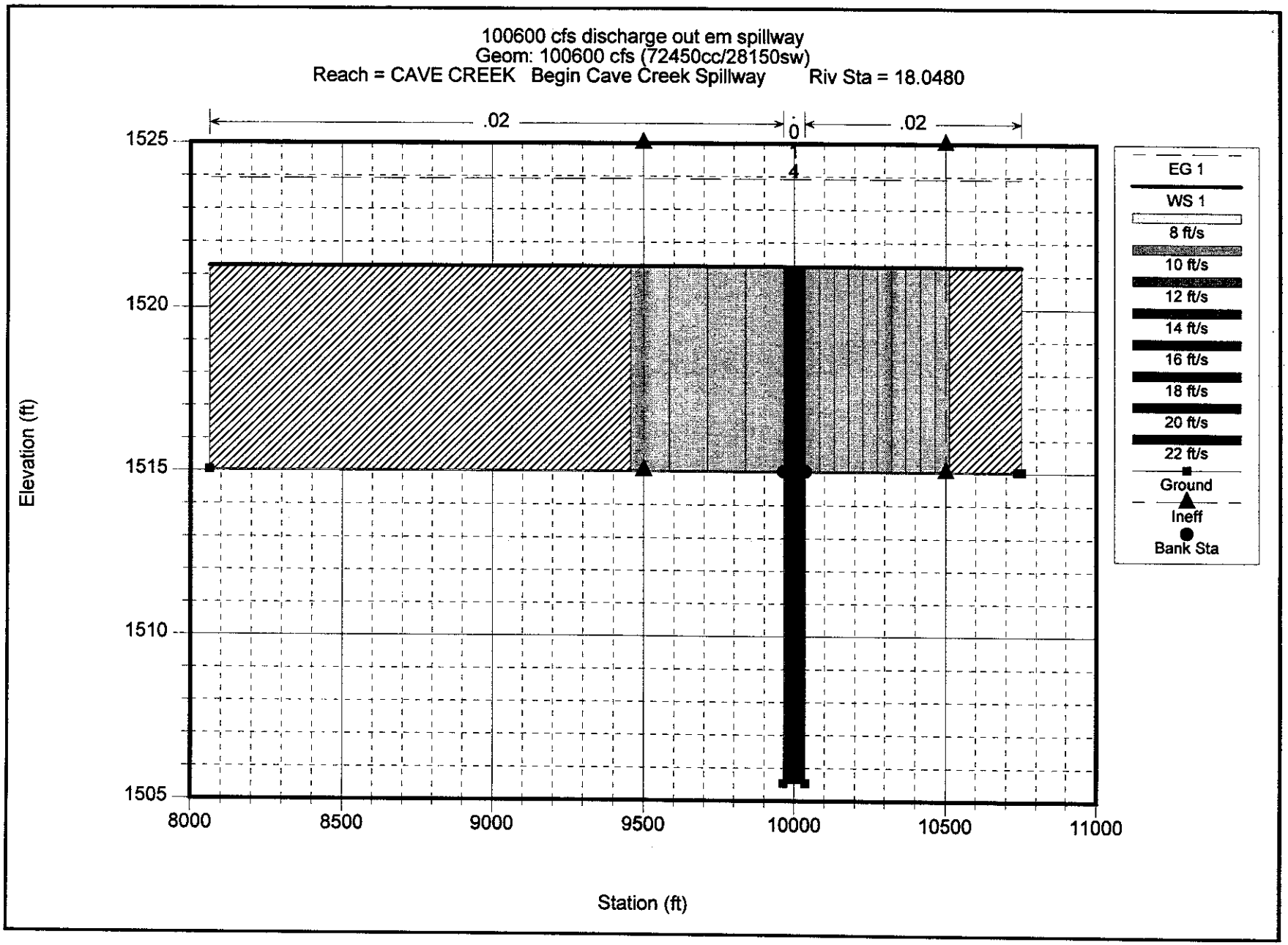

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.06 Riv Sta = 18.06
.035
.035
0
3
5
1540
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
7500
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
Ground
Ineff
Bank Sta


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.05 Riv Sta = 18.05
.035
.035
.035
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
Ground
Bank Sta

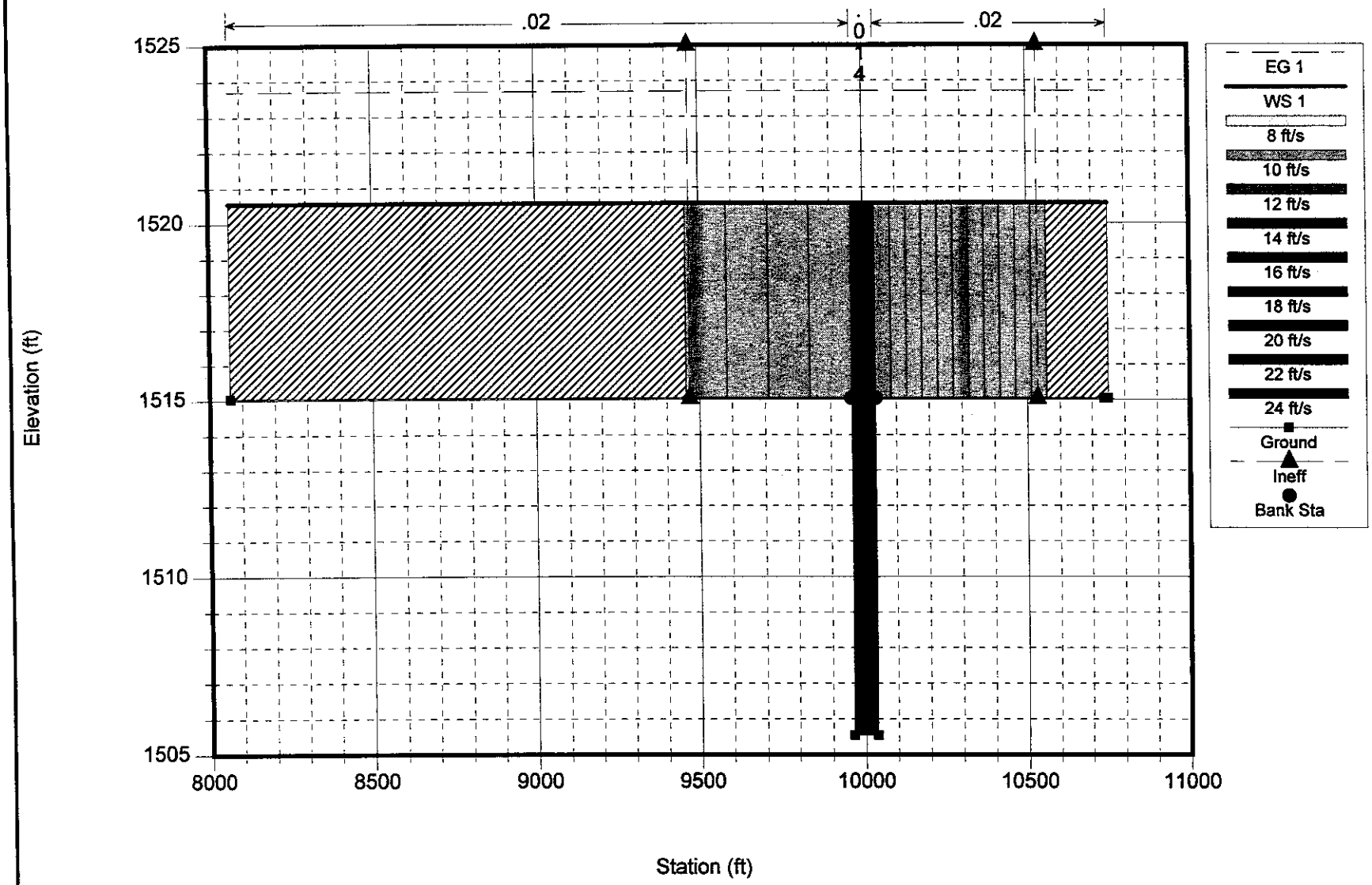

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.0484 Riv Sta = 18.0484
.035
.035
.035
1540
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Ineff
Bank Sta

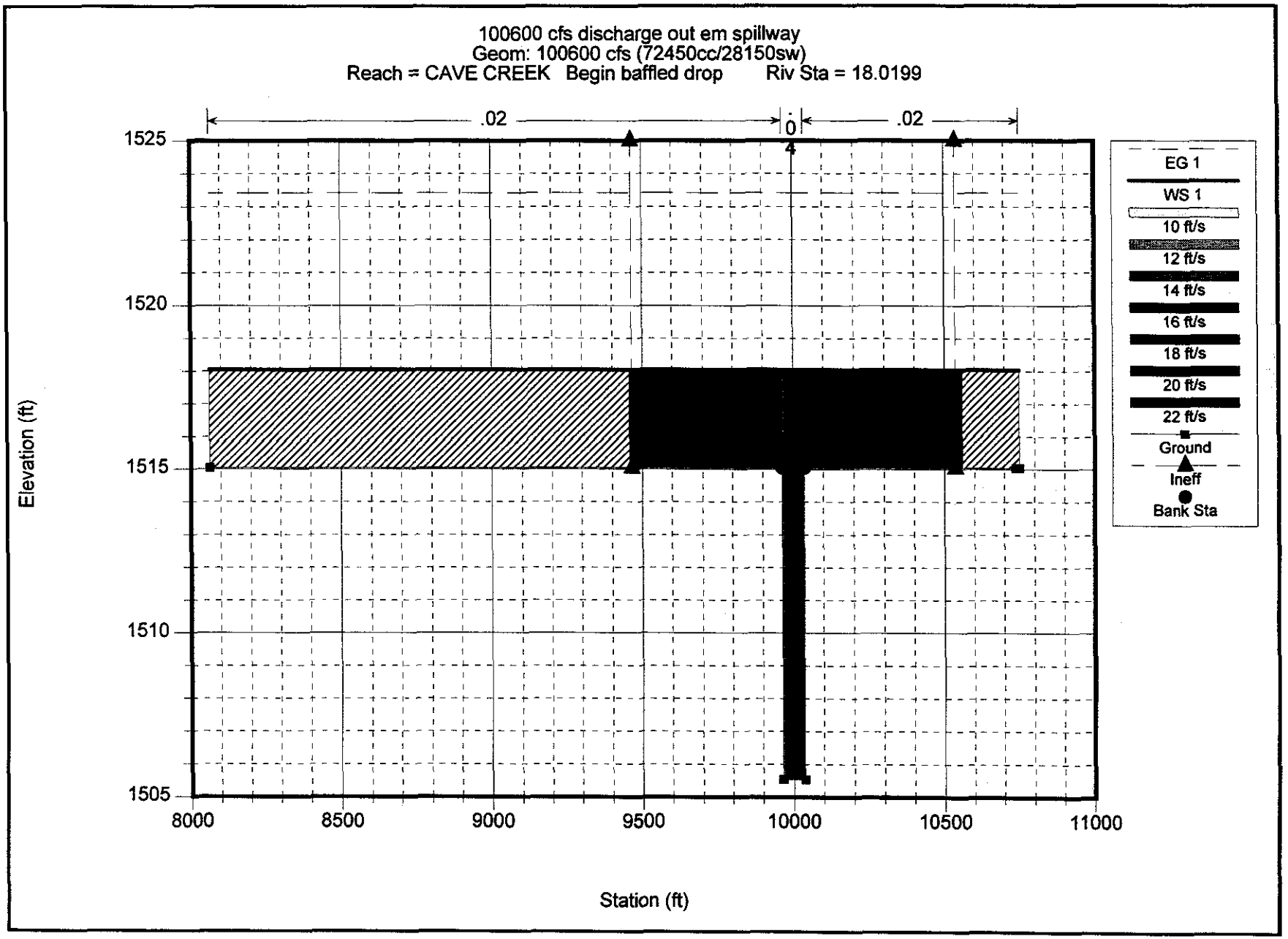
100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 18.0482

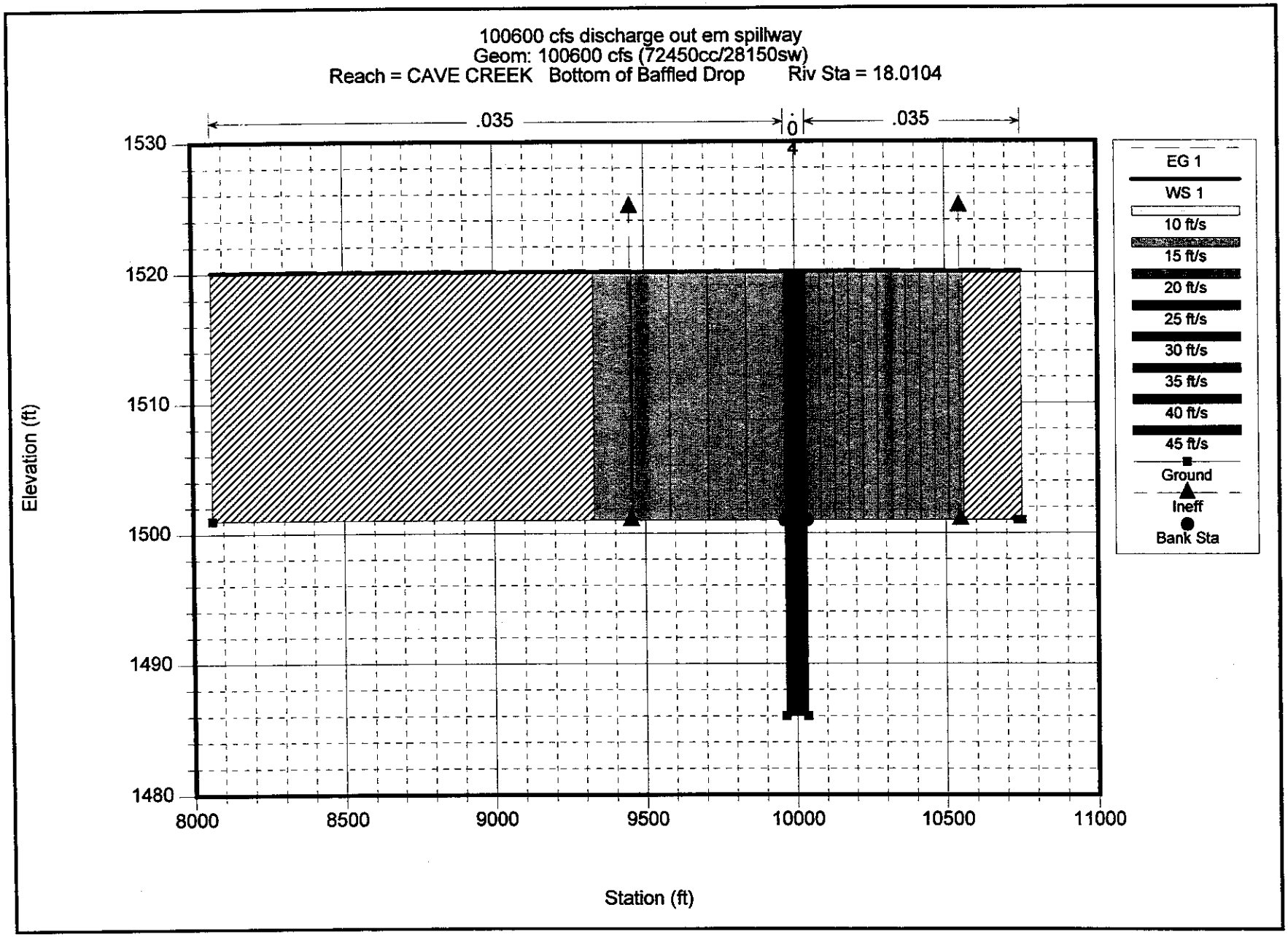



100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 18.0480
.02
0
.02
1
4
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
22 ft/s
Ground
Ineff
Bank Sta

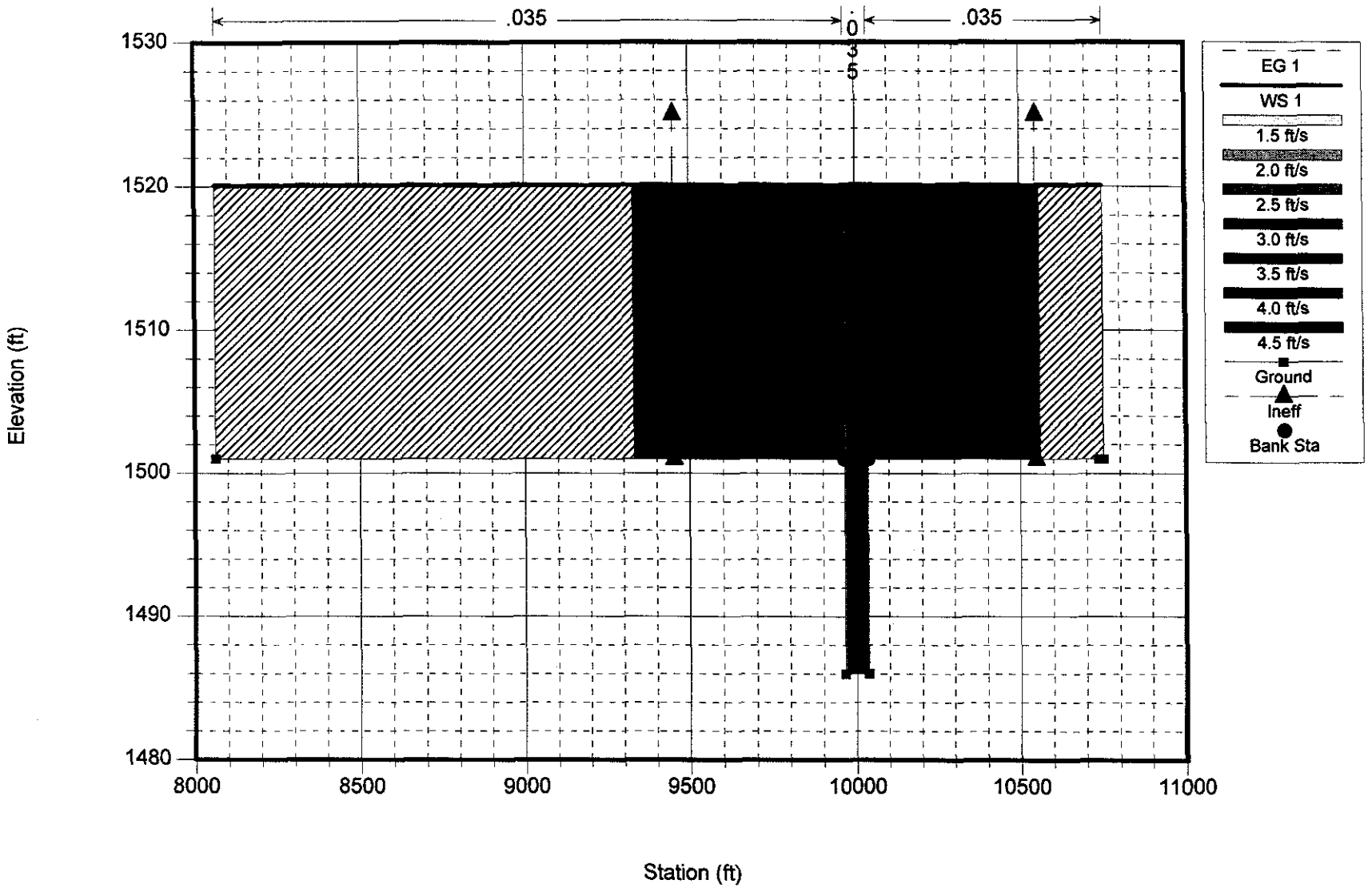
100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK Downstream side of top of sply Riv Sta = 18.0237

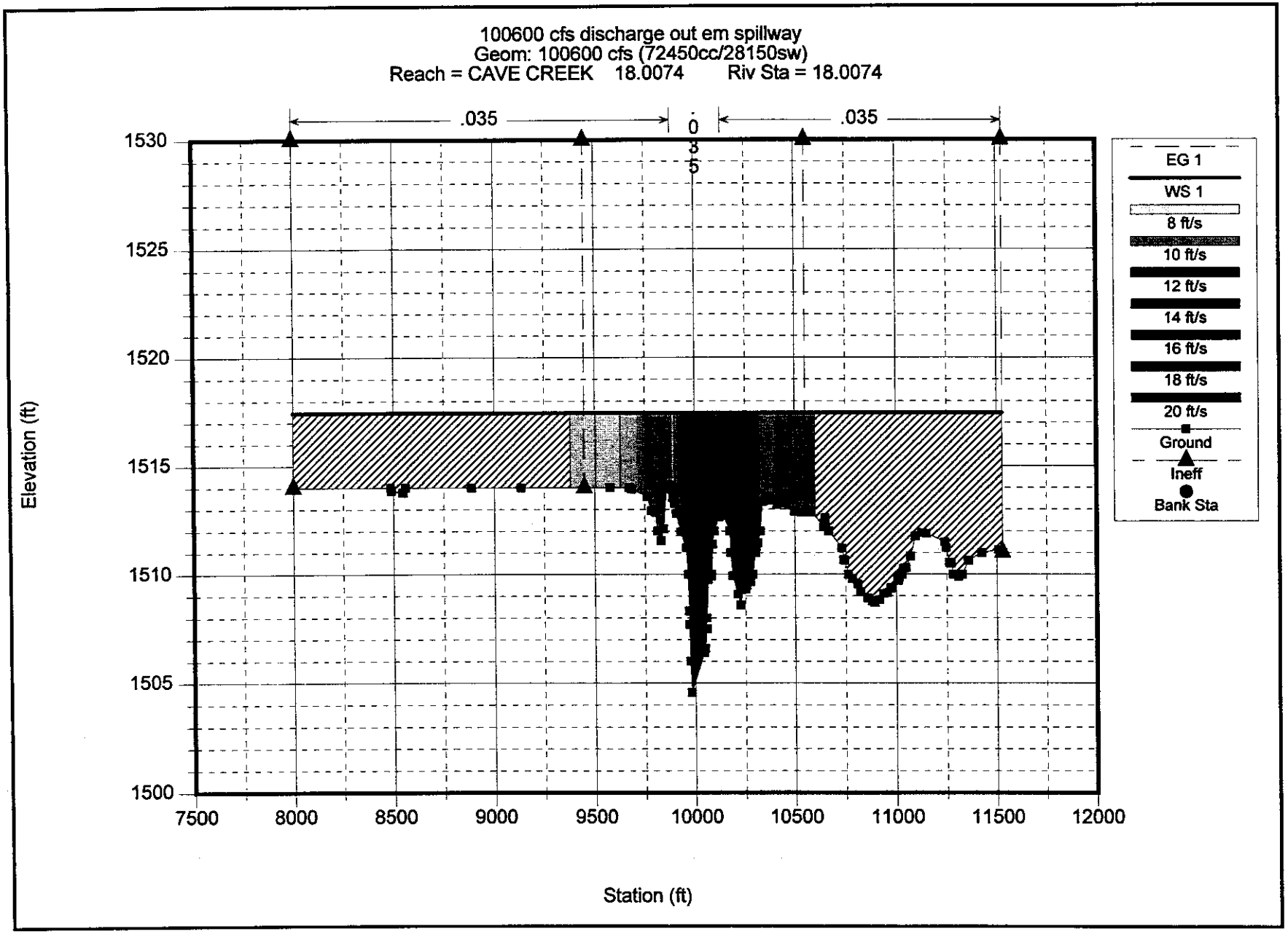


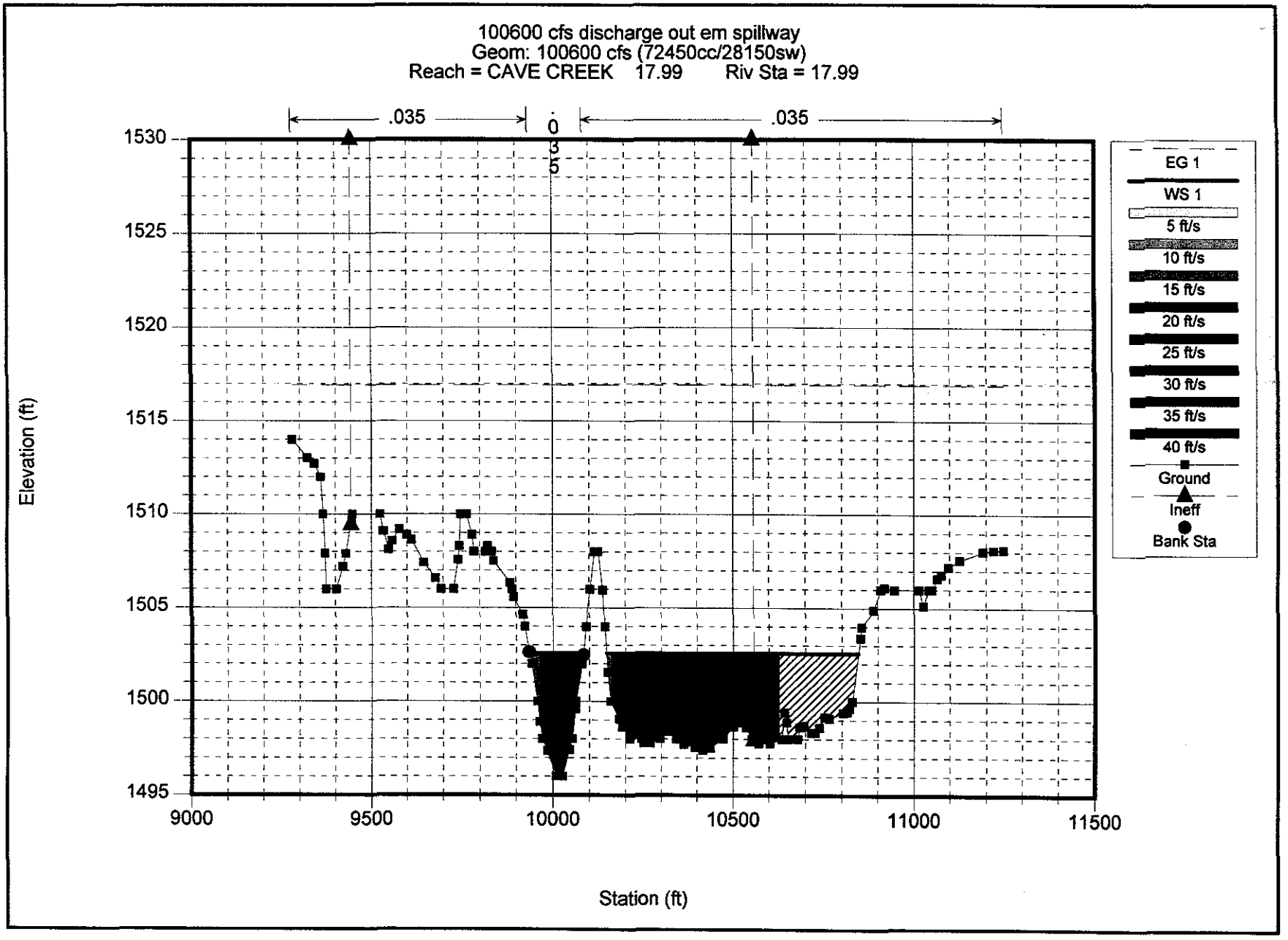

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK Begin baffled drop Riv Sta = 18.0199
.02
0
.02
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
22 ft/s
Ground
Ineff
Bank Sta

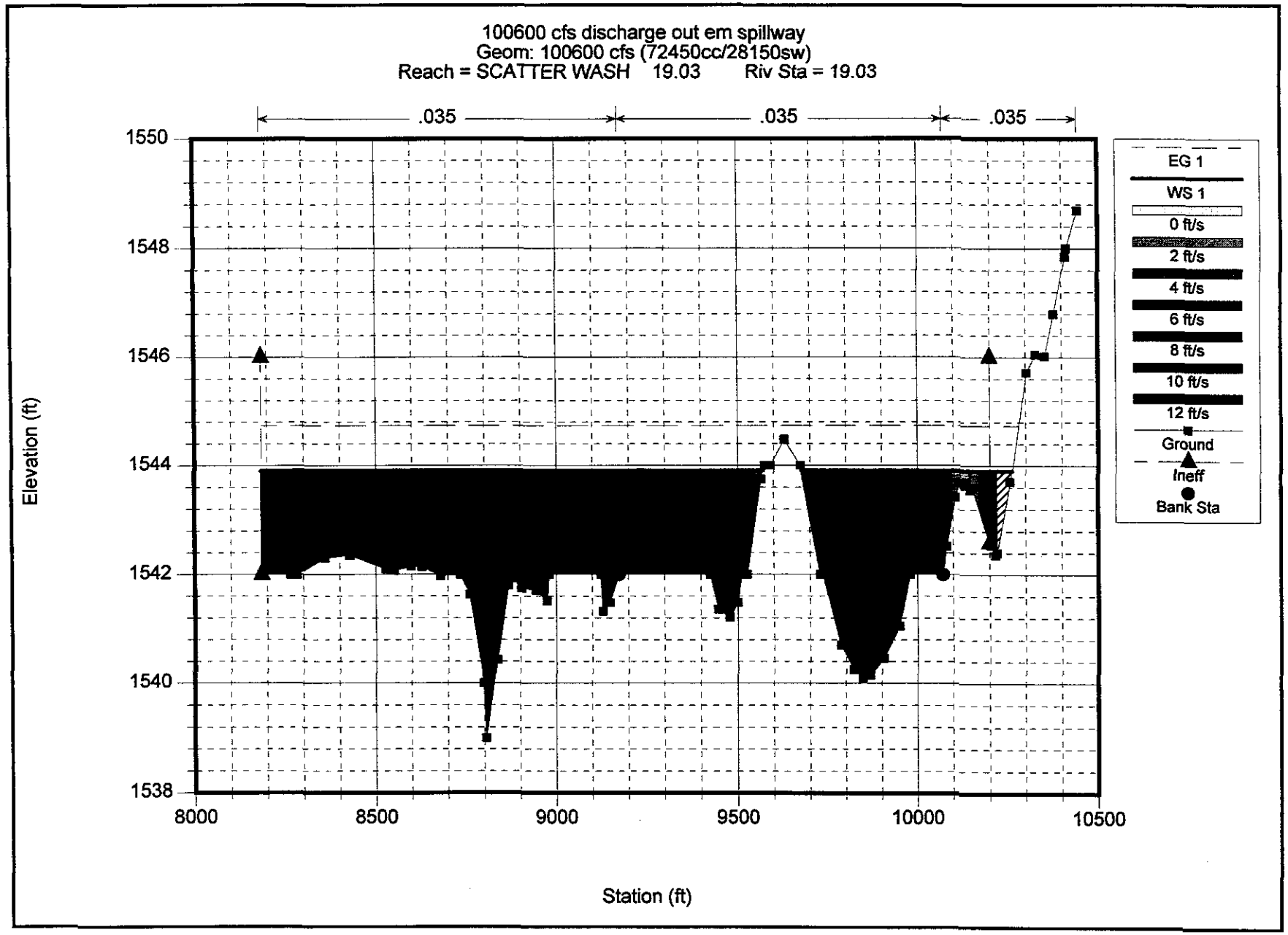

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK Bottom of Baffled Drop Riv Sta = 18.0104
.035
0.4
.035
1530
1520
1510
1500
1490
1480
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
Ground
Ineff
Bank Sta

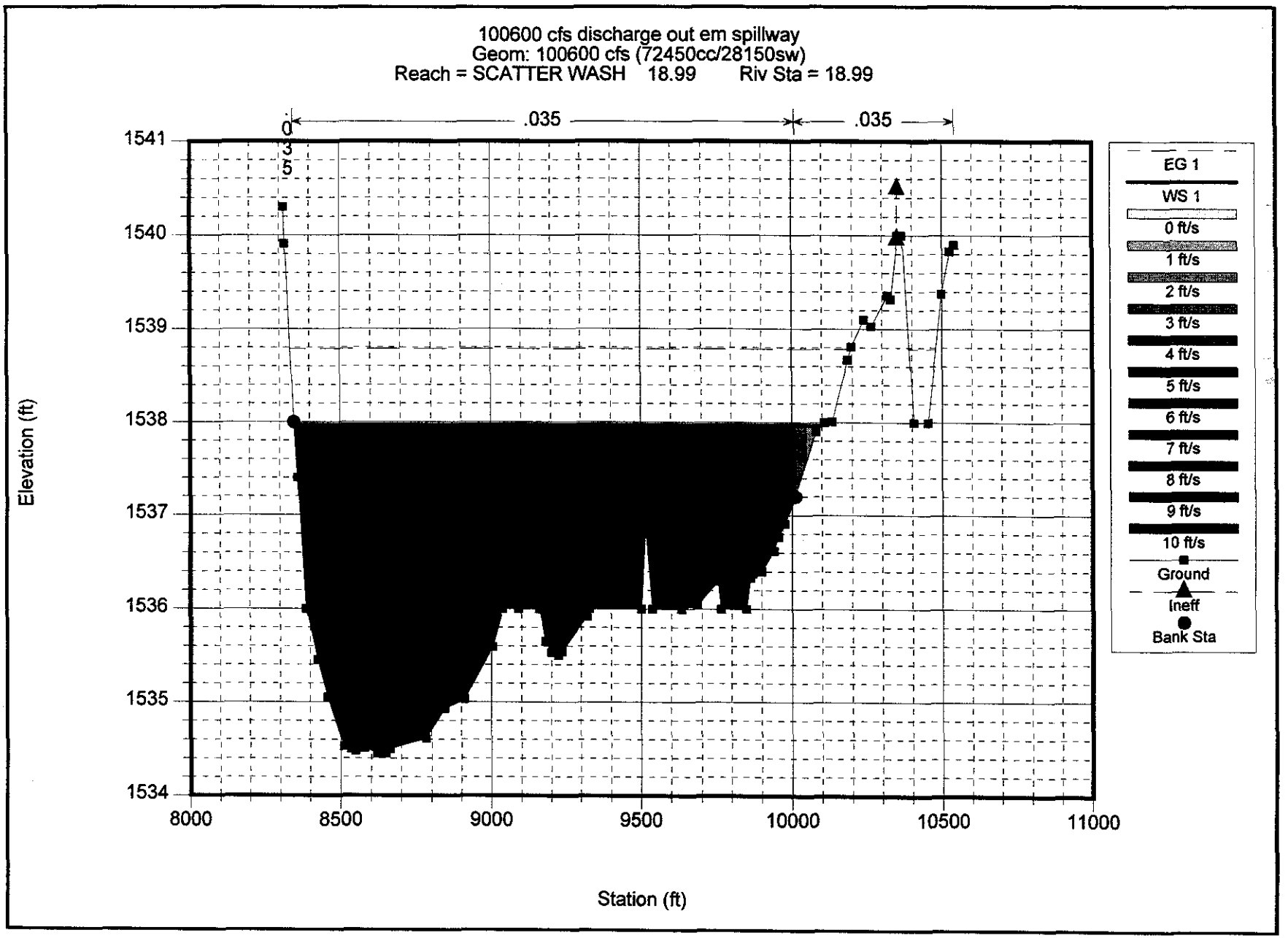
100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK Bottom of Baffled Drop Riv Sta = 18.0103

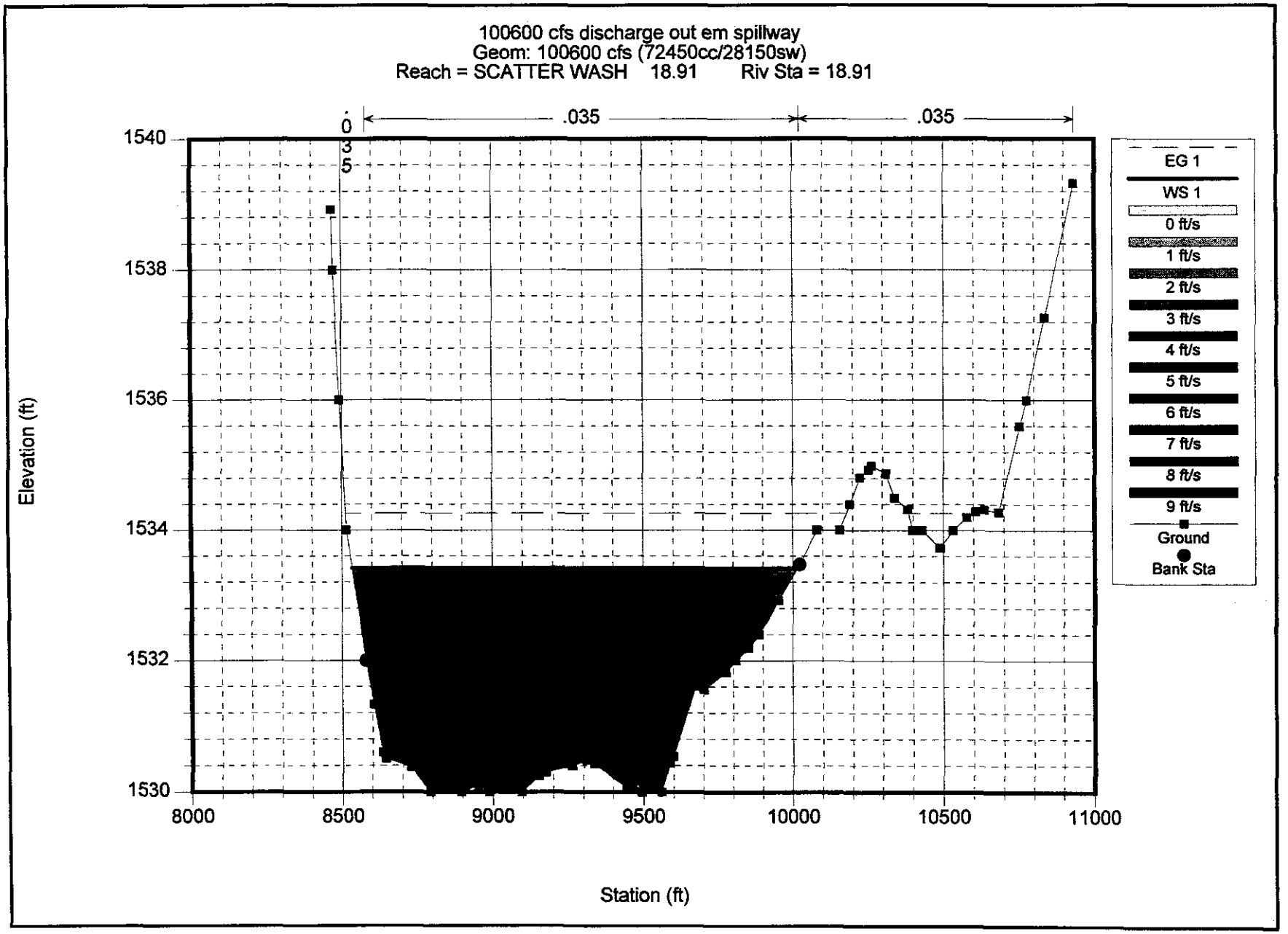


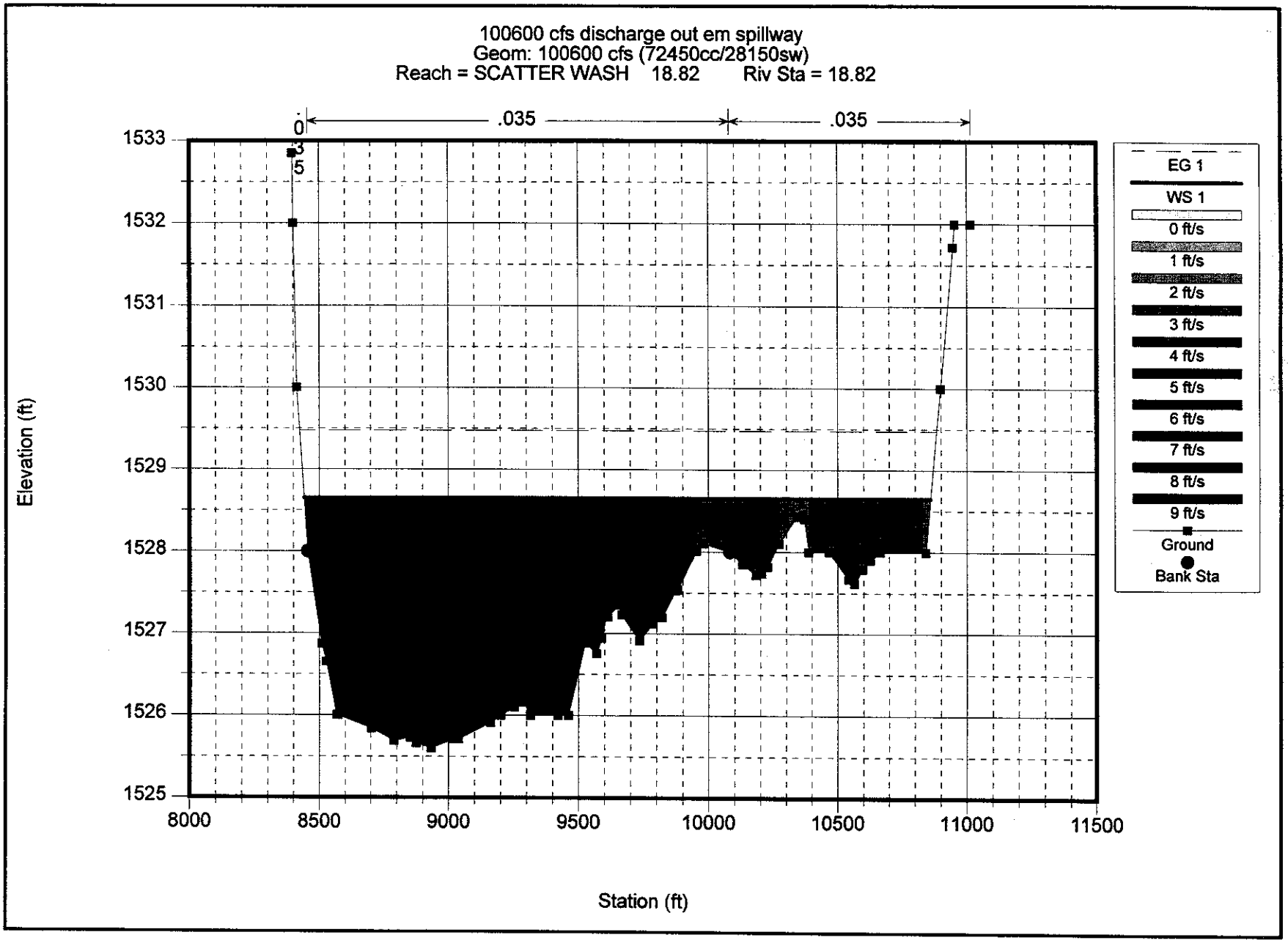

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 18.0074 Riv Sta = 18.0074
.035
.035
.035
Elevation (ft)
1530
1525
1520
1515
1510
1505
1500
7500
8000
8500
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Ineff
Bank Sta

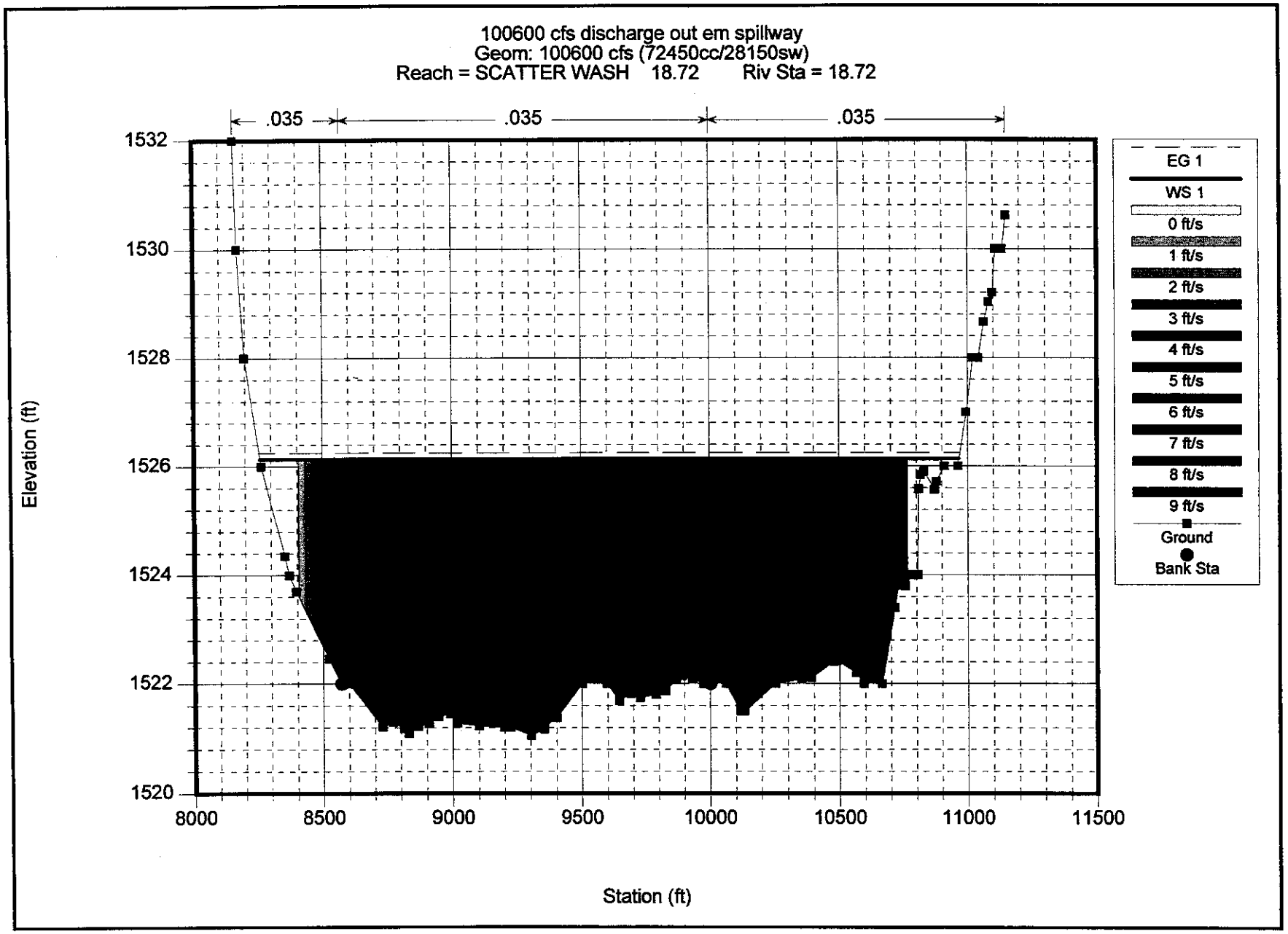

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = CAVE CREEK 17.99 Riv Sta = 17.99
.035
.035
0.35
1530
1525
1520
1515
1510
1505
1500
1495
Elevation (ft)
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
Ground
Ineff
Bank Sta

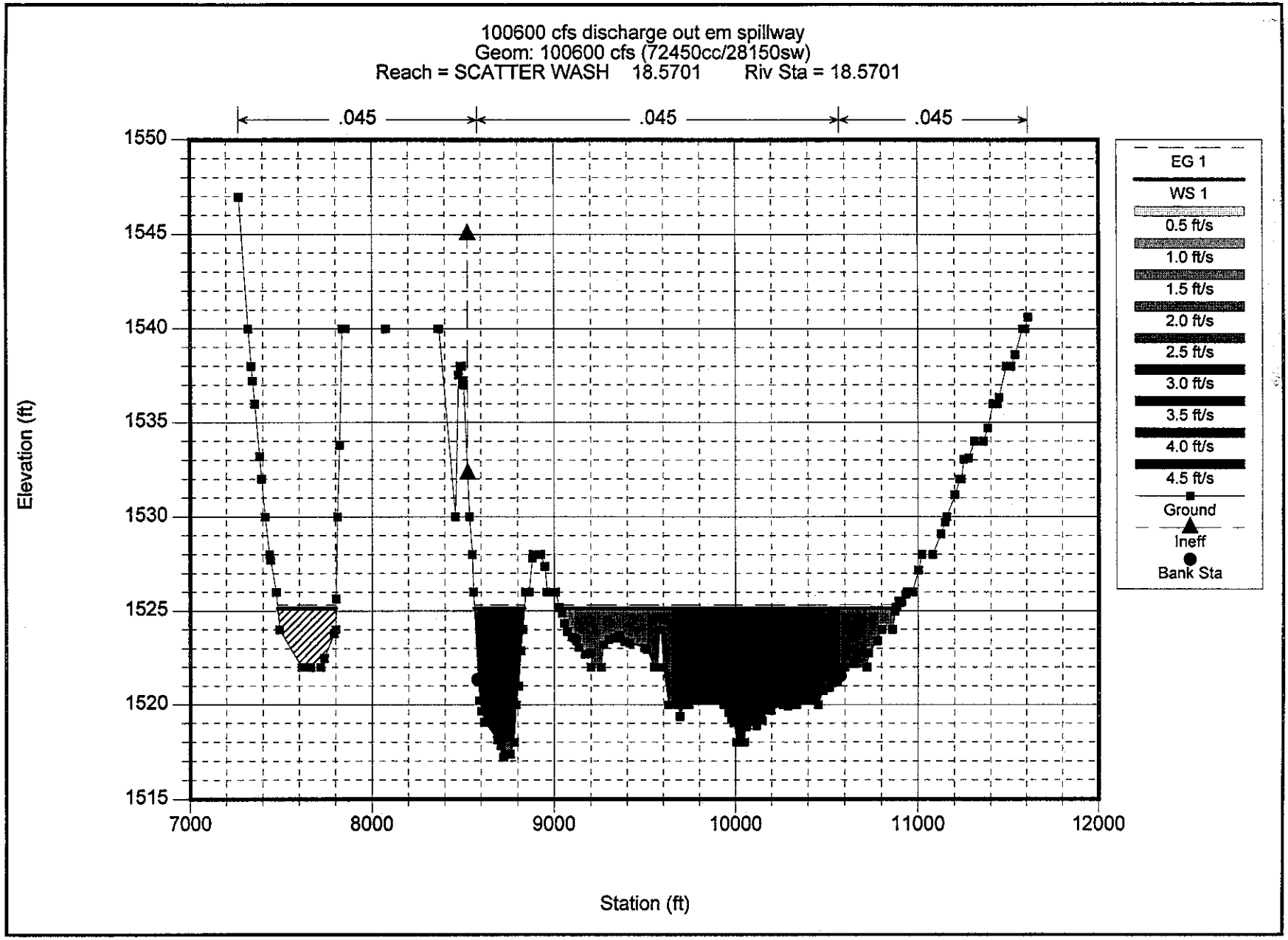

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 19.03 Riv Sta = 19.03
.035
.035
.035
1550
1548
1546
1544
1542
1540
1538
Elevation (ft)
8000
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta

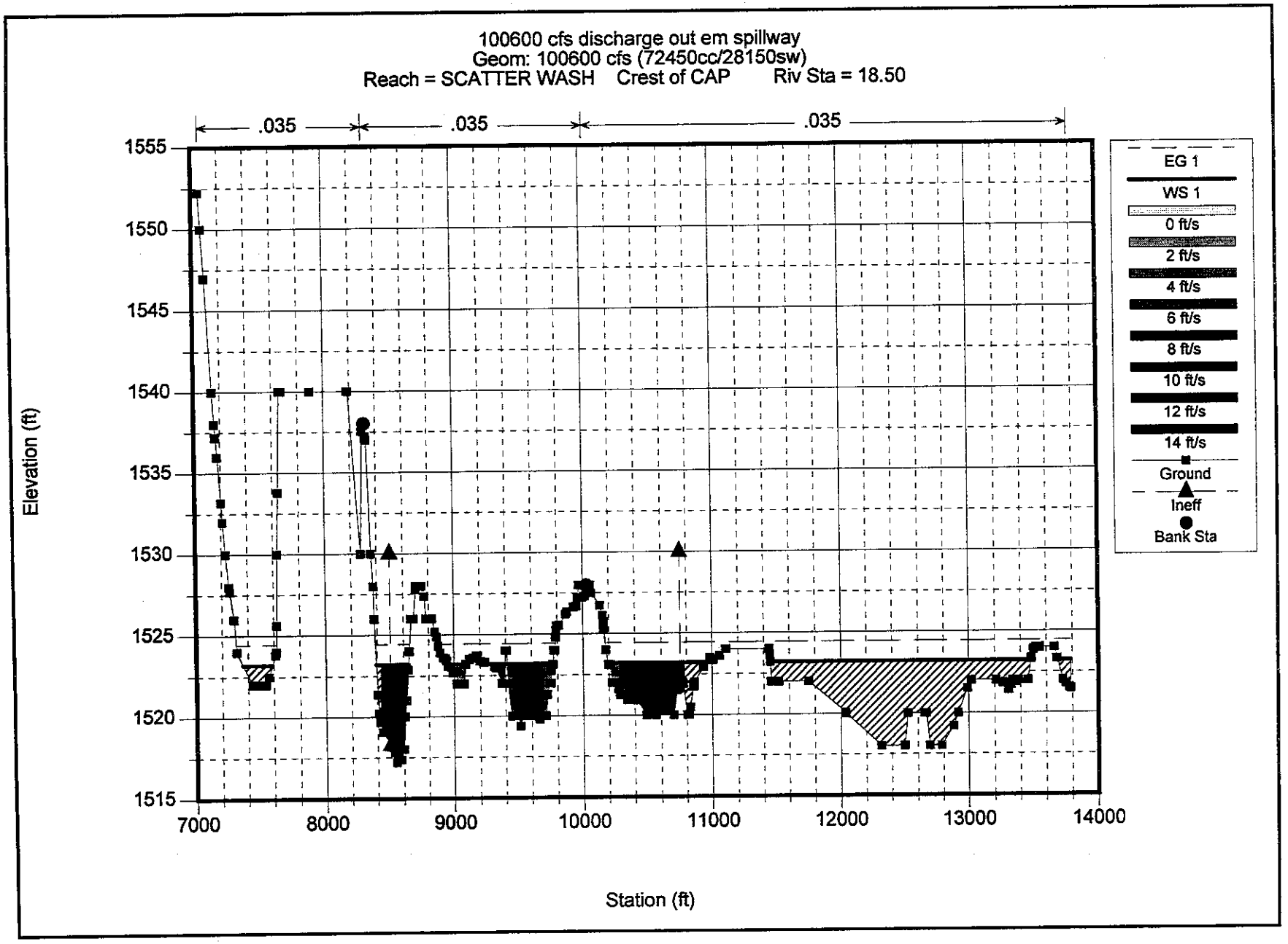

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 18.99 Riv Sta = 18.99
.035
.035
0
3
5
1541
1540
1539
1538
1537
1536
1535
1534
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
10 ft/s
Ground
Ineff
Bank Sta

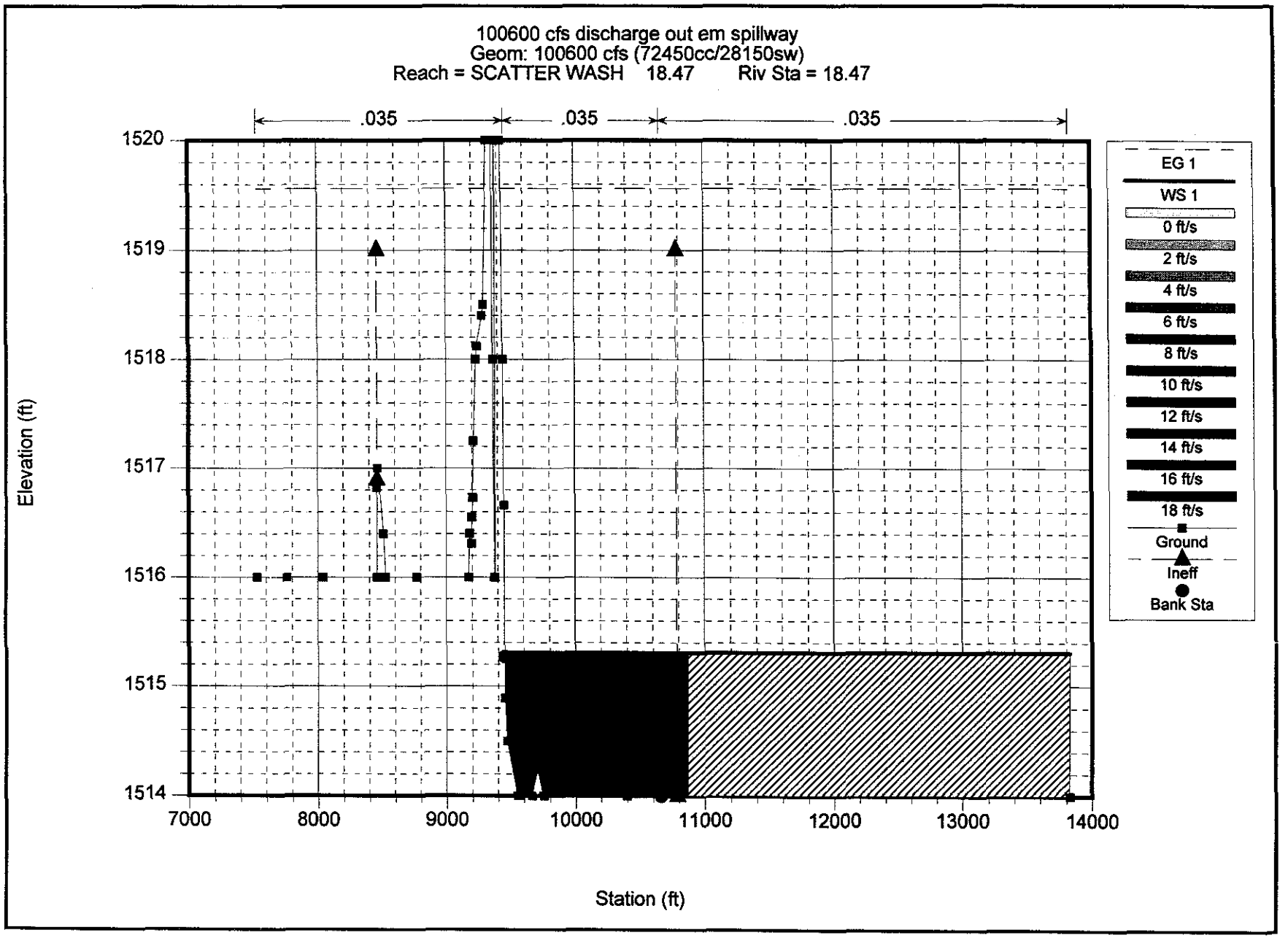

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 18.91 Riv Sta = 18.91
.035
.035
0
3
5
1540
1538
1536
1534
1532
1530
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Bank Sta

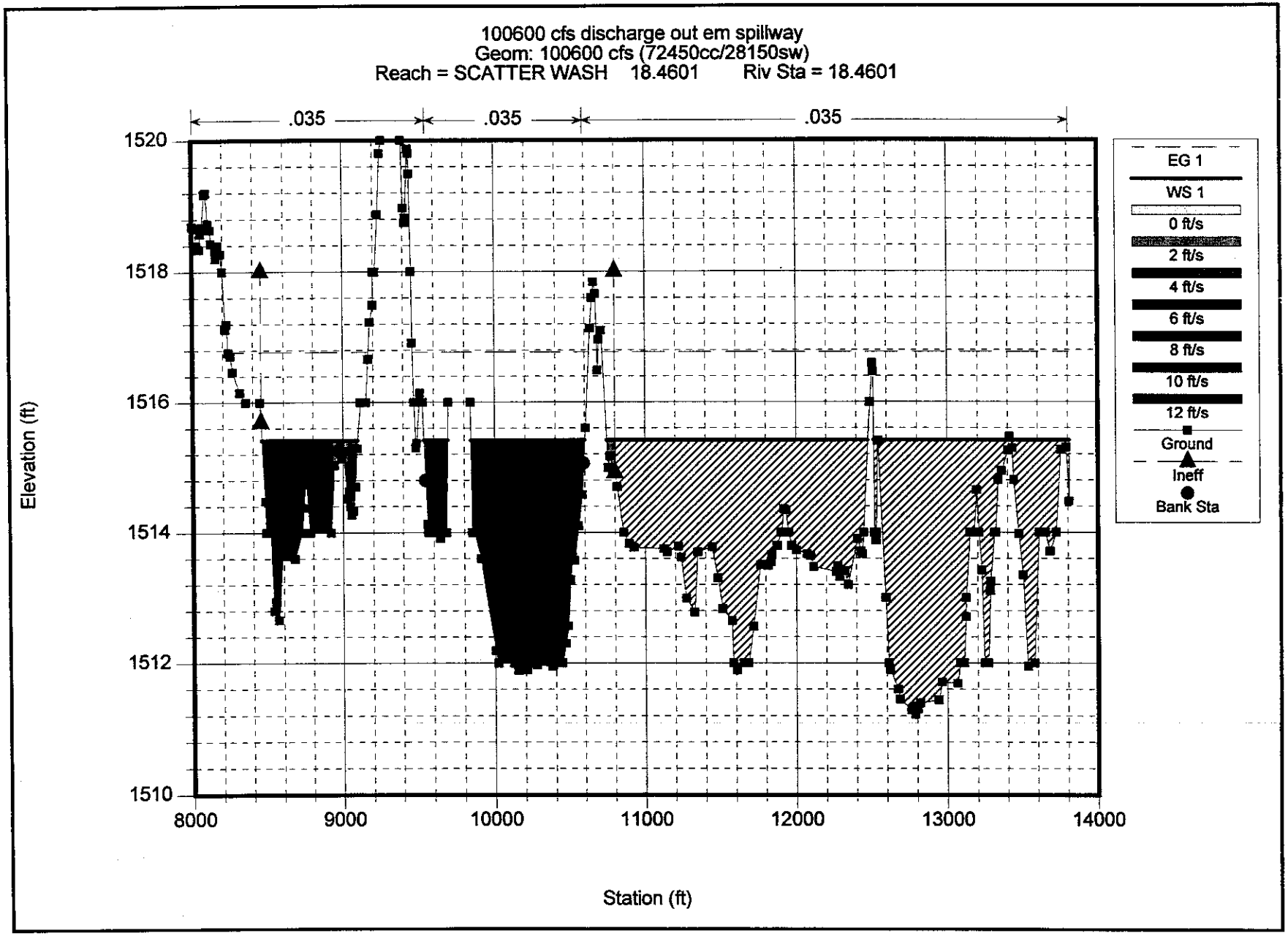

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 18.82 Riv Sta = 18.82
.035
.035
0
3
5
1533
1532
1531
1530
1529
1528
1527
1526
1525
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Bank Sta

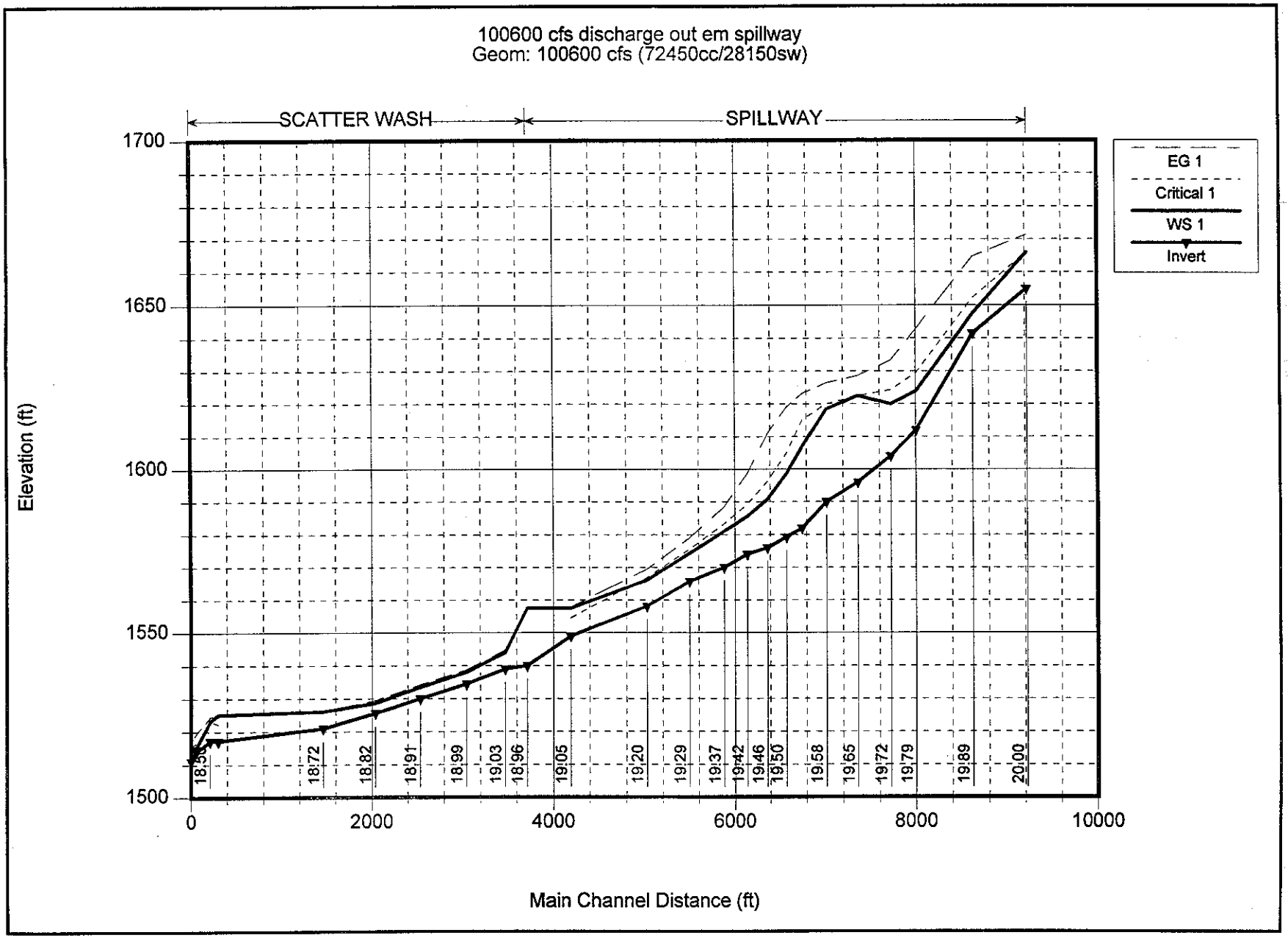

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 18.72 Riv Sta = 18.72
.035
.035
.035
1532
1530
1528
1526
1524
1522
1520
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Bank Sta

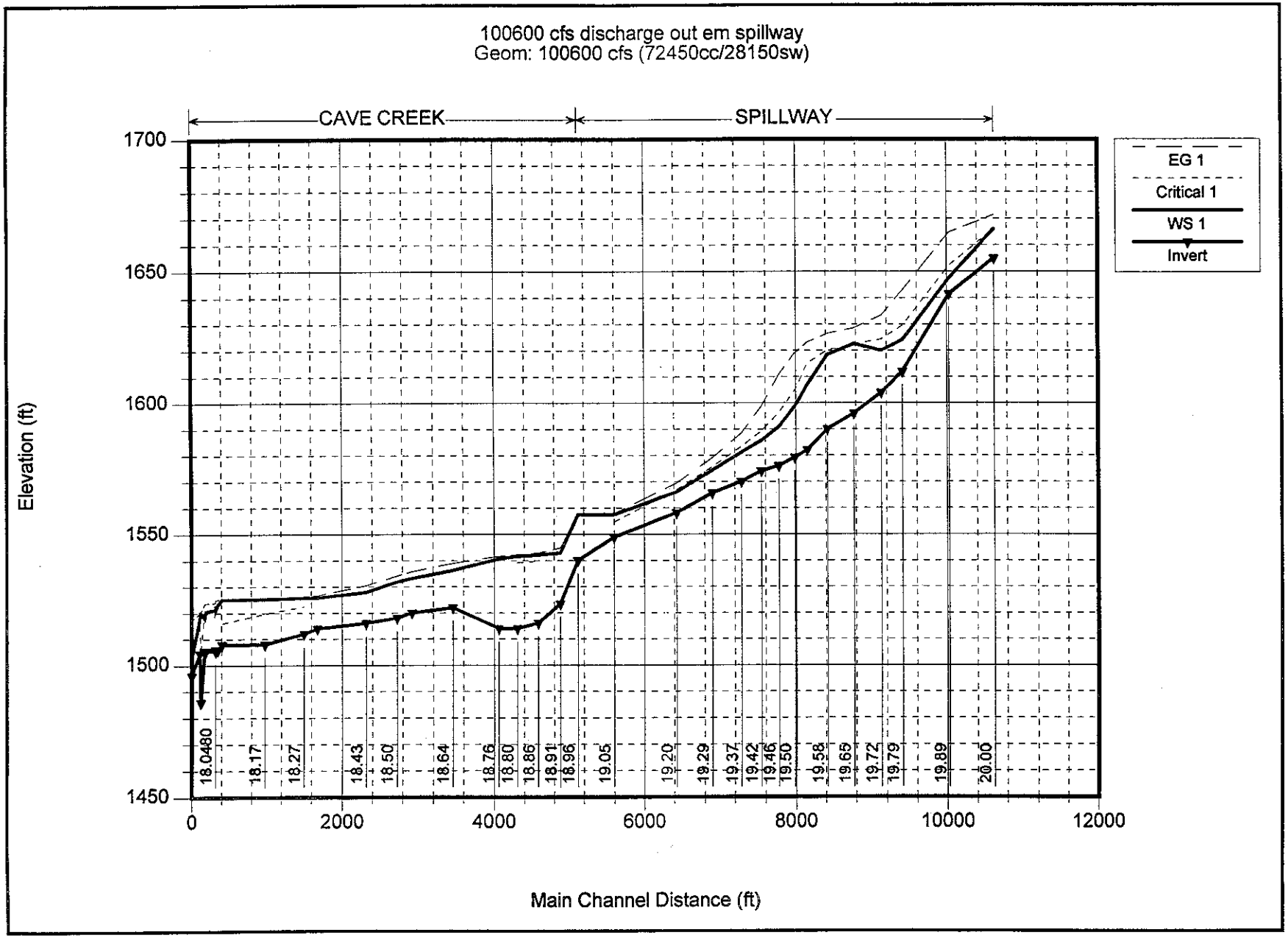

100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 18.5701 Riv Sta = 18.5701
.045
.045
.045
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
Station (ft)
EG 1
WS 1
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
4.0 ft/s
4.5 ft/s
Ground
Ineff
Bank Sta


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH Crest of CAP Riv Sta = 18.50
.035
.035
.035
1555
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 18.47 Riv Sta = 18.47
.035
.035
.035
1520
1519
1518
1517
1516
1515
1514
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Ineff
Bank Sta


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
Reach = SCATTER WASH 18.4601 Riv Sta = 18.4601
.035
.035
.035
1520
1518
1516
1514
1512
1510
Elevation (ft)
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
SCATTER WASH
SPILLWAY
EG 1
Critical 1
WS 1
Invert
Elevation (ft)
1700
1650
1600
1550
1500
0
2000
4000
6000
8000
10000
Main Channel Distance (ft)
18.72
18.82
18.91
18.99
19.03
18.96
19.05
19.20
19.29
19.37
19.42
19.46
19.50
19.58
19.65
19.72
19.79
19.89
20.00


100600 cfs discharge out em spillway
Geom: 100600 cfs (72450cc/28150sw)
CAVE CREEK
SPILLWAY
EG 1
Critical 1
WS 1
Invert
Elevation (ft)
1700
1650
1600
1550
1500
1450
0
2000
4000
6000
8000
10000
12000
Main Channel Distance (ft)
18.0480
18.17
18.27
18.43
18.50
18.64
18.76
18.80
18.86
18.91
18.96
19.05
19.20
19.29
19.37
19.42
19.46
19.50
19.58
19.65
19.72
19.79
19.89
20.00

HEC-RAS Version 1.1 January 1996
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
XXXXXXX  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: 67067 cfs discharge out em spillway
Project File : 67s2.prj
Run Date and Time: 10/1/96 12:31:52 PM

Project in English units

PLAN DATA

Plan Title: Plan 01
Plan File : p:\proj\cb-dam\engfiles\submit3e\67s2.p01

Geometry Title: Plan 01
Geometry File : p:\proj\cb-dam\engfiles\submit3e\67s2.p01

Flow Title : Plan 01
Flow File : p:\proj\cb-dam\engfiles\submit3e\67s2.p01

Plan Summary Information:

Number of:	Cross Sections	= 46	Mulitple Openings	=	0
	Culverts	= 0	Inline Weirs	=	0
	Bridges	= 0			

Computational Information

Water surface calculation tolerance	=	.01
Critical depth calculaton tolerance	=	.01
Maximum number of interations	=	20
Maximum difference tolerance	=	.3
Flow tolerance factor	=	.001

Computational Flow Regime: Mixed Flow

Encroachment Data: None

Flow Distribution Locations

Reach	RS Start	RS End	LOB	Channel	ROB
SPILLWAY	20	18.96	15	15	15
CAVE CREEK	18.91	17.99	15	15	15
SCATTER WASH	19.03	18.4601	15	15	15

FLOW DATA

Flow Title: 67067 cfs (44167cc/22900sw)
Flow File : p:\proj\cb-dam\engfiles\submit3e\67s2.f01

Flow Data (cfs)

Reach	Riv Sta	PF#1
SPILLWAY	20	67067
CAVE CREEK	18.91	44167
SCATTER WASH	19.03	22900

Boundary Conditions

Reach	Profile	Upstream	Downstream
SPILLWAY	1	Critical	
CAVE CREEK	1		Critical
SCATTER WASH	1		Critical

GEOMETRY DATA

Geometry Title: 67067 cfs (44167cc/22900sw)
Geometry File : p:\proj\cb-dam\engfiles\submit3e\67s2.g01

Reach Connection Table

Reach Name	Upstream Boundary	Downstream Boundary
SPILLWAY		FLOW SPLIT
CAVE CREEK	FLOW SPLIT	
SCATTER WASH	FLOW SPLIT	

JUNCTION INFORMATION

Name: FLOW SPLIT
Description: ESTIMATED FLOW SPLIT
Momentum computation Method
Add Friction
Add Weight

Length across Junction Reaches		Length	Tributary Angle
SPILLWAY	to SCATTER WASH	237.9	70
SPILLWAY	to CAVE CREEK	237.9	12

CROSS SECTION INPUT Reach: SPILLWAY River Station: 20
Description: 20

Station Elevation Data, num = 43

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9659.97	1700	9668.33	1698	9695.26	1690	9706.52	1680	9715.4	1670
9725.57	1660	9733.78	1656.1	9743.35	1656	9746.57	1655.68	9759.77	1655.67
9778.43	1655.4	9788.91	1655.4	9809.05	1655.27	9835.95	1655.4	9863.6	1655.42
9873.92	1655.34	9927.49	1655.3	9958.15	1655.35	9975.69	1655.22	10000	1655.2
10028.15	1655.27	10071.39	1655.1	10094.7	1654.96	10115.07	1654.96	10128.41	1655.05
10157.82	1655.15	10167.19	1655.11	0193.69	1655.49	10200.28	1655.46	10212.03	1655.62
10221.6	1656	10230.63	1657.31	0232.85	1658.05	10235.9	1660	10246.69	1670
10247.68	1671.81	10249.58	1674.21	0257.04	1679.72	10258.3	1680	10259.3	1681.67
10265.15	1686.2	10269.06	1688.21	0279.54	1690.42				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9659.97	.025	9725.57	.025	10235.9	.025

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9725.57	10235.9	597.8	597.8	597.8	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 20 Profile # 1

W.S. Elev (ft)	1663.53	Element	Left OB	Channel	Right OB

Vel Head (ft)	4.05	Wt. n-Val.	0.025	0.025	0.025
E.G. Elev (ft)	1667.58	Reach Len. (ft)	597.80	597.80	597.80
E.G. Slope (ft/ft)	0.004549	Flow Area (sq ft)	6.33	4145.50	6.71
Q Total (cfs)	67067.00	Flow (cfs)	29.54	67005.53	31.93
Top Width (ft)	517.72	Top Width (ft)	3.59	510.33	3.81
Vel Total (ft/s)	16.13	Avg. Vel. (ft/s)	4.67	16.16	4.76
Max Chl Dpth (ft)	8.57	Hydr. Depth (ft)	1.76	8.12	1.76
Crit W.S. (ft)	1663.53	Wetted Per. (ft)	5.03	512.03	5.19
Conv. Total (cfs)	994380.3	Conv. (cfs)	438.0	993468.9	473.4

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 20 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9721.20	9725.57	0.04	6.33	5.03	438.0	1.76	4.67
9725.57	9759.59	5.30	243.52	34.92	52832.2	7.16	14.61
9759.59	9793.61	6.57	273.99	34.02	65426.3	8.05	16.08
9793.61	9827.64	6.78	279.31	34.02	67559.2	8.21	16.28
9827.64	9861.66	6.67	276.41	34.02	66396.4	8.12	16.17
9861.66	9895.68	6.73	278.14	34.02	67089.8	8.18	16.24
9895.68	9929.70	6.79	279.50	34.02	67639.1	8.22	16.29
9929.70	9963.72	6.77	278.97	34.02	67421.2	8.20	16.27
9963.72	9997.75	6.90	282.28	34.02	68761.5	8.30	16.40
9997.75	10031.77	6.89	282.08	34.02	68680.8	8.29	16.39
10031.77	10065.79	6.96	283.67	34.02	69326.6	8.34	16.45
10065.79	10099.81	7.18	288.99	34.02	71504.5	8.49	16.66
10099.81	10133.83	7.23	290.31	34.02	72055.2	8.53	16.71
10133.83	10167.86	7.06	286.24	34.02	70375.7	8.41	16.55
10167.86	10201.88	6.75	278.46	34.02	67216.1	8.18	16.25
10201.88	10235.90	5.32	243.64	34.82	52979.1	7.16	14.64
10235.90	10238.81	0.05	6.34	3.97	514.9	2.18	4.94
10238.81	10241.72	0.00	0.37	1.22	10.0	0.42	1.64

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.89
Description: 19.89

Station Elevation Data, num = 41

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9615.64	1663.42	9628.81	1660	9670.29	1649.53	9678.23	1647.55	9694.47	1644
9707.59	1642	9710.45	1641.8	9744.62	1641.55	9776.51	1641.72	9815.46	1641.72
9838.33	1641.54	9856.78	1641.5	9883.54	1641.71	9918.86	1641.79	9963.06	1641.77
9997.21	1641.91	10051.57	1641.8	10098.91	1641.91	10123.47	1641.79	10143.68	1641.62
10155.61	1641.51	10200.31	1642	10217.95	1642	10220.15	1642.72	10222.56	1644
10224.94	1646	10228.44	1647.3	10232.73	1648	10238.66	1648.42	10251.71	1650.75
10263.94	1652	10267.78	1652	10285.1	1654	10305.01	1656.11	10316.92	1656.91
10322.42	1657.07	10325.81	1657.4	10334.53	1657.51	10337.94	1658	10356.24	1659.86

10362.92 1660.78

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9615.64	.025	9694.47	.02510222.56	.025	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9694.4710222.56		619.5	619.5	619.5	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.89 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1645.94	Element			
Vel Head (ft)	14.48	Wt. n-Val.	0.025	0.025	0.025
E.G. Elev (ft)	1660.42	Reach Len. (ft)	619.50	619.50	619.50
E.G. Slope (ft/ft)	0.039725	Flow Area (sq ft)	8.61	2190.61	2.24
Q Total (cfs)	67067.00	Flow (cfs)	98.40	66946.84	21.77
Top Width (ft)	539.27	Top Width (ft)	8.88	528.09	2.31
Vel Total (ft/s)	30.46	Avg. Vel. (ft/s)	11.43	30.56	9.72
Max Chl Dpth (ft)	4.44	Hydr. Depth (ft)	0.97	4.15	0.97
Crit W.S. (ft)	1649.75	Wetted Per. (ft)	9.08	528.69	3.02
Conv. Total (cfs)	336492.9	Conv. (cfs)	493.7	335890.1	109.2

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.89 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9683.96	9689.21	0.01	1.43	3.71	45.2	0.40	5.52
9689.21	9694.47	0.13	7.18	5.38	516.9	1.37	12.61
9694.47	9729.68	5.54	131.08	35.37	18658.5	3.72	28.34
9729.68	9764.88	7.16	152.64	35.21	24123.5	4.34	31.47
9764.88	9800.09	6.87	148.93	35.21	23154.1	4.23	30.95
9800.09	9835.29	6.97	150.12	35.21	23462.2	4.26	31.12
9835.29	9870.50	7.35	155.05	35.21	24760.8	4.40	31.80
9870.50	9905.71	6.88	149.03	35.21	23180.3	4.23	30.97
9905.71	9940.91	6.68	146.41	35.21	22504.7	4.16	30.60
9940.91	9976.12	6.68	146.37	35.21	22494.6	4.16	30.60
9976.12	10011.32	6.44	143.26	35.21	21704.0	4.07	30.16
10011.32	10046.53	6.52	144.29	35.21	21963.1	4.10	30.31
10046.53	10081.74	6.55	144.67	35.21	22060.9	4.11	30.36
10081.74	10116.94	6.42	143.02	35.21	21642.0	4.06	30.13
10116.94	10152.15	6.92	149.52	35.21	23306.1	4.25	31.03
10152.15	10187.35	7.00	150.62	35.21	23592.2	4.28	31.19
10187.35	10222.56	5.83	135.58	35.64	19638.4	3.85	28.84
10222.56	10231.92	0.03	2.24	3.02	109.2	0.97	9.72

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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 INPUT Reach: SPILLWAY River Station: 19.79
Description: 19.79

Station Elevation Data, num = 44

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.

```
 9736.86  1628.5 9744.92 1627.33 9756.21    1626 9776.58 1624.76 9790.49 1624.53
 9797.83    1624 9835.62    1624 9847.93    1622  9864.7    1620 9882.28 1618.33
 9887.43 1617.73 9892.96    1618 9927.84    1618 9936.92 1616.71 9952.87 1615.14
 9961.03    1614 9966.98 1612.73 9974.08    1612 9989.96    161210001.07    1614
10010.79 1614.9710018.96 1615.6410025.12  1615.610067.11    161410080.63 1613.78
10083.52    161410099.87    161410109.46  1614.310132.62 1614.7110139.66 1615.04
10147.05    161610167.02    161610185.06    161810192.11 1618.5310220.61 1620.64
10226.47 1621.0210250.21    162210264.16    162210274.45 1622.5910291.97  1623.4
10302.54    162410304.76    162410342.54    162610377.56 1629.06

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9736.86    .035 9952.87    .03510185.06    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9952.8710185.06            281.9   281.9   281.9             .1       .3

CROSS SECTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.79     Profile # 1

  W.S. Elev (ft)        1622.26   Element              Left OB    Channel   Right OB
  Vel Head (ft)           14.30   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)        1636.56   Reach Len. (ft)       281.90     281.90     281.90
  E.G. Slope (ft/ft)   0.037191   Flow Area (sq ft)     416.44    1790.70     135.14
  Q Total (cfs)        67067.00   Flow (cfs)           8436.41   57109.50    1521.09
  Top Width (ft)         422.46   Top Width (ft)        106.57     232.19      83.71
  Vel Total (ft/s)        28.63   Avg. Vel. (ft/s)       20.26      31.89      11.26
  Max Chl Dpth (ft)       10.26   Hydr. Depth (ft)        3.91       7.71       1.61
  Crit W.S. (ft)        1626.87   Wetted Per. (ft)      106.99     232.92      83.84
  Conv. Total (cfs)    347767.7   Conv. (cfs)          43746.0   296134.3     7887.4


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.

FLOW DISTRIBUTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.79     Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                    (sq ft)     (ft)      (cfs)      (ft)     (ft/s)
  9837.67      9852.07        0.01       2.33      5.81       53.6      0.40       4.06
  9852.07      9866.47        0.35      23.23     14.50     1350.6      1.61      10.24
  9866.47      9880.87        1.06      44.87     14.47     4051.7      3.12      15.91
  9880.87      9895.27        1.80      61.44     14.45     6845.6      4.27      19.64
  9895.27      9909.67        1.80      61.40     14.40     6854.9      4.26      19.67
  9909.67      9924.07        1.80      61.40     14.40     6854.9      4.26      19.67
  9924.07      9938.47        2.20      69.38     14.50     8364.3      4.82      21.24
  9938.47      9952.87        3.55      92.38     14.47    13498.1      6.42      25.75
  9952.87      9968.35        6.31     128.89     15.70    22267.3      8.33      32.85
  9968.35      9983.83        8.86     157.19     15.51    31254.8     10.15      37.81
  9983.83      9999.31        8.25     151.01     15.63    29083.1      9.76      36.62
  9999.31      10014.79       5.55     118.96     15.57    19591.1      7.68      31.31
  10014.79     10030.27       4.46     104.08     15.50    15730.1      6.72      28.74
  10030.27     10045.75       4.95     110.76     15.49    17451.2      7.16      29.96
  10045.75     10061.23       5.65     119.89     15.49    19914.3      7.74      31.58
  10061.23     10076.70       6.30     128.00     15.48    22218.3      8.27      33.00
  10076.70     10092.18       6.38     128.98     15.49    22496.9      8.33      33.16
  10092.18     10107.66       6.21     126.97     15.48    21921.6      8.20      32.83
  10107.66     10123.14       5.79     121.67     15.48    20418.2      7.86      31.91
  10123.14     10138.62       5.41     116.88     15.49    19092.4      7.55      31.06
  10138.62     10154.10       4.27     101.53     15.54    15062.4      6.56      28.21
  10154.10     10169.58       3.94      96.60     15.50    13892.0      6.24      27.34
  10169.58     10185.06       2.82      79.29     15.57     9961.7      5.12      23.89
  10185.06     10197.89       1.07      48.55     12.87     4995.1      3.78      14.80
  10197.89     10210.73       0.66      36.33     12.87     3080.9      2.83      12.20
  10210.73     10223.56       0.34      24.17     12.87     1562.8      1.88       9.30
  10223.56     10236.39       0.14      14.21     12.85      645.0      1.11       6.53
  10236.39     10249.23       0.05       7.31     12.84      213.1      0.57       4.19
  10249.23     10262.06       0.01       3.41     12.83       59.8      0.27       2.52
  10262.06     10274.89       0.00       1.16      6.71       15.3      0.17       1.90
```

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 INPUT Reach: SPILLWAY River Station: 19.72
Description: 19.72

Station Elevation Data, num = 40

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9799.29	1628.47	9836.99	1620	9857.97	1616.4	9870.69	1614	9881.27	1611.47
9886.38	1610	9891.03	1608.46	9891.55	1608	9899.02	1606	9902.06	1606.03
9914.37	1608	9923.9	1609.13	9926.95	1609.3	9938.14	1608.51	9945.09	1606
9947.88	1604.67	9950.07	1604	9956.25	1604	9977.32	1606	9997.49	1608
10013.72	1608	10017.01	1607.38	10021.36	1606	10035.89	1606	10050.21	1608.56
10062.83	1610.12	10083.78	1612	10138.54	1612	10144.21	1612.27	10158.98	1613.02
10160.97	1613.01	10188.28	1614.31	10214.98	1616	10232.84	1618	10240.35	1618.6
10261.06	1620.27	10285.44	1622.18	10304.43	1624	10313.81	1625.14	10346.44	1628.87

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9799.29	.035	9926.95	.035	10083.78	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9926.95	10083.78	355.3	355.3	355.3	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.72 Profile # 1

W.S. Elev (ft)	1617.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	10.07	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1627.90	Reach Len. (ft)	355.30	355.30	355.30
E.G. Slope (ft/ft)	0.019593	Flow Area (sq ft)	538.61	1624.38	637.07
Q Total (cfs)	67067.00	Flow (cfs)	11504.32	45531.01	10031.67
Top Width (ft)	381.60	Top Width (ft)	77.28	156.83	147.49
Vel Total (ft/s)	23.95	Avg. Vel. (ft/s)	21.36	28.03	15.75
Max Chl Dpth (ft)	13.82	Hydr. Depth (ft)	6.97	10.36	4.32
Crit W.S. (ft)	1620.95	Wetted Per. (ft)	79.04	158.57	147.70
Conv. Total (cfs)	479135.8	Conv. (cfs)	82188.4	325279.8	71667.6

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.72 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9841.84	9850.35	0.00	0.04	0.69	0.3	0.06	0.76
9850.35	9858.87	0.05	7.22	8.64	271.9	0.85	4.54
9858.87	9867.38	0.27	20.39	8.66	1531.7	2.40	9.05
9867.38	9875.89	0.67	34.74	8.72	3706.9	4.08	12.85
9875.89	9884.40	1.30	52.02	8.79	7225.5	6.11	16.73
9884.40	9892.91	2.26	73.48	9.06	12592.4	8.63	20.63
9892.91	9901.42	3.59	95.60	8.73	20020.7	11.23	25.22
9901.42	9909.93	3.62	95.42	8.61	20136.3	11.21	25.41
9909.93	9918.44	2.94	84.21	8.60	16367.2	9.89	23.40
9918.44	9926.95	2.46	75.50	8.55	13690.2	8.87	21.83
9926.95	9937.41	3.46	92.98	10.48	16915.4	8.89	24.95
9937.41	9947.86	4.71	114.88	11.20	23029.2	10.99	27.49
9947.86	9958.32	7.10	143.58	10.57	34711.3	13.73	33.15
9958.32	9968.77	6.61	137.29	10.50	32345.8	13.13	32.31
9968.77	9979.23	5.80	126.91	10.50	28371.0	12.14	30.66
9979.23	9989.68	5.01	116.24	10.51	24499.9	11.12	28.91
9989.68	10000.14	4.28	105.73	10.49	20941.1	10.11	27.16
10000.14	10010.59	4.09	102.71	10.46	20001.7	9.82	26.71

10010.59	10021.05	4.43	108.82	10.71	21671.1	10.41	27.31
10021.05	10031.50	5.56	123.62	10.47	27209.4	11.82	30.19
10031.50	10041.96	5.29	120.33	10.55	25882.1	11.51	29.50
10041.96	10052.41	4.05	102.64	10.60	19792.9	9.82	26.45
10052.41	10062.87	3.10	87.25	10.53	15163.5	8.35	23.83
10062.87	10073.33	2.45	75.61	10.50	11971.9	7.23	21.71
10073.33	10083.78	1.94	65.79	10.50	9495.8	6.29	19.79
10083.78	10101.29	2.68	101.98	17.51	14015.1	5.82	17.66
10101.29	10118.80	2.68	101.98	17.51	14015.1	5.82	17.66
10118.80	10136.31	2.68	101.98	17.51	14015.1	5.82	17.66
10136.31	10153.82	2.44	96.27	17.53	12723.3	5.50	16.98
10153.82	10171.33	1.88	82.35	17.53	9807.3	4.70	15.30
10171.33	10188.84	1.38	68.36	17.53	7189.2	3.90	13.51
10188.84	10206.36	0.85	51.20	17.55	4439.0	2.92	11.14
10206.36	10223.87	0.35	29.87	17.58	1805.6	1.71	7.77
10223.87	10241.38	0.01	3.07	7.45	72.1	0.41	3.02

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.65
Description: 19.65

Station Elevation Data, num = 33

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9707.37	1627.7	9745.38	1619.99	9758.47	1618	9765.47	1617.09	9771.64	1616.6
9801.22	1615.4	9816.86	1614.37	9821.09	1614	9847.64	1612.32	9854	1612
9875.21	1610.7	9891.95	1609.3	9914.39	1608	9925.59	1605.86	9950.15	1600
9953.62	1599.1	9956.2	1598	9962.83	1596	9974.33	1596	9977.46	1596
9987.84	1598.2	10003.64	160	10020.53	1602.37	10049.96	1605.83	10067.61	1608
10105.51	1612	10127.9	161	410143.47	161	610158.21	1618.47	10169.25	1620
10188.48	162	410199.97	162	610219.85	1629.15				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9707.37	.035	9914.39	.035	10067.61	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9914.39	10067.61	351.9	351.9	351.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.65 Profile # 1

W.S. Elev (ft)	1619.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	4.97	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1624.12	Reach Len. (ft)	351.90	351.90	351.90
E.G. Slope (ft/ft)	0.004884	Flow Area (sq ft)	967.36	2648.92	578.38
Q Total (cfs)	67067.00	Flow (cfs)	9374.67	52015.89	5676.44
Top Width (ft)	412.12	Top Width (ft)	163.44	153.22	95.46
Vel Total (ft/s)	15.99	Avg. Vel. (ft/s)	9.69	19.64	9.81
Max Chl Dpth (ft)	23.14	Hydr. Depth (ft)	5.92	17.29	6.06
Crit W.S. (ft)	1619.14	Wetted Per. (ft)	163.88	155.58	96.14
Conv. Total (cfs)	959640.6	Conv. (cfs)	134139.2	744279.1	81222.4

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The

program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.65 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9748.77	9762.58	0.04	10.09	11.75	387.1	0.87	2.35
9762.58	9776.38	0.22	32.09	13.85	2385.1	2.32	4.55
9776.38	9790.18	0.34	41.62	13.81	3686.1	3.02	5.42
9790.18	9803.98	0.45	49.45	13.82	4911.3	3.58	6.08
9803.98	9817.78	0.63	60.45	13.83	6860.5	4.38	6.94
9817.78	9831.58	0.88	73.99	13.84	9607.1	5.36	7.94
9831.58	9845.38	1.13	86.17	13.83	12389.1	6.24	8.80
9845.38	9859.18	1.39	97.52	13.82	15227.7	7.07	9.55
9859.18	9872.99	1.67	108.81	13.83	18276.4	7.88	10.28
9872.99	9886.79	2.02	121.99	13.85	22092.2	8.84	11.08
9886.79	9900.59	2.44	136.89	13.83	26789.0	9.92	11.97
9900.59	9914.39	2.79	148.28	13.82	30617.6	10.74	12.63
9914.39	9924.60	2.79	123.80	10.40	27401.4	12.12	15.09
9924.60	9934.82	3.64	145.76	10.49	35762.0	14.27	16.73
9934.82	9945.03	4.73	170.63	10.50	46471.9	16.70	18.57
9945.03	9955.25	5.91	196.00	10.61	58133.5	19.19	20.23
9955.25	9965.46	7.60	227.68	10.59	74724.2	22.29	22.38
9965.46	9975.68	8.29	236.41	10.21	81509.6	23.14	23.51
9975.68	9985.89	7.76	228.87	10.40	76295.7	22.41	22.73
9985.89	9996.11	6.78	210.44	10.31	66722.3	20.60	21.62
9996.11	10006.32	6.15	198.28	10.29	60501.9	19.41	20.81
10006.32	10016.54	5.44	184.38	10.31	53516.1	18.05	19.79
10016.54	10026.75	4.77	170.18	10.30	46879.6	16.66	18.78
10026.75	10036.97	4.20	157.72	10.28	41332.3	15.44	17.87
10036.97	10047.18	3.67	145.47	10.29	36118.6	14.24	16.93
10047.18	10057.40	3.16	133.05	10.29	31118.5	13.03	15.95
10057.40	10067.61	2.67	120.24	10.29	26284.9	11.77	14.91
10067.61	10077.76	2.00	107.66	10.21	21986.3	10.61	12.43
10077.76	10087.91	1.67	96.79	10.21	18412.1	9.54	11.58
10087.91	10098.06	1.37	85.92	10.21	15095.9	8.47	10.70
10098.06	10108.21	1.10	75.10	10.20	12066.6	7.40	9.78
10108.21	10118.36	0.87	65.46	10.19	9603.1	6.45	8.93
10118.36	10128.51	0.68	56.25	10.19	7457.6	5.54	8.07
10128.51	10138.66	0.46	44.80	10.23	5089.8	4.41	6.92
10138.66	10148.80	0.25	31.01	10.26	2751.4	3.06	5.40
10148.80	10158.95	0.07	14.21	10.29	748.2	1.40	3.21
10158.95	10169.10	0.00	1.17	4.16	21.5	0.29	1.11

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.58
Description: 19.58

Station Elevation Data, num = 42

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9782.8	1630	9802.36	1622.4	9810	1619.67	9831.14	1613.82	9840.5	1611.05
9845.27	1610	9852.91	1607.8	9860.45	1606	9873.39	1603.72	9893.27	1600.48
9896.88	1600	9903.54	1598	9910.72	1596	9916.24	1594	9923.21	1592
9931.74	1590	9947.82	1590	9976.78	1596.89	9991.62	1600	9999.42	1602.61
10004.85	1604	10013.77	1606	10017.89	1607.07	10033.48	1610	10038.44	1611.08

```
10043.81    161210064.88    1612 10085.6    1610   10106 1609.0710122.71    1608
10127.48    160810142.93  1608.810159.82    161010178.39    161210191.02 1613.07
10201.07    161410218.53    161610237.78    161810255.65    162010270.99 1622.01
10303.08    162610319.95    1628

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

  9782.8    .035 9896.88    .03510004.85    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9896.8810004.85            267.4   267.4   267.4             .1       .3

CROSS SECTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.58     Profile # 1

  W.S. Elev (ft)        1614.70   Element              Left OB    Channel   Right OB
  Vel Head (ft)            7.25   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)        1621.95   Reach Len. (ft)       267.40     267.40     267.40
  E.G. Slope (ft/ft)   0.006279   Flow Area (sq ft)     575.73    2114.22     924.74
  Q Total (cfs)        67067.00   Flow (cfs)           7848.78   50686.64    8531.58
  Top Width (ft)         379.23   Top Width (ft)         68.92     107.97     202.34
  Vel Total (ft/s)        18.55   Avg. Vel. (ft/s)       13.63      23.97       9.23
  Max Chl Dpth (ft)       24.70   Hydr. Depth (ft)        8.35      19.58       4.57
  Crit W.S. (ft)        1616.38   Wetted Per. (ft)       70.57     111.13     203.62
  Conv. Total (cfs)    846382.2   Conv. (cfs)          99051.2   639662.8   107668.1


Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.58     Profile # 1
```

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9820.83	9828.43	0.00	0.03	0.49	0.2	0.07	0.46
9828.43	9836.04	0.04	9.24	7.92	434.5	1.21	3.23
9836.04	9843.64	0.25	25.91	7.87	2433.6	3.41	6.46
9843.64	9851.25	0.53	40.61	7.89	5140.4	5.34	8.70
9851.25	9858.85	0.91	56.30	7.84	8897.8	7.40	10.86
9858.85	9866.46	1.29	69.05	7.74	12607.3	9.08	12.55
9866.46	9874.06	1.63	79.31	7.72	15912.2	10.43	13.79
9874.06	9881.67	1.98	89.07	7.71	19329.9	11.71	14.92
9881.67	9889.27	2.34	98.49	7.71	22858.7	12.95	15.95
9889.27	9896.88	2.72	107.72	7.69	26576.4	14.16	16.96
9896.88	9904.08	3.40	113.60	7.51	29491.0	15.78	20.05
9904.08	9911.28	4.18	128.51	7.49	36307.9	17.86	21.83
9911.28	9918.47	5.08	145.26	7.60	44070.2	20.18	23.44
9918.47	9925.67	6.10	160.90	7.46	52947.0	22.35	25.42
9925.67	9932.87	6.97	173.49	7.36	60535.7	24.10	26.95
9932.87	9940.07	7.37	177.78	7.20	64015.8	24.70	27.82
9940.07	9947.27	7.37	177.80	7.20	64024.5	24.70	27.82
9947.27	9954.46	6.90	172.55	7.38	59880.7	23.97	26.81
9954.46	9961.66	6.09	160.26	7.40	52868.0	22.26	25.48
9961.66	9968.86	5.33	147.92	7.40	46259.8	20.55	24.16
9968.86	9976.06	4.61	135.61	7.40	40021.0	18.84	22.80
9976.06	9983.26	3.98	123.88	7.36	34542.9	17.21	21.54
9983.26	9990.45	3.42	113.01	7.35	29654.0	15.70	20.27
9990.45	9997.65	2.73	99.86	7.55	23709.7	13.88	18.34
9997.65	10004.85	2.05	83.78	7.47	17823.5	11.64	16.43
10004.85	10025.86	3.21	175.01	21.50	30061.5	8.33	12.30
10025.86	10046.86	1.01	87.16	21.33	9456.9	4.15	7.77
10046.86	10067.87	0.50	57.17	21.02	4729.4	2.72	5.92
10067.87	10088.88	0.95	83.82	21.09	8929.0	3.99	7.63
10088.88	10109.88	1.55	112.09	21.03	14519.4	5.34	9.27
10109.88	10130.89	2.12	135.20	21.04	19840.6	6.44	10.51
10130.89	10151.90	1.85	124.86	21.05	17372.2	5.94	9.96
10151.90	10172.90	1.11	91.77	21.10	10379.7	4.37	8.10
10172.90	10193.91	0.38	48.13	21.10	3540.7	2.29	5.27

10193.91	10214.92	0.03	9.54	13.35	323.6	0.72	2.43

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.53
Description: 19.53

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9812.31	1619.4	9836.38	1612	9841.94	1610	9853.65	1608	9864.37	1606
9872.09	1604	9877.64	1602	9885.8	1600	9894.69	1598	9902.11	1596
9910.69	1594	9916.8	1592	9921.11	1591.21	9925.77	1590	9932.63	1588
9940.68	1585.9	9947.31	1584	9955.63	1582	9960.56	1582	9968.41	1585.18
9971.35	1586.7	9976.63	1588.36	9979.55	1590	9987.15	1592	9995.67	1592
10007.63	1593.1	10017.6	1593.37	10025.11	1593.41	10038.32	1593.87	10050.56	1594.04
10057.4	1594.51	10087.74	1597.09	10096.92	1598	10113.04	1600.19	10137.03	1603.61
10151.03	1605.71	10156.03	1606	10161.7	1606	10172.6	1606	10182.85	1605.65
10194.09	1605.81	10198.28	1606	10213.25	1607.51	10220.86	1608.95	10225.97	1609.54
10237.54	1608	10258.64	1607.27	10275.23	1606.57	10279.53	1606.49		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9812.31	.035	9916.8	.035	10007.63	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9916.8	10007.63	169.2	169.2	169.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10225	10279.53	1615

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.53 Profile # 1

W.S. Elev (ft)	1602.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	15.68	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1618.32	Reach Len. (ft)	169.20	169.20	169.20
E.G. Slope (ft/ft)	0.020660	Flow Area (sq ft)	212.11	1323.26	778.03
Q Total (cfs)	67067.00	Flow (cfs)	3790.55	47045.17	16231.28
Top Width (ft)	254.34	Top Width (ft)	40.93	90.83	122.58
Vel Total (ft/s)	28.99	Avg. Vel. (ft/s)	17.87	35.55	20.86
Max Chl Dpth (ft)	20.64	Hydr. Depth (ft)	5.18	14.57	6.35
Crit W.S. (ft)	1608.51	Wetted Per. (ft)	42.32	94.10	123.08
Conv. Total (cfs)	466600.6	Conv. (cfs)	26371.7	327304.1	112924.8

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.53 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9875.00	9881.97	0.04	5.62	6.34	220.4	0.92	4.80

9881.97	9888.94	0.25	17.68	7.16	1371.7	2.54	9.51
9888.94	9895.90	0.56	28.78	7.15	3090.4	4.13	13.16
9895.90	9902.87	1.02	41.11	7.21	5572.0	5.90	16.61
9902.87	9909.83	1.56	52.97	7.14	8549.6	7.60	19.79
9909.83	9916.80	2.22	65.95	7.32	12121.0	9.47	22.53
9916.80	9922.86	2.96	67.89	6.19	14236.7	11.21	29.22
9922.86	9928.91	3.60	76.85	6.28	17322.7	12.69	31.41
9928.91	9934.97	4.45	87.33	6.29	21422.3	14.42	34.18
9934.97	9941.02	5.33	97.12	6.26	25644.4	16.04	36.80
9941.02	9947.08	6.26	107.19	6.30	30107.3	17.70	39.14
9947.08	9953.13	7.28	116.93	6.23	35056.2	19.31	41.78
9953.13	9959.19	8.15	124.22	6.13	39214.6	20.51	43.99
9959.19	9965.24	7.51	120.51	6.42	36121.6	19.90	41.77
9965.24	9971.30	5.87	105.59	6.67	28267.5	17.44	37.31
9971.30	9977.35	4.68	90.78	6.42	22529.8	14.99	34.59
9977.35	9983.41	3.44	75.91	6.51	16575.0	12.54	30.43
9983.41	9989.46	2.84	66.26	6.18	13673.5	10.94	28.76
9989.46	9995.52	2.75	64.42	6.06	13228.0	10.64	28.62
9995.52	10001.57	2.63	62.80	6.08	12647.1	10.37	28.06
10001.57	10007.63	2.40	59.44	6.08	11537.2	9.82	27.05
10007.63	10025.76	6.12	169.16	18.13	31826.4	9.33	24.26
10025.76	10043.88	5.66	161.45	18.13	29445.0	8.91	23.52
10043.88	10062.01	5.09	151.56	18.16	26473.5	8.36	22.52
10062.01	10080.14	3.75	126.35	18.19	19526.8	6.97	19.93
10080.14	10098.26	2.44	97.51	18.21	12669.1	5.38	16.75
10098.26	10116.39	1.03	58.40	18.30	5374.7	3.22	11.87
10116.39	10134.52	0.11	13.61	13.96	568.3	0.99	5.38

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.50
Description: 19.50

Station Elevation Data, num = 34

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9853.99	1604	9860.4	1602.78	9871.79	1600	9879.79	1598.79	9890.41	1596.6
9895.55	1595.46	9907.69	1594	9914.87	1592	9920.91	1591.05	9926.44	1590
9946.34	1586	9961.18	1582	9968.7	1580	9977.07	1579.22	9986.15	1582.2
10002.21	1588	10006.31	1589.29	10011.55	1590	10052	1590	10082.6	1588
10091.42	1588	10110.69	1588	10120.95	1588.68	10138.25	1590	10178.75	1592.8
10192.64	1594	10204.93	1595.35	10212.15	1596	10230.9	1598	10251.34	1600
10259.72	1601.26	10267.85	1602	10279.75	1603.41	10288.57	1604.01		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9853.99	.035	9946.34	.035	10002.21	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9946.34	10002.21	211.8	211.8	211.8	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.50 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1596.18	Element			
Vel Head (ft)	17.62	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1613.81	Reach Len. (ft)	211.80	211.80	211.80
E.G. Slope (ft/ft)	0.032240	Flow Area (sq ft)	263.89	752.14	1218.35

Q Total (cfs)	67067.00	Flow (cfs)	5718.58	31578.39	29770.03
Top Width (ft)	321.57	Top Width (ft)	54.05	55.87	211.65
Vel Total (ft/s)	30.02	Avg. Vel. (ft/s)	21.67	41.98	24.43
Max Chl Dpth (ft)	16.96	Hydr. Depth (ft)	4.88	13.46	5.76
Crit W.S. (ft)	1601.26	Wetted Per. (ft)	55.06	58.19	212.29
Conv. Total (cfs)	373520.7	Conv. (cfs)	31848.9	175871.6	165800.2

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.50 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9890.93	9897.09	0.01	2.43	4.88	64.7	0.51	3.96
9897.09	9903.24	0.09	7.86	6.20	391.1	1.28	7.39
9903.24	9909.40	0.19	12.65	6.25	859.5	2.06	10.08
9909.40	9915.56	0.46	21.62	6.37	2071.9	3.51	14.23
9915.56	9921.71	0.78	29.40	6.24	3509.8	4.78	17.72
9921.71	9927.87	1.09	36.15	6.27	4934.4	5.87	20.27
9927.87	9934.03	1.49	43.64	6.28	6746.6	7.09	22.96
9934.03	9940.18	1.95	51.26	6.28	8823.4	8.33	25.55
9940.18	9946.34	2.46	58.88	6.28	11114.1	9.56	28.03
9946.34	9950.06	2.10	39.79	3.86	8006.2	10.68	35.40
9950.06	9953.79	2.44	43.53	3.86	9298.9	11.69	37.59
9953.79	9957.51	2.80	47.27	3.86	10667.9	12.69	39.71
9957.51	9961.24	3.18	51.01	3.86	12111.1	13.70	41.78
9961.24	9964.96	3.57	54.73	3.85	13624.0	14.69	43.81
9964.96	9968.69	3.99	58.42	3.85	15188.9	15.68	45.76
9968.69	9972.41	4.36	60.91	3.74	16613.4	16.35	47.99
9972.41	9976.14	4.52	62.22	3.74	17211.1	16.70	48.67
9976.14	9979.86	4.37	61.86	3.88	16649.3	16.61	47.36
9979.86	9983.59	3.84	57.49	3.92	14622.9	15.43	44.76
9983.59	9987.31	3.33	52.91	3.93	12708.4	14.21	42.26
9987.31	9991.04	2.82	48.01	3.96	10757.2	12.89	39.43
9991.04	9994.76	2.35	43.00	3.96	8952.1	11.55	36.64
9994.76	9998.49	1.91	37.99	3.96	7282.2	10.20	33.73
9998.49	10002.21	1.51	32.98	3.96	5753.0	8.85	30.70
10002.21	10021.30	4.58	125.44	19.34	18523.6	6.57	24.50
10021.30	10040.39	4.18	118.02	19.09	16878.3	6.18	23.73
10040.39	10059.48	4.28	119.85	19.11	17307.0	6.28	23.96
10059.48	10078.57	5.49	139.26	19.13	22207.7	7.30	26.46
10078.57	10097.66	6.62	155.68	19.10	26768.0	8.15	28.53
10097.66	10116.75	6.57	154.99	19.10	26566.7	8.12	28.44
10116.75	10135.84	5.24	135.34	19.14	21166.2	7.09	25.95
10135.84	10154.94	3.63	108.62	19.14	14673.2	5.69	22.41
10154.94	10174.03	2.34	83.40	19.14	9447.5	4.37	18.80
10174.03	10193.12	1.22	56.42	19.16	4921.7	2.96	14.47
10193.12	10212.21	0.24	21.17	19.19	959.4	1.11	7.52
10212.21	10231.30	0.00	0.15	1.66	1.2	0.09	1.39

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.46
Description: 19.46

Station Elevation Data, num = 45

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9744	1601.98	9764.15	1598	9777.67	1595.67	9788.16	1594	9816.74	1590
9837.81	1587.87	9858.88	1586	9901.8	1586	9924.9	1585.3	9943.41	1584
9956.62	1579.54	9966.28	1576	9978.42	1576	9994.83	158010003.16		1582

```
10008.57 1583.1410013.14  1583.810021.28 1583.6710037.66 1582.8510043.22 1582.83
10047.41 1583.06   10052    158410061.01 1584.7210081.69    158610114.03    1586
10131.46    158410138.45    158310151.86 1582.7510167.43    158410180.79    1584
 10200.1 1582.3710205.21  1582.110209.14 1582.3110227.08    158410237.39 1584.76
10258.31 1586.5810270.44    158810288.96    1590 10310.4    159210321.13 1592.57
 10345.8    159410360.23    159510373.25    1596   10387 1597.4310394.54    1598

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

    9744    .035 9943.41    .03510013.14    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9943.4110013.14             228.1   228.1   228.1             .1       .3

CROSS SECTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.46     Profile # 1

  W.S. Elev (ft)        1589.25   Element              Left OB    Channel   Right OB
  Vel Head (ft)           16.03   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)        1605.29   Reach Len. (ft)       228.10     228.10     228.10
  E.G. Slope (ft/ft)  0.045234    Flow Area (sq ft)     366.46     686.72    1269.46
  Q Total (cfs)        67067.00   Flow (cfs)           6984.32   27893.83   32188.85
  Top Width (ft)         457.93   Top Width (ft)        119.29      69.73     268.91
  Vel Total (ft/s)        28.88   Avg. Vel. (ft/s)       19.06      40.62      25.36
  Max Chl Dpth (ft)       13.25   Hydr. Depth (ft)        3.07       9.85       4.72
  Crit W.S. (ft)        1593.56   Wetted Per. (ft)      119.50      71.97     269.76
  Conv. Total (cfs)    315338.7   Conv. (cfs)          32839.2   131152.5   151347.0


Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.46     Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9823.76      9837.06        0.08       8.46     13.00      269.7       0.65       6.30
  9837.06      9850.35        0.49      25.35     13.35     1650.7       1.91      12.86
  9850.35      9863.65        1.04      40.03     13.33     3537.9       3.01      17.46
  9863.65      9876.94        1.19      43.26     13.29     4032.6       3.25      18.41
  9876.94      9890.23        1.19      43.26     13.29     4032.6       3.25      18.41
  9890.23      9903.53        1.19      43.30     13.29     4039.5       3.26      18.42
  9903.53      9916.82        1.35      46.63     13.30     4569.0       3.51      19.35
  9916.82      9930.12        1.64      52.53     13.31     5569.3       3.95      20.94
  9930.12      9943.41        2.26      63.64     13.33     7661.5       4.79      23.78
  9943.41      9948.06        1.16      28.07      4.91     3812.2       6.04      27.74
  9948.06      9952.71        1.71      35.37      4.91     5602.7       7.61      32.36
  9952.71      9957.36        2.33      42.68      4.91     7655.3       9.18      36.64
  9957.36      9962.00        3.06      50.37      4.95    10040.0      10.84      40.72
  9962.00      9966.65        3.91      58.26      4.93    12838.9      12.53      45.02
  9966.65      9971.30        4.46      61.61      4.65    14649.0      13.25      48.57
  9971.30      9975.95        4.46      61.61      4.65    14649.0      13.25      48.57
  9975.95      9980.60        4.35      61.04      4.71    14292.9      13.13      47.83
  9980.60      9985.25        3.79      56.51      4.78    12441.4      12.16      44.98
  9985.25      9989.90        3.22      51.24      4.78    10569.2      11.02      42.14
  9989.90      9994.54        2.69      45.97      4.78     8821.3       9.89      39.20
  9994.54      9999.19        2.20      40.74      4.78     7216.2       8.76      36.18
  9999.19      10003.84       1.75      35.57      4.78     5757.2       7.65      33.07
  10003.84     10008.49       1.38      30.77      4.75     4540.3       6.62      30.14
  10008.49     10013.14       1.11      26.91      4.70     3658.2       5.79      27.77
  10013.14     10038.57       6.14     148.91     25.45    20529.0       5.86      27.67
  10038.57     10063.99       5.52     139.91     25.56    18446.7       5.50      26.46
  10063.99     10089.42       2.77      92.43     25.46     9268.8       3.64      20.13
  10089.42     10114.85       2.31      82.77     25.43     7717.9       3.26      18.72
  10114.85     10140.27       4.46     123.10     25.61    14886.8       4.84      24.27
  10140.27     10165.70       6.67     156.43     25.47    22271.3       6.15      28.58
  10165.70     10191.13       5.42     138.22     25.47    18121.8       5.44      26.32
  10191.13     10216.55       7.71     170.83     25.50    25770.1       6.72      30.28
```

10216.55	10241.98	4.92	130.49	25.52	16442.6	5.13	25.29
10241.98	10267.41	1.94	74.75	25.55	6491.0	2.94	17.43
10267.41	10292.83	0.13	11.62	14.73	421.3	0.79	7.28

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.42
Description: 19.42

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9518.41	1590.66	9521.93	1590	9532.05	1588.4	9536.31	1588	9551.92	1586
9586.41	1581.89	9594.28	1581.13	9606	1580.8	9629.56	1582.03	9651.84	1582
9671.03	1581.16	9682.17	1580.56	9690.43	1580.4	9719.63	1580.9	9734.92	1580.55
9749.13	1580	9766.42	1578	9781.1	1578	9795.75	1580	9819.09	1581.59
9830.89	1582.12	9847.03	1582.44	9894.19	1582.1	9899.3	1582	9935.48	1580
9950.42	1579.14	9952.14	1578.87	9957.39	1578	9965.69	1575.58	9971.89	1574
9992.83	157410013.89		1576.4610035.46		157810055.98		158010096.67		1581.68
10101.48	158210143.07		158210158.14		1581.110170.18		1580.8810183.98		1580
10203.75	157810204.89		157810215.89		1579.310259.02		158210273.46		1582.82
10291.21	158410318.22		158610339.48		158810357.65		1590		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9518.41	.035	9952.14	.035	10055.98	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9952.14	10055.98	257.9	257.9	257.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.42 Profile # 1

W.S. Elev (ft)	1584.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	9.70	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1594.25	Reach Len. (ft)	257.90	257.90	257.90
E.G. Slope (ft/ft)	0.035805	Flow Area (sq ft)	1352.71	845.93	818.15
Q Total (cfs)	67067.00	Flow (cfs)	24952.85	27353.74	14760.40
Top Width (ft)	734.53	Top Width (ft)	388.05	103.84	242.65
Vel Total (ft/s)	22.23	Avg. Vel. (ft/s)	18.45	32.34	18.04
Max Chl Dpth (ft)	10.55	Hydr. Depth (ft)	3.49	8.15	3.37
Crit W.S. (ft)	1587.23	Wetted Per. (ft)	388.76	104.75	243.09
Conv. Total (cfs)	354436.7	Conv. (cfs)	131871.2	144559.5	78006.0

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.42 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9547.33	9576.24	0.08	8.79	12.23	299.5	0.72	6.06
9576.24	9605.16	1.91	83.65	29.03	7192.2	2.89	15.30
9605.16	9634.07	2.09	88.38	28.95	7896.0	3.06	15.90
9634.07	9662.99	1.64	76.22	28.93	6173.4	2.64	14.41
9662.99	9691.90	2.87	106.65	28.94	10801.8	3.69	18.02
9691.90	9720.82	3.12	112.12	28.92	11746.8	3.88	18.64
9720.82	9749.73	3.37	117.62	28.93	12719.9	4.07	19.24
9749.73	9778.65	6.42	173.27	29.03	24206.3	5.99	24.86
9778.65	9807.56	4.84	146.35	29.08	18246.8	5.06	22.19
9807.56	9836.48	1.91	83.70	28.95	7210.3	2.89	15.33
9836.48	9865.39	1.20	63.31	28.92	4531.9	2.19	12.74

9865.39	9894.31	1.35	67.83	28.92	5084.4	2.35	13.34
9894.31	9923.22	2.13	89.29	28.95	8031.9	3.09	16.01
9923.22	9952.14	4.27	135.53	28.98	16090.7	4.69	21.13
9952.14	9959.06	1.70	43.46	7.06	6196.0	6.28	26.20
9959.06	9965.99	2.53	55.70	7.21	9242.9	8.05	30.49
9965.99	9972.91	3.62	68.59	7.11	13193.9	9.91	35.35
9972.91	9979.83	4.09	73.02	6.92	14911.6	10.55	37.53
9979.83	9986.75	4.09	73.03	6.92	14913.7	10.55	37.53
9986.75	9993.68	4.08	72.99	6.93	14891.3	10.54	37.49
9993.68	10000.60	3.75	69.55	6.97	13685.3	10.05	36.16
10000.60	10007.52	3.26	63.95	6.97	11899.0	9.24	34.19
10007.52	10014.44	2.80	58.36	6.97	10218.5	8.43	32.18
10014.44	10021.37	2.47	54.02	6.94	9006.3	7.80	30.64
10021.37	10028.29	2.21	50.60	6.94	8075.7	7.31	29.33
10028.29	10035.21	1.97	47.17	6.94	7185.1	6.81	27.99
10035.21	10042.13	1.70	43.17	6.96	6190.3	6.24	26.35
10042.13	10049.06	1.40	38.50	6.96	5114.7	5.56	24.41
10049.06	10055.98	1.13	33.83	6.96	4122.8	4.89	22.40
10055.98	10076.09	2.35	83.14	20.13	9087.0	4.13	18.98
10076.09	10096.20	1.62	66.44	20.13	6253.5	3.30	16.35
10096.20	10116.31	1.08	52.19	20.12	4183.1	2.60	13.92
10116.31	10136.43	1.05	51.27	20.11	4062.0	2.55	13.76
10136.43	10156.54	1.24	56.69	20.14	4798.2	2.82	14.70
10156.54	10176.65	1.91	73.38	20.13	7378.3	3.65	17.46
10176.65	10196.76	3.09	98.04	20.19	11934.9	4.87	21.14
10196.76	10216.87	4.37	120.79	20.23	16879.7	6.01	24.27
10216.87	10236.98	2.77	91.67	20.15	10686.0	4.56	20.24
10236.98	10257.09	1.61	66.35	20.15	6235.3	3.30	16.32
10257.09	10277.21	0.75	41.93	20.15	2901.7	2.08	12.02
10277.21	10297.32	0.15	16.19	20.16	593.7	0.80	6.37
10297.32	10317.43	0.00	0.06	1.32	0.4	0.05	0.98

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.37
Description: 19.37

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9473.71	1588	9506.54	1584	9516.44	1583.18	9526.83	1582	9546.05	1580.51
9561.62	1578.68	9569.53	1578	9588.36	1576	9599.3	1576	9614.55	1576.51
9615.92	1576.44	9632.32	1577.06	9650.84	1578	9663.93	1578.5	9688.79	1578.27
9713.63	1578.59	9728.31	1578	9758.8	1576	9780.93	1574	9797.55	1574
9817.7	1576	9840.24	1577.49	9853.03	1577.7	9860.5	1578	9895.23	1578
9921.6	1576	9943.79	1574.83	9956.18	1574	9969.36	1572	9981.56	1570
9988.65	157	10009.74	157	210024.43	1573.59	10054.63	157	610071.46	1576.19
10100.59	1576.79	10133.21	1576.67	10154.58	1576.74	10191.51	157	610206.22	1575.49
10236.67	1574.08	10246.06	1574.32	10291.73	1576.08	10316.26	1576.71	0356.52	1576.47
10371.26	157	610384.78	157	410399.67	157	210408.96	157	210419.96	1574
10445.46	157	610476.91	157	810517.88	1581.15	10530.24	1581.81	0534.92	1582
10569.82	1582.98	10584.47	158	410603.93	158	610620.52	1588.1		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9473.71	.035	9956.18	.035	10054.63	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9956.18	10054.63	383.6	383.6	383.6	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.37 Profile # 1

W.S. Elev (ft)	1580.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	5.46	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1585.50	Reach Len. (ft)	383.60	383.60	383.60

E.G. Slope (ft/ft)	0.023927	Flow Area (sq ft)	1269.34	730.22	1846.82
Q Total (cfs)	67067.00	Flow (cfs)	17796.82	18165.66	31104.52
Top Width (ft)	953.50	Top Width (ft)	406.17	98.45	448.88
Vel Total (ft/s)	17.44	Avg. Vel. (ft/s)	14.02	24.88	16.84
Max Chl Dpth (ft)	10.04	Hydr. Depth (ft)	3.13	7.42	4.11
Crit W.S. (ft)	1581.70	Wetted Per. (ft)	406.90	99.04	449.67
Conv. Total (cfs)	433572.2	Conv. (cfs)	115052.2	117436.7	201083.3

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.37 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9538.04	9570.20	0.22	22.81	20.31	1046.4	1.13	6.47
9570.20	9602.37	2.31	112.43	32.27	10970.7	3.50	13.76
9602.37	9634.53	2.26	110.95	32.19	10748.1	3.45	13.66
9634.53	9666.70	1.00	67.90	32.20	4740.5	2.11	9.85
9666.70	9698.86	0.68	54.17	32.17	3255.7	1.68	8.48
9698.86	9731.03	0.69	54.37	32.18	3274.7	1.69	8.49
9731.03	9763.19	2.08	105.67	32.24	9898.6	3.29	13.21
9763.19	9795.36	5.07	180.21	32.24	24098.9	5.60	18.86
9795.36	9827.52	3.79	151.45	32.29	18018.0	4.71	16.78
9827.52	9859.69	1.42	83.89	32.20	6743.5	2.61	11.34
9859.69	9891.85	0.95	65.78	32.17	4499.9	2.05	9.65
9891.85	9924.01	1.81	97.12	32.24	8600.0	3.02	12.49
9924.01	9956.18	4.27	162.57	32.22	20303.1	5.05	17.61
9956.18	9962.74	1.41	42.94	6.64	6329.5	6.54	22.09
9962.74	9969.31	1.79	49.48	6.64	8015.4	7.54	24.28
9969.31	9975.87	2.22	56.28	6.65	9920.5	8.57	26.43
9975.87	9982.43	2.70	63.27	6.64	12073.4	9.64	28.61
9982.43	9989.00	2.91	65.92	6.57	13026.6	10.04	29.62
9989.00	9995.56	2.74	63.67	6.59	12258.6	9.70	28.86
9995.56	10002.12	2.45	59.59	6.59	10976.0	9.08	27.61
10002.12	10008.69	2.18	55.50	6.59	9750.8	8.46	26.34
10008.69	10015.25	1.90	51.21	6.60	8521.1	7.80	24.94
10015.25	10021.81	1.62	46.56	6.60	7268.6	7.09	23.40
10021.81	10028.38	1.38	42.12	6.59	6156.6	6.42	21.91
10028.38	10034.94	1.19	38.57	6.58	5322.6	5.88	20.68
10034.94	10041.50	1.02	35.14	6.58	4556.6	5.35	19.44
10041.50	10048.07	0.86	31.70	6.58	3838.2	4.83	18.15
10048.07	10054.63	0.71	28.27	6.58	3169.9	4.31	16.81
10054.63	10092.36	3.21	142.53	37.73	14676.7	3.78	15.09
10092.36	10130.08	2.58	125.09	37.73	11808.2	3.32	13.83
10130.08	10167.81	2.66	127.38	37.73	12170.2	3.38	14.00
10167.81	10205.53	3.51	150.38	37.74	16045.8	3.99	15.63
10205.53	10243.26	5.73	202.03	37.76	26237.6	5.36	19.03
10243.26	10280.99	5.29	192.57	37.75	24225.7	5.10	18.43
10280.99	10318.71	3.21	142.70	37.74	14702.8	3.78	15.09
10318.71	10356.44	2.78	130.78	37.73	12717.5	3.47	14.25
10356.44	10394.16	5.03	187.30	37.97	23043.6	4.96	18.02
10394.16	10431.89	8.75	261.02	37.99	40048.3	6.92	22.48
10431.89	10469.62	3.15	141.26	37.82	14438.3	3.74	14.97
10469.62	10507.34	0.48	43.80	33.98	2202.2	1.29	7.37

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.29
Description: 19.29

Station Elevation Data, num = 62

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9535.53	1576.71	9565.5	1576	9608.28	1574.71	9626.57	1574	9644.46	1573.4
9666.5	1573.17	9673.04	1573	9702.04	1572	9735.08	1572	9752	1570
9770.44	1568	9791.57	1568	9798.17	1568.93	9808.86	1570	9857.31	1570
9873.26	1567.96	9889.29	1566	9894.06	1566.25	9909.54	1568.03	9940.35	1570
9964.44	1570	9972.99	1569	9979.08	1568	9992.61	1566	10049.68	1566
10072.87	1568	10081.33	1568	10101.39	1568.61	10141.94	1569.11	10160.11	1569.28
10197.78	1569.31	10204.38	1569.41	10211.46	1569.24	10245.53	1569.81	10254.73	1570
10320.91	1570	10342.69	1568	10351.62	1568.24	10371.13	1569.47	10383.4	1570
10421.64	1570	10456.56	1570.9	10480	1571.01	10533.5	1570.14	10541.43	1570
10608.66	1570	10627.81	1569.91	10641.49	1569.55	10661.34	1568	10677.4	1566
10685.23	1566	10708.33	1565.71	10728.37	1566.95	10738.63	1568	10756.03	1569.35
10763.42	1570	10784.98	1570.71	10801.92	1571.16	10825.6	1572	10866.05	1574
10875.39	1574.62	10917.36	1577.7						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9535.53	.035	9964.44	.035	10072.87	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964.44	10072.87	473.7	473.7	473.7	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
9535.53	9650	1576

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.29 Profile # 1

W.S. Elev (ft)	1573.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.62	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1576.83	Reach Len. (ft)	473.70	473.70	473.70
E.G. Slope (ft/ft)	0.018836	Flow Area (sq ft)	1015.41	700.01	2860.00
Q Total (cfs)	67067.00	Flow (cfs)	13259.62	14109.16	39698.22
Top Width (ft)	1187.51	Top Width (ft)	301.86	108.43	777.22
Vel Total (ft/s)	14.66	Avg. Vel. (ft/s)	13.06	20.16	13.88
Max Chl Dpth (ft)	7.51	Hydr. Depth (ft)	3.36	6.46	3.68
Crit W.S. (ft)	1574.18	Wetted Per. (ft)	302.64	108.80	777.83
Conv. Total (cfs)	488670.1	Conv. (cfs)	96613.6	102803.5	289253.0

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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 - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.29 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9649.91	9678.50	0.01	2.57	15.92	32.3	0.16	1.50
9678.50	9707.09	0.17	25.07	28.61	974.8	0.88	4.63
9707.09	9735.69	0.30	34.65	28.60	1671.7	1.21	5.75
9735.69	9764.28	1.30	84.27	28.78	7322.3	2.95	10.36
9764.28	9792.88	3.29	146.82	28.64	18531.5	5.13	15.04
9792.88	9821.47	1.89	105.17	28.70	10613.3	3.68	12.03
9821.47	9850.06	1.51	91.81	28.59	8483.7	3.21	11.01
9850.06	9878.66	2.38	120.88	28.76	13363.9	4.23	13.18
9878.66	9907.25	4.84	185.38	28.77	27254.0	6.48	17.52
9907.25	9935.85	2.56	126.32	28.66	14416.1	4.42	13.60
9935.85	9964.44	1.53	92.46	28.60	8581.9	3.23	11.06
9964.44	9971.67	0.53	26.27	7.28	2623.7	3.63	13.48
9971.67	9978.90	0.78	33.20	7.32	3863.5	4.59	15.71
9978.90	9986.13	1.12	41.33	7.31	5570.9	5.72	18.19
9986.13	9993.36	1.49	49.02	7.30	7408.4	6.78	20.40
9993.36	10000.58	1.66	52.12	7.23	8259.7	7.21	21.39
10000.58	10007.81	1.66	52.12	7.23	8259.7	7.21	21.39

10007.81	10015.04	1.66	52.12	7.23	8259.7	7.21	21.39
10015.04	10022.27	1.66	52.12	7.23	8259.7	7.21	21.39
10022.27	10029.50	1.66	52.12	7.23	8259.7	7.21	21.39
10029.50	10036.73	1.66	52.12	7.23	8259.7	7.21	21.39
10036.73	10043.96	1.66	52.12	7.23	8259.7	7.21	21.39
10043.96	10051.18	1.66	52.03	7.24	8230.8	7.20	21.35
10051.18	10058.41	1.49	48.93	7.26	7415.9	6.77	20.46
10058.41	10065.64	1.27	44.43	7.26	6312.9	6.15	19.18
10065.64	10072.87	1.06	39.92	7.26	5282.2	5.52	17.86
10072.87	10129.17	6.11	265.84	56.31	31760.7	4.72	15.40
10129.17	10185.47	4.65	225.79	56.30	24197.0	4.01	13.82
10185.47	10241.77	4.25	213.75	56.31	22083.5	3.80	13.32
10241.77	10298.07	3.26	182.48	56.30	16966.9	3.24	11.99
10298.07	10354.37	4.58	223.94	56.40	23839.3	3.98	13.73
10354.37	10410.67	3.85	201.77	56.34	20049.8	3.58	12.81
10410.67	10466.97	2.50	155.44	56.31	12985.9	2.76	10.77
10466.97	10523.26	2.09	139.53	56.30	10847.4	2.48	10.02
10523.26	10579.56	3.13	177.93	56.30	16268.4	3.16	11.79
10579.56	10635.86	3.29	183.36	56.30	17104.2	3.26	12.03
10635.86	10692.16	8.07	314.76	56.49	42001.7	5.59	17.20
10692.16	10748.46	10.30	364.06	56.42	53569.7	6.47	18.97
10748.46	10804.76	2.72	163.58	56.37	14128.8	2.91	11.14
10804.76	10861.06	0.40	47.76	45.37	2098.4	1.05	5.66

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.20
Description: 19.20

Station Elevation Data, num = 112

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9306.78	1571.3	9327.81	1570.63	9353.47	1569.7	9363.92	1569.3	9417.52	1568
9495.9	1568	9506.04	1567.52	9520.6	1567.53	9558.31	1566.24	9564.21	1566
9591.99	1566	9594.07	1566.55	9602.17	1568	9648.05	1569.5	9657.45	1569.64
9669.24	1569.9	9688.62	1570	9696.24	1569.56	9716.17	1567.51	9757.67	1565.73
9783.34	1564.3	9798.17	1563.93	9841.19	1563.31	9847.5	1563.12	9864.24	1562.85
9871.16	1562.7	9892.64	1563.02	9905.19	1562.59	9907.22	1562.6	9915.39	1562
9952.88	1562	9957.91	1561.44	9995.7	1561.18	10001.74	1561.34	10012.72	1562
10083.83	1562	10106.82	1562	10198.45	1562	10200.75	1561.88	10220.08	1561.5
10229	1561.5	10271.36	1562	10275.31	1561.98	10287.07	1560	10289.61	1560.87
10319.27	1560	10327.53	1560	10358.83	1562.6	10368.23	1562.99	10400.8	1563.06
10406.35	1563	10416.05	1562.84	10431.13	1562.75	10447.15	1562.79	10459.69	1562.63
10476.88	1562.6	10513.22	1562	10547.84	1562	10561.48	1560.22	10564.39	1560
10572.39	1560	10586.03	1559.54	10608.6	1560.81	10627.85	1562	10641.72	1562
10651.26	1561.8	10677.35	1560.94	10701.26	1560.18	10704.28	1560	10719.86	1558.35
10726.62	1558.1	10746.51	1560	10767.27	1561.26	10781.62	1562	10789.73	1562
10823.93	1564	10847.95	1564	10884.97	1562	10908.41	1562	10931.22	1561.54
10943.17	1561.5	10960.72	1561	10993.16	1562.03	11019.57	1564.01	11078.4	1564.38
11086.63	1564.1	11091.02	1564	11106.88	1563.11	11123.99	1562	11138.41	1560.99
11145.55	1561.1	11179.14	1562	11188.31	1562.17	11205.33	1562.63	11223.67	1562.82
11251.96	1563.3	11273.3	1562.81	11301.64	1561.94	11307.21	1562	11327.67	1562
11349.76	1562.5	11381.41	1563	11397.02	1562.87	11412.23	1562	11430.11	1562
11441.38	1561.6	11462.86	1562	11483.07	1562.54	11511.78	1564	11538.57	1566.02
11582.05	1570	11605.43	1572						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9306.78	.035	9864.24	.035	10012.72	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9864.24	10012.72	832.7	832.7	832.7	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
9306.78	9680	1571

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.20 Profile # 1

W.S. Elev (ft)	1565.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.38	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1567.64	Reach Len. (ft)	832.70	832.70	832.70
E.G. Slope (ft/ft)	0.018322	Flow Area (sq ft)	147.58	483.22	4820.15
Q Total (cfs)	67067.00	Flow (cfs)	1111.84	6095.97	59859.19
Top Width (ft)	1762.64	Top Width (ft)	98.28	148.48	1515.88
Vel Total (ft/s)	12.30	Avg. Vel. (ft/s)	7.53	12.62	12.42
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)	1.50	3.25	3.18
Crit W.S. (ft)	1565.77	Wetted Per. (ft)	98.32	148.57	1517.31
Conv. Total (cfs)	495475.2	Conv. (cfs)	8214.0	45035.6	442225.6

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.20 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9752.75	9789.91	0.09	15.31	23.98	482.0	0.64	3.95
9789.91	9827.08	0.57	54.90	37.17	3022.6	1.48	6.91
9827.08	9864.24	1.00	77.37	37.17	5355.3	2.08	8.69
9864.24	9874.14	0.39	24.84	9.90	1946.6	2.51	10.41
9874.14	9884.04	0.37	24.25	9.90	1870.9	2.45	10.25
9884.04	9893.94	0.34	22.83	9.90	1692.2	2.31	9.85
9893.94	9903.83	0.37	24.37	9.90	1885.8	2.46	10.28
9903.83	9913.73	0.47	27.96	9.92	2369.1	2.82	11.26
9913.73	9923.63	0.60	32.25	9.90	3007.9	3.26	12.39
9923.63	9933.53	0.60	32.35	9.90	3024.4	3.27	12.42
9933.53	9943.43	0.60	32.35	9.90	3024.7	3.27	12.42
9943.43	9953.33	0.60	32.36	9.90	3025.6	3.27	12.42
9953.33	9963.23	0.74	36.82	9.93	3745.8	3.72	13.52
9963.23	9973.13	0.80	38.59	9.90	4058.5	3.90	13.97
9973.13	9983.02	0.83	39.27	9.90	4177.2	3.97	14.13
9983.02	9992.92	0.85	39.94	9.90	4297.9	4.03	14.30
9992.92	10002.82	0.84	39.75	9.90	4262.0	4.02	14.25
10002.82	10012.72	0.69	35.29	9.92	3493.0	3.57	13.15
10012.72	10118.90	6.29	347.01	106.18	32443.2	3.27	12.16
10118.90	10225.08	6.55	355.64	106.19	33797.8	3.35	12.36
10225.08	10331.26	9.51	445.27	106.52	49054.8	4.19	14.33
10331.26	10437.44	4.66	289.76	106.29	24007.3	2.73	10.78
10437.44	10543.62	5.19	309.08	106.19	26750.1	2.91	11.26
10543.62	10649.80	10.21	464.39	106.39	52658.9	4.37	14.75
10649.80	10755.98	13.47	548.34	106.41	69452.2	5.16	16.47
10755.98	10862.17	3.87	259.32	106.30	19950.9	2.44	10.01
10862.17	10968.35	6.81	363.80	106.23	35092.0	3.43	12.55
10968.35	11074.53	2.70	209.14	106.27	13943.8	1.97	8.67
11074.53	11180.71	5.08	305.43	106.30	26208.7	2.88	11.16
11180.71	11286.89	4.03	265.47	106.21	20758.1	2.50	10.17
11286.89	11393.07	5.06	304.37	106.20	26072.1	2.87	11.14
11393.07	11499.25	5.57	322.59	106.24	28716.6	3.04	11.58
11499.25	11605.43	0.26	30.55	29.41	1329.9	1.04	5.66

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.05
Description: 19.05

Station Elevation Data, num = 146

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8728.41	1559.9	8749.09	1557.42	8761.93	1556	8767.62	1556	8776.15	1554.76
8785.52	1552	8797.1	1552	8805.89	1554.59	8811.79	1556.66	8817.37	1557.83
8820.8	1558	8833.88	1557.2	8860.47	1556.26	8867.27	1555.98	8883.93	1555.31
8913.02	1554	8919.39	1553.65	8927.21	1553.53	8970.3	1552	8985.9	1552
8994.37	1554	9013.96	1554	9022.4	1552	9071.95	1552	9090.2	1552.26
9110.6	1552.5	9120.8	1552	9146.41	1552	9151.49	1554	9160.57	1556.3
9170.47	1556.9	9188.8	1555.09	9197.23	1554	9205.66	1552.74	9211.73	1552
9398.68	1552	9443.85	1551.28	9498.04	1550.38	9536.11	1550	9581.95	1550
9604.53	1549.7	9640.2	1549.68	9663.15	1549.61	9672.43	1549.63	9705.54	1549.44
9792.06	1549.3	9805.85	1549.27	9858.05	1549.44	9894.44	1549.59	9912.55	1549.5
9986.45	1549.4	10019.79	1549.49	10040.4	1549.49	10078.34	1549.65	10098.92	1549.63
10174.83	1550	10189.62	1549.99	10296.31	1549.95	10328.79	1550	10367.95	1550
10376.28	1550.3	10407.05	1550.35	10416.84	1550.32	10439.1	1550.55	10476.74	1551.44
10487.45	1551.6	10502.39	1551.88	10513	1551.85	10555.67	1551.57	10580.4	1551.7
10584.84	1551.6	10647.1	1551.39	10671.5	1551.49	10691.82	1551.37	10725.7	1550.83
10754.58	1550	10770.09	1550	10775.56	1551.21	10798.95	1550.84	10850.57	1551.5
10876.42	1552	10925.78	1553.22	10944.57	1553.57	10959.24	1553.71	10971.78	1554
11032.72	1554	11072.6	1552.37	11084.75	1552	11108.18	1550	11121.81	1550.07
11162.9	1552	11237.64	1552	11264.95	1550.19	11269.7	1549.79	11292.29	1548.92
11317.38	1549.2	11335.53	1550	11344.13	1550	11366.49	1552	11439.85	1552
11455.32	1550.6	11458.92	1550.41	1470.46	1550.44	11494.63	1552	11521.18	1553.67
11531.09	1554	11583.46	1553.99	11613.88	1552.99	11635.91	1552	11655.39	1550.46
11663.31	1550.7	11675.95	1552	11688.64	1552.81	11699.8	1553.14	11715.2	1553.16
11736.87	1552.8	11753.08	1552	11776.74	1552	11793.82	1550.73	11802.78	1550
11838.79	1550	11849.2	1550.43	11874.59	1551.79	11877.64	1552	11917.89	1553.93
11938.49	1553.8	11945.38	1553.67	11979.18	1552.69	11995.04	1552.53	12013.16	1552.76
12018.28	1552.9	12031.85	1553	12057.42	1553.72	12069.3	1553.85	12079.16	1553.72
12094.59	1553	12102.52	1552	12117.05	1550.35	12125.38	1550	12155.55	1550
12189.86	1552.1	12212.3	1554	12233.64	1556	12253.17	1558	12295.61	1560
12321.78	1561.4								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8728.41	.035	9581.95	.035	10174.83	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9581.95	10174.83	410	477.6	477.6	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8728.41	9500	1557

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.05 Profile # 1

W.S. Elev (ft)	1555.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1556.24	Reach Len. (ft)	410.00	477.60	477.60
E.G. Slope (ft/ft)	0.001998	Flow Area (sq ft)	466.17	3692.49	8377.33
Q Total (cfs)	67067.00	Flow (cfs)	3219.68	29378.54	34468.79
Top Width (ft)	3375.18	Top Width (ft)	725.97	592.88	2056.33
Vel Total (ft/s)	5.35	Avg. Vel. (ft/s)	6.05	6.42	4.84
Max Chl Dpth (ft)	6.85	Hydr. Depth (ft)	5.69	6.23	4.07
Crit W.S. (ft)	1553.82	Wetted Per. (ft)	81.95	592.88	2057.93
Conv. Total (cfs)	1500461.0	Conv. (cfs)	63064.9	530656.2	906740.1

Warning - Divided flow computed for this cross-section.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.05 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9468.14	9525.05	1.36	86.56	25.05	8399.3	3.46	10.56
9525.05	9581.95	3.44	209.42	56.90	21194.2	3.68	11.01
9581.95	9621.48	2.64	154.45	39.53	16266.4	3.91	11.45
9621.48	9661.00	2.77	159.10	39.53	17092.4	4.03	11.68
9661.00	9700.53	2.88	162.91	39.53	17780.0	4.12	11.87
9700.53	9740.05	3.06	168.92	39.53	18886.5	4.27	12.16
9740.05	9779.58	3.14	171.50	39.53	19369.4	4.34	12.28
9779.58	9819.10	3.21	173.75	39.53	19795.6	4.40	12.39
9819.10	9858.63	3.11	170.50	39.53	19181.5	4.31	12.23
9858.63	9898.15	2.94	164.77	39.52	18120.2	4.17	11.96
9898.15	9937.68	2.96	165.57	39.53	18265.8	4.19	12.00
9937.68	9977.20	3.04	168.06	39.53	18725.8	4.25	12.12
9977.20	10016.73	3.04	168.31	39.53	18773.6	4.26	12.13
10016.73	10056.25	2.96	165.54	39.53	18259.7	4.19	12.00
10056.25	10095.78	2.82	160.90	39.53	17416.2	4.07	11.77
10095.78	10135.30	2.72	157.29	39.53	16768.6	3.98	11.59
10135.30	10174.83	2.50	149.70	39.53	15442.5	3.79	11.22
10174.83	10317.96	8.43	532.32	143.13	54248.8	3.72	10.62
10317.96	10461.09	7.25	486.38	143.14	46670.6	3.40	10.00
10461.09	10604.22	3.16	295.52	143.14	20341.8	2.06	7.18
10604.22	10747.35	4.25	352.92	143.14	27344.4	2.47	8.08
10747.35	10890.48	4.47	364.09	143.28	28783.2	2.54	8.24
10890.48	11033.61	0.17	38.37	66.80	1125.4	0.57	3.06
11033.61	11176.74	3.07	285.09	136.63	19763.8	2.09	7.23
11176.74	11319.87	5.60	416.67	143.23	36049.3	2.91	9.02
11319.87	11463.00	4.01	341.07	143.30	25812.3	2.38	7.89
11463.00	11606.13	0.96	109.85	72.51	6151.7	1.52	5.84
11606.13	11749.26	1.59	195.86	143.34	10239.2	1.37	5.45
11749.26	11892.39	4.71	375.49	143.28	30301.9	2.62	8.41
11892.39	12035.52	0.42	80.30	111.82	2733.8	0.72	3.55
12035.52	12178.65	3.00	266.85	119.98	19303.4	2.23	7.54
12178.65	12321.78	0.28	36.63	30.09	1773.3	1.22	5.05

Warning - Divided flow computed for this cross-section.
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 INPUT Reach: SPILLWAY River Station: 18.96
Description: 18.96

Station Elevation Data, num = 239

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8136.62	1553.1	8143.98	1554	8147.15	1554.78	8153.97	1556	8156.79	1557.1
8164.48	1558	8169.66	1559.4	8170.73	1559.47	8177.45	1558	8179.34	1557.82
8185.27	1556	8190.35	1554.67	8198.78	1552.83	8201.73	1552	8207.53	1551.61
8243.33	1550	8246.96	1550	8260.51	1549.23	8280.31	1548	8304.56	1546.43
8314.41	1546	8342.26	1544.53	8349.43	1544.36	8350.69	1544	8363.14	1544
8373.68	1543.1	8377.48	1542.88	8387.48	1542	8406.62	1542	8421.34	1541.17
8439.04	1540	8468.98	1540	8474.4	1542	8484.7	1543.38	8507.71	1543.52
8525.53	1543.5	8552.33	1543.31	8568.17	1543.16	8624.18	1542.76	8631.96	1542.61
8647.17	1542	8674.08	1541.25	8677.96	1540.93	8695.41	1540	8734.23	1540
8746.21	1544	8753.47	1546.03	8784.73	1548	8786.45	1549.46	8794.16	1552.11
8799.92	1555	8803.03	1556	8805.24	1555.53	8811.78	1553.71	8818.94	1552
8823.58	1551.3	8833.15	1551.54	8837.74	1551.68	8923.74	1550	8930.28	1550.13
8949.93	1550	9064.98	1550	9069.83	1552	9072.55	1553.63	9079.42	1555.12
9086.08	1555.1	9095.02	1553.76	9101.81	1552	9108.59	1550	9136.72	1550
9154.82	1549.6	9245.18	1549.94	9260.94	1550	9299.78	1550	9409.35	1550
9410.53	1550.5	9420.36	1552	9477.21	1552	9489.49	1554	9504.12	1554.97
9516.08	1556	9548.49	1556	9560.65	1555.49	9583.48	1554.84	9590.79	1554

```
 9601.28    1554 9605.42  1551.9 9613.86    1552  9618.9    1554 9631.22    1558
 9637.79  1559.4  9641.6 1560.38 9646.11    1562 9658.31 1565.36    9674 1568.59
 9688.85    1572 9703.67    1576 9717.26 1580.35 9722.36 1580.99 9724.03    1582
 9726.11    1582 9730.36 1579.83 9733.46 1577.79 9737.31    1576 9741.75    1572
  9748.3  1568.9 9755.94    1564 9760.14 1561.85 9762.13    1560  9764.9    1556
 9765.41  1556.8 9768.45 1556.14 9772.38 1553.03  9775.4    1550 9781.77    1548
 9786.95  1546.8  9790.2 1545.66 9799.81 1544.09 9804.13 1543.95 9850.91    1544
 9862.94  1543.1 9873.99    1542 9942.47    1542 9970.16 1542.67 9977.87 1543.01
10002.54    154410010.05    154610019.66  1548.210026.51 1550.1410034.49 1552.26
10041.75 1554.410050.58    155610068.99    1558 10180.6    155810185.91 1558.71
10193.21    156010197.43    156010199.66 1560.2510222.05 1558.7710237.26 1557.56
10245.21 1557.310280.39 1557.6310291.33 1557.5910299.64 1557.4110305.86 1557.09
10319.86    155610330.72 1554.9910342.92    155410351.18 1553.1910364.97 1551.52
10375.92 1550.510391.37 1549.5910400.77 1549.4610409.41 1549.0610422.91 1547.36
10429.94 1546.910432.15 1546.4910439.77    154610442.08 1545.4510450.06    1544
10462.18 1543.910472.17 1543.7710555.43 1543.6610587.63 1543.8510639.13 1544.11
10693.57 1544.310743.38 1544.5810798.92 1544.5410872.16  1544.810884.69 1544.82
 10914.1 1544.910942.73 1544.8410973.99 1544.9111000.35 1544.9111065.59 1545.14
11104.88 1545.311129.61 1545.5911160.04    154611205.45    154611257.69 1545.35
11315.94 1545.411352.31 1546.0811420.43 1546.4411453.01    1546 11469.5    1546
11486.03 1545.711586.46 1545.8211597.75    154611679.29    154611710.93 1545.23
11740.73 1544.511757.86 1544.1811774.25 1545.4311781.88 1545.9311790.79 1545.99
11820.83 1545.811830.71 1545.6711837.29 1545.4711863.75 1544.9611876.18    1546
11890.89    154611937.26    154811978.62    154811990.07 1548.1112016.17 1548.51
12053.27    154812074.24 1547.95 12077.3    154812100.31    1548 12105.8 1547.63
12133.92    1546 12144.1 1545.5412174.99    154412222.42    154412256.64 1545.84
12265.45 1545.712302.02    154412364.36    1544 12370.3 1544.3112408.18    1546
12432.27    154612453.04 1547.4612466.62 1547.5912482.77 1547.5812505.14 1547.55
12522.17 1547.412536.45 1547.1412578.48 1546.1112584.31    154612655.79    1546
12661.52 1546.4 12675.9    154812690.06    155012694.99 1550.1212752.26 1552.03
12804.49    155412864.28    1556 12907.7    155812968.89 1560.09

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8136.62    .035 9420.36    .03510026.51    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9420.3610026.51                 0       0       0             .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

 8136.62    9441    1570

CROSS SECTION OUTPUT  Reach: SPILLWAY      Riv Sta: 18.96     Profile # 1

  W.S. Elev (ft)       1555.84   Element              Left OB    Channel   Right OB
  Vel Head (ft)           0.09   Wt. n-Val.                        0.035      0.035
  E.G. Elev (ft)       1555.93   Reach Len. (ft)       237.90     237.90     237.90
  E.G. Slope (ft/ft)  0.000165   Flow Area (sq ft)               3390.28   24281.42
  Q Total (cfs)       67067.00   Flow (cfs)                      7579.84   59487.16
  Top Width (ft)       4234.89   Top Width (ft)       1249.74     423.92    2561.24
  Vel Total (ft/s)        2.42   Avg. Vel. (ft/s)                  2.24       2.45
  Max Chl Dpth (ft)      15.84   Hydr. Depth (ft)                  8.41       9.48
  Crit W.S. (ft)                 Wetted Per. (ft)                408.66    2563.50
  Conv. Total (cfs)  5219076.0   Conv. (cfs)                    589854.3  4629222.0


Warning - The energy equation could not be balanced within the specified number
                of iterations.  The program used critical depth for the water surface and
                continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface
                was set equal to critical depth, the calculated water surface came back
                below critical depth.  This indicates that there is not a valid subcritical
                answer.  The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT  Reach: SPILLWAY      Riv Sta: 18.96     Profile # 1
```

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9420.36	9460.77	0.12	75.98	19.77	7913.6	3.84	1.10
9460.77	9501.18	0.15	115.10	40.60	9788.7	2.85	0.90
9501.18	9541.59	0.00	7.28	13.12	208.5	0.56	0.30
9541.59	9582.00	0.01	15.51	29.78	426.2	0.52	0.29
9582.00	9622.41	0.11	94.82	41.52	6980.2	2.35	0.78
9622.41	9662.82	0.00	0.76	2.28	15.6	0.35	0.22
9662.82	9743.64						
9743.64	9784.05	0.15	80.14	17.83	9267.4	5.26	1.22
9784.05	9824.46	1.51	454.53	40.81	96239.2	11.25	2.23
9824.46	9864.87	1.70	486.28	40.45	108336.3	12.03	2.35
9864.87	9905.28	2.12	555.25	40.46	135133.5	13.74	2.57
9905.28	9945.69	2.15	559.25	40.41	136862.0	13.84	2.58
9945.69	9986.10	1.99	534.10	40.43	126710.4	13.22	2.50
9986.10	10026.51	1.27	411.28	41.20	80948.3	10.18	2.08
10026.51	10222.67	0.09	61.04	23.92	4839.5	2.63	0.99
10222.67	10418.83	0.86	415.24	97.66	46270.0	4.27	1.39
10418.83	10614.99	9.27	2289.56	196.46	499655.0	11.67	2.72
10614.99	10811.14	9.02	2250.86	196.16	486146.7	11.47	2.69
10811.14	11007.30	8.44	2162.77	196.16	454854.1	11.03	2.62
11007.30	11203.46	7.64	2037.50	196.16	411789.5	10.39	2.51
11203.46	11399.62	7.31	1983.91	196.17	393891.1	10.11	2.47
11399.62	11595.78	7.06	1943.17	196.17	380506.5	9.91	2.44
11595.78	11791.94	7.58	2027.63	196.24	408362.3	10.34	2.51
11791.94	11988.10	6.32	1818.12	196.26	340473.2	9.27	2.33
11988.10	12184.25	5.73	1715.17	196.27	308933.9	8.74	2.24
12184.25	12380.41	8.93	2238.60	196.27	481564.4	11.41	2.68
12380.41	12576.57	6.11	1782.21	196.25	329344.2	9.09	2.30
12576.57	12772.73	4.22	1427.31	196.45	227310.5	7.28	1.98
12772.73	12968.89	0.13	128.32	86.91	7063.6	1.48	0.68

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.91
Description: 18.91

Station Elevation Data, num = 155

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8149.34	1549.73	8171.29	1548	8178.79	1546.79	8185.19	1546	8190.56	1545
8201.69	1543.3	8208.31	1542	8220.55	1540	8228.35	1538.49	8231.64	1538
8244.84	1536.54	8248.38	1536	8260.58	1535.53	8295.83	1534	8316.32	1534
8368.62	1535.74	8379.16	1536	8407.92	1536	8425.55	1534	8440.05	1532
8458.16	1530	8518.4	1526.9	8534.55	1526	8538.93	1526.04	8630.11	1530
8638.25	1532	8650.68	1532	8658.37	1530	8662.19	1526	8755.91	1526
8776.07	1527.14	8789.13	1527.7	8799.94	1527.87	8804.87	1527.58	8821.89	1526
8833.46	1526	8836.63	1527.3	8838.3	1527.35	8846.96	1528.83	8852.34	1529.3
8857.6	1529	8872.69	1527.97	8877.68	1528.17	8947.11	1528.15	8965.37	1528
8998.32	1528.64	9047.47	1529.29	9060.63	1529.47	9064.54	1530.39	9072.72	1532
9084.78	1534	9087.93	1534.62	9098.52	1536	9116.98	1537.46	9124.96	1538
9131.51	1538.76	9137.12	1540	9144.15	1541.13	9156.79	1542.05	9165.2	1542.2
9173.88	1542.29	9213.23	1541.92	9231.46	1541.8	9261.03	1541.71	9272.06	1541.6
9306.83	1541.57	9314.62	1541.43	9331.59	1541.35	9351.25	1540.91	9367.09	1540
9371.2	1539.6	9376.52	1540	9380.96	1542.63	9386.19	1545.05	9389.36	1546
9395.86	1546	9397.74	1546.49	9406.45	1544.7	9413.15	1542	9441.97	1541.1
9461.89	1540.83	9472.02	1540.57	9480.77	1540	9491.01	1539.05	9503.77	1538.5
9518.08	1538.21	9520.83	1538	9532.06	1538	9543.27	1536.69	9552.71	1536
9560.3	1533.36	9566.04	1532	9569.34	1531.57	9586.74	1528.49	9593.63	1527.5

```
 9603.66 1526.48 9619.94 1525.33  9639.9 1524.25 9653.69 1523.79 9672.44  1523.5
 9682.58  1523.5 9719.68 1524.21 9732.57 1524.75 9737.02 1525.05 9750.63  1526.5
 9761.29    1528 9766.83 1528.63 9776.88    1530 9795.02 1531.75 9812.73    1534
 9836.54 1535.82 9840.48 1536.18 9848.92 1536.52 9861.95 1536.04 9871.88  1537.1
 9877.06    1538 9878.91 1538.64 9888.17 1540.08 9899.78 1541.02 9915.21    1542
 9948.94 1542.43 9966.85    1542 9977.05 1541.4410016.62    154010129.89    1540
10135.11 1540.4210144.37 1539.6710153.64 1538.6310161.12    153810172.24    1538
10177.54    154010181.88    154210184.41 1543.5110186.15 1543.9610191.72    1542
10197.78 1540.6210205.53 1540.3410212.51 1540.2210223.59 1540.3710272.85  1540.8
10301.09 1540.8110328.18 1540.7710352.37 1540.8210378.09 1540.93 10403.9    1541
10469.08 1540.9310509.93 1540.7710536.15 1540.74 10571.7 1540.9110631.63    1541
10665.63 1541.3310678.91 1541.28 10719.3  1541.910722.38    154210757.15    1542

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8149.34    .035 9413.15    .03510186.15    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9413.1510186.15             1015  295.64  295.64             .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 8149.34    9375    1546   1075010757.15    1546
Blocked Obstructions,  num = 1
   Sta L   Sta R    Elev

    9447    9900    1535
```

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.91 Profile # 1

W.S. Elev (ft)	1542.73	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.64	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1544.37	Reach Len. (ft)	1015.00	295.64	295.64
E.G. Slope (ft/ft)	0.008343	Flow Area (sq ft)	11.20	3578.33	982.39
Q Total (cfs)	44167.00	Flow (cfs)	55.28	38574.91	5536.81
Top Width (ft)	2515.86	Top Width (ft)	1178.40	769.95	567.51
Vel Total (ft/s)	9.66	Avg. Vel. (ft/s)	4.94	10.78	5.64
Max Chl Dpth (ft)	16.73	Hydr. Depth (ft)	1.40	4.65	1.75
Crit W.S. (ft)		Wetted Per. (ft)	8.88	772.00	560.65
Conv. Total (cfs)	483551.1	Conv. (cfs)	605.2	422327.6	60618.4

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.91 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9328.90	9413.15	0.13	11.20	8.88	554.8	1.40	4.94
9413.15	9464.68	0.71	74.61	51.55	4053.1	1.45	4.20
9464.68	9516.22	2.91	174.09	51.61	16623.5	3.38	7.38
9516.22	9567.75	7.58	309.72	51.81	43310.9	6.01	10.81
9567.75	9619.28	11.57	398.40	51.53	66128.5	7.73	12.83
9619.28	9670.82	11.57	398.39	51.53	66127.2	7.73	12.83
9670.82	9722.35	11.57	398.39	51.53	66127.2	7.73	12.83
9722.35	9773.88	11.57	398.39	51.53	66127.2	7.73	12.83
9773.88	9825.42	11.57	398.39	51.53	66127.2	7.73	12.83
9825.42	9876.95	8.58	333.51	51.73	49047.0	6.47	11.37
9876.95	9928.48	1.01	92.62	51.82	5791.3	1.80	4.83
9928.48	9980.02	0.18	32.35	51.56	1006.8	0.63	2.41
9980.02	10031.55	1.49	116.35	51.56	8498.0	2.26	5.65
10031.55	10083.08	2.04	140.72	51.53	11671.9	2.73	6.41
10083.08	10134.62	2.02	139.82	51.55	11545.6	2.71	6.38
10134.62	10186.15	2.94	172.58	49.61	16821.3	3.56	7.53
10186.15	10224.22	1.01	72.38	34.86	5001.6	2.09	6.17
10224.22	10262.28	1.21	83.33	38.07	5964.5	2.19	6.39
10262.28	10300.35	0.99	73.85	38.07	4876.6	1.94	5.90
10300.35	10338.42	0.99	73.96	38.07	4888.7	1.94	5.90
10338.42	10376.48	0.94	71.69	38.07	4641.7	1.88	5.78
10376.48	10414.55	0.84	66.97	38.07	4142.9	1.76	5.53
10414.55	10452.62	0.84	67.09	38.07	4156.4	1.76	5.53
10452.62	10490.68	0.89	69.31	38.07	4387.9	1.82	5.65

10490.68	10528.75	0.99	74.11	38.07	4906.0	1.95	5.91
10528.75	10566.82	0.98	73.50	38.07	4838.5	1.93	5.88
10566.82	10604.88	0.87	68.54	38.07	4306.4	1.80	5.61
10604.88	10642.95	0.81	65.80	38.07	4023.2	1.73	5.46
10642.95	10681.02	0.63	56.22	38.07	3095.3	1.48	4.92
10681.02	10719.08	0.40	42.87	38.07	1969.9	1.13	4.10
10719.08	10757.15	0.16	22.77	30.92	788.2	0.74	3.09

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.86
Description: 18.86

Station Elevation Data, num = 82

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8879.72	1550	8898.27	1539.97	8900.17	1538	8903.59	1537.45	8909.68	1536
8944.88	1536	8950.51	1534	8953.67	1532	8977.97	1532	8986.06	1534
8992.87	1536	8995.65	1536.29	9008.76	1537.15	9012.06	1537.74	9013.82	1538
9032.29	1538	9054.18	1534	9077.26	1530	9082.15	1528.95	9091.65	1526
9103.65	1526	9107.37	1525.9	9185.28	1524.84	9189.82	1526	9198.63	1526
9202.7	1527.9	9208	1530	9216.56	1532	9235.26	1536	9239.6	1536
9249.88	1532	9258.04	1529.17	9269.02	1527.15	9274.36	1526	9295.79	1521.9
9325.11	1516	9427.87	1516	9431.23	1517.01	9436.15	1518	9451.37	1518
9476.23	1516.63	9488.19	1516.17	9528.18	1516	9607.33	1516	9615.82	1516.8
9626.34	1518	9638.07	1522	9647.88	1524.39	9654.72	1524.98	9660.39	1525.3
9669.64	1526	9695.49	1527.19	9711.87	1527.81	9715.63	1527.73	9721.54	1527.9
9726.23	1526.54	9732.77	1523.63	9735.58	1522	9741.47	1520.35	9751.01	1520.1
9762.06	1520.42	9803.45	1522	9827.09	1524	9830.79	1524.4	9842.45	1526
9855.48	1530.23	9864.3	1533.28	9867.28	1534	9871.13	1536	9876.82	1537.3
9894.79	1544	9948.05	1544	9963.78	1541.56	9972.85	1540	9983.06	1538.3
9985.97	1538	10150	1538	10500.59	1538	10575.63	1538.66	10696.09	1539.78
10724.63	1539.91	10737.64	1539.81						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8879.72	.035	9239.6	.035	10150	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9239.6	10150	245	281.3	281.3	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8879.72	9240	1545	10724	10737.64	1545

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9231	9890	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.86 Profile # 1

W.S. Elev (ft)	1541.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.78	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1542.22	Reach Len. (ft)	245.00	281.30	281.30
E.G. Slope (ft/ft)	0.003108	Flow Area (sq ft)		4718.48	1753.16
Q Total (cfs)	44167.00	Flow (cfs)		38814.22	5352.78
Top Width (ft)	1765.56	Top Width (ft)	344.05	833.87	587.64
Vel Total (ft/s)	6.82	Avg. Vel. (ft/s)		7.51	4.98
Max Chl Dpth (ft)	16.60	Hydr. Depth (ft)		5.66	3.05
Crit W.S. (ft)	1540.15	Wetted Per. (ft)		835.05	574.01
Conv. Total (cfs)	792193.4	Conv. (cfs)		635511.9	156681.5

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.86 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9239.60	9300.29	7.87	301.37	60.45	37337.5	5.00	11.54
9300.29	9360.99	7.98	304.29	60.69	37842.3	5.01	11.58
9360.99	9421.68	7.98	304.29	60.69	37842.3	5.01	11.58
9421.68	9482.37	7.98	304.29	60.69	37842.3	5.01	11.58
9482.37	9543.07	7.98	304.29	60.69	37842.3	5.01	11.58
9543.07	9603.76	7.98	304.29	60.69	37842.3	5.01	11.58
9603.76	9664.45	7.98	304.29	60.69	37842.3	5.01	11.58
9664.45	9725.15	7.98	304.29	60.69	37842.3	5.01	11.58
9725.15	9785.84	7.98	304.29	60.69	37842.3	5.01	11.58
9785.84	9846.53	7.98	304.29	60.69	37842.3	5.01	11.58
9846.53	9907.23	3.38	151.37	38.44	16023.6	4.03	9.86
9907.23	9967.92						
9967.92	10028.61	1.32	100.11	56.00	6259.8	1.79	5.82
10028.61	10089.31	1.74	122.21	60.69	8273.2	2.01	6.31
10089.31	10150.00	1.74	122.21	60.69	8273.2	2.01	6.31
10150.00	10189.18	1.09	78.88	39.18	5340.1	2.01	6.12
10189.18	10228.35	1.09	78.88	39.18	5340.1	2.01	6.12
10228.35	10267.53	1.09	78.88	39.18	5340.2	2.01	6.12
10267.53	10306.70	1.09	78.88	39.18	5340.1	2.01	6.12
10306.70	10345.88	1.09	78.88	39.18	5340.1	2.01	6.12
10345.88	10385.06	1.09	78.88	39.18	5340.1	2.01	6.12
10385.06	10424.23	1.09	78.88	39.18	5340.1	2.01	6.12
10424.23	10463.41	1.09	78.88	39.18	5340.2	2.01	6.12
10463.41	10502.58	1.09	78.86	39.18	5338.1	2.01	6.11
10502.58	10541.76	0.93	71.45	39.18	4527.6	1.82	5.72
10541.76	10580.94	0.65	57.94	39.18	3193.1	1.48	4.98
10580.94	10620.11	0.41	43.96	39.18	2015.1	1.12	4.14
10620.11	10659.29	0.21	29.69	39.18	1047.6	0.76	3.19
10659.29	10698.46	0.07	15.43	39.18	352.1	0.39	2.06
10698.46	10737.64	0.01	4.34	25.54	56.5	0.17	1.18

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.80
Description: 18.80

Station Elevation Data, num = 65

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9009.97	1560	9026.32	1550	9032.94	1545.49	9041.37	1540	9044.12	1538
9056.71	1536	9069.72	1535.14	9092.5	1534	9102.11	1532	9110.79	1530
9118.67	1526	9220.45	1526	9230.14	1530	9238.76	1532	9249.33	1534

```
 9261.37    1534 9270.71    1530 9287.63 1523.65  9291.8    1522 9302.56    1520
 9339.38    1518  9380.2    1518    9385    1520 9386.85  1520.1 9417.84 1520.15
 9427.09 1517.52 9431.68    1516 9697.91    1516 9714.36  1515.8 9718.83 1515.48
 9734.88 1514.88 9741.61    1514 9854.43    1514 9872.93  1517.5 9885.33    1520
 9894.57    1522 9902.78    1524 9909.61 1526.15 9918.08  1529.2 9928.07 1532.61
 9931.12    1534 9933.75  1535.6 9941.31 1538.46 9943.67  1538.8 9950.53 1541.32
 9951.61    1542 9956.03    1542 9969.39    1538 9976.49    1538 9981.25    1534
 9992.96    153010004.38    153010016.43 1530.9410027.97    153210050.13 1532.85
10077.05    153410098.58 1535.3410150.35    153810215.89    153810748.55    1538
10751.62 1538.0110985.14 1539.9810987.33    154011108.15    155011131.95 1555.75

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9009.97    .035 9249.33    .03510150.35    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9249.3310150.35              455   245.2   245.2             .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

 9009.97    9250    1550
Blocked Obstructions,  num = 1
   Sta L   Sta R    Elev

    9257    9952    1535

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.80     Profile # 1

  W.S. Elev (ft)       1539.33   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.50   Wt. n-Val.                        0.035      0.035
  E.G. Elev (ft)       1540.83   Reach Len. (ft)       455.00     245.20     245.20
  E.G. Slope (ft/ft)  0.007861   Flow Area (sq ft)               3952.80     901.15
  Q Total (cfs)       44167.00   Flow (cfs)                     40358.39    3808.61
  Top Width (ft)       1845.67   Top Width (ft)        207.04     881.17     757.46
  Vel Total (ft/s)        9.10   Avg. Vel. (ft/s)                 10.21       4.23
  Max Chl Dpth (ft)      13.33   Hydr. Depth (ft)                  4.49       1.19
  Crit W.S. (ft)       1539.33   Wetted Per. (ft)                884.86     757.47
  Conv. Total (cfs)   498136.2   Conv. (cfs)                    455180.9   42955.3


Warning - The energy equation could not be balanced within the specified number
                of iterations.  The program used critical depth for the water surface and
                continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.80     Profile # 1

  Left Sta    Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)        (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9249.33     9309.40        5.88     264.05     60.40    29973.2       4.45       9.83
  9309.40     9369.47        5.75     259.95     60.07    29307.8       4.33       9.77
  9369.47     9429.53        5.75     259.95     60.07    29308.3       4.33       9.77
  9429.53     9489.60        5.75     259.95     60.07    29307.8       4.33       9.77
  9489.60     9549.67        5.75     259.95     60.07    29308.3       4.33       9.77
  9549.67     9609.74        5.75     259.95     60.07    29308.3       4.33       9.77
  9609.74     9669.81        5.75     259.95     60.07    29307.8       4.33       9.77
  9669.81     9729.87        5.75     259.95     60.07    29308.3       4.33       9.77
```

9729.87	9789.94	5.75	259.95	60.07	29307.8	4.33	9.77
9789.94	9850.01	5.75	259.95	60.07	29308.3	4.33	9.77
9850.01	9910.08	5.75	259.95	60.07	29308.3	4.33	9.77
9910.08	9970.15	2.19	125.49	41.22	11190.5	3.12	7.73
9970.15	10030.21	13.00	430.35	62.28	66283.9	7.16	13.34
10030.21	10090.28	9.91	360.56	60.13	50522.4	6.00	12.14
10090.28	10150.35	2.91	172.82	60.15	14828.1	2.88	7.43
10150.35	10215.79	0.86	86.88	65.44	4455.6	1.33	4.36
10215.79	10281.23	0.86	86.88	65.44	4455.5	1.33	4.36
10281.23	10346.67	0.86	86.88	65.44	4455.6	1.33	4.36
10346.67	10412.11	0.86	86.88	65.44	4455.5	1.33	4.36
10412.11	10477.55	0.86	86.88	65.44	4455.6	1.33	4.36
10477.55	10542.99	0.86	86.88	65.44	4455.6	1.33	4.36
10542.99	10608.43	0.86	86.88	65.44	4455.5	1.33	4.36
10608.43	10673.87	0.86	86.88	65.44	4455.6	1.33	4.36
10673.87	10739.31	0.86	86.88	65.44	4455.5	1.33	4.36
10739.31	10804.75	0.66	74.43	65.44	3442.7	1.14	3.93
10804.75	10870.19	0.22	38.83	65.44	1164.1	0.59	2.55
10870.19	10935.63	0.01	5.97	37.62	74.3	0.16	1.06

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.76
Description: 18.76

Station Elevation Data, num = 71

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9117.03	1550.94	9136.73	1538.94	9145.51	1533.88	9149.18	1532	9153.27	1532
9156.37	1532.83	9167.14	1534	9179.71	1535.95	9200.27	1534	9203.81	1533.7
9221.81	1532	9232.63	1530	9242.97	1526	9253.35	1525.94	9263.68	1524
9346.12	1524	9354.82	1526	9363.09	1526	9372.76	1530	9377.6	1530.7
9388.19	1532.83	9394.33	1532	9399.18	1532	9412.09	1526	9416.05	1524
9422.55	1521.23	9428.88	1518	9435.83	1516	9468.23	1516	9506.35	1516
9555.49	1514.28	9565.2	1514	9895.4	1514	9909.42	1518.25	9916.62	1520.3
9928.49	1524.21	9940.23	1528.98	9950.93	1534	9952.72	1536.06	9953.46	1538
9966.13	1538	9968.16	1537.26	9975.57	1534	9989.16	1530	9996.06	1526.7
9998.51	1526	10001.16	1526	10009.98	1529.14	10011.92	1530	10016.2	1530.9
10030.1	1533.2	10039.13	1534.93	10046.78	1534.54	10054.69	1534	10086.26	1534
10110.53	1533.13	10135.81	1532	10153.13	1532.04	10164.28	1534	10183.26	1534.5
10253.09	1535.76	10294.02	1536.67	10335.22	1538	10454.29	1538	10475.64	1538.2
10527.47	1538.59	10577.43	1538.92	10720.98	1540	10797.46	1547.23	10826.12	1550
10836.15	1552.8								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9117.03	.035	9179.71	.035	10039.13	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9179.71	10039.13	410	599.9	550	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev

9117.03 9150 1550
Blocked Obstructions, num = 1
Sta L Sta R Elev

9400 9960 1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.76 Profile # 1

W.S. Elev (ft)	1538.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.86	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1539.40	Reach Len. (ft)	410.00	599.90	550.00
E.G. Slope (ft/ft)	0.003395	Flow Area (sq ft)	140.48	4853.94	1199.81
Q Total (cfs)	44167.00	Flow (cfs)	819.97	38334.97	5012.06
Top Width (ft)	1383.85	Top Width (ft)	42.29	859.42	482.14
Vel Total (ft/s)	7.13	Avg. Vel. (ft/s)	6.92	7.78	4.54
Max Chl Dpth (ft)	14.54	Hydr. Depth (ft)	4.73	5.65	2.49
Crit W.S. (ft)	1536.86	Wetted Per. (ft)	30.03	870.75	482.43
Conv. Total (cfs)	758055.1	Conv. (cfs)	16681.0	647871.9	93502.1

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.76 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9146.28	9150.46	0.06	2.17	0.46	258.7	4.72	12.14
9150.46	9154.64	0.53	19.47	4.23	2287.6	4.66	11.95
9154.64	9158.82	0.39	16.33	4.25	1698.9	3.91	10.58
9158.82	9163.00	0.31	14.19	4.20	1355.7	3.40	9.71
9163.00	9167.17	0.25	12.29	4.20	1067.2	2.94	8.82
9167.17	9171.35	0.17	9.98	4.23	751.4	2.39	7.65
9171.35	9175.53	0.10	7.27	4.23	443.3	1.74	6.20
9175.53	9179.71	0.05	4.57	4.23	204.0	1.09	4.54
9179.71	9237.00	3.69	210.60	57.98	21127.1	3.68	7.74
9237.00	9294.30	26.01	679.41	57.91	148935.2	11.86	16.91
9294.30	9351.59	29.16	725.26	57.44	166960.5	12.66	17.76
9351.59	9408.89	8.65	360.61	61.96	49536.8	6.29	10.60
9408.89	9466.18	1.05	98.45	57.29	5996.7	1.72	4.70
9466.18	9523.48	1.05	98.45	57.29	5996.6	1.72	4.70
9523.48	9580.77	1.05	98.45	57.29	5996.7	1.72	4.70
9580.77	9638.07	1.05	98.45	57.29	5996.7	1.72	4.70
9638.07	9695.36	1.05	98.45	57.29	5996.7	1.72	4.70
9695.36	9752.66	1.05	98.45	57.29	5996.6	1.72	4.70
9752.66	9809.95	1.05	98.45	57.29	5996.7	1.72	4.70
9809.95	9867.25	1.05	98.45	57.29	5996.7	1.72	4.70
9867.25	9924.54	1.05	98.45	57.29	5996.7	1.72	4.70
9924.54	9981.83	0.89	79.22	42.65	5082.3	1.94	4.95
9981.83	10039.13	8.98	363.10	59.62	51407.6	6.34	10.92
10039.13	10092.26	2.41	137.33	53.17	10975.6	2.58	7.76
10092.26	10145.40	4.89	209.70	53.17	22223.2	3.95	10.29
10145.40	10198.53	2.98	156.10	53.31	13563.5	2.94	8.44
10198.53	10251.67	0.94	77.76	53.14	4254.5	1.46	5.31
10251.67	10304.80	0.13	22.02	43.86	590.5	0.50	2.60

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The

program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.64
Description: 18.64

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9054.07	1575.2	9070.38	1570	9084.35	1565.27	9098.46	1560	9106.68	1556.77
9126.28	1550	9135.06	1546.63	9154.07	1540	9166.83	1535.37	9177.47	1532
9231.03	1532	9278.8	1532.99	9299.89	1533.32	9313.85	1533.47	9354.85	1533.45
9377.62	1533.6	9406.26	1532	9446.75	1532	9456.69	1530	9483.04	1530
9499.19	1530.9	9518.08	1532	9605.58	1532	9652.41	1530.62	9672.86	1530.4
9697.14	1530	9821.47	1530	9841.81	1530	9892.31	1526	9924.59	1526
9946.01	1522.9	9953.16	152	10008.15	152	10022.49	152	10032.84	1526
10043.68	152	10050.42	1528.17	10058.55	1530.92	10069	1532.79	10074.43	1534
10093.77	153	10129.09	1535.29	10154.07	1535.39	10169.1	1535.63	10205.09	1535.94
10258.9	1535.4	10282.39	1534.66	10316.29	1533.46	10339.03	1532.72		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9054.07	.035	9605.58	.035	10093.77	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9605.58	10093.77	170	538.2	538.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10106	10339.03	1540

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.64 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1534.68	Element			
Vel Head (ft)	1.95	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1536.63	Reach Len. (ft)	170.00	538.20	538.20
E.G. Slope (ft/ft)	0.006541	Flow Area (sq ft)	1071.31	3154.15	5.57
Q Total (cfs)	44167.00	Flow (cfs)	6684.58	37471.09	11.32
Top Width (ft)	1000.59	Top Width (ft)	436.57	488.19	75.83
Vel Total (ft/s)	10.44	Avg. Vel. (ft/s)	6.24	11.88	2.03
Max Chl Dpth (ft)	12.68	Hydr. Depth (ft)	2.45	6.46	0.46
Crit W.S. (ft)	1534.54	Wetted Per. (ft)	437.30	490.07	12.24
Conv. Total (cfs)	546122.5	Conv. (cfs)	82654.5	463328.0	140.0

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 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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.64 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9164.37	9201.14	0.94	74.74	32.54	5523.6	2.33	5.57
9201.14	9237.91	1.36	98.01	36.77	7999.2	2.67	6.15
9237.91	9274.67	0.96	79.25	36.77	5613.0	2.16	5.34
9274.67	9311.44	0.51	54.27	36.77	2986.4	1.48	4.15
9311.44	9348.21	0.37	44.77	36.77	2167.3	1.22	3.65
9348.21	9384.98	0.36	43.88	36.78	2095.3	1.19	3.60
9384.98	9421.74	1.09	85.84	36.80	6410.3	2.33	5.63

9421.74	9458.51	1.70	112.08	36.97	9967.8	3.05	6.70
9458.51	9495.28	3.34	167.86	36.79	19605.7	4.57	8.80
9495.28	9532.05	1.74	113.62	36.81	10226.5	3.09	6.78
9532.05	9568.81	1.38	98.50	36.77	8066.0	2.68	6.17
9568.81	9605.58	1.38	98.50	36.77	8066.2	2.68	6.17
9605.58	9638.13	1.51	102.80	32.56	9392.2	3.16	6.47
9638.13	9670.67	2.25	130.89	32.55	14051.0	4.02	7.60
9670.67	9703.22	2.72	146.52	32.55	16959.4	4.50	8.19
9703.22	9735.76	2.90	152.28	32.55	18085.8	4.68	8.41
9735.76	9768.31	2.90	152.28	32.55	18085.8	4.68	8.41
9768.31	9800.86	2.90	152.28	32.55	18085.8	4.68	8.41
9800.86	9833.40	2.90	152.28	32.55	18085.8	4.68	8.41
9833.40	9865.95	3.66	175.36	32.62	22845.9	5.39	9.22
9865.95	9898.49	6.83	254.94	32.63	42618.8	7.83	11.84
9898.49	9931.04	8.25	285.47	32.61	51476.9	8.77	12.77
9931.04	9963.59	13.24	379.74	32.76	82577.0	11.67	15.40
9963.59	9996.13	15.27	412.65	32.55	95256.8	12.68	16.34
9996.13	10028.68	13.37	382.23	32.80	83413.1	11.74	15.45
10028.68	10061.22	5.83	234.21	33.46	36385.5	7.20	11.00
10061.22	10093.77	0.31	40.20	32.80	1954.6	1.24	3.44
10093.77	10110.12	0.03	5.57	12.24	140.0	0.46	2.03

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 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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.54
Description: 18.54

Station Elevation Data, num = 57

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8791.77	1537.4	8804.47	1534	8807.88	1533.63	8836.07	1531.97	8838.37	1531.9
8858.09	1531.5	8860.88	1531.41	8871.74	1531.32	8894.39	1530.91	8928.58	1530.34
8933.99	1530.4	8953.16	1531.21	8966.02	1531.66	8981.06	1532	9032.95	1532
9058.9	1531.5	9080.89	1531.07	9096.07	1530.65	9112.71	1530.71	9133.3	1531.02
9144.49	1531	9163.09	1531.41	9175.31	1531.61	9177.25	1531.54	9184.14	1530
9192.88	1526	9217.86	1526	9230.36	1527.04	9248.98	1528.14	9262.89	1528.85
9274.45	1529.6	9290.79	1530	9312.3	1530	9387.82	1526.06	9392.63	1526
9441.33	1526	9471.9	1530	9477.65	1530	9524.11	1529.29	9551.09	1530
9612.9	1530	9618.82	1529.74	9713.93	1526	9811.25	1526	9841.75	1524.93
9869.92	1524	9915.14	1522.69	9945.69	1522	9975.51	1522	9991.26	1520
10010.79	1520	10013.94	1521.25	10016.93	1522	10024.8	1526	10027.84	1526
10030.6	1530	10036.44	1534.23						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8791.77	.035	9612.9	.035	10030.6	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9612.9	10030.6	240	193.6	193.6	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.54 Profile # 1

W.S. Elev (ft)	1531.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.87	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1533.60	Reach Len. (ft)	240.00	193.60	193.60
E.G. Slope (ft/ft)	0.006314	Flow Area (sq ft)	1599.25	2836.26	2.05
Q Total (cfs)	44167.00	Flow (cfs)	10051.84	34109.72	5.44
Top Width (ft)	1107.29	Top Width (ft)	687.21	417.70	2.38
Vel Total (ft/s)	9.95	Avg. Vel. (ft/s)	6.29	12.03	2.65

Max Chl Dpth (ft)	11.72	Hydr. Depth (ft)	2.33	6.79	0.86
Crit W.S. (ft)		Wetted Per. (ft)	688.82	421.36	2.94
Conv. Total (cfs)	555848.9	Conv. (cfs)	126504.1	429276.4	68.4

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.54 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8846.51	8901.25	0.10	25.58	54.14	658.8	0.47	1.70
8901.25	8956.00	0.38	57.78	54.77	2541.9	1.06	2.91
8956.00	9010.74	0.01	2.47	12.79	35.1	0.19	0.94
9010.74	9065.48	0.01	3.17	18.13	42.1	0.17	0.88
9065.48	9120.22	0.25	45.36	54.75	1698.5	0.83	2.47
9120.22	9174.96	0.13	30.63	54.75	883.0	0.56	1.90
9174.96	9229.71	4.15	244.33	55.83	27753.5	4.46	7.50
9229.71	9284.45	2.38	173.79	54.82	15922.4	3.17	6.05
9284.45	9339.19	1.17	113.65	54.78	7848.7	2.08	4.56
9339.19	9393.93	4.32	248.51	54.81	28902.8	4.54	7.68
9393.93	9448.67	6.24	309.73	54.80	41721.4	5.66	8.90
9448.67	9503.42	1.55	134.66	54.94	10392.5	2.46	5.10
9503.42	9558.16	1.20	115.29	54.75	8041.1	2.11	4.61
9558.16	9612.90	0.86	94.30	54.74	5752.6	1.72	4.03
9612.90	9640.75	0.79	63.89	27.87	4715.9	2.29	5.49
9640.75	9668.59	1.52	94.46	27.87	9049.6	3.39	7.13
9668.59	9696.44	2.43	124.96	27.87	14425.1	4.49	8.59
9696.44	9724.29	3.42	153.34	27.86	20293.7	5.51	9.84
9724.29	9752.13	3.65	159.35	27.85	21644.5	5.72	10.10
9752.13	9779.98	3.65	159.35	27.85	21644.5	5.72	10.10
9779.98	9807.83	3.65	159.35	27.85	21644.5	5.72	10.10
9807.83	9835.67	4.05	169.81	27.86	24055.1	6.10	10.54
9835.67	9863.52	5.16	196.32	27.86	30634.0	7.05	11.61
9863.52	9891.37	6.29	221.03	27.86	37328.9	7.94	12.56
9891.37	9919.21	7.39	243.53	27.86	43874.6	8.75	13.40
9919.21	9947.06	8.39	262.82	27.85	49825.5	9.44	14.10
9947.06	9974.91	8.82	270.74	27.85	52360.0	9.72	14.39
9974.91	10002.75	10.99	309.48	27.97	65234.8	11.11	15.68
10002.75	10030.60	7.05	247.81	31.24	41848.5	8.90	12.56
10030.60	10030.99	0.00	0.62	0.48	30.9	1.58	3.36
10030.99	10031.38	0.00	0.51	0.48	22.2	1.30	2.94
10031.38	10031.77	0.00	0.40	0.48	14.8	1.02	2.50
10031.77	10032.16	0.00	0.29	0.48	8.6	0.74	2.02
10032.16	10032.55	0.00	0.18	0.48	3.8	0.45	1.46
10032.55	10032.94	0.00	0.07	0.48	0.8	0.17	0.76

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: CAVE CREEK River Station: 18.50
Description: 18.50

Station Elevation Data, num = 43

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8791.13	1536	8804.32	1534	8815.11	1532	8844.4	1530.21	8874.4	1530
8926.85	1530	8942.56	1528.63	8969.74	1526	9008.12	1526	9025.7	1528.5
9030.8	1528.86	9050.51	1530	9265.42	1530	9299.64	1527.07	9303.68	1526
9314.18	1526	9318.25	1525.66	9363.97	1525.45	9368.18	1525.46	9387.7	1526
9584.22	1526	9588.15	1526.13	9650.89	1527.63	9666.48	1527.52	9687.05	1527

```
  9703.9 1526.82 9742.56    1526 9830.95    1526 9855.25 1525.32 9905.83  1523.7
 9965.17    1522  9968.4 1521.53 9986.01    152010016.96 1518.6110026.83    1518
10032.15 1518.0110040.75 1520.8410047.83    152410051.83    152610055.68    1526
10059.08    1530 10066.7    153410070.69    1538

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8791.13    .035 9666.48    .03510051.83    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9666.4810051.83              465   409.9     385            .1       .3

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.50     Profile # 1

  W.S. Elev (ft)       1531.00   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.31   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1532.30   Reach Len. (ft)       465.00     409.90     385.00
  E.G. Slope (ft/ft)  0.004716   Flow Area (sq ft)    2588.26    2656.15      30.37
  Q Total (cfs)       44167.00   Flow (cfs)          16034.45   27960.83     171.71
  Top Width (ft)       1229.44   Top Width (ft)        834.94     385.35       9.15
  Vel Total (ft/s)        8.37   Avg. Vel. (ft/s)        6.20      10.53       5.65
  Max Chl Dpth (ft)      13.00   Hydr. Depth (ft)        3.10       6.89       3.32
  Crit W.S. (ft)       1529.90   Wetted Per. (ft)      835.68     387.18      11.24
  Conv. Total (cfs)   643117.5   Conv. (cfs)         233478.3   407138.8     2500.3


Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.50     Profile # 1
```

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8791.13	8849.49	0.03	9.14	17.97	247.4	0.51	1.56
8849.49	8907.84	0.30	55.96	58.36	2310.1	0.96	2.38
8907.84	8966.20	1.20	128.32	58.53	9193.8	2.20	4.13
8966.20	9024.56	4.19	271.74	58.54	32103.5	4.66	6.81
9024.56	9082.91	0.52	77.90	58.41	4007.2	1.33	2.96
9082.91	9141.27	0.32	58.13	58.36	2461.4	1.00	2.44
9141.27	9199.63	0.32	58.13	58.36	2461.4	1.00	2.44
9199.63	9257.98	0.32	58.13	58.36	2461.4	1.00	2.44
9257.98	9316.34	1.97	173.10	58.63	15123.9	2.97	5.04
9316.34	9374.70	5.44	317.63	58.37	41720.3	5.44	7.57
9374.70	9433.05	4.78	293.89	58.36	36657.2	5.04	7.19
9433.05	9491.41	4.72	291.55	58.36	36174.3	5.00	7.15
9491.41	9549.77	4.72	291.55	58.36	36174.3	5.00	7.15
9549.77	9608.12	4.52	283.94	58.37	34609.6	4.87	7.03
9608.12	9666.48	2.93	219.15	58.37	22476.0	3.76	5.91
9666.48	9692.17	1.46	97.45	25.70	10061.5	3.79	6.60
9692.17	9717.86	1.75	108.61	25.69	12055.8	4.23	7.10
9717.86	9743.55	2.12	121.88	25.70	14607.9	4.74	7.67
9743.55	9769.24	2.31	128.35	25.69	15924.5	5.00	7.94
9769.24	9794.93	2.31	128.35	25.69	15925.1	5.00	7.94
9794.93	9820.62	2.31	128.35	25.69	15924.5	5.00	7.94
9820.62	9846.31	2.41	131.65	25.70	16611.2	5.12	8.07
9846.31	9872.00	2.96	149.19	25.70	20458.1	5.81	8.77
9872.00	9897.69	3.69	170.17	25.70	25473.4	6.62	9.58
9897.69	9923.38	4.46	190.78	25.70	30822.6	7.43	10.33
9923.38	9949.07	5.23	209.81	25.70	36114.2	8.17	11.01

9949.07	9974.76	6.22	232.90	25.75	42917.7	9.07	11.79
9974.76	10000.45	8.54	281.68	25.75	58933.4	10.96	13.38
10000.45	10026.14	10.27	314.68	25.72	70926.8	12.25	14.42
10026.14	10051.83	7.29	262.29	27.29	50335.5	10.21	12.28
10051.83	10053.09	0.10	6.28	1.26	779.7	5.00	6.81
10053.09	10054.34	0.10	6.28	1.26	779.1	5.00	6.81
10054.34	10055.60	0.10	6.28	1.26	779.7	5.00	6.81
10055.60	10056.86	0.06	5.46	1.90	468.9	4.34	4.71
10056.86	10058.12	0.03	3.61	1.94	231.5	2.87	3.52
10058.12	10059.37	0.01	1.77	1.82	74.1	1.41	2.29
10059.37	10060.63	0.00	0.64	1.42	16.1	0.51	1.37
10060.63	10061.89	0.00	0.03	0.39	0.2	0.09	0.43

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.43
Description: 18.43

Station Elevation Data, num = 48

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8825.35	1533.33	8841.68	1530.53	8858.56	1528.25	8879.51	1526	9145.45	1526
9177.3	1524.84	9205.61	1524	9207.48	1523.42	9215.1	1522	9239.56	1522
9253.73	1524	9265.95	1525.53	9280.28	1525.34	9299.06	1524.22	9304	1524
9361.79	1524	9380.62	1525.59	9384.55	1525.41	9388.46	1525.56	9397.16	1524
9402.91	1522	9579.11	1522	9634.78	1522.46	9675.23	1522	9684.75	1521.7
9744.7	1522	9753.86	1522	9795.75	1524	9813.6	1524	9859.65	1523.6
9873.78	1523.44	9933.77	1522.79	9962.33	1522	9970.8	1520.51	9988.7	1518
10000.01	1516	10003.83	1516	10006.99	1516.5	10021.05	1518	10027.41	1519.5
10034.52	1520	10116.32	1520	10119.3	1522.22	10123.24	1524	10126.6	1526
10130.56	1526	10136.73	1530.55	10143.98	1534				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8825.35	.035	9813.6	.035	10123.24	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9813.6	10123.24	641.1	641.1	641.1	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.43 Profile # 1

W.S. Elev (ft)	1525.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.76	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1528.70	Reach Len. (ft)	641.10	641.10	641.10
E.G. Slope (ft/ft)	0.016328	Flow Area (sq ft)	1973.82	1456.75	3.17
Q Total (cfs)	44167.00	Flow (cfs)	22054.93	22096.82	15.25
Top Width (ft)	979.49	Top Width (ft)	666.58	309.64	3.26
Vel Total (ft/s)	12.86	Avg. Vel. (ft/s)	11.17	15.17	4.81
Max Chl Dpth (ft)	9.94	Hydr. Depth (ft)	2.96	4.70	0.97
Crit W.S. (ft)	1525.94	Wetted Per. (ft)	667.72	311.57	3.80
Conv. Total (cfs)	345649.1	Conv. (cfs)	172601.0	172928.8	119.3

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may

indicate the need for additional cross sections.

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.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.43 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9088.88	9154.77	0.00	1.09	7.75	12.6	0.14	1.38
9154.77	9220.65	1.76	109.41	66.13	6497.6	1.66	7.12
9220.65	9286.53	2.75	142.87	66.13	10136.5	2.17	8.51
9286.53	9352.42	2.06	120.02	65.91	7598.7	1.82	7.59
9352.42	9418.30	2.38	131.08	66.43	8753.9	1.99	8.01
9418.30	9484.18	7.47	259.77	65.88	27524.5	3.94	12.71
9484.18	9550.07	7.48	259.77	65.88	27525.0	3.94	12.71
9550.07	9615.95	7.21	254.16	65.88	26541.4	3.86	12.53
9615.95	9681.83	6.73	243.96	65.89	24788.0	3.70	12.19
9681.83	9747.72	7.95	269.50	65.89	29264.5	4.09	13.02
9747.72	9813.60	4.14	182.18	65.93	15230.3	2.77	10.03
9813.60	9834.24	0.74	41.96	20.64	2858.1	2.03	7.81
9834.24	9854.88	0.85	45.66	20.64	3290.6	2.21	8.27
9854.88	9875.53	0.98	49.69	20.64	3789.1	2.41	8.75
9875.53	9896.17	1.14	54.37	20.64	4401.8	2.63	9.29
9896.17	9916.81	1.31	58.98	20.64	5042.0	2.86	9.80
9916.81	9937.46	1.49	63.71	20.64	5733.6	3.09	10.32
9937.46	9958.10	1.87	73.08	20.65	7205.2	3.54	11.31
9958.10	9978.74	3.33	103.71	20.85	12828.6	5.02	14.19
9978.74	9999.38	7.36	167.10	20.91	28360.2	8.09	19.47
9999.38	10020.03	9.07	188.84	20.77	34928.5	9.15	21.21
10020.03	10040.67	5.14	134.51	20.84	19795.3	6.52	16.88
10040.67	10061.31	4.44	122.68	20.64	17088.6	5.94	15.98
10061.31	10081.96	4.44	122.68	20.64	17087.8	5.94	15.98
10081.96	10102.60	4.44	122.68	20.64	17087.8	5.94	15.98
10102.60	10123.24	3.42	107.11	21.76	13158.5	5.19	14.09
10123.24	10124.62	0.03	2.12	1.61	107.9	1.53	5.61
10124.62	10126.01	0.01	0.98	1.61	29.8	0.71	3.35
10126.01	10127.39	0.00	0.07	0.58	0.8	0.15	1.18

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with

the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.30
Description: 18.30

Station Elevation Data, num = 57

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8890.57	1528	8916.81	1526.84	8937.6	1526	8977	1525.57	9007.02	1525.34
9165.29	1524	9260.26	1524	9281.52	1523.5	9299.2	1523.37	9316.04	1522
9323.16	1520.31	9325.38	1520	9331.05	1518	9335.33	1518	9345.49	1520
9401.04	1520	9439.89	1518.42	9453.12	1518	9455.82	1518	9462.75	1519.03
9468.54	1518	9517.63	1518	9549.4	1517.4	9592.87	1516	9644.13	1516
9649.8	1516.43	9661.16	1517.82	9666.92	1518	9678.59	1518	9699.54	1518.13
9764.31	1518.39	9879.13	1518.19	9901.5	1518	9958.86	1518	9973.78	1516.55
9981.59	1516	9984.02	1515.17	9988.75	1514	10008.8	1514	10033.75	1515.16
10050.2	1515.6	10051.9	1516	10058.28	1516	10125.51	1517.34	10134.98	1518
10136.96	1518.85	10148.82	1522	10185.31	1522	10201.58	1520.34	10209.52	1518.97
10214.15	1518	10234.61	1516	10426.7	1516	10432.18	1516	10439.67	1520
10450.3	1526.38	10455.97	1530						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8890.57	.035	9764.31	.035	10136.96	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9764.31	10136.96	225	173.9	173.9	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.30 Profile # 1

W.S. Elev (ft)	1523.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1524.45	Reach Len. (ft)	225.00	173.90	173.90
E.G. Slope (ft/ft)	0.001985	Flow Area (sq ft)	2603.06	2500.75	1951.34
Q Total (cfs)	44167.00	Flow (cfs)	13076.17	16891.17	14199.66
Top Width (ft)	1178.62	Top Width (ft)	496.88	372.65	309.09
Vel Total (ft/s)	6.26	Avg. Vel. (ft/s)	5.70	6.72	6.42
Max Chl Dpth (ft)	9.83	Hydr. Depth (ft)	5.24	6.71	6.31
Crit W.S. (ft)		Wetted Per. (ft)	498.03	373.31	311.97
Conv. Total (cfs)	991354.0	Conv. (cfs)	332834.8	377280.5	281238.7

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.30 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9298.32	9356.56	0.89	67.17	37.98	4170.8	1.80	5.83
9356.56	9414.81	0.82	75.90	58.26	3843.8	1.30	4.76
9414.81	9473.06	2.71	155.90	58.44	12729.8	2.68	7.67
9473.06	9531.31	3.78	190.31	58.25	17789.2	3.27	8.78
9531.31	9589.56	5.82	246.37	58.27	27348.9	4.23	10.43
9589.56	9647.81	8.27	304.35	58.26	38901.0	5.22	12.01
9647.81	9706.06	4.10	199.98	58.34	19301.1	3.43	9.07
9706.06	9764.31	3.22	172.64	58.25	15122.2	2.96	8.23
9764.31	9789.15	1.32	71.26	24.84	6107.9	2.87	8.18
9789.15	9814.00	1.35	72.34	24.84	6262.0	2.91	8.27
9814.00	9838.84	1.39	73.41	24.84	6418.2	2.96	8.35
9838.84	9863.68	1.42	74.49	24.84	6575.3	3.00	8.43
9863.68	9888.53	1.47	75.86	24.84	6778.9	3.05	8.53
9888.53	9913.37	1.59	79.70	24.84	7360.0	3.21	8.82
9913.37	9938.21	1.62	80.41	24.84	7470.1	3.24	8.87
9938.21	9963.06	1.64	81.27	24.86	7599.3	3.27	8.93
9963.06	9987.90	3.23	122.55	25.17	14947.8	4.93	11.65
9987.90	10012.74	6.14	179.34	24.87	28415.7	7.22	15.13
10012.74	10037.59	5.14	161.03	24.87	23751.3	6.48	14.08
10037.59	10062.43	3.94	137.44	24.89	18226.5	5.53	12.66
10062.43	10087.27	3.23	121.90	24.85	14940.7	4.91	11.70
10087.27	10112.12	2.71	109.59	24.85	12513.0	4.41	10.90
10112.12	10136.96	2.06	93.33	25.04	9523.6	3.76	9.74
10136.96	10158.23	0.11	10.73	9.30	500.8	1.19	4.54

10158.23	10179.49						
10179.49	10200.76	0.02	3.24	8.01	75.3	0.41	2.26
10200.76	10222.03	0.95	54.54	21.53	4303.0	2.56	7.66
10222.03	10243.30	2.78	103.64	21.33	12623.1	4.87	11.83
10243.30	10264.56	3.14	111.37	21.27	14258.4	5.24	12.44
10264.56	10285.83	3.14	111.37	21.27	14259.1	5.24	12.44
10285.83	10307.10	3.14	111.37	21.27	14259.1	5.24	12.44
10307.10	10328.37	3.14	111.37	21.27	14259.1	5.24	12.44
10328.37	10349.63	3.14	111.37	21.27	14258.4	5.24	12.44
10349.63	10370.90	3.14	111.37	21.27	14259.1	5.24	12.44
10370.90	10392.17	3.14	111.37	21.27	14259.1	5.24	12.44
10392.17	10413.44	3.14	111.37	21.27	14259.1	5.24	12.44
10413.44	10434.70	3.02	109.67	21.60	13752.8	5.16	12.18
10434.70	10455.97	0.19	14.01	8.03	861.5	1.99	5.97

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.27
Description: 18.27

Station Elevation Data, num = 69

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8632.78	1529.8	8650.17	1528	8672.95	1526.96	8695.06	1526	8770.25	1524
8776.21	1524	8892.3	1522	8929.13	1522	8974.46	1520.13	8992	1520
9155.46	1520	9181.79	1520.63	9205.68	1521.03	9250.98	1521.44	9292.36	1521.28
9362.25	1520.9	9394.79	1520.98	9443.43	1521.12	9494.5	1520.66	9536.96	1520
9546.1	1520	9551.9	1519.14	9559.62	1517.09	9561.92	1516	9567.53	1516
9603.76	1516	9632.5	1515.42	9695.86	1514.39	9712.31	1514.11	9721.33	1514.11
9723.43	1514.4	9728.61	1516	9734.04	1518	9750.5	1518	9793.98	1518
9807.24	1516	9842.03	1516	9852.12	1514	9861.6	1514	9875.11	1516
9888.87	1516	9909.4	1517.42	9915	1518	9938.58	1518	9951.7	1517.44
9974.5	1516	9980.82	1514	9990.81	151210002.59		151210005.57		1512.99
10007.41	151410042.42		151410069.31		1514.6810115.88		1515.73	10134.3	1516
10225.33	151610244.75		1517.1310260.91		1517.3510290.41		1517.3410307.94		1517.18
10412.04	151610426.98		1514.1710427.86		1514.1810436.14		1519.1910441.29		1519.63
10442.27	1521.210444.84		1522.5410447.69		1524.610455.34		1530.6		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8632.78	.035	9793.98	.035	10134.3	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9793.98	10134.3	500	523.2	385	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8632.78	8730	1528

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.27 Profile # 1

W.S. Elev (ft)	1523.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1524.09	Reach Len. (ft)	500.00	523.20	385.00
E.G. Slope (ft/ft)	0.001319	Flow Area (sq ft)	3844.95	2773.80	2193.74
Q Total (cfs)	44167.00	Flow (cfs)	14565.90	17269.73	12331.37
Top Width (ft)	1649.63	Top Width (ft)	997.24	340.32	312.07
Vel Total (ft/s)	5.01	Avg. Vel. (ft/s)	3.79	6.23	5.62
Max Chl Dpth (ft)	11.65	Hydr. Depth (ft)	3.86	8.15	7.03
Crit W.S. (ft)	1520.46	Wetted Per. (ft)	998.52	341.90	315.20
Conv. Total (cfs)	1216000.0	Conv. (cfs)	401026.4	475467.8	339505.7

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.27 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8787.61	8865.02	0.08	40.16	68.29	1196.6	0.59	0.91
8865.02	8942.43	0.50	124.68	77.43	7272.1	1.61	1.78
8942.43	9019.85	1.66	255.81	77.44	24088.0	3.30	2.87
9019.85	9097.26	1.96	282.27	77.41	28389.4	3.65	3.06
9097.26	9174.67	1.91	277.85	77.42	27651.3	3.59	3.03
9174.67	9252.09	1.11	201.02	77.42	16122.7	2.60	2.44
9252.09	9329.50	0.96	183.79	77.41	13886.3	2.37	2.30
9329.50	9406.91	1.17	207.20	77.41	16957.1	2.68	2.49
9406.91	9484.33	1.15	205.01	77.41	16660.4	2.65	2.47
9484.33	9561.74	1.98	285.35	77.98	28769.2	3.69	3.07
9561.74	9639.15	6.96	604.46	77.44	100980.6	7.81	5.09
9639.15	9716.57	8.76	693.92	77.42	127113.5	8.96	5.58
9716.57	9793.98	4.77	483.42	78.03	69228.9	6.24	4.36
9793.98	9816.67	2.02	160.21	22.84	24926.6	7.06	5.56
9816.67	9839.36	2.31	173.48	22.69	28585.5	7.65	5.89
9839.36	9862.04	3.00	203.40	22.89	37047.1	8.97	6.51
9862.04	9884.73	2.59	186.12	22.83	32005.6	8.20	6.15
9884.73	9907.42	2.05	161.57	22.73	25358.4	7.12	5.61
9907.42	9930.11	1.45	131.01	22.72	17884.2	5.77	4.88
9930.11	9952.80	1.47	132.42	22.70	18218.1	5.84	4.92
9952.80	9975.48	1.99	158.76	22.78	24592.0	7.00	5.54
9975.48	9998.17	3.90	239.06	23.15	48132.9	10.54	7.20
9998.17	10020.86	3.74	233.11	23.11	46205.1	10.27	7.09
10020.86	10043.55	3.41	218.83	22.69	42097.1	9.65	6.88
10043.55	10066.24	3.22	211.70	22.70	39826.5	9.33	6.73
10066.24	10088.92	2.91	199.20	22.69	35987.5	8.78	6.46
10088.92	10111.61	2.64	187.59	22.69	32559.4	8.27	6.20
10111.61	10134.30	2.40	177.32	22.69	29645.2	7.82	5.98
10134.30	10155.70	2.19	163.65	21.40	26965.1	7.65	5.91
10155.70	10177.11	2.19	163.65	21.40	26966.3	7.65	5.91
10177.11	10198.51	2.19	163.65	21.40	26965.1	7.65	5.91
10198.51	10219.91	2.19	163.65	21.40	26965.1	7.65	5.91
10219.91	10241.31	2.02	156.22	21.43	24935.2	7.30	5.72
10241.31	10262.72	1.64	137.63	21.41	20201.7	6.43	5.26
10262.72	10284.12	1.59	134.85	21.40	19529.2	6.30	5.19
10284.12	10305.52	1.61	136.01	21.40	19809.9	6.35	5.22
10305.52	10326.92	1.70	140.41	21.40	20889.1	6.56	5.33
10326.92	10348.33	1.80	145.59	21.40	22190.6	6.80	5.46
10348.33	10369.73	1.91	150.79	21.40	23526.3	7.05	5.59
10369.73	10391.13	2.02	155.98	21.40	24890.9	7.29	5.72
10391.13	10412.53	2.13	161.18	21.41	26287.9	7.53	5.85
10412.53	10433.94	2.45	178.80	22.54	30195.8	8.35	6.06
10433.94	10455.34	0.29	41.68	14.38	3596.4	3.35	3.09

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.17
Description: 18.17

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8526.29	1529.42	8549.08	1528	8555.1	1527.71	8597.58	1526	8604.75	1525.5
8612.9	1525.26	8637.84	1524	8688.75	1522	8777.17	1522	8811.59	1520.5
8826.09	1520.15	8926.08	1522	8944.37	1521.82	8970.04	1521.96	8979.55	1521.9
9093.84	1521.87	9117.34	1521.97	9127.15	1521.65	9149.46	1520	9165.15	1520
9188.43	1520	9214	1518	9232.04	1518	9233.92	1517.91	9279.94	1517.3
9288.61	1517.25	9370.59	1516.21	9384.3	1516	9527.4	1516	9643.84	1516

9646.96	1515.56	9661.39	1512.69	9663.99	1512	9691.78	1512	9805.26	1513.7
9830.77	1514	9901.83	1514	9908.15	1512.95	9913.23	1511.15	9924.43	1511.4
9931.71	1512	9978.61	1512	9983.8	1509.35	9986.88	1508	10004.4	1508
10008.4	1508	10012.65	1510	10018.64	1512	10069.69	1512	10076.47	1512.4
10123.41	1514	10195.77	1514	10232.9	1512.69	10291.69	1514	10302.83	1514
10313.25	1520	10315.06	1521.31	10322.58	1525.78	10327.92	1530		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8526.29	.035	9646.96	.035	10123.41	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9646.96	10123.41	600	573.1	705	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8526.29	9200	1528

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.17 Profile # 1

W.S. Elev (ft)	1523.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1523.66	Reach Len. (ft)	600.00	573.10	705.00
E.G. Slope (ft/ft)	0.000557	Flow Area (sq ft)	3060.01	5150.87	1813.11
Q Total (cfs)	44167.00	Flow (cfs)	11055.67	25149.68	7961.65
Top Width (ft)	1663.85	Top Width (ft)	992.33	476.45	195.07
Vel Total (ft/s)	4.41	Avg. Vel. (ft/s)	3.61	4.88	4.39
Max Chl Dpth (ft)	15.34	Hydr. Depth (ft)	6.85	10.81	9.29
Crit W.S. (ft)	1518.16	Wetted Per. (ft)	447.05	478.99	197.69
Conv. Total (cfs)	1871004.0	Conv. (cfs)	468340.7	1065392.0	337271.5

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.17 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9198.69	9273.40	2.77	398.32	73.45	52196.9	5.43	3.07
9273.40	9348.11	3.70	476.66	74.72	69609.9	6.38	3.43
9348.11	9422.83	4.54	539.07	74.72	85452.2	7.22	3.72
9422.83	9497.54	4.67	548.42	74.71	87941.7	7.34	3.76
9497.54	9572.25	4.67	548.43	74.71	87942.8	7.34	3.76
9572.25	9646.96	4.68	549.11	74.74	88101.0	7.35	3.76
9646.96	9678.72	3.49	328.66	32.14	65741.1	10.35	4.69
9678.72	9710.49	4.05	357.59	31.76	76254.2	11.26	5.00
9710.49	9742.25	3.79	343.76	31.77	71399.8	10.82	4.87
9742.25	9774.01	3.52	328.64	31.77	66244.8	10.35	4.73
9774.01	9805.78	3.25	313.52	31.77	61244.1	9.87	4.58
9805.78	9837.54	3.03	300.36	31.77	57021.4	9.46	4.46
9837.54	9869.30	2.97	296.69	31.76	55866.0	9.34	4.42
9869.30	9901.07	2.97	296.68	31.76	55864.2	9.34	4.42
9901.07	9932.83	4.05	359.42	32.19	76232.1	11.32	4.98
9932.83	9964.59	4.10	360.22	31.76	77193.9	11.34	5.03
9964.59	9996.36	5.10	415.23	32.68	95983.2	13.07	5.42
9996.36	10028.12	5.36	427.13	32.54	100915.6	13.45	5.54
10028.12	10059.88	4.10	360.22	31.76	77193.9	11.34	5.03
10059.88	10091.65	3.89	348.85	31.78	73147.9	10.98	4.92
10091.65	10123.41	3.26	313.89	31.78	61341.9	9.88	4.59
10123.41	10137.04	1.25	127.35	13.63	23979.1	9.34	4.35
10137.04	10150.68	1.25	127.35	13.63	23979.1	9.34	4.35
10150.68	10164.31	1.25	127.36	13.63	23980.8	9.34	4.35
10164.31	10177.95	1.25	127.35	13.63	23979.1	9.34	4.35

10177.95	10191.58	1.25	127.35	13.63	23979.1	9.34	4.35
10191.58	10205.21	1.28	128.92	13.64	24468.0	9.46	4.39
10205.21	10218.85	1.39	135.17	13.64	26472.9	9.91	4.53
10218.85	10232.48	1.50	141.74	13.64	28650.0	10.40	4.67
10232.48	10246.12	1.53	143.26	13.64	29172.8	10.51	4.71
10246.12	10259.75	1.45	139.12	13.64	27782.5	10.20	4.62
10259.75	10273.38	1.38	134.98	13.64	26417.8	9.90	4.52
10273.38	10287.02	1.31	130.84	13.64	25080.5	9.60	4.43
10287.02	10300.65	1.26	127.60	13.64	24055.9	9.36	4.36
10300.65	10314.29	0.64	89.48	15.48	12235.6	6.56	3.16
10314.29	10327.92	0.01	5.26	4.93	232.9	1.25	1.02

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.06
Description: 18.06

Station Elevation Data, num = 107

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7830.3	1519.6	7853.34	1519.01	7881.52	1518	7904.93	1518	7934.94	1516.26
7948.65	1516	7969.95	1516.55	7982.4	1516.71	7995.5	1516.45	8000.3	1516
8051.88	1516	8063.39	1516.76	8071.84	1517.04	8094.06	1517.55	8105.45	1517.5
8119.83	1516.9	8146.93	1516.83	8188.38	1516.38	8225.77	1516.04	8313.35	1516.67
8337.01	1516.7	8353.64	1516	8415.94	1516	8448.24	1515.07	8457.75	1514.95
8459.17	1514.7	8468.8	1512	8490.2	1512	8493.99	1512.31	8542.15	1515.51
8562.78	1515.6	8596.5	1516	8709.21	1516	8749.42	1515.71	8804.98	1515
8845.85	1514	8869.22	1514.49	8879.4	1514.14	8882.63	1514	8906.37	1514
8914.76	1514.4	8931.25	1514.55	8951.56	1515.21	8970.96	1515.5	8987.65	1515.55
8990.37	1515.4	9014.34	1515.46	9019.45	1514.58	9028.36	1513.82	9048.79	1513.12
9067.78	1513.1	9075.13	1513.52	9082.55	1514.47	9083.82	1514.79	9120.61	1514.55
9134.54	1515.5	9148.32	1515.4	9160.21	1515.87	9205.34	1515.82	9216.87	1515.72
9265.15	1515.7	9275.83	1515.56	9324.59	1515.61	9325.98	1515.64	9359.45	1515.67
9377.47	1513.4	9381.46	1512	9532.62	1512	9591.09	1512	9608.42	1512.56
9616.25	1512	9674.47	1512	9718.77	1511.33	9754.85	1511.07	9756.5	1511.02
9788.2	1510.9	9809.86	1510	9846.72	1510	9850.65	1509.65	9874.05	1509.48
9877.53	1509.4	9894.43	1509.28	9931.8	1508	10039.63	1508	10049.91	1510
10054.52	1510	10069.95	1510.41	10074.89	1510.4	10094.2	1510.99	10112.81	1512
10186.89	1512	10196.83	1512.57	10225.98	1512.93	10277.68	1513.15	10283.5	1512.94
10296.25	1512.7	10305.59	1512.62	10311.18	1512.36	10359.65	1510.58	10379.02	1510
10402.24	1510	10489.96	1510	10501.63	1514	10508.81	1518.57	10518.27	1523.61
10528.08	1530	10543.77	1536						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7830.3	.035	9381.46	.035	10528.08	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9381.46	10528.08	55.4	55.4	55.4	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
7830.3	9400	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.06 Profile # 1

W.S. Elev (ft)	1523.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.035	
E.G. Elev (ft)	1523.42	Reach Len. (ft)	55.40	55.40	55.40
E.G. Slope (ft/ft)	0.000209	Flow Area (sq ft)		13614.42	
Q Total (cfs)	44167.00	Flow (cfs)		44167.00	
Top Width (ft)	2687.31	Top Width (ft)	1551.16	1136.15	

Vel Total (ft/s)	3.24	Avg. Vel. (ft/s)	3.24
Max Chl Dpth (ft)	15.26	Hydr. Depth (ft)	12.18
Crit W.S. (ft)	1514.66	Wetted Per. (ft)	1121.18
Conv. Total (cfs)	3053580.0	Conv. (cfs)	3053580.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.06 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9381.46	9457.90	4.52	651.84	57.90	139007.8	11.26	3.06
9457.90	9534.34	5.96	860.56	76.44	183518.2	11.26	3.06
9534.34	9610.78	5.89	854.59	76.46	181374.8	11.18	3.05
9610.78	9687.23	5.96	860.73	76.46	183551.2	11.26	3.06
9687.23	9763.67	6.56	911.74	76.45	202055.5	11.93	3.18
9763.67	9840.11	7.41	980.48	76.46	228051.7	12.83	3.34
9840.11	9916.55	8.46	1061.72	76.47	260381.1	13.89	3.52
9916.55	9992.99	9.84	1162.33	76.45	302849.9	15.21	3.74
9992.99	10069.43	9.15	1114.05	76.64	281709.0	14.57	3.63
10069.43	10145.87	6.47	903.87	76.48	199102.8	11.82	3.16
10145.87	10222.31	5.72	839.19	76.46	175958.2	10.98	3.01
10222.31	10298.76	5.12	785.20	76.45	157514.0	10.27	2.88
10298.76	10375.20	6.48	904.77	76.49	199419.3	11.84	3.16
10375.20	10451.64	7.83	1013.23	76.44	240923.6	13.25	3.41
10451.64	10528.08	4.63	710.12	69.14	142452.4	10.76	2.88

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.05
Description: 18.05

Station Elevation Data, num = 60

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9413.15	1532	9441.97	1530	9460.39	1528.99	9473.8	1528.35	9479.97	1528
9486.48	1528	9498.36	1527.4	9501.83	1527.4	9533.23	1526	9566.44	1524.52
9582.66	1523.6	9615.76	1522	9669.4	1521.98	9679.05	1521.23	9689.64	1520.54
9706.56	1519.6	9728.14	1518	9746.53	1516	9762.98	1514	9765.87	1514
9795.08	1512.9	9816.6	1513.71	9828.71	1514	9840.75	1513.96	9856.87	1513.71
9860.22	1513.5	9874.17	1512.89	9886.21	1511.83	9892.12	1510	9905.12	1508
9931.53	1508	9982.5	1506.27	9995.52	150610008.74		150610016.82		1506.36
10025.14	150710042.88		150810051.61		150810084.68		1509.3310095.09		1510
10097.18	1510.510109.14		1512.0410116.15		151410136.54		1514.3710150.31		1514.56
10167.5	1514.710187.67		1515.3 10208.3		1515.52 10230.3		151610258.85		1517.83
10264.63	1518.310289.84		152010304.11		1520.6210331.75		1521.1110340.73		1521.32
10351.04	1521.410365.38		152210448.52		152210471.72		1520.3910483.92		1520

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value

9413.15 .035 9669.4 .03510116.15 .035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
9669.410116.15 28 28 28 .1 .3
Ineffective Flow Areas, num = 2
Sta L Sta R Elev Sta L Sta R Elev

9413.15 9655.6 1525 1040010483.92 1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.05 Profile # 1

W.S. Elev (ft)	1522.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.94	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1523.32	Reach Len. (ft)	28.00	28.00	28.00
E.G. Slope (ft/ft)	0.001585	Flow Area (sq ft)	5.44	4746.47	1224.31
Q Total (cfs)	44167.00	Flow (cfs)	4.94	38681.95	5480.11
Top Width (ft)	875.95	Top Width (ft)	61.43	446.75	367.77
Vel Total (ft/s)	7.39	Avg. Vel. (ft/s)	0.91	8.15	4.48
Max Chl Dpth (ft)	16.38	Hydr. Depth (ft)	0.39	10.62	4.31
Crit W.S. (ft)	1517.96	Wetted Per. (ft)	13.80	448.22	284.04
Conv. Total (cfs)	1109529.0	Conv. (cfs)	124.1	971738.2	137667.1

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.05 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9652.32	9669.40	0.01	5.44	13.80	124.1	0.39	0.91
9669.40	9699.18	0.19	43.30	29.85	2355.6	1.45	1.97
9699.18	9728.97	0.78	99.81	29.86	9473.3	3.35	3.43
9728.97	9758.75	2.11	182.22	29.98	25766.9	6.12	5.11
9758.75	9788.53	3.78	258.07	29.83	46172.7	8.66	6.47
9788.53	9818.32	4.11	271.29	29.80	50213.0	9.11	6.69
9818.32	9848.10	3.63	251.73	29.79	44340.2	8.45	6.37
9848.10	9877.88	4.05	268.71	29.82	49402.2	9.02	6.65
9877.88	9907.67	6.62	363.01	30.25	80790.2	12.19	8.05
9907.67	9937.45	8.82	428.78	29.79	107720.0	14.40	9.09
9937.45	9967.23	9.53	449.22	29.80	116379.2	15.08	9.37
9967.23	9997.02	10.57	477.91	29.79	129046.5	16.05	9.77
9997.02	10026.80	10.60	478.91	29.82	129426.1	16.08	9.78
10026.80	10056.58	9.03	434.97	29.81	110261.7	14.60	9.17
10056.58	10086.37	8.00	404.35	29.81	97638.9	13.58	8.73
10086.37	10116.15	5.77	334.18	30.23	70407.7	11.22	7.62
10116.15	10140.67	2.45	199.96	24.52	34392.0	8.16	5.42
10140.67	10165.19	2.28	191.39	24.52	31972.9	7.81	5.26
10165.19	10189.70	2.08	180.94	24.53	29111.0	7.38	5.07
10189.70	10214.22	1.86	169.57	24.52	26131.5	6.92	4.85
10214.22	10238.74	1.64	156.87	24.54	22941.0	6.40	4.61
10238.74	10263.26	1.10	123.64	24.57	15413.2	5.04	3.93
10263.26	10287.78	0.55	81.96	24.58	7767.8	3.34	2.98
10287.78	10312.29	0.23	48.32	24.54	3223.1	1.97	2.10
10312.29	10336.81	0.13	34.11	24.52	1804.6	1.39	1.67
10336.81	10361.33	0.06	22.63	24.53	910.8	0.92	1.27
10361.33	10385.85	0.02	9.58	24.52	217.2	0.39	0.71
10385.85	10410.37	0.01	5.33	14.15	118.0	0.38	0.70

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with

the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0484
Description: 18.0484

Station Elevation Data, num = 113

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8355.54	1538	8368.06	1537.83	8384.21	1537.42	8403.37	1536	8435.44	1536
8442.41	1535.83	8462.81	1534	8504.12	1534	8510.82	1533.76	8550.9	1532.9
8594.58	1532	8937.98	1532	8956.99	1531.51	8964.47	1531.18	8972.74	1530
9039.55	1530	9078.66	1530	9094.27	1531.39	9120.74	1531.65	9142.28	1532
9340.54	1532	9345.68	1532.55	9365.83	1532	9389.59	1531.17	9393.81	1531
9422.25	1530	9438.4	1529.16	9443.71	1529.42	9449.95	1529.12	9461.91	1528.8
9472.85	1528	9484.51	1528	9501.13	1526.89	9505.67	1526.52	9519.59	1526
9542.97	1524.58	9553.61	1524	9576.83	1523.01	9595.95	1522	9657.31	1519.4
9666.34	1519.01	9702.29	1517.25	9710.1	1516.8	9727.97	1515.45	9745.36	1514
9910.11	1514	9916.25	1513.28	9925.6	1512	9933.33	1509.83	9937.88	1508
9950.58	1507.61	9974.37	150610018.36		150610033.71		1506.9810041.68		1507.1
10066.72	1508	10076	151010078.43		1511.510080.62		151210085.33		1514
10128.53	1514.8310154.44		1515.3210173.29		1515.67 10184.5		151610198.07		1517
10215.45	1518.1910227.73		1519.2710238.41		152010275.02		1521.7510288.34		1522
10404.41	152210494.64		152210501.32		1521.4410520.32		1521.210537.15		1520.9
10559.15	1520.7910581.59		152010657.22		152010657.82		1519.8410694.34		1519
10700.93	152010764.69		152010776.24		1521.4210787.56		1521.8510796.68		1522
10837.93	152210851.13		1522.3 10863.1		1522.2310947.34		1522.7710959.87		1523.5
10969.76	1523.62 10984.5		1523.4510994.92		1523.7411001.39		1523.7811022.56		1523.5
11044.37	1523.7311057.55		1523.511059.96		1523.111075.46		1523.0611096.52		1522
11117.67	152211126.76		1521.33 11131.9		1521.2111154.66		152011231.47		1520
11234.23	1519.7911262.16		1517.2411284.72		1517.2311306.31		1517.0511425.18		1519.4
11434.32	1519.4911454.11		152011489.94		1520				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8355.54	.035	9595.95	.03510288.34		.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9595.9	10288.34	1	1	1	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10400	11489.94	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0484 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1522.22	Element			
Vel Head (ft)	1.04	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1523.25	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.002403	Flow Area (sq ft)	0.45	5403.95	24.44
Q Total (cfs)	44167.00	Flow (cfs)	0.22	44148.31	18.47
Top Width (ft)	1653.52	Top Width (ft)	4.14	692.39	956.99
Vel Total (ft/s)	8.14	Avg. Vel. (ft/s)	0.48	8.17	0.76
Max Chl Dpth (ft)	16.22	Hydr. Depth (ft)	0.11	7.80	0.22
Crit W.S. (ft)	1518.64	Wetted Per. (ft)	4.15	694.83	111.66
Conv. Total (cfs)	900972.5	Conv. (cfs)	4.4	900591.3	376.8

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

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0484 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9513.26	9595.95	0.00	0.45	4.15	4.4	0.11	0.48
9595.95	9642.11	0.25	55.25	46.20	2642.3	1.20	1.98
9642.11	9688.27	1.27	147.31	46.21	13546.2	3.19	3.81
9688.27	9734.43	3.26	259.77	46.26	34841.3	5.63	5.55
9734.43	9780.59	6.01	374.40	46.20	64132.0	8.11	7.09

9780.59	9826.75	6.15	379.38	46.16	65595.2	8.22	7.15
9826.75	9872.91	6.15	379.38	46.16	65595.2	8.22	7.15
9872.91	9919.07	6.27	384.16	46.23	66912.4	8.32	7.21
9919.07	9965.22	13.64	616.02	46.91	145565.7	13.35	9.78
9965.22	10011.38	18.95	745.82	46.18	202308.3	16.16	11.22
10011.38	10057.54	17.49	710.87	46.20	186697.3	15.40	10.87
10057.54	10103.70	9.48	496.64	47.27	101144.6	10.76	8.43
10103.70	10149.86	5.19	342.69	46.17	55361.0	7.42	6.68
10149.86	10196.02	4.08	296.85	46.20	43557.0	6.43	6.07
10196.02	10242.18	1.60	169.68	46.28	17127.2	3.68	4.18
10242.18	10288.34	0.18	45.75	46.20	1929.8	0.99	1.75
10288.34	10368.45	0.03	17.53	80.11	270.3	0.22	0.76
10368.45	10448.55	0.01	6.91	31.55	106.5	0.22	0.76

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 INPUT Reach: CAVE CREEK River Station: 18.0482
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10749.69	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9681.6	1525	10500	10749.69	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0482 Profile # 1

W.S. Elev (ft)	1522.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.73	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1523.16	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.001404	Flow Area (sq ft)	2086.36	1215.93	3428.00
Q Total (cfs)	44167.00	Flow (cfs)	12589.68	10891.76	20685.56
Top Width (ft)	2686.69	Top Width (ft)	1901.00	72.00	713.69
Vel Total (ft/s)	6.56	Avg. Vel. (ft/s)	6.03	8.96	6.03
Max Chl Dpth (ft)	16.89	Hydr. Depth (ft)	7.39	16.89	7.39
Crit W.S. (ft)	1519.49	Wetted Per. (ft)	282.40	91.00	464.00
Conv. Total (cfs)	1178731.0	Conv. (cfs)	335993.8	290679.8	552057.1

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0482 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.80	9710.53	2.92	213.76	28.93	34424.6	7.39	6.03
9710.53	9837.27	12.79	936.30	126.73	150784.6	7.39	6.03
9837.27	9964.00	12.79	936.30	126.73	150784.6	7.39	6.03
9964.00	9968.80	0.85	81.06	14.30	10940.6	16.89	4.65

9968.80	9973.60	1.77	81.06	4.80	22652.3	16.89	9.62
9973.60	9978.40	1.77	81.08	4.80	22656.9	16.89	9.62
9978.40	9983.20	1.77	81.06	4.80	22652.3	16.89	9.62
9983.20	9988.00	1.77	81.06	4.80	22652.3	16.89	9.62
9988.00	9992.80	1.77	81.06	4.80	22652.3	16.89	9.62
9992.80	9997.60	1.77	81.06	4.80	22652.3	16.89	9.62
9997.60	10002.40	1.77	81.08	4.80	22656.9	16.89	9.62
10002.40	10007.20	1.77	81.06	4.80	22652.3	16.89	9.62
10007.20	10012.00	1.77	81.06	4.80	22652.3	16.89	9.62
10012.00	10016.80	1.77	81.06	4.80	22652.3	16.89	9.62
10016.80	10021.60	1.77	81.06	4.80	22652.3	16.89	9.62
10021.60	10026.40	1.77	81.08	4.80	22656.9	16.89	9.62
10026.40	10031.20	1.77	81.06	4.80	22652.3	16.89	9.62
10031.20	10036.00	0.85	81.06	14.30	10940.6	16.89	4.65
10036.00	10083.58	4.80	351.51	47.58	56608.6	7.39	6.03
10083.58	10131.16	4.80	351.52	47.58	56609.7	7.39	6.03
10131.16	10178.74	4.80	351.51	47.58	56608.6	7.39	6.03
10178.74	10226.32	4.80	351.51	47.58	56608.6	7.39	6.03
10226.32	10273.90	4.80	351.51	47.58	56608.6	7.39	6.03
10273.90	10321.48	4.80	351.52	47.58	56609.7	7.39	6.03
10321.48	10369.06	4.80	351.51	47.58	56608.6	7.39	6.03
10369.06	10416.63	4.80	351.51	47.58	56608.6	7.39	6.03
10416.63	10464.21	4.80	351.51	47.58	56608.6	7.39	6.03
10464.21	10511.79	3.61	264.39	35.79	42577.6	7.39	6.03

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0480
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10750	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	128.2	128.2	128.2	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9682.6	1525	10500	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0480 Profile # 1

W.S. Elev (ft)	1522.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.12	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1523.12	Reach Len. (ft)	128.20	128.20	128.20
E.G. Slope (ft/ft)	0.000442	Flow Area (sq ft)	1958.36	1185.07	3229.14
Q Total (cfs)	44167.00	Flow (cfs)	11148.69	14635.28	18383.03
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	6.93	Avg. Vel. (ft/s)	5.69	12.35	5.69
Max Chl Dpth (ft)	16.46	Hydr. Depth (ft)	6.96	16.46	6.96
Crit W.S. (ft)	1520.15	Wetted Per. (ft)	281.40	91.00	464.00
Conv. Total (cfs)	2101092.0	Conv. (cfs)	530360.4	696222.6	874509.1

Warning - The cross-section end points had to be extended vertically for the

computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0480 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.80	9710.53	2.51	194.40	27.93	52646.9	6.96	5.69
9710.53	9837.27	11.37	881.98	126.73	238856.7	6.96	5.69
9837.27	9964.00	11.37	881.98	126.73	238856.7	6.96	5.69
9964.00	9968.80	1.15	79.00	14.30	26204.4	16.46	6.41
9968.80	9973.60	2.37	79.00	4.80	54255.7	16.46	13.26
9973.60	9978.40	2.37	79.02	4.80	54266.7	16.46	13.26
9978.40	9983.20	2.37	79.00	4.80	54255.7	16.46	13.26
9983.20	9988.00	2.37	79.00	4.80	54255.7	16.46	13.26
9988.00	9992.80	2.37	79.00	4.80	54255.7	16.46	13.26
9992.80	9997.60	2.37	79.00	4.80	54255.7	16.46	13.26
9997.60	10002.40	2.37	79.02	4.80	54266.7	16.46	13.26
10002.40	10007.20	2.37	79.00	4.80	54255.7	16.46	13.26
10007.20	10012.00	2.37	79.00	4.80	54255.7	16.46	13.26
10012.00	10016.80	2.37	79.00	4.80	54255.7	16.46	13.26
10016.80	10021.60	2.37	79.00	4.80	54255.7	16.46	13.26
10021.60	10026.40	2.37	79.02	4.80	54266.7	16.46	13.26
10026.40	10031.20	2.37	79.00	4.80	54255.7	16.46	13.26
10031.20	10036.00	1.15	79.00	14.30	26204.4	16.46	6.41
10036.00	10083.60	4.27	331.26	47.60	89711.8	6.96	5.69
10083.60	10131.20	4.27	331.27	47.60	89713.7	6.96	5.69
10131.20	10178.80	4.27	331.26	47.60	89711.8	6.96	5.69
10178.80	10226.40	4.27	331.27	47.60	89713.7	6.96	5.69
10226.40	10274.00	4.27	331.26	47.60	89711.8	6.96	5.69
10274.00	10321.60	4.27	331.26	47.60	89711.8	6.96	5.69
10321.60	10369.20	4.27	331.27	47.60	89713.7	6.96	5.69
10369.20	10416.80	4.27	331.26	47.60	89711.8	6.96	5.69
10416.80	10464.40	4.27	331.27	47.60	89713.7	6.96	5.69
10464.40	10512.00	3.19	247.75	35.60	67095.2	6.96	5.69

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0237
Description: Downstream side of top of sply

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10749.81	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	20	20	20	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9807.6	1525	10531	10749.81	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0237 Profile # 1

W.S. Elev (ft)	1520.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.47	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1522.90	Reach Len. (ft)	20.00	20.00	20.00
E.G. Slope (ft/ft)	0.001009	Flow Area (sq ft)	842.73	1071.96	2667.21
Q Total (cfs)	44167.00	Flow (cfs)	6112.38	18709.23	19345.39
Top Width (ft)	2686.81	Top Width (ft)	1901.00	72.00	713.81
Vel Total (ft/s)	9.64	Avg. Vel. (ft/s)	7.25	17.45	7.25
Max Chl Dpth (ft)	14.89	Hydr. Depth (ft)	5.39	14.89	5.39
Crit W.S. (ft)	1520.43	Wetted Per. (ft)	156.40	91.00	495.00
Conv. Total (cfs)	1390522.0	Conv. (cfs)	192437.6	589027.8	609056.3

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - The cross section had to be extended vertically during the critical depth calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0237 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	2.63	159.85	29.67	36502.8	5.39	7.25
9837.27	9964.00	11.21	682.88	126.73	155934.9	5.39	7.25
9964.00	9968.80	1.46	71.46	14.30	22169.8	14.89	9.05
9968.80	9973.60	3.03	71.46	4.80	45902.1	14.89	18.75
9973.60	9978.40	3.03	71.48	4.80	45911.5	14.89	18.75
9978.40	9983.20	3.03	71.46	4.80	45902.1	14.89	18.75
9983.20	9988.00	3.03	71.46	4.80	45902.1	14.89	18.75
9988.00	9992.80	3.03	71.46	4.80	45902.1	14.89	18.75
9992.80	9997.60	3.03	71.46	4.80	45902.1	14.89	18.75
9997.60	10002.40	3.03	71.48	4.80	45911.5	14.89	18.75
10002.40	10007.20	3.03	71.46	4.80	45902.1	14.89	18.75
10007.20	10012.00	3.03	71.46	4.80	45902.1	14.89	18.75
10012.00	10016.80	3.03	71.46	4.80	45902.1	14.89	18.75
10016.80	10021.60	3.03	71.46	4.80	45902.1	14.89	18.75
10021.60	10026.40	3.03	71.48	4.80	45911.5	14.89	18.75
10026.40	10031.20	3.03	71.46	4.80	45902.1	14.89	18.75
10031.20	10036.00	1.46	71.46	14.30	22169.8	14.89	9.05
10036.00	10083.59	4.21	256.41	47.59	58551.7	5.39	7.25
10083.59	10131.17	4.21	256.42	47.59	58552.9	5.39	7.25
10131.17	10178.76	4.21	256.41	47.59	58551.7	5.39	7.25
10178.76	10226.35	4.21	256.42	47.59	58552.9	5.39	7.25
10226.35	10273.94	4.21	256.41	47.59	58551.7	5.39	7.25
10273.94	10321.52	4.21	256.41	47.59	58551.7	5.39	7.25
10321.52	10369.11	4.21	256.42	47.59	58552.9	5.39	7.25
10369.11	10416.70	4.21	256.41	47.59	58551.7	5.39	7.25
10416.70	10464.29	4.21	256.42	47.59	58552.9	5.39	7.25
10464.29	10511.87	4.21	256.41	47.59	58551.7	5.39	7.25

10511.87	10559.46	1.69	103.06	19.13	23534.1	5.39	7.25

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0199
Description: Begin baffled drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10750	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.04	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	50	50	50	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9827.6	1525	10536	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0199 Profile # 1

W.S. Elev (ft)	1517.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	4.99	Wt. n-Val.	0.020	0.040	0.020
E.G. Elev (ft)	1522.59	Reach Len. (ft)	50.00	50.00	50.00
E.G. Slope (ft/ft)	0.014194	Flow Area (sq ft)	348.44	867.93	1277.28
Q Total (cfs)	44167.00	Flow (cfs)	5763.64	17275.70	21127.66
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	17.71	Avg. Vel. (ft/s)	16.54	19.90	16.54
Max Chl Dpth (ft)	12.05	Hydr. Depth (ft)	2.55	12.05	2.55
Crit W.S. (ft)	1519.00	Wetted Per. (ft)	136.40	91.00	500.00
Conv. Total (cfs)	370717.7	Conv. (cfs)	48377.4	145004.3	177336.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0199 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	0.92	24.69	9.67	3428.6	2.55	16.54
9837.27	9964.00	12.12	323.75	126.73	44948.8	2.55	16.54
9964.00	9968.80	1.35	57.86	14.30	5457.7	12.05	10.33
9968.80	9973.60	2.80	57.86	4.80	11300.0	12.05	21.38
9973.60	9978.40	2.80	57.87	4.80	11302.3	12.05	21.38
9978.40	9983.20	2.80	57.86	4.80	11300.0	12.05	21.38
9983.20	9988.00	2.80	57.86	4.80	11300.0	12.05	21.38
9988.00	9992.80	2.80	57.86	4.80	11300.0	12.05	21.38
9992.80	9997.60	2.80	57.86	4.80	11300.0	12.05	21.38
9997.60	10002.40	2.80	57.87	4.80	11302.3	12.05	21.38
10002.40	10007.20	2.80	57.86	4.80	11300.0	12.05	21.38
10007.20	10012.00	2.80	57.86	4.80	11300.0	12.05	21.38
10012.00	10016.80	2.80	57.86	4.80	11300.0	12.05	21.38
10016.80	10021.60	2.80	57.86	4.80	11300.0	12.05	21.38
10021.60	10026.40	2.80	57.87	4.80	11302.3	12.05	21.38
10026.40	10031.20	2.80	57.86	4.80	11300.0	12.05	21.38
10031.20	10036.00	1.35	57.86	14.30	5457.7	12.05	10.33
10036.00	10083.60	4.55	121.60	47.60	16882.2	2.55	16.54
10083.60	10131.20	4.55	121.60	47.60	16882.6	2.55	16.54
10131.20	10178.80	4.55	121.60	47.60	16882.2	2.55	16.54
10178.80	10226.40	4.55	121.60	47.60	16882.6	2.55	16.54
10226.40	10274.00	4.55	121.60	47.60	16882.2	2.55	16.54
10274.00	10321.60	4.55	121.60	47.60	16882.2	2.55	16.54
10321.60	10369.20	4.55	121.60	47.60	16882.6	2.55	16.54
10369.20	10416.80	4.55	121.60	47.60	16882.2	2.55	16.54
10416.80	10464.40	4.55	121.60	47.60	16882.6	2.55	16.54
10464.40	10512.00	4.55	121.60	47.60	16882.2	2.55	16.54
10512.00	10559.60	2.30	61.31	24.00	8512.1	2.55	16.54

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0104
Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10737	1501	10750	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.04	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9877.6	1525	10548	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0104 Profile # 1

W.S. Elev (ft)	1519.04	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.035	0.040	0.035
E.G. Elev (ft)	1519.21	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.000130	Flow Area (sq ft)	1558.53	2378.77	9235.69
Q Total (cfs)	44167.00	Flow (cfs)	500.50	40700.58	2965.92
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	3.35	Avg. Vel. (ft/s)	3.33	3.46	3.33
Max Chl Dpth (ft)	33.04	Hydr. Depth (ft)	18.04	33.04	18.04
Crit W.S. (ft)	1505.49	Wetted Per. (ft)	86.40	102.00	512.00
Conv. Total (cfs)	3873297.0	Conv. (cfs)	455101.5	721310.1	2696886.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0104 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9837.27	9964.00	1.13	70.24	86.40	2597.7	0.81	7.13
9964.00	9968.80	2.60	75.90	19.80	6906.0	15.81	15.13
9968.80	9973.60	6.69	75.90	4.80	17763.0	15.81	38.92
9973.60	9978.40	6.69	75.91	4.80	17766.6	15.81	38.92
9978.40	9983.20	6.69	75.90	4.80	17763.0	15.81	38.92
9983.20	9988.00	6.69	75.90	4.80	17763.0	15.81	38.92
9988.00	9992.80	6.69	75.90	4.80	17763.0	15.81	38.92
9992.80	9997.60	6.69	75.90	4.80	17763.0	15.81	38.92
9997.60	10002.40	6.69	75.91	4.80	17766.6	15.81	38.92
10002.40	10007.20	6.69	75.90	4.80	17763.0	15.81	38.92
10007.20	10012.00	6.69	75.90	4.80	17763.0	15.81	38.92
10012.00	10016.80	6.69	75.90	4.80	17763.0	15.81	38.92
10016.80	10021.60	6.69	75.90	4.80	17763.0	15.81	38.92
10021.60	10026.40	6.69	75.91	4.80	17766.6	15.81	38.92
10026.40	10031.20	6.69	75.90	4.80	17763.0	15.81	38.92
10031.20	10036.00	2.60	75.90	19.80	6906.0	15.81	15.13
10036.00	10083.60	0.62	38.70	47.60	1431.1	0.81	7.13
10083.60	10131.20	0.62	38.70	47.60	1431.1	0.81	7.13
10131.20	10178.80	0.62	38.70	47.60	1431.1	0.81	7.13
10178.80	10226.40	0.62	38.70	47.60	1431.1	0.81	7.13
10226.40	10274.00	0.62	38.70	47.60	1431.1	0.81	7.13
10274.00	10321.60	0.62	38.70	47.60	1431.1	0.81	7.13
10321.60	10369.20	0.62	38.70	47.60	1431.1	0.81	7.13
10369.20	10416.80	0.62	38.70	47.60	1431.1	0.81	7.13
10416.80	10464.40	0.62	38.70	47.60	1431.1	0.81	7.13
10464.40	10512.00	0.62	38.70	47.60	1431.1	0.81	7.13
10512.00	10559.60	0.47	29.27	36.00	1082.4	0.81	7.13

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0103
Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10737	1501	10750	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value

8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036		15	15	15	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9878.6	1525	10548	10750	1525

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0103 Profile # 1

W.S. Elev (ft)	1519.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1519.21	Reach Len. (ft)	15.00	15.00	15.00
E.G. Slope (ft/ft)	0.000124	Flow Area (sq ft)	1540.19	2378.51	9233.88
Q Total (cfs)	44167.00	Flow (cfs)	5002.98	9169.70	29994.32
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	3.25	3.86	3.25
Max Chl Dpth (ft)	33.03	Hydr. Depth (ft)	18.03	33.03	18.03
Crit W.S. (ft)	1505.72	Wetted Per. (ft)	85.40	102.00	512.00
Conv. Total (cfs)	3969898.0	Conv. (cfs)	449687.1	824207.3	2696004.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0103 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9837.27	9964.00	11.33	1540.19	85.40	449687.1	18.03	3.25
9964.00	9968.80	0.59	158.56	19.80	26945.2	33.03	1.63
9968.80	9973.60	1.51	158.56	4.80	69306.3	33.03	4.20
9973.60	9978.40	1.51	158.59	4.80	69320.4	33.03	4.20
9978.40	9983.20	1.51	158.56	4.80	69306.3	33.03	4.20
9983.20	9988.00	1.51	158.56	4.80	69306.3	33.03	4.20
9988.00	9992.80	1.51	158.56	4.80	69306.3	33.03	4.20
9992.80	9997.60	1.51	158.56	4.80	69306.3	33.03	4.20
9997.60	10002.40	1.51	158.59	4.80	69320.4	33.03	4.20
10002.40	10007.20	1.51	158.56	4.80	69306.3	33.03	4.20
10007.20	10012.00	1.51	158.56	4.80	69306.3	33.03	4.20
10012.00	10016.80	1.51	158.56	4.80	69306.3	33.03	4.20
10016.80	10021.60	1.51	158.56	4.80	69306.3	33.03	4.20
10021.60	10026.40	1.51	158.59	4.80	69320.4	33.03	4.20
10026.40	10031.20	1.51	158.56	4.80	69306.3	33.03	4.20
10031.20	10036.00	0.59	158.56	19.80	26945.2	33.03	1.63
10036.00	10083.60	6.31	858.45	47.60	250642.0	18.03	3.25
10083.60	10131.20	6.31	858.47	47.60	250647.2	18.03	3.25
10131.20	10178.80	6.31	858.45	47.60	250642.0	18.03	3.25
10178.80	10226.40	6.31	858.47	47.60	250647.2	18.03	3.25
10226.40	10274.00	6.31	858.45	47.60	250642.0	18.03	3.25
10274.00	10321.60	6.31	858.45	47.60	250642.0	18.03	3.25
10321.60	10369.20	6.31	858.47	47.60	250647.2	18.03	3.25
10369.20	10416.80	6.31	858.45	47.60	250642.0	18.03	3.25
10416.80	10464.40	6.31	858.47	47.60	250647.2	18.03	3.25
10464.40	10512.00	6.31	858.45	47.60	250642.0	18.03	3.25
10512.00	10559.60	4.78	649.26	36.00	189562.8	18.03	3.25

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

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0074
Description: 18.0074

Station Elevation Data, num = 101

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7998.57	1514	8484.19	1514	8488.76	1513.86	8545.67	1513.78	8557.93	1514
8886.13	1514	9134.19	1514	9577.51	1514	9673.62	1514	9684.68	1513.93
9761.49	1513.6	9782.91	1512.93	9801.23	1512.86	9813.8	1512	9829.42	1511.56
9842.85	1512.1	9856.24	1514	9881.52	1514	9890.62	1513.54	9899.39	1513.27
9907.48	1512.8	9929.62	1511.96	9956.6	1511.23	9964.98	1510	9969.93	1508.32
9970.47	1507.7	9974.63	1506	9979.68	1504.57	10042.83	1506.41	10048.31	1506.6
10055.85	1507.5	10057.07	1508	10064.48	1509.76	10080.72	1509.92	10081.75	1510
10087.34	1511.4	10096.69	1512	10121.23	1512.65	10135.09	1512.82	10141.14	1512.75
10175.03	1512	10178.67	1511.01	10188.43	1509.93	10211.98	1509.09	10226.29	1508.59
10232.1	1509.31	10252.26	1509.33	10257.82	1509.49	10274.91	1509.66	10286.35	1510
10299.74	1511	10303.72	1511.25	10312.95	1511.45	10325.48	1512	10335.73	1513.34
10350.72	1513.41	10356.29	1513.58	10370.59	1513.57	10382.04	1513.43	10412.51	1513.21
10500.12	1512.91	10579.24	1512.94	10642.57	1512.18	10648.62	1512.61	10651.09	1512.25
10666.58	1512	10732.08	1511.21	10740.13	1510.67	10744.02	1510.64	10762.63	1510
10783.21	1509.81	10808.27	1509.55	10822.69	1509.19	10857.17	1508.91	10879.43	1508.78
10892.58	1508.71	10916.54	1508.83	10937.09	1509.11	10954.75	1509.15	10972.43	1509.35
10975.51	1509.41	11008.08	1509.71	11012.6	1509.85	11026.76	1510	11036.95	1510.27
11046.95	1510.31	11070.81	1510.83	11094.51	1511.76	11128.22	1511.92	11149.96	1511.89
11241.48	1511.51	11246.77	1511.22	11263.2	1510.54	11272.33	1510.51	11281.94	1510
11309.44	1509.91	11328.11	1510	11359.78	1510.64	11425.3	1510.99	11510.05	1511.12
11527.57	1511								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7998.57	.035	9881.52	.035	10135.09	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9881.52	10135.09	106.4	106.4	106.4	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7998.57	9893.6	1522	10552	11527.57	1522

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0074 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1516.43	Element			
Vel Head (ft)	2.54	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1518.97	Reach Len. (ft)	106.40	106.40	106.40
E.G. Slope (ft/ft)	0.008637	Flow Area (sq ft)		1675.55	1880.26
Q Total (cfs)	44167.00	Flow (cfs)		23929.71	20237.29
Top Width (ft)	3529.00	Top Width (ft)	1882.95	253.57	1392.48
Vel Total (ft/s)	12.42	Avg. Vel. (ft/s)		14.28	10.76
Max Chl Dpth (ft)	11.86	Hydr. Depth (ft)		6.94	4.51
Crit W.S. (ft)	1516.43	Wetted Per. (ft)		243.31	417.34
Conv. Total (cfs)	475238.9	Conv. (cfs)		257484.8	217754.1

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The cross section had to be extended vertically during the critical depth

calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0074 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9881.52	9898.42	0.25	14.74	4.83	1317.8	3.06	7.57
9898.42	9915.33	1.14	60.17	16.93	5949.9	3.56	8.37
9915.33	9932.23	1.53	71.78	16.92	7988.1	4.25	9.42
9932.23	9949.14	1.86	80.63	16.91	9697.2	4.77	10.18
9949.14	9966.04	2.38	93.81	17.06	12408.3	5.55	11.20
9966.04	9982.95	6.09	168.24	17.94	31766.0	9.95	15.99
9982.95	9999.85	8.08	194.76	16.91	42164.9	11.52	18.33
9999.85	10016.76	7.52	186.47	16.91	39217.0	11.03	17.81
10016.76	10033.66	6.97	178.19	16.91	36359.3	10.54	17.28
10033.66	10050.57	6.41	169.47	16.93	33419.7	10.03	16.70
10050.57	10067.47	4.35	135.29	17.25	22676.4	8.00	14.19
10067.47	10084.38	3.10	109.81	16.99	16174.8	6.50	12.47
10084.38	10101.28	1.84	80.29	17.02	9589.8	4.75	10.11
10101.28	10118.19	1.44	69.05	16.91	7489.5	4.08	9.18
10118.19	10135.09	1.23	62.85	16.91	6402.6	3.72	8.63
10135.09	10227.92	13.93	519.80	93.07	69468.2	5.60	11.84
10227.92	10320.75	17.27	590.93	92.93	86111.7	6.37	12.91
10320.75	10413.59	5.42	294.83	92.93	27026.4	3.18	8.12
10413.59	10506.42	6.04	314.45	92.83	30110.9	3.39	8.48
10506.42	10599.25	3.15	160.24	45.58	15729.0	3.52	8.70

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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

Warning - The cross section had to be extended vertically during the critical depth calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 17.99
Description: 17.99

Station Elevation Data, num = 115

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9278.98	1514	9321.78	1513.02	9341.09	1512.71	9358.58	1512	9365.82	1510
9371.57	1507.92	9374.38	1506	9402.69	1506	9420.63	1507.2	9428.65	1507.9
9445.16	1509.67	9446.89	1510	9523.63	1510	9532.36	1509.1	9534.26	1509.11
9547.74	1508.12	9558.27	1508.58	9578.18	1509.2	9598.83	1508.9	9612.4	1508.65
9646.79	1507.42	9678.28	1506.59	9694.33	1506	9728.35	1506	9740.16	1507.57
9743.82	1508.31	9747.3	1510	9764.35	1510	9778.75	1508.9	9784.62	1508
9815.92	1508	9822.01	1508.31	9833.33	1508	9838.59	1507.5	9884.06	1506.34
9890.09	1506	9894.18	1505.57	9919.02	1504.63	9923.23	1504	9934.89	1502.63
9942.33	1502	9957.78	1500	9964.21	1498.91	9970.67	1498	9984.43	1497.36

```
10009.01    1496 10025.5    149610043.89 1497.43 10052.1    149810060.97  1499.6
10062.11    150010079.84    150210083.44 1502.4810090.75    150410103.06    1506
10115.08    150810125.46    150810138.12 1505.96 10143.1    150410150.89 1501.55
10159.37    150010182.67 1499.0610191.32 1498.6510211.59    149810244.26    1498
 10250.2 1497.7810268.37 1497.7810296.27    149810312.16  1498.410323.49 1498.39
10341.85    149810362.89 1497.7210395.04 1497.5510415.88  1497.410435.61 1497.53
10472.13    149810500.49 1498.66 10525.3 1498.8910535.94  1498.6 10552.1    1498
10571.57 1497.7610602.27 1497.7610635.51    149810642.88  1499.410648.81 1498.88
10653.35    149810678.88    149810684.89 1498.6310694.66  1498.710716.08 1498.33
10725.97 1498.3410738.45 1498.6110752.16 1499.1710765.54  1499.110804.07 1499.41
10814.92 1499.4510821.36 1499.6110829.22    150010851.89  1503.410854.71    1504
10889.46 1504.8910908.95    150610918.54  1506.1   10946    150611014.83    1506
11026.62 1505.1411042.26    150611050.89    150611065.42  1506.611077.07 1506.79
11096.51  1507.211128.05 1507.5811192.02 1508.0311221.27  1508.111248.19 1508.12

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9278.98    .035 9957.78    .03510115.08    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9957.7810115.08                 0       0       0              .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 9278.98    9750    1513   1055711248.19    1513

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 17.99     Profile # 1

  W.S. Elev (ft)        1500.83   Element              Left OB    Channel   Right OB
  Vel Head (ft)           14.60   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)        1515.43   Reach Len. (ft)
  E.G. Slope (ft/ft)   0.128387   Flow Area (sq ft)       2.64     372.28    1076.18
  Q Total (cfs)        44167.00   Flow (cfs)             22.15   12598.14   31546.71
  Top Width (ft)         797.92   Top Width (ft)          6.38     111.66     679.88
  Vel Total (ft/s)        30.44   Avg. Vel. (ft/s)        8.39      33.84      29.31
  Max Chl Dpth (ft)        4.83   Hydr. Depth (ft)        0.41       3.33       2.68
  Crit W.S. (ft)        1504.14   Wetted Per. (ft)        6.44     112.20     402.31
  Conv. Total (cfs)    123264.3   Conv. (cfs)             61.8    35159.8    88042.8


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 17.99     Profile # 1

  Left Sta    Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)        (ft)                   (sq ft)      (ft)      (cfs)       (ft)      (ft/s)
  9912.53     9957.78        0.05       2.64      6.44       61.8       0.41       8.39
  9957.78     9968.27        0.79      17.75     10.62     1061.6       1.69      19.71
  9968.27     9978.75        1.99      30.76     10.52     2669.7       2.93      28.60
  9978.75     9989.24        2.62      36.24     10.50     3514.2       3.46      31.95
  9989.24     9999.73        3.38      42.18     10.50     4525.3       4.02      35.35
  9999.73     10010.21       4.22      48.23     10.50     5658.1       4.60      38.66
  10010.21    10020.70       4.58      50.61     10.49     6136.8       4.83      39.95
  10020.70    10031.19       4.39      49.36     10.50     5878.4       4.71      39.25
  10031.19    10041.67       3.31      41.70     10.52     4435.0       3.98      35.04
  10041.67    10052.16       2.29      33.43     10.51     3069.4       3.19      30.25
```

10052.16	10062.65	0.91	19.40	10.70	1225.0	1.85	20.80
10062.65	10073.13	0.04	2.60	6.83	58.0	0.38	7.35
10073.13	10115.08						
10115.08	10190.62	1.94	47.62	35.88	2441.9	1.33	18.00
10190.62	10266.16	14.07	210.63	75.56	17712.3	2.79	29.51
10266.16	10341.70	13.55	205.84	75.55	17047.0	2.72	29.07
10341.70	10417.24	17.49	239.95	75.54	22012.4	3.18	32.20
10417.24	10492.78	15.93	226.88	75.55	20049.0	3.00	31.01
10492.78	10568.32	8.44	145.26	64.24	10624.9	2.26	25.67

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 19.03
Description: 19.03

Station Elevation Data, num = 64

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8185.25	1542	8264.23	1542	8282.14	1542	8360.85	1542.3	8428.15	1542.35
8528.55	1542.1	8551.13	1542.07	8598.29	1542.15	8628.73	1542.14	8680.07	1541.97
8733.38	1542	8759.7	1541.63	8799.06	1540	8804.83	1539	8836.33	1540.43
8867.62	1541.8	8877.87	1541.93	8903.83	1541.75	8943.71	1541.71	8974.5	1541.51
8979.98	1542	9124.47	1542	9129.58	1541.32	9148.41	1541.48	9174.07	1542
9425.36	1542	9446.75	1541.36	9477.42	1541.22	9499.88	1541.48	9510.48	1542
9525.71	1542	9565.73	1543.75	9574.42	1544	9590.16	1544	9628.63	1544.48
9672.63	1544	9727.7	1542	9735.95	1542	9785.72	1540.7	9821.98	1540.25
9848.84	1540.1	9869.35	1540.15	9905.7	1540.46	9949.57	1541.05	9979.34	1542
10071.16	1542	10081.55	1542.52	10106.82	1543.42	10119.22	1543.69	10133.6	1543.64
10135.76	1543.7	10148.87	1543.56	10153.36	1543.6	10201.82	1542.55	10215.9	1542.36
10221.06	1542.4	10257.77	1543.71	10302.97	1545.72	10328.59	1546.05	10353.35	1546.02
10378.77	1546.8	10408.96	1547.85	10412.26	1548	10443.43	1548.69		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8185.25	.035	9174.07	.035	10071.16	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9174.07	10071.16	1050	430	330	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8185.25	8185.25	1546	10200	10443.43	1546

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 19.03 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1543.70	Element			
Vel Head (ft)	0.68	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1544.38	Reach Len. (ft)	1050.00	430.00	330.00
E.G. Slope (ft/ft)	0.009963	Flow Area (sq ft)	1830.45	1609.37	66.02
Q Total (cfs)	22900.00	Flow (cfs)	11678.63	11042.26	179.11
Top Width (ft)	1956.28	Top Width (ft)	988.82	781.01	186.45
Vel Total (ft/s)	6.53	Avg. Vel. (ft/s)	6.38	6.86	2.71
Max Chl Dpth (ft)	4.70	Hydr. Depth (ft)	1.85	2.06	0.51
Crit W.S. (ft)	1543.49	Wetted Per. (ft)	990.79	781.14	128.88
Conv. Total (cfs)	229427.8	Conv. (cfs)	117004.5	110628.9	1794.4

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 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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 19.03 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8185.25	8251.17	2.80	112.35	67.63	6691.0	1.70	5.70
8251.17	8317.09	2.75	110.02	65.92	6572.3	1.67	5.72
8317.09	8383.01	2.19	96.04	65.92	5239.8	1.46	5.22
8383.01	8448.94	1.99	90.58	65.92	4752.5	1.37	5.02
8448.94	8514.86	2.27	98.10	65.92	5429.1	1.49	5.30
8514.86	8580.78	2.58	106.01	65.92	6177.9	1.61	5.58
8580.78	8646.70	2.48	103.59	65.92	5944.4	1.57	5.49
8646.70	8712.62	2.84	112.19	65.92	6789.6	1.70	5.79
8712.62	8778.54	3.70	131.67	65.94	8863.7	2.00	6.44
8778.54	8844.46	10.23	242.40	66.07	24480.4	3.68	9.67
8844.46	8910.38	3.91	135.92	65.94	9345.5	2.06	6.58
8910.38	8976.31	3.83	134.21	65.93	9152.0	2.04	6.53
8976.31	9042.23	2.87	112.96	65.94	6865.8	1.71	5.82
9042.23	9108.15	2.84	112.35	65.92	6805.9	1.70	5.80
9108.15	9174.07	3.72	132.06	65.97	8905.2	2.00	6.45
9174.07	9233.88	2.51	101.93	59.81	6174.5	1.70	5.64
9233.88	9293.68	2.51	101.93	59.81	6174.6	1.70	5.64
9293.68	9353.49	2.51	101.93	59.81	6174.5	1.70	5.64
9353.49	9413.29	2.51	101.93	59.81	6174.5	1.70	5.64
9413.29	9473.10	3.63	127.22	59.82	8933.1	2.13	6.54
9473.10	9532.91	3.36	121.48	59.83	8269.9	2.03	6.34
9532.91	9592.71	0.30	22.08	31.81	735.0	0.69	3.10
9592.71	9652.52						
9652.52	9712.32	0.22	18.08	31.57	529.2	0.57	2.73
9712.32	9772.13	3.06	114.73	59.83	7518.5	1.92	6.10
9772.13	9831.94	7.10	190.19	59.81	17459.0	3.18	8.55
9831.94	9891.74	8.44	210.99	59.81	20759.0	3.53	9.16
9891.74	9951.55	6.52	180.69	59.81	16031.1	3.02	8.26
9951.55	10011.35	3.04	114.25	59.82	7467.1	1.91	6.09
10011.35	10071.16	2.51	101.93	59.81	6174.5	1.70	5.64
10071.16	10095.98	0.43	28.39	24.84	1317.3	1.14	3.44
10095.98	10120.80	0.04	7.05	24.83	129.4	0.28	1.36
10120.80	10145.61	0.00	1.17	24.82	6.5	0.05	0.41
10145.61	10170.43	0.03	5.91	24.82	96.4	0.24	1.21
10170.43	10195.25	0.21	18.44	24.82	642.3	0.74	2.58
10195.25	10220.07	0.07	5.05	4.75	223.4	1.06	3.28

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 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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.99
Description: 18.99

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8314.12	1540.3	8317.26	1539.91	8347.52	1538	8359.78	1537.4	8387.4	1536
8425.18	1535.45	8457.57	1535.05	8510.44	1534.53	8533.6	1534.5	8547.8	1534.48
8577.1	1534.51	8620.3	1534.45	8648.18	1534.45	8662.93	1534.5	8780.58	1534.61
8843.96	1534.93	8910.73	1535.03	9003.51	1535.59	9037.55	1536	9090.41	1536
9160.08	1536	9179.03	1535.65	9198.99	1535.53	9223.53	1535.5	9235.25	1535.54
9319.03	1535.92	9329.62	1536	9502.15	1536	9513.65	1536.8	9516.44	1536.85
9538.55	1536	9634.11	1536	9686.27	1536.04	9754.87	1536.3	9764.93	1536
9848.76	1536	9862.37	1536.33	9870.79	1536.38	9899.51	1536.4	9939.67	1536.62
9954.62	1536.77	9975.7	1536.91	10010.76	1537.21	10080.15	1537.91	10107.95	1538
10133.04	1538.01	10185.43	1538.67	10197.91	1538.81	10238.94	1539.11	10263.58	1539.03
10317.03	1539.36	10327.5	1539.32	10351.32	1540	10366.36	1540	10405.55	1538
10453.4	1538	10497.78	1539.38	10524.06	1539.83	10540.38	1539.9		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8314.12	.035	8359.78	.035	10010.76	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8359.78	10010.76	470	510	480	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10350	10540.38	1540.5

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.99 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1537.63	Element			
Vel Head (ft)	0.75	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1538.37	Reach Len. (ft)	470.00	510.00	480.00
E.G. Slope (ft/ft)	0.010598	Flow Area (sq ft)	0.52	3300.07	8.95
Q Total (cfs)	22900.00	Flow (cfs)	0.53	22885.54	13.94
Top Width (ft)	1697.71	Top Width (ft)	4.60	1650.98	42.13
Vel Total (ft/s)	6.92	Avg. Vel. (ft/s)	1.02	6.93	1.56
Max Chl Dpth (ft)	3.18	Hydr. Depth (ft)	0.11	2.00	0.21
Crit W.S. (ft)	1537.43	Wetted Per. (ft)	4.60	1651.09	42.13
Conv. Total (cfs)	222447.0	Conv. (cfs)	5.1	222306.5	135.4

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.99 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8353.69	8356.74	0.00	0.06	1.56	0.3	0.04	0.44
8356.74	8359.78	0.00	0.46	3.05	5.5	0.15	1.09
8359.78	8469.85	5.65	206.61	110.11	13344.1	1.88	6.27
8469.85	8579.91	12.63	334.55	110.07	29802.6	3.04	8.64
8579.91	8689.98	13.37	346.26	110.07	31562.6	3.15	8.84
8689.98	8800.04	12.64	334.73	110.06	29829.6	3.04	8.65
8800.04	8910.11	10.43	298.22	110.07	24606.2	2.71	8.01
8910.11	9020.17	7.70	248.64	110.07	18173.4	2.26	7.09
9020.17	9130.24	4.52	180.68	110.07	10673.9	1.64	5.73
9130.24	9240.30	5.82	210.15	110.07	13730.7	1.91	6.34
9240.30	9350.37	5.34	199.63	110.07	12604.7	1.81	6.13
9350.37	9460.43	4.45	178.86	110.07	10495.4	1.63	5.69
9460.43	9570.50	3.79	162.56	110.11	8947.9	1.48	5.34
9570.50	9680.56	4.41	178.03	110.06	10414.5	1.62	5.68
9680.56	9790.63	3.91	165.47	110.07	9218.5	1.50	5.41
9790.63	9900.69	3.77	161.94	110.07	8893.8	1.47	5.33
9900.69	10010.76	1.52	93.77	110.07	3577.4	0.85	3.70
10010.76	10046.07	0.06	8.72	35.31	145.7	0.25	1.59
10046.07	10081.38	0.00	0.23	6.82	1.1	0.03	0.43

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 INPUT Reach: SCATTER WASH River Station: 18.91
Description: 18.91

Station Elevation Data, num = 55

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8466.74	1538.92	8471.19	1538	8492.23	1536	8515.18	1534	8579.9	1532
8605.71	1531.33	8633.81	1530.6	8642.79	1530.51	8726.06	1530.38	8792.52	1530
8895.33	1530	8953.25	1530.1	8988.82	1530	9095.83	1530	9153.61	1530.24
9175.39	1530.3	9260.84	1530.4	9308.87	1530.48	9334.59	1530.43	9443.27	1530.07
9464.29	1530.09	9473.5	1530.2	9494.24	1530	9559	1530	9585.51	1530.44
9596.92	1530.54	9673.14	1531.6	9701.28	1531.56	9774.96	1531.82	9808.53	1532
9852.35	1532.19	9888.04	1532.4	9950.52	1532.92	10023.32	1533.47	10080.59	1534
10156.22	1534	10190.71	1534.41	10225.81	1534.81	10253.24	1534.93	10262.01	1534.99
10310.44	1534.87	10340.12	1534.51	10382.69	1534.32	10398.36	1534	10428.9	1534
10488.81	1533.73	10532.72	1534	10577.89	1534.21	10607.68	1534.29	10635.42	1534.32
10682.21	1534.28	10751.19	1535.61	10774.78	1536	10834.38	1537.27	10933.49	1539.32

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8466.74	.035	8579.9	.035	10023.32	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8579.91	10023.32	520	500	480	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10250	10933.49	1536

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.91 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1533.16	Element			
Vel Head (ft)	0.69	Wt. n-Val.	0.035	0.035	
E.G. Elev (ft)	1533.84	Reach Len. (ft)	520.00	500.00	480.00
E.G. Slope (ft/ft)	0.007495	Flow Area (sq ft)	21.61	3425.79	
Q Total (cfs)	22900.00	Flow (cfs)	55.10	22844.90	
Top Width (ft)	1439.22	Top Width (ft)	37.40	1401.82	
Vel Total (ft/s)	6.64	Avg. Vel. (ft/s)	2.55	6.67	
Max Chl Dpth (ft)	3.16	Hydr. Depth (ft)	0.58	2.44	
Crit W.S. (ft)	1532.69	Wetted Per. (ft)	37.42	1401.86	
Conv. Total (cfs)	264507.4	Conv. (cfs)	636.4	263871.0	

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.91 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8542.18	8549.72	0.00	0.81	7.23	7.9	0.11	0.72
8549.72	8557.27	0.02	2.56	7.55	53.0	0.34	1.51
8557.27	8564.81	0.04	4.32	7.55	126.6	0.57	2.14
8564.81	8572.36	0.07	6.08	7.55	223.5	0.81	2.69
8572.36	8579.90	0.11	7.84	7.55	341.4	1.04	3.19
8579.90	8676.13	5.39	212.46	96.25	15292.5	2.21	5.81
8676.13	8772.36	8.10	271.29	96.23	22984.8	2.82	6.84
8772.36	8868.58	9.72	302.51	96.23	27560.8	3.14	7.36
8868.58	8964.81	9.57	299.81	96.23	27152.1	3.12	7.31
8964.81	9061.04	9.73	302.86	96.23	27614.2	3.15	7.36
9061.04	9157.27	9.36	295.84	96.23	26556.0	3.07	7.25
9157.27	9253.50	8.12	271.68	96.23	23040.4	2.82	6.85
9253.50	9349.72	7.64	261.80	96.23	21661.1	2.72	6.68
9349.72	9445.95	8.67	282.44	96.23	24581.3	2.94	7.03
9445.95	9542.18	9.52	298.78	96.23	26995.8	3.10	7.29

9542.18	9638.41	7.45	257.88	96.24	21121.4	2.68	6.61
9638.41	9734.64	3.29	158.03	96.23	9338.5	1.64	4.77
9734.64	9830.86	2.18	123.28	96.23	6174.1	1.28	4.04
9830.86	9927.09	0.96	75.64	96.23	2735.0	0.79	2.92
9927.09	10023.32	0.06	11.48	54.63	172.3	0.21	1.21

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 INPUT Reach: SCATTER WASH River Station: 18.82
Description: 18.82

Station Elevation Data, num = 58

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8396.74	1532.85	8400.48	1532	8413.04	1530	8456.22	1528	8509.84	1526.87
8527.04	1526.65	8566.48	1526	8572.32	1526	8702	1525.84	8790.68	1525.69
8852.66	1525.73	8875.23	1525.66	8932.93	1525.6	9018.74	1525.71	9037.54	1525.71
9161.52	1525.91	9200.84	1526	9252.84	1526.1	9287.96	1526.16	9313.9	1526
9420.93	1526	9461.77	1526	9527.81	1526.9	9531.62	1526.88	9569.85	1526.75
9589.19	1526.94	9607.34	1527.22	9612.21	1527.2	9653.51	1527.35	9665.79	1527.23
9735.03	1526.91	9785.81	1527.12	9820.19	1527.2	9873.95	1527.53	9880.47	1527.54
9952.89	1528.01	9978.44	1528.11	10081.46	1528	10130.99	1527.85	10183.27	1527.72
10204.25	1527.74	10226.54	1527.82	10270.55	1528.11	10341.26	1528.43	10364.49	1528.45
10372.2	1528.41	10388.53	1528	10466.88	1528	10543.96	1527.67	10564.58	1527.62
10596.25	1527.79	10625.6	1527.91	10664.58	1528	10841.82	1528	10898.64	1530
10946.56	1531.72	10953.2	1532	11014.4	1532				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8396.74	.035	8456.22	.035	10081.46	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8456.22	10081.46	530	575	550	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.82 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1528.38	Element			
Vel Head (ft)	0.77	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1529.15	Reach Len. (ft)	530.00	575.00	550.00
E.G. Slope (ft/ft)	0.012091	Flow Area (sq ft)	1.57	3080.66	321.83
Q Total (cfs)	22900.00	Flow (cfs)	2.43	22026.54	871.03
Top Width (ft)	2362.60	Top Width (ft)	8.24	1625.24	729.13
Vel Total (ft/s)	6.73	Avg. Vel. (ft/s)	1.55	7.15	2.71
Max Chl Dpth (ft)	2.78	Hydr. Depth (ft)	0.19	1.90	0.44
Crit W.S. (ft)	1528.38	Wetted Per. (ft)	8.25	1625.27	729.14
Conv. Total (cfs)	208258.9	Conv. (cfs)	22.1	200315.4	7921.4

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.82 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8444.32	8448.29	0.00	0.00	0.31	0.0	0.01	0.15
8448.29	8452.25	0.00	0.42	3.97	4.0	0.11	0.91
8452.25	8456.22	0.01	1.15	3.97	21.3	0.29	1.78
8456.22	8564.57	3.67	155.24	108.37	8375.2	1.43	5.41
8564.57	8672.92	8.90	264.26	108.35	20327.6	2.44	7.71
8672.92	8781.27	9.81	280.18	108.35	22409.7	2.59	8.02
8781.27	8889.62	10.44	290.75	108.35	23836.1	2.68	8.22
8889.62	8997.97	10.86	297.70	108.35	24793.7	2.75	8.35
8997.97	9106.32	10.15	285.93	108.35	23181.4	2.64	8.13
9106.32	9214.67	9.06	267.06	108.35	20687.6	2.46	7.77
9214.67	9323.01	8.06	248.99	108.35	18407.8	2.30	7.41
9323.01	9431.36	8.55	258.04	108.35	19537.4	2.38	7.59
9431.36	9539.71	6.45	217.92	108.35	14741.0	2.01	6.78
9539.71	9648.06	3.34	146.71	108.35	7622.7	1.35	5.21
9648.06	9756.41	3.10	140.41	108.35	7085.7	1.30	5.06
9756.41	9864.76	2.64	127.44	108.35	6028.8	1.18	4.74
9864.76	9973.11	0.84	64.32	108.35	1929.0	0.59	3.01
9973.11	10081.46	0.32	35.71	108.35	723.5	0.33	2.03
10081.46	10143.66	0.35	29.55	62.20	763.8	0.48	2.68
10143.66	10205.85	0.55	38.95	62.20	1210.5	0.63	3.23
10205.85	10268.05	0.36	30.22	62.20	792.8	0.49	2.73
10268.05	10330.24	0.05	9.22	62.20	109.6	0.15	1.23
10330.24	10392.44	0.03	4.47	20.13	69.5	0.22	1.62
10392.44	10454.64	0.24	23.73	62.20	530.1	0.38	2.32
10454.64	10516.83	0.34	29.08	62.20	743.5	0.47	2.66
10516.83	10579.03	0.66	43.36	62.20	1447.3	0.70	3.47
10579.03	10641.22	0.44	33.94	62.20	962.3	0.55	2.94
10641.22	10703.42	0.25	24.43	62.20	556.4	0.39	2.37
10703.42	10765.62	0.24	23.73	62.20	530.1	0.38	2.32
10765.62	10827.81	0.24	23.73	62.20	530.1	0.38	2.32
10827.81	10890.01	0.06	7.41	24.86	140.5	0.30	1.97

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.72
Description: 18.72

Station Elevation Data, num = 70

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8157.75	1532	8170.21	1530	8198.2	1528	8262.21	1526	8352.87	1524.35
8369.22	1524	8396.36	1523.7	8523.56	1522.46	8571.68	1522	8599.17	1522
8729.36	1521.21	8769.43	1521.3	8815.29	1521.18	8831.87	1521.09	8866.9	1521.22
8908.19	1521.27	8943.73	1521.4	8990.21	1521.45	9015.9	1521.28	9100.28	1521.23
9198.27	1521.2	9222.28	1521.2	9301.61	1521.05	9353.56	1521.17	9389.77	1521.38
9401.04	1521.38	9501.66	1522	9597.74	1522	9644.97	1521.69	9690.7	1521.82
9726.85	1521.74	9790.45	1521.8	9827.91	1521.86	9867.08	1522.07	9892.55	1522.14
9931.85	1522.08	9973.49	152210000.48		152210061.08		152210116.84		1521.5
10134	1521.5	10253.4	152210353.04		1522.0810390.64		1522.1110478.49		1522.41
10490.55	1522.4210564.73		1522.210595.01		1522	10663.7	152210715.21		1523.4
10728.78	1523.8110755.94		1523.8	10782.3	152410804.44		1524	10809.1	1525.58
10816.91	1525.8410830.54		1525.9	10872.2	1525.5710879.75		1525.7210910.31		1526
10962.1	152610993.93		152711020.56		152811041.14		152811062.75		1528.66

11080.93 1529.0311097.14 1529.211107.65 153011133.48 153011148.54 1530.61

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8157.75	.035	8571.68	.03510000.48	.035	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8571.68	10000.48	540	1160	260	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.72 Profile # 1

W.S. Elev (ft)	1525.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1525.70	Reach Len. (ft)	540.00	1160.00	260.00
E.G. Slope (ft/ft)	0.000621	Flow Area (sq ft)	596.96	5783.45	2689.30
Q Total (cfs)	22900.00	Flow (cfs)	309.68	17661.62	4928.70
Top Width (ft)	2531.29	Top Width (ft)	287.59	1428.80	814.90
Vel Total (ft/s)	2.52	Avg. Vel. (ft/s)	1.72	2.69	2.36
Max Chl Dpth (ft)	4.55	Hydr. Depth (ft)	2.08	4.05	3.30
Crit W.S. (ft)		Wetted Per. (ft)	287.62	1428.81	815.19
Conv. Total (cfs)	919036.5	Conv. (cfs)	41237.1	623623.3	254176.1

Warning - Divided flow computed for this cross-section.
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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.72 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8433.70	8461.30	0.01	2.00	20.24	18.1	0.10	0.91
8461.30	8488.89	0.08	9.16	27.60	186.3	0.33	2.05
8488.89	8516.49	0.22	16.58	27.60	501.1	0.60	3.05
8516.49	8544.08	0.41	23.96	27.60	925.8	0.87	3.89
8544.08	8571.68	0.63	31.25	27.60	1441.0	1.13	4.65
8571.68	8666.93	3.65	134.35	95.25	7173.4	1.41	6.23
8666.93	8762.19	6.09	182.64	95.26	11966.7	1.92	7.64
8762.19	8857.44	6.90	196.79	95.25	13552.6	2.07	8.03
8857.44	8952.69	6.40	188.10	95.25	12570.0	1.97	7.79
8952.69	9047.95	6.03	181.50	95.25	11842.9	1.91	7.61
9047.95	9143.20	6.69	193.24	95.25	13146.7	2.03	7.93
9143.20	9238.45	6.88	196.40	95.25	13508.1	2.06	8.02
9238.45	9333.71	7.44	205.94	95.25	14619.0	2.16	8.28
9333.71	9428.96	6.25	185.50	95.25	12280.8	1.95	7.72
9428.96	9524.21	3.76	136.70	95.26	7383.9	1.44	6.30
9524.21	9619.47	3.11	121.96	95.25	6105.6	1.28	5.84
9619.47	9714.72	4.02	142.36	95.25	7900.2	1.49	6.47
9714.72	9809.97	3.99	141.63	95.25	7833.2	1.49	6.45
9809.97	9905.23	3.04	120.23	95.25	5961.6	1.26	5.78
9905.23	10000.48	2.86	116.08	95.25	5622.6	1.22	5.65
10000.48	10077.02	2.48	97.89	76.54	4897.1	1.28	5.79
10077.02	10153.55	3.83	127.11	76.54	7568.2	1.66	6.89
10153.55	10230.09	3.31	116.49	76.54	6544.0	1.52	6.50
10230.09	10306.63	2.43	96.76	76.54	4802.6	1.26	5.75
10306.63	10383.17	2.20	91.14	76.54	4346.8	1.19	5.52
10383.17	10459.70	1.78	80.22	76.54	3513.8	1.05	5.07
10459.70	10536.24	1.37	68.56	76.54	2704.5	0.90	4.57
10536.24	10612.78	2.03	86.83	76.54	4009.8	1.13	5.35
10612.78	10689.32	2.07	87.84	76.55	4087.3	1.15	5.39
10689.32	10765.85	0.05	5.93	20.90	108.8	0.28	2.12

Warning - Divided flow computed for this cross-section.
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 INPUT Reach: SCATTER WASH River Station: 18.5701

Description: 18.5701

Station Elevation Data, num = 151

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7270.31	1546.97	7319.52	1540	7335.79	1538	7343.07	1537.21	7355.43	1536
7381.95	1533.19	7392.54	1532	7412.67	1530	7436.38	1528	7442.39	1527.7
7472.93	1526	7491.71	1524	7613.79	1522	7663.71	1522	7717.85	1522
7738.32	1522.48	7791.36	1523.8	7800.41	1524	7803.04	1525.64	7811.09	1530
7822.46	1533.79	7837.18	1540	7854.33	1540	8076.17	1540	8362.42	1540
8366.48	1540	8458.65	1530	8476.15	1537.53	8485.39	1538	8493.88	1538
8502.99	1537.22	8504.44	1537	8537.03	1530	8552.74	1528	8558.22	1526
8582.73	1521.36	8590.75	1520.2	8601.33	1519.66	8618.49	1519.06	8689.96	1518.13
8709.64	1517.81	8722.69	1517.2	8728.49	1517.38	8759.37	1517.37	8779.56	1518
8791.14	1520	8803.48	1521	8817.14	1522.87	8826.89	1524	8841.79	1526
8860.03	1526	8879.13	1527.8	8882.08	1528	8904.33	1528	8926.14	1528
8948.58	1527.36	8960.69	1526	9007.84	1526	9029.25	1525.18	9042.71	1524.88
9056.41	1524.33	9071.41	1523.9	9095.9	1523.61	9113.55	1523.55	9121.38	1523.41
9134	1523.05	9168.17	1522.7	9186.73	1522.72	9199.92	1522.78	9201.65	1522
9255.41	1522	9269.59	1523.2	9297.09	1523.48	9326.12	1523.57	9338.09	1523.55
9352.94	1523.71	9360.93	1523.7	9384.6	1523.37	9414.87	1523.3	9495.44	1523.03
9508.18	1522.96	9548.58	1522	9566.91	1522	9577.26	1524	9585.75	1524
9599.9	1522	9626.81	1520	9676.47	1520	9691.7	1519.37	9711.85	1520
9741.21	1520	9933.84	1520	9959.46	1519.59	9977.5	1519.23	9990.72	1519.03
10006.58	1518	10050.72	1518	10057.68	1518.81	10064.38	1518.88	10118.19	1518.88
10149.87	1519.15	10185.15	1519.8	10195.49	1519.71	10261.68	1520	10287.93	1519.93
10336.05	1520	10454.74	1520	10482.24	1520.75	10497.24	1520.91	10515.4	1520.92
10532.18	1521.15	10558.22	1521.2	10573.57	1521.54	10599.52	1522	10720.2	1522
10728.34	1522.76	10776.28	1523.4	10802.5	1524	10857.98	1524	10873.73	1524.98
10878.66	1525.18	10885.29	1525.2	10894.23	1525.51	10898.76	1525.42	10910.48	1525.46
10932.95	1525.87	10939.21	1526	10970.35	1526	11002.19	1527.16	11021.03	1528
11080.1	1528	11125.48	1529.1	11147.79	1529.71	11157.16	1530	11201.64	1531.17
11227.89	1532	11235.3	1532	11249.86	1533.04	11276.41	1533.12	11308.59	1534
11358.63	1534	11382.58	1534.7	11411.78	1536	11436.97	1536	11446.02	1536.34
11486.89	1538	11512.55	1538	11537.04	1538.62	11577.89	1540	11591.51	1540
11609.01	1540.63								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7270.31	.045	8582.73	.045	10573.57	.045

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8582.73	10573.57	1	90	670	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
7270.31	8526.44	1545

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.5701 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1524.64	Element			
Vel Head (ft)	0.15	Wt. n-Val.	0.045	0.045	0.045
E.G. Elev (ft)	1524.79	Reach Len. (ft)	1.00	90.00	670.00
E.G. Slope (ft/ft)	0.001466	Flow Area (sq ft)	28.45	6944.12	550.21
Q Total (cfs)	22900.00	Flow (cfs)	49.45	21796.04	1054.51
Top Width (ft)	2401.68	Top Width (ft)	333.09	1773.87	294.72
Vel Total (ft/s)	3.04	Avg. Vel. (ft/s)	1.74	3.14	1.92
Max Chl Dpth (ft)	7.44	Hydr. Depth (ft)	1.64	3.91	1.87
Crit W.S. (ft)	1521.82	Wetted Per. (ft)	17.64	1775.26	294.79
Conv. Total (cfs)	598083.6	Conv. (cfs)	1291.5	569251.2	27540.9

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.5701 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8495.24	8582.73	0.22	28.45	17.64	1291.5	1.64	1.74
8582.73	8715.45	12.57	775.41	132.85	83005.3	5.84	3.71
8715.45	8848.18	9.62	626.84	116.69	63488.3	5.39	3.51
8848.18	8980.90						
8980.90	9113.62	0.21	49.64	64.99	1369.8	0.76	0.96
9113.62	9246.34	2.17	269.97	132.90	14298.8	2.03	1.84
9246.34	9379.07	1.06	175.95	132.78	7009.4	1.33	1.38
9379.07	9511.79	1.23	192.56	132.72	8148.6	1.45	1.47
9511.79	9644.51	3.42	355.37	133.14	22579.3	2.68	2.20
9644.51	9777.23	8.83	627.21	132.75	58315.9	4.73	3.22
9777.23	9909.96	8.57	616.06	132.72	56605.7	4.64	3.19
9909.96	10042.68	11.61	739.21	132.76	76678.9	5.57	3.60
10042.68	10175.40	12.11	758.15	132.78	79976.3	5.71	3.66
10175.40	10308.13	8.98	633.44	132.73	59290.4	4.77	3.25
10308.13	10440.85	8.59	616.63	132.72	56692.6	4.65	3.19
10440.85	10573.57	6.21	507.69	132.74	40999.4	3.83	2.80
10573.57	10642.60	1.81	188.32	69.03	12141.0	2.73	2.20
10642.60	10711.63	1.71	182.36	69.03	11507.0	2.64	2.15
10711.63	10780.66	0.87	121.14	69.07	5817.3	1.75	1.64
10780.66	10849.69	0.20	49.76	69.04	1320.7	0.72	0.90
10849.69	10918.72	0.03	8.63	18.63	170.7	0.46	0.67

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SCATTER WASH River Station: 18.50
Description: Crest of CAP

Station Elevation Data, num = 203

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7053.81	1552.23	7068.38	1550	7090.99	1546.97	7140.2	1540	7156.47	1538
7163.75	1537.21	7176.11	1536	7202.62	1533.19	7213.22	1532	7233.35	1530
7257.06	1528	7263.07	1527.7	7293.61	1526	7312.39	1524	7434.47	1522
7484.39	1522	7538.53	1522	7559	1522.48	7612.04	1523.8	7621.09	1524
7623.72	1525.64	7631.77	1530	7643.14	1533.79	7657.86	1540	7675.01	1540
7896.85	1540	8183.1	1540	8187.16	1540	8279.33	1530	8296.83	1537.53
8306.07	1538	8314.56	1538	8323.67	1537.22	8325.12	1537	8357.71	1530
8373.42	1528	8378.9	1526	8403.41	1521.36	8411.43	1520.2	8422.01	1519.66
8439.17	1519.06	8510.64	1518.13	8530.32	1517.81	8543.37	1517.2	8549.17	1517.38
8580.05	1517.37	8600.24	1518	8611.82	1520	8624.16	1521	8637.82	1522.87
8647.57	1524	8662.47	1526	8680.71	1526	8699.81	1527.8	8702.76	1528
8725.01	1528	8746.82	1528	8769.26	1527.36	8781.37	1526	8828.52	1526
8849.93	1525.18	8863.39	1524.88	8877.09	1524.33	8892.09	1523.9	8916.58	1523.61
8934.23	1523.55	8942.06	1523.41	8954.68	1523.05	8988.85	1522.7	9007.41	1522.72
9020.6	1522.78	9022.33	1522	9076.09	1522	9090.27	1523.2	9117.77	1523.48
9146.8	1523.57	9158.77	1523.55	9173.62	1523.71	9181.61	1523.7	9205.28	1523.37
9235.55	1523.3	9316.12	1523.03	9328.86	1522.96	9369.26	1522	9387.59	1522
9397.94	1524	9406.43	1524	9420.58	1522	9447.49	1520	9497.15	1520
9512.38	1519.37	9532.53	1520	9561.89	1520	9616.59	1520	9654.28	1520
9662.06	1519.8	9678.56	1520	9710.04	1520	9721.92	1521.3	9742.04	1522
9751.04	1522	9755.92	1522.78	9766.69	1523.13	9774.65	1524	9783.45	1524
9787.06	1524.79	9792.09	1525.25	9798.16	1525.51	9803.11	1525.5	9814.08	1525.53
9868.8	1526.23	9876.59	1526.36	9928.78	1526.65	9950.57	1526.7	9959.75	1527.23
9969.81	1528	9981.19	1528	9997.07	1527.23	10011.27	1527.3	10018.48	1527.31
10028.07	1527.65	10032.56	1528	10058.36	1528	10065.73	1527.5	10132.74	1526.73
10153.6	1526.12	10159.79	1525.73	10162.23	1525.26	10177.64	1524	10197.45	1523.11
10213.53	1523.09	10227.2	1522	10248.61	1522	10274.55	1521.6	10286.77	1521.25
10342.47	1520.93	10407.61	1520.93	10418.16	1520.91	10490.28	1520	10561.8	1520
10698.19	1520	10724.33	1521.51	10732.5	1521.82	10738.26	1521.61	10745.18	1522
10754.56	1522	10772.03	1522	10774.19	1521.91	10805.31	1520	10820.48	1520
10827.48	1520.46	10852.6	1521.73	10858.09	1521.76	10862.04	1522	10933.57	1522.92
10983.23	1523.48	10995.09	1523.33	11003.08	1523.34	11011.46	1523.41	1058.28	1523.59

```
11107.52    152411442.14    152411449.11 1523.6511452.72  1523.211457.87    1522
11517.44    152211750.63    152212036.62 1520.0812042.97    152012317.89    1518
12498.84    151812522.33    152012653.01    152012666.58    152012693.33    1518
12784.88    151812881.31 1519.1912916.13    152012988.54  1521.513019.71    1522
13210.68    1522 13262.8 1521.8313266.35 1521.8613307.14  1521.413324.28 1521.71
13335.32    152213350.98    152213368.11  1521.913384.13    152213458.54    1522
13480.35 1523.2813486.98 1523.3413500.56 1523.83 13505.5  1523.913519.95 1523.99
13544.59 1523.9613548.47    152413662.24 1523.9913682.57  1523.313728.48 1521.99
13750.54 1521.7613775.87 1521.5313788.84 1521.48

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 7053.81    .035 8510.64    .03510032.56    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       8510.6410032.56            151.3   151.3   151.3             .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 7053.81    8500    1530   1075013788.84    1530

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.50     Profile # 1

  W.S. Elev (ft)       1522.84   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.13   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1523.97   Reach Len. (ft)       151.30     151.30     151.30
  E.G. Slope (ft/ft)  0.012876   Flow Area (sq ft)      49.38    1513.99    1153.19
  Q Total (cfs)       22900.00   Flow (cfs)            661.80   12949.98    9288.22
  Top Width (ft)       3763.73   Top Width (ft)        305.33     638.97    2819.43
  Vel Total (ft/s)        8.43   Avg. Vel. (ft/s)       13.40       8.55       8.05
  Max Chl Dpth (ft)       5.64   Hydr. Depth (ft)        4.64       2.37       2.16
  Crit W.S. (ft)       1522.84   Wetted Per. (ft)       10.64     639.94     533.45
  Conv. Total (cfs)   201808.1   Conv. (cfs)           5832.2   114122.7   81853.2


Warning - The energy equation could not be balanced within the specified number
                of iterations.  The program used critical depth for the water surface and
                continued on with the calculations.
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 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.
Warning - During the standard step iterations, when the assumed water surface
                was set equal to critical depth, the calculated water surface came back
                below critical depth.  This indicates that there is not a valid subcritical
                answer.  The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.50     Profile # 1

  Left Sta    Right Sta        %Q       Area       W.P.      Conv.   Hydr D.   Velocity
  (ft)        (ft)                   (sq ft)      (ft)      (cfs)      (ft)     (ft/s)
  8413.52     8510.64        2.89      49.38     10.64     5832.2      4.64      13.40
  8510.64     8612.10       25.92     515.76    101.66    64650.2      5.08      11.51
  8612.10     8713.56        0.93      40.45     25.67     2325.7      1.59       5.28
  8713.56     8916.49
  8916.49     9017.95        0.02       4.39     42.78       40.8      0.10       0.85
  9017.95     9119.41        0.70      50.29     68.27     1741.2      0.74       3.18
  9119.41     9322.33
  9322.33     9423.79        0.44      37.65     67.35     1084.9      0.56       2.65
  9423.79     9525.25        9.24     277.61    101.55    23042.7      2.74       7.62
  9525.25     9626.71        9.89     288.99    101.46    24651.6      2.85       7.83
  9626.71     9728.18        9.04     274.05    101.54    22554.0      2.70       7.56
  9728.18     9829.64        0.37      24.80     29.66      934.6      0.84       3.46
```

9829.64	10032.56						
10032.56	10282.98	1.17	60.86	66.35	2439.2	0.92	4.41
10282.98	10533.40	18.52	542.44	250.43	38553.6	2.17	7.82
10533.40	10783.82	20.87	549.89	216.67	43436.5	2.54	8.69

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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 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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.47
Description: 18.47

Station Elevation Data, num = 39

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7530.1	1516	7759.54	1516	8042.21	1516	8458.63	1516	8460.54	1516.82
8465.45	1517	8506.91	1516.4	8527.11	1516	8771.85	1516	9171.77	1516
9179.4	1516.4	9193.22	1516.31	9196.12	1516.55	9203.71	1516.73	9211.33	1517.25
9226.67	1518	9237.12	1518.12	9280.33	1518.4	9290.31	1518.5	9315.32	1520
9354.36	1520	9362.22	1518	9372.08	1516	9376.91	1516	9380.77	1520
9427.27	1520	9441.17	1518	9447.45	1516.66	9451.46	1515.27	9453.61	1514.89
9470.65	1514.5	9550.9	1514	9567.29	1514	9659.47	1514	9704.68	1514.24
9750.29	1514	10396.4	1514	10660	151413824.67		1514		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7530.1	.035	9427.27	.035	10660	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9427.27	10660	60.1	60.1	60.1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7530.1	8462.5	1519	1078713824.67		1519

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.47 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1515.10	Element			
Vel Head (ft)	4.05	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1519.14	Reach Len. (ft)	60.10	60.10	60.10
E.G. Slope (ft/ft)	0.133347	Flow Area (sq ft)		1279.16	139.15
Q Total (cfs)	22900.00	Flow (cfs)		20607.14	2292.86
Top Width (ft)	4372.22	Top Width (ft)		1207.55	3164.67
Vel Total (ft/s)	16.15	Avg. Vel. (ft/s)		16.11	16.48
Max Chl Dpth (ft)	1.10	Hydr. Depth (ft)		1.06	1.10
Crit W.S. (ft)	1516.26	Wetted Per. (ft)		1207.58	127.00
Conv. Total (cfs)	62710.9	Conv. (cfs)		56432.0	6278.9

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.47 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9427.27	9509.45	1.68	34.75	57.03	1060.4	0.61	11.08
9509.45	9591.63	5.82	84.69	82.18	3668.6	1.03	15.73
9591.63	9673.82	6.38	89.50	82.18	4022.1	1.09	16.32
9673.82	9756.00	5.26	79.70	82.18	3314.8	0.97	15.10
9756.00	9838.18	6.44	90.05	82.18	4063.1	1.10	16.38
9838.18	9920.36	6.44	90.05	82.18	4063.1	1.10	16.38
9920.36	10002.54	6.44	90.05	82.18	4063.1	1.10	16.38
10002.54	10084.73	6.44	90.05	82.18	4063.1	1.10	16.38
10084.73	10166.91	6.44	90.05	82.18	4063.1	1.10	16.38
10166.91	10249.09	6.44	90.05	82.18	4063.1	1.10	16.38
10249.09	10331.27	6.44	90.05	82.18	4063.1	1.10	16.38
10331.27	10413.45	6.44	90.05	82.18	4063.1	1.10	16.38
10413.45	10495.64	6.44	90.05	82.18	4063.1	1.10	16.38
10495.64	10577.82	6.44	90.05	82.18	4063.1	1.10	16.38
10577.82	10660.00	6.44	90.05	82.18	4063.1	1.10	16.38
10660.00	10870.98	10.01	139.15	127.00	6278.9	1.10	16.48

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

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.4601
Description: 18.4601

Station Elevation Data, num = 214

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8003.67	1518.69	8015.7	1518.67	8030.71	1518.4	8048.01	1518.34	8055.69	1518.58
8064.29	1518.68	8081.89	1519.18	8089.99	1519.2	8104.96	1518.73	8117.57	1518.64
8125.52	1518.43	8151.87	1518.32	8155.09	1518.2	8169.67	1518.4	8186.69	1518.27
8198.56	1518	8217.73	1517.12	8225.03	1517.2	8236.25	1516.76	8251.07	1516.71
8264.95	1516.47	8312.38	1516.15	8351.07	1516	8442.79	1516	8478.61	1514.48
8484.46	1514	8514.47	1514	8534.64	1512.8	8546.66	1512.94	8564.15	1512.66
8588.67	1513.7	8623.47	1513.64	8672.9	1513.6	8719.52	1514	8723.6	1514
8732.94	1514.38	8744.8	1514.74	8754.68	1514.8	8780.73	1514	8919.7	1514
8942.89	1515.03	8957.11	1515.24	8979.4	1515.3	8988.95	1515.13	9003.4	1515.25
9028.9	1514.52	9042.38	1514.63	9048.03	1514.4	9057.21	1514.27	9068.41	1514.33
9080.92	1514.7	9093.5	1515.29	9116.44	1516	9152.85	1516	9166.26	1516.66
9179.29	1517.23	9197.9	1517.49	9200.46	1518	9212.4	1518	9233.85	1518.87
9248.77	1519.8	9260.6	1520	9391.09	1520	9404.11	1518.97	9414.41	1518.75
9416.94	1518.82	9434.1	1519.87	9438.99	1519.8	9443.24	1519.49	9452.68	1518

```
 9458.37 1516.91 9469.61    1516 9482.89  1515.3 9489.45 1515.37 9511.67 1516.14
 9519.44    1516 9527.32    1516 9550.25  1514.8 9563.25 1514.13 9566.03    1514
 9611.25    1514 9641.53 1513.91 9681.12    1514 9695.84    1516 9840.15    1516
 9852.77    1514 9867.16    1514 9909.45  1513.610003.91 1512.1910020.26    1512
10124.97    151210151.86 1511.8910206.24  1511.910272.54 1511.9710376.29 1511.95
10379.27 1511.9710441.87    151210467.73  1512.3 10483.1 1512.5710500.81 1513.28
10510.87 1513.6210527.29 1513.5710554.87  1514.110580.53 1514.5810590.23 1515.06
10604.13  1515.610635.09 1517.1310647.69  1517.610660.58 1517.8410671.25 1517.66
10685.22 1516.4910694.43 1516.9610710.17  1517.110756.04 1514.9910768.38 1515.17
10784.56 1514.9610800.62 1514.9110814.36  1514.710855.66    151410891.15 1513.83
 10922.9 1513.7711123.75 1513.7511143.88  1513.711220.69 1513.7911238.06 1513.62
11272.66 1512.9911326.26 1512.7811347.24  1513.711442.21 1513.7811480.48  1513.3
 11511.5 1512.8311572.14 1512.6511580.17    151211604.59 1511.8911648.63    1512
11682.46    151211715.71 1512.5611762.82  1513.511775.89 1513.5111815.74 1513.49
 11834.5 1513.5511838.98 1513.6611874.91  1513.811903.01    151411919.52 1514.36
11933.34 1514.3411949.84    151411969.74  1513.812000.02 1513.7312072.93 1513.67
12095.41 1513.6412115.64 1513.4712267.05  1513.412277.83 1513.4812288.62 1513.32
12325.31 1513.4112346.02  1513.212407.36  1513.912432.37 1513.7112439.91 1513.67
12448.94    151412490.71    151612507.37  1516.612512.19 1516.4712522.45    1514
12531.37 1513.8812533.83    151412543.64  1515.412545.67 1515.4112593.47    1513
12612.21    151212621.72  1511.912672.69  1511.612683.61 1511.4512760.69 1511.29
12779.08 1511.3412785.33 1511.2212801.86  1511.312818.84 1511.3912941.08 1511.44
12961.78 1511.7113065.64 1511.6913084.47    151213110.45    151213121.38 1512.71
13124.34    151313150.89    151413176.01    151413193.92 1514.6513208.61    1514
13227.43 1513.4213244.47    151213269.31    151213281.66 1513.1113284.25 1513.25
13311.01    1514 13319.3    151413334.84  1514.813359.49 1514.9413399.71 1515.26
13411.48 1515.47 13430.1 1515.2913440.74  1514.813472.82 1513.9813501.72 1513.35
   13533 1511.9513576.22    151213608.85    151413650.04    151413681.55 1513.71
 13722.5    151413754.13 1515.27 13787.7  1515.313807.13 1514.48

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8003.67    .035 9550.25    .03510590.23    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9550.2510590.23                 0       0       0              .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 8003.67    8450    1519   1079913807.13    1519

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.4601   Profile # 1

  W.S. Elev (ft)       1515.15   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.17   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1516.31   Reach Len. (ft)
  E.G. Slope (ft/ft)  0.014634   Flow Area (sq ft)     651.24    2096.98       5.59
  Q Total (cfs)       22900.00   Flow (cfs)           3740.35   19152.14       7.51
  Top Width (ft)       4376.80   Top Width (ft)        581.08     884.01    2911.71
  Vel Total (ft/s)        8.32   Avg. Vel. (ft/s)        5.74       9.13       1.34
  Max Chl Dpth (ft)       3.93   Hydr. Depth (ft)        1.12       2.37       0.12
  Crit W.S. (ft)       1515.25   Wetted Per. (ft)      581.26     884.26      45.31
  Conv. Total (cfs)   189299.9   Conv. (cfs)          30919.1   158318.7       62.1


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 velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
```

the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.4601 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8416.09	8519.20	1.01	51.07	56.35	2030.3	0.91	4.52
8519.20	8622.30	6.31	195.47	103.16	12707.0	1.90	7.40
8622.30	8725.41	3.92	146.75	103.11	7882.6	1.42	6.11
8725.41	8828.51	1.80	91.91	103.13	3613.4	0.89	4.47
8828.51	8931.62	2.61	115.13	103.12	5260.4	1.12	5.20
8931.62	9034.72	0.14	15.02	50.00	286.0	0.30	2.17
9034.72	9137.83	0.54	34.76	55.75	1076.9	0.62	3.53
9137.83	9447.14						
9447.14	9550.25	0.01	1.15	6.64	15.2	0.17	1.50
9550.25	9619.58	1.57	73.42	69.35	3237.5	1.06	4.91
9619.58	9688.91	1.76	78.45	69.40	3614.2	1.13	5.13
9688.91	9758.25	0.00	0.03	0.66	0.2	0.04	0.59
9758.25	9827.58						
9827.58	9896.91	1.33	58.98	51.47	2741.7	1.15	5.18
9896.91	9966.24	4.11	130.60	69.34	8456.6	1.88	7.21
9966.24	10035.57	8.29	198.91	69.34	17048.9	2.87	9.55
10035.57	10104.91	9.68	218.20	69.33	19894.8	3.15	10.16
10104.91	10174.24	9.97	222.10	69.33	20489.9	3.20	10.28
10174.24	10243.57	10.15	224.49	69.33	20859.6	3.24	10.35
10243.57	10312.90	9.88	220.88	69.33	20303.9	3.19	10.24
10312.90	10382.23	9.90	221.19	69.33	20351.4	3.19	10.25
10382.23	10451.57	9.70	218.51	69.33	19941.2	3.15	10.17
10451.57	10520.90	5.84	161.12	69.36	11998.4	2.32	8.30
10520.90	10590.23	1.46	70.10	69.35	2997.3	1.01	4.76
10590.23	10804.69	0.03	5.59	45.31	58.9	0.12	1.34

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

Profile Output Table - Standard Table 1

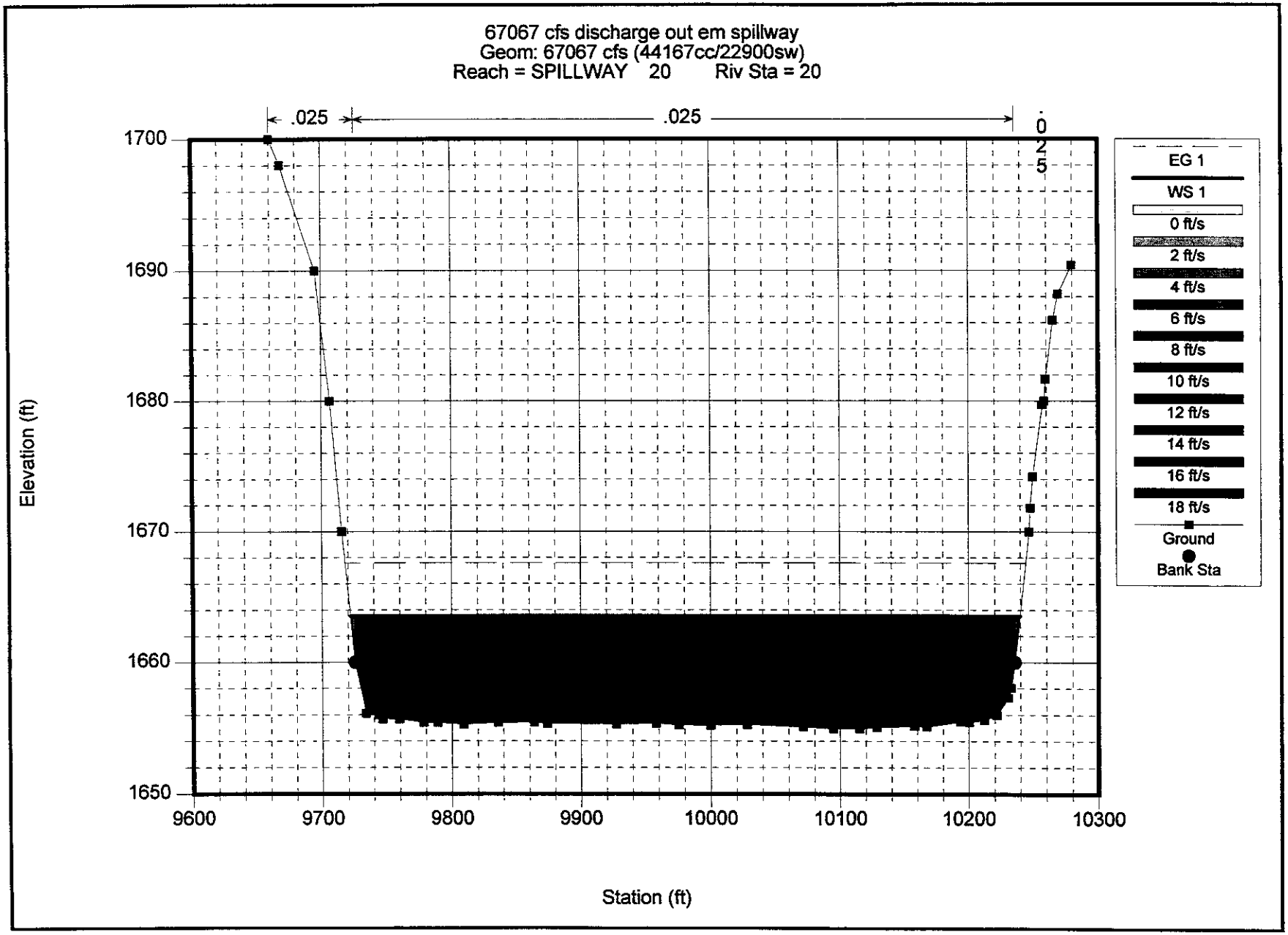
Reach	River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SCATTER WASH	19.03	22900.00	1540.10	1543.70	1543.49	1544.38	0.009963	6.86	3505.84	1956.28	0.84
SCATTER WASH	18.99	22900.00	1534.45	1537.63	1537.43	1538.37	0.010598	6.93	3309.54	1697.71	0.86
SCATTER WASH	18.91	22900.00	1530.00	1533.16	1532.69	1533.84	0.007495	6.67	3447.41	1439.22	0.75
SCATTER WASH	18.82	22900.00	1525.60	1528.38	1528.38	1529.15	0.012091	7.15	3404.05	2362.60	0.92
SCATTER WASH	18.72	22900.00	1521.05	1525.60		1525.70	0.000621	2.69	9069.71	2531.29	0.24
SCATTER WASH	18.5701	22900.00	1517.20	1524.64	1521.82	1524.79	0.001466	3.14	7522.78	2401.68	0.28
SCATTER WASH	18.50	22900.00	1517.20	1522.84	1522.84	1523.97	0.012876	8.55	2716.56	3763.73	0.97
SCATTER WASH	18.47	22900.00	1514.00	1515.10	1516.26	1519.14	0.133347	16.11	1418.32	4372.22	2.76
SCATTER WASH	18.4601	22900.00	1511.89	1515.15	1515.25	1516.31	0.014634	9.13	2753.82	4376.80	1.05
CAVE CREEK	18.91	44167.00	1523.50	1542.73		1544.37	0.008343	10.78	4571.92	2515.86	0.00
CAVE CREEK	18.86	44167.00	1516.00	1541.44	1540.15	1542.22	0.003108	7.51	6471.64	1765.56	0.56
CAVE CREEK	18.80	44167.00	1514.00	1539.33	1539.33	1540.83	0.007861	10.21	4853.95	1845.67	0.85
CAVE CREEK	18.76	44167.00	1514.00	1538.54	1536.86	1539.40	0.003395	7.78	6194.23	1383.85	0.58
CAVE CREEK	18.64	44167.00	1522.00	1534.68	1534.54	1536.63	0.006541	11.88	4231.03	1000.59	0.82
CAVE CREEK	18.54	44167.00	1520.00	1531.72		1533.60	0.006314	12.03	4437.55	1107.29	0.81
CAVE CREEK	18.50	44167.00	1518.00	1531.00	1529.90	1532.30	0.004716	10.53	5274.78	1229.44	0.71
CAVE CREEK	18.43	44167.00	1516.00	1525.94	1525.94	1528.70	0.016328	15.17	3433.74	979.49	1.23
CAVE CREEK	18.30	44167.00	1514.00	1523.83		1524.45	0.001985	6.72	7055.15	1178.62	0.46
CAVE CREEK	18.27	44167.00	1512.00	1523.65	1520.46	1524.09	0.001319	6.23	8812.49	1649.63	0.38
CAVE CREEK	18.17	44167.00	1508.00	1523.34	1518.16	1523.66	0.000557	4.88	10023.99	1663.85	0.26
CAVE CREEK	18.06	44167.00	1508.00	1523.26	1514.66	1523.42	0.000209	3.24	13614.42	2687.31	0.16
CAVE CREEK	18.05	44167.00	1506.00	1522.38	1517.96	1523.32	0.001585	8.15	5976.22	875.95	0.44
CAVE CREEK	18.0484	44167.00	1506.00	1522.22	1518.64	1523.25	0.002403	8.17	5428.84	1653.52	0.52
CAVE CREEK	18.0482	44167.00	1505.54	1522.43	1519.49	1523.16	0.001404	8.96	6730.29	2686.69	0.38
CAVE CREEK	18.0480	44167.00	1505.54	1522.00	1520.15	1523.12	0.000442	12.35	6372.58	2687.00	0.54
CAVE CREEK	18.0237	44167.00	1505.54	1520.43	1520.43	1522.90	0.001009	17.45	4581.90	2686.81	0.79
CAVE CREEK	18.0199	44167.00	1505.54	1517.59	1519.00	1522.59	0.014194	19.90	2493.66	2687.00	1.01
CAVE CREEK	18.0104	44167.00	1486.00	1519.04	1505.49	1519.21	0.000130	3.46	13172.99	2687.00	0.11
CAVE CREEK	18.0103	44167.00	1486.00	1519.03	1505.72	1519.21	0.000124	3.86	13152.58	2687.00	0.12
CAVE CREEK	18.0074	44167.00	1504.57	1516.43	1516.43	1518.97	0.008637	14.28	3555.81	3529.00	0.96
CAVE CREEK	17.99	44167.00	1496.00	1500.83	1504.14	1515.43	0.128387	33.84	1451.09	797.92	3.27
SPILLWAY	20	67067.00	1654.96	1663.53	1663.53	1667.58	0.004549	16.16	4158.54	517.72	1.00
SPILLWAY	19.89	67067.00	1641.50	1645.94	1649.75	1660.42	0.039725	30.56	2201.46	539.27	2.64
SPILLWAY	19.79	67067.00	1612.00	1622.26	1626.87	1636.56	0.037191	31.89	2342.28	422.46	2.02
SPILLWAY	19.72	67067.00	1604.00	1617.82	1620.95	1627.90	0.019593	28.03	2800.06	381.60	1.53
SPILLWAY	19.65	67067.00	1596.00	1619.14	1619.14	1624.12	0.004884	19.64	4194.65	412.12	0.83
SPILLWAY	19.58	67067.00	1590.00	1614.70	1616.38	1621.95	0.006279	23.97	3614.69	379.23	0.95
SPILLWAY	19.53	67067.00	1582.00	1602.64	1608.51	1618.32	0.020660	35.55	2313.41	254.34	1.64
SPILLWAY	19.50	67067.00	1579.22	1596.18	1601.26	1613.81	0.032240	41.98	2234.38	321.57	2.02
SPILLWAY	19.46	67067.00	1576.00	1589.25	1593.56	1605.29	0.045234	40.62	2322.64	457.93	2.28

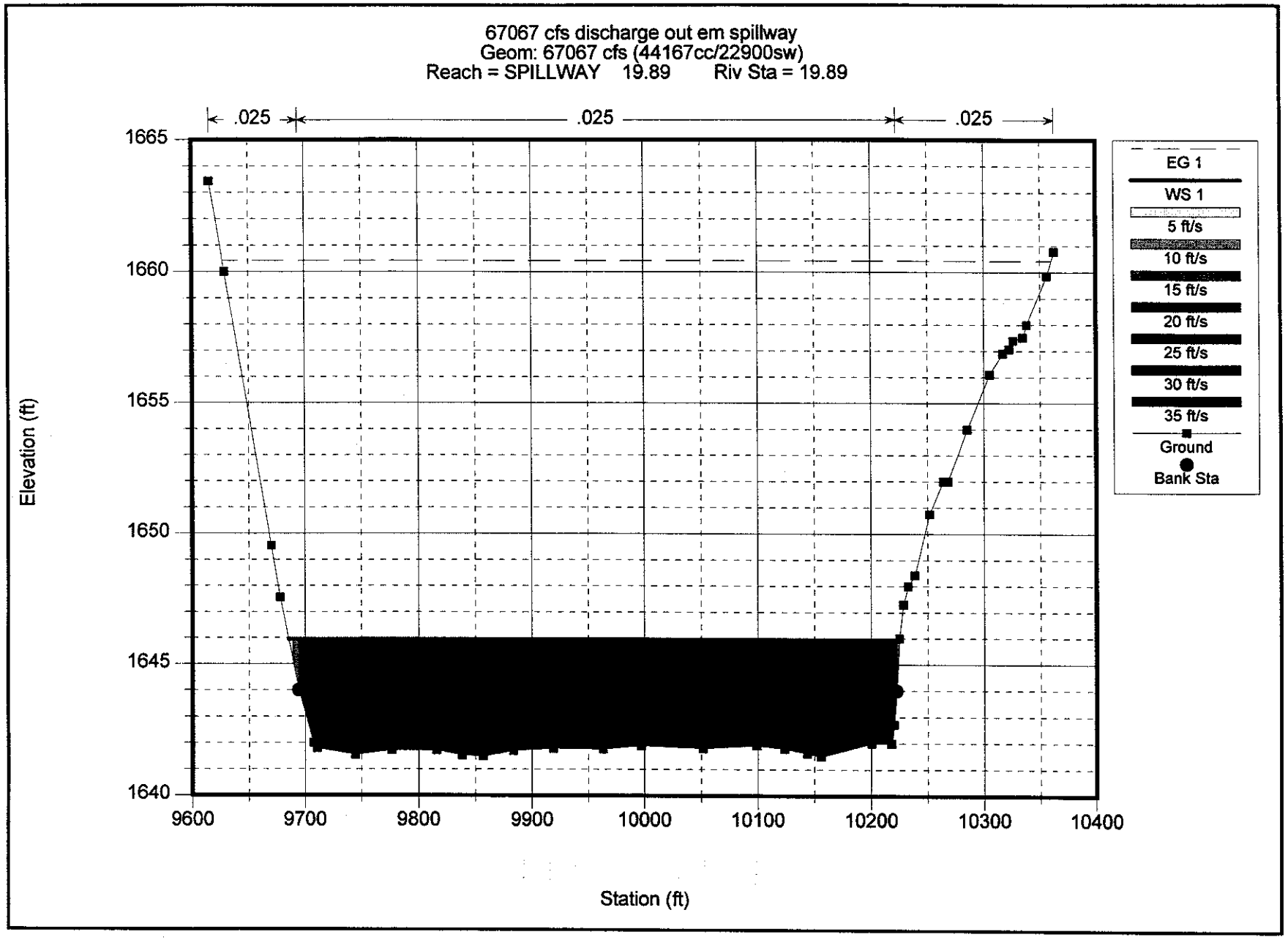
SPILLWAY	19.42	67067.00	1574.00	1584.55	1587.23	1594.25	0.035805	32.34	3016.79	734.53	2.00
SPILLWAY	19.37	67067.00	1570.00	1580.04	1581.70	1585.50	0.023927	24.88	3846.38	953.50	1.61
SPILLWAY	19.29	67067.00	1566.00	1573.21	1574.18	1576.83	0.018836	20.16	4575.41	1187.51	1.40
SPILLWAY	19.20	67067.00	1561.18	1565.27	1565.77	1567.64	0.018322	12.62	5450.95	1762.64	1.23
SPILLWAY	19.05	67067.00	1549.27	1555.77	1553.82	1556.24	0.001998	6.42	12535.99	3375.18	0.45
SPILLWAY	18.96	67067.00	1542.00	1555.84		1555.93	0.000165	2.24	27671.70	4234.89	0.00

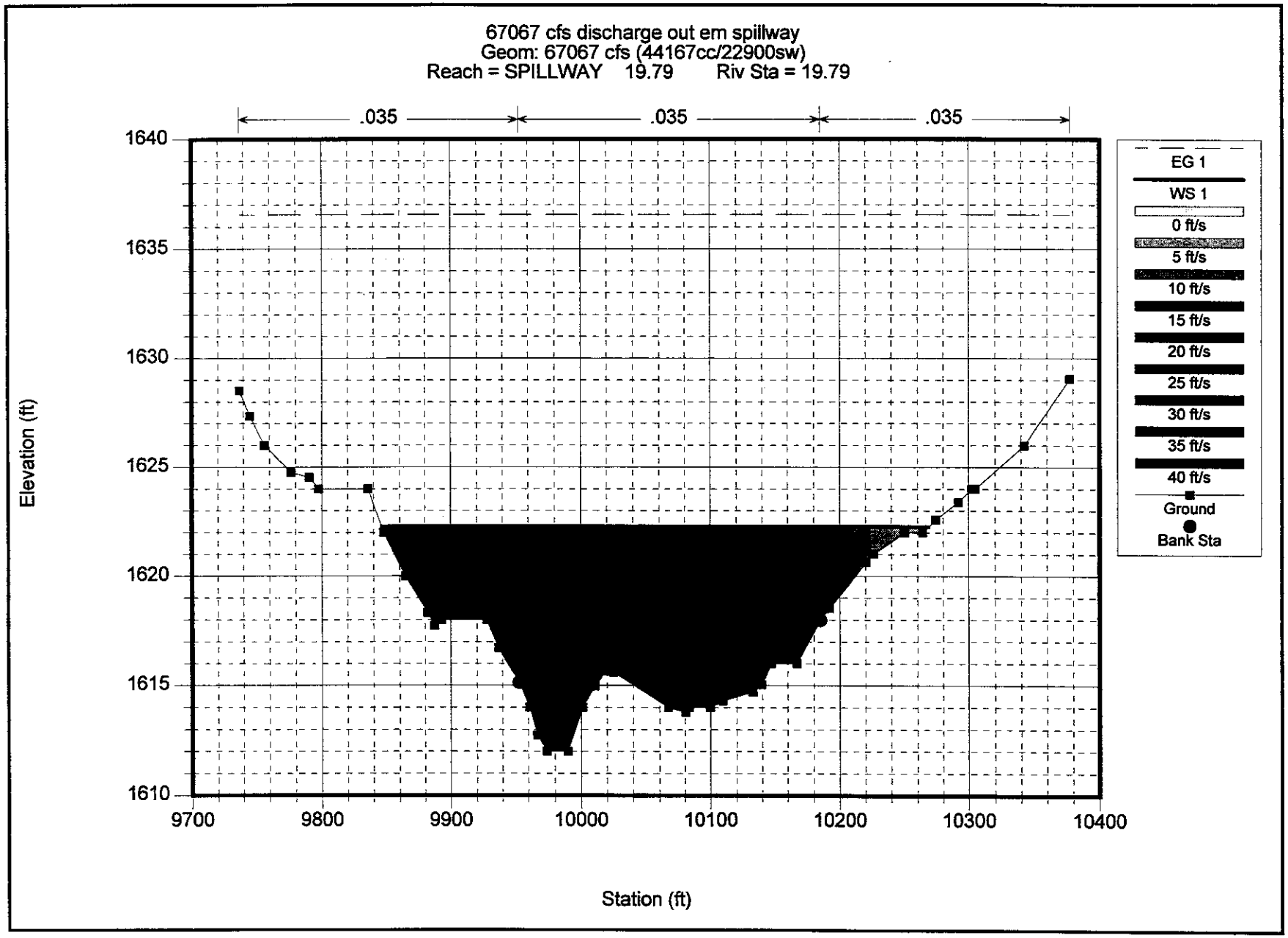
Profile Output Table - Standard Table 2

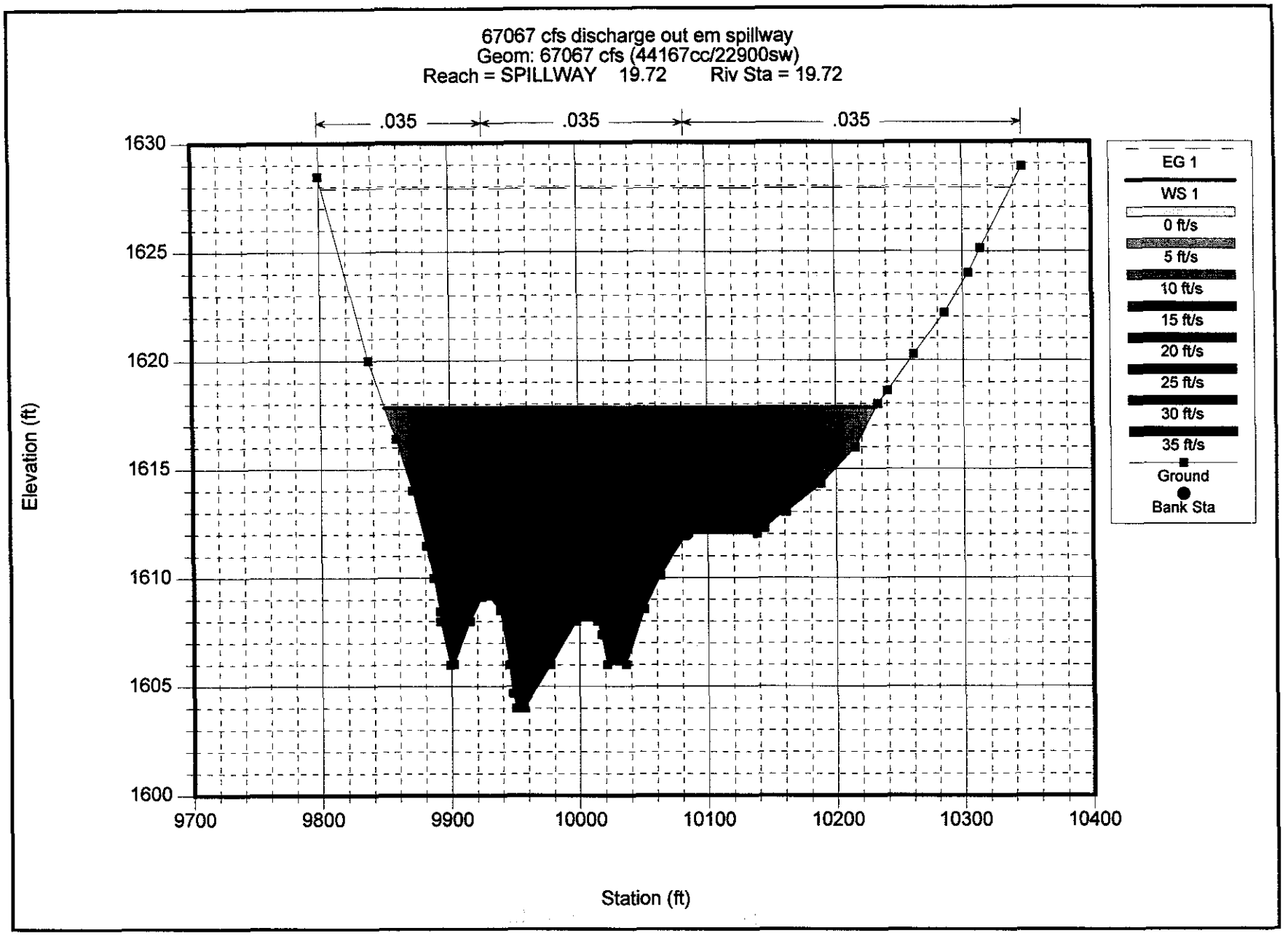
Reach	River Sta.	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
SCATTER WASH	19.03	1544.38	1543.70	0.68	6.00	0.01	11678.63	11042.26	179.11	1956.28
SCATTER WASH	18.99	1538.37	1537.63	0.75	4.51	0.02	0.53	22885.54	13.94	1697.71
SCATTER WASH	18.91	1533.84	1533.16	0.69	4.69	0.01	55.10	22844.90		1439.22
SCATTER WASH	18.82	1529.15	1528.38	0.77	0.94	0.20	2.43	22026.54	871.03	2362.60
SCATTER WASH	18.72	1525.70	1525.60	0.10	0.91	0.00	309.68	17661.62	4928.70	2531.29
SCATTER WASH	18.5701	1524.79	1524.64	0.15	0.72	0.10	49.45	21796.04	1054.52	2401.68
SCATTER WASH	18.50	1523.97	1522.84	1.13			661.80	12949.98	9288.22	3763.73
SCATTER WASH	18.47	1519.14	1515.10	4.05	4.54	0.29		20607.14	2292.86	4372.22
SCATTER WASH	18.4601	1516.31	1515.15	1.17	1.97	0.87	3740.35	19152.14	7.51	4376.80
CAVE CREEK	18.91	1544.37	1542.73	1.64	0.00	0.00	55.28	38574.91	5536.81	2515.86
CAVE CREEK	18.86	1542.22	1541.44	0.78	1.32	0.07		38814.22	5352.78	1765.56
CAVE CREEK	18.80	1540.83	1539.33	1.50				40358.39	3808.61	1845.67
CAVE CREEK	18.76	1539.40	1538.54	0.86	2.66	0.11	819.97	38334.97	5012.06	1383.85
CAVE CREEK	18.64	1536.63	1534.68	1.95	3.01	0.02	6684.58	37471.09	11.32	1000.59
CAVE CREEK	18.54	1533.60	1531.72	1.87	1.13	0.17	10051.84	34109.72	5.44	1107.29
CAVE CREEK	18.50	1532.30	1531.00	1.31	3.46	0.14	16034.45	27960.83	171.71	1229.44
CAVE CREEK	18.43	1528.70	1525.94	2.76	2.80	0.64	22054.93	22096.82	15.25	979.49
CAVE CREEK	18.30	1524.45	1523.83	0.62	0.31	0.05	13076.17	16891.17	14199.66	1178.62
CAVE CREEK	18.27	1524.09	1523.65	0.45	0.40	0.04	14565.90	17269.73	12331.37	1649.63
CAVE CREEK	18.17	1523.66	1523.34	0.32	0.19	0.05	11055.67	25149.68	7961.65	1663.85
CAVE CREEK	18.06	1523.42	1523.26	0.16	0.02	0.08		44167.00		2687.31
CAVE CREEK	18.05	1523.32	1522.38	0.94	0.05	0.01	4.94	38681.95	5480.11	875.95
CAVE CREEK	18.0484	1523.25	1522.22	1.04	0.00	0.09	0.22	44148.31	18.47	1653.52
CAVE CREEK	18.0482	1523.16	1522.43	0.73	0.00	0.04	12589.68	10891.76	20685.56	2686.69
CAVE CREEK	18.0480	1523.12	1522.00	1.12	0.08	0.14	11148.69	14635.28	18383.03	2687.00
CAVE CREEK	18.0237	1522.90	1520.43	2.47			6112.38	18709.23	19345.39	2686.81
CAVE CREEK	18.0199	1522.59	1517.59	4.99	0.05	0.25	5763.64	17275.70	21127.66	2687.00
CAVE CREEK	18.0104	1519.21	1519.04	0.17	0.00	0.00	500.50	40700.58	2965.92	2687.00
CAVE CREEK	18.0103	1519.21	1519.03	0.18	0.01	0.24	5002.98	9169.70	29994.32	2687.00
CAVE CREEK	18.0074	1518.97	1516.43	2.54				23929.71	20237.29	3529.00
CAVE CREEK	17.99	1515.43	1500.83	14.60	2.32	1.21	22.15	12598.14	31546.71	797.92
SPILLWAY	20	1667.58	1663.53	4.05	2.69	0.07	29.54	67005.53	31.93	517.72
SPILLWAY	19.89	1660.42	1645.94	14.48	6.08	1.05	98.40	66946.84	21.77	539.27
SPILLWAY	19.79	1636.56	1622.26	14.30	23.81	0.06	8436.41	57109.50	1521.09	422.46
SPILLWAY	19.72	1627.90	1617.82	10.07	7.41	1.27	11504.32	45531.01	10031.67	381.60
SPILLWAY	19.65	1624.12	1619.14	4.97	1.59	0.02	9374.67	52015.89	5676.44	412.12
SPILLWAY	19.58	1621.95	1614.70	7.25	1.94	0.23	7848.78	50686.64	8531.58	379.23
SPILLWAY	19.53	1618.32	1602.64	15.68	2.79	0.84	3790.55	47045.17	16231.28	254.34
SPILLWAY	19.50	1613.81	1596.18	17.62	4.31	0.19	5718.58	31578.39	29770.03	321.57
SPILLWAY	19.46	1605.29	1589.25	16.03	8.03	0.47	6984.32	27893.83	32188.85	457.93

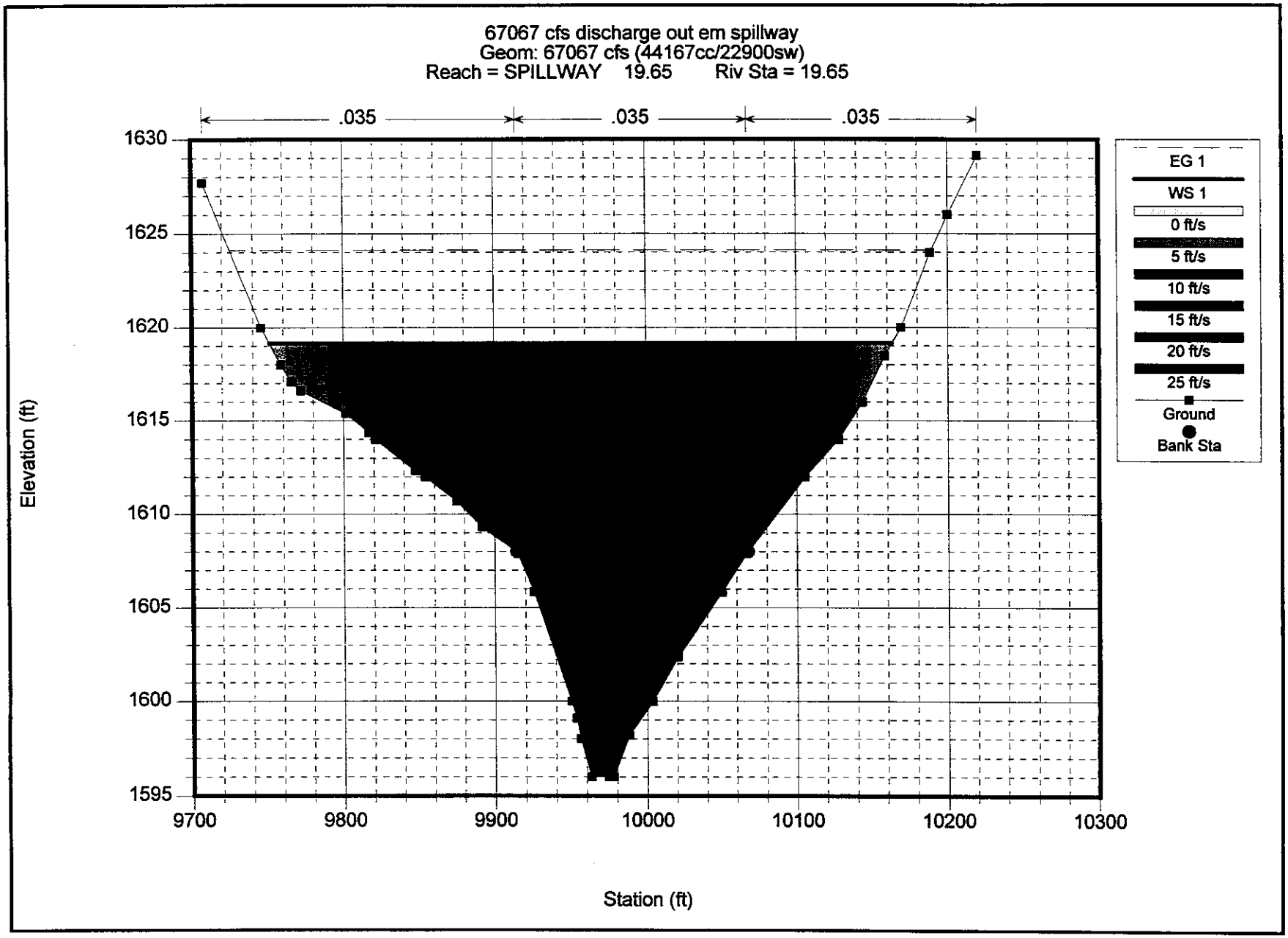
SPILLWAY	19.42	1594.25	1584.55	9.70	9.14	1.90	24952.85	27353.74	14760.40	734.53
SPILLWAY	19.37	1585.50	1580.04	5.46	7.47	1.27	17796.82	18165.66	31104.52	953.50
SPILLWAY	19.29	1576.83	1573.21	3.62	8.12	0.55	13259.62	14109.16	39698.22	1187.51
SPILLWAY	19.20	1567.64	1565.27	2.38	8.81	0.37	1111.84	6095.97	59859.19	1762.64
SPILLWAY	19.05	1556.24	1555.77	0.47	0.19	0.11	3219.68	29378.54	34468.79	3375.18
SPILLWAY	18.96	1555.93	1555.84	0.09	0.00	0.00		7579.84	59487.16	4234.89

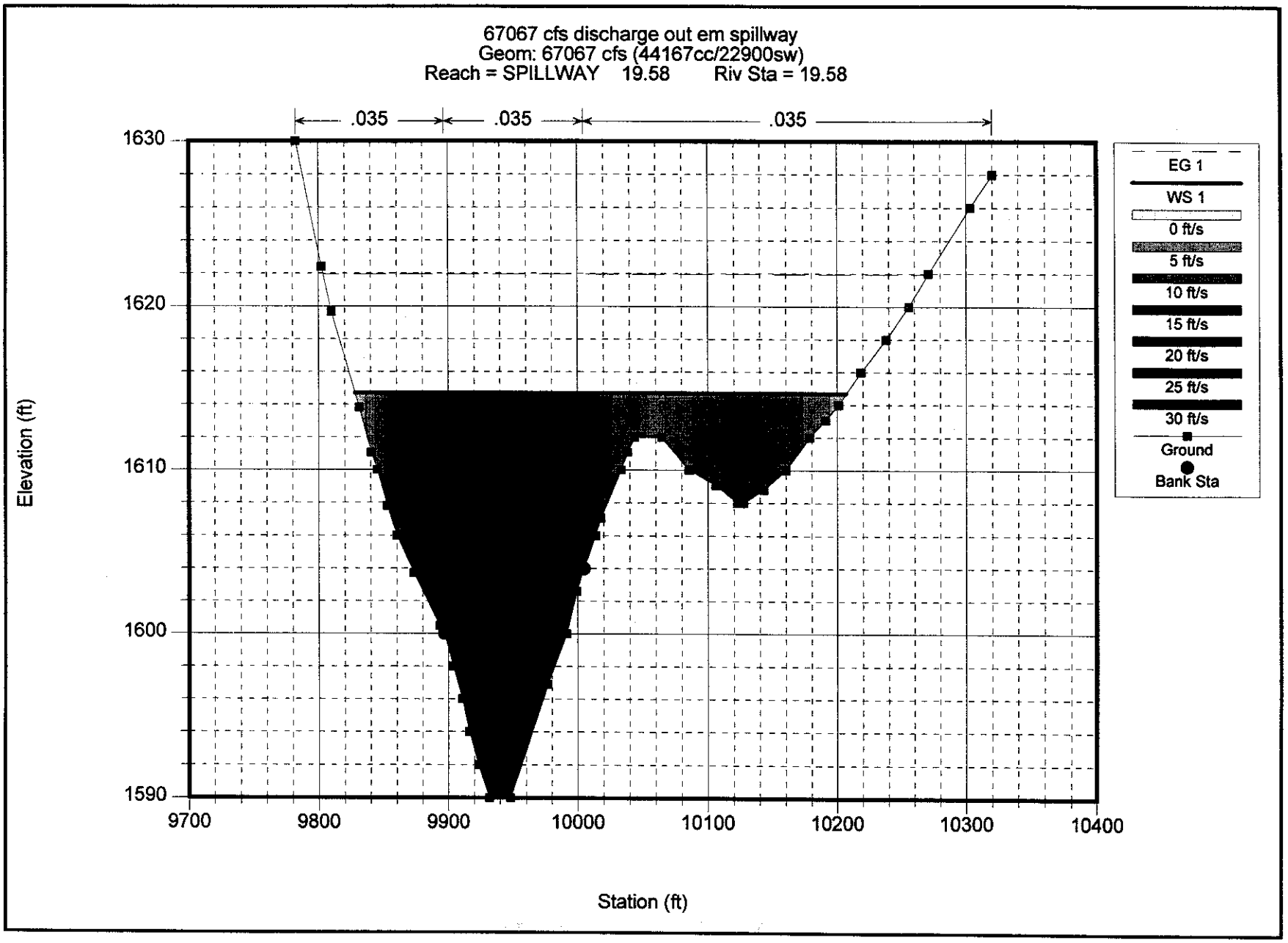

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 20 Riv Sta = 20
.025
.025
0
2
5
1700
1690
1680
1670
1660
1650
Elevation (ft)
9600
9700
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Bank Sta

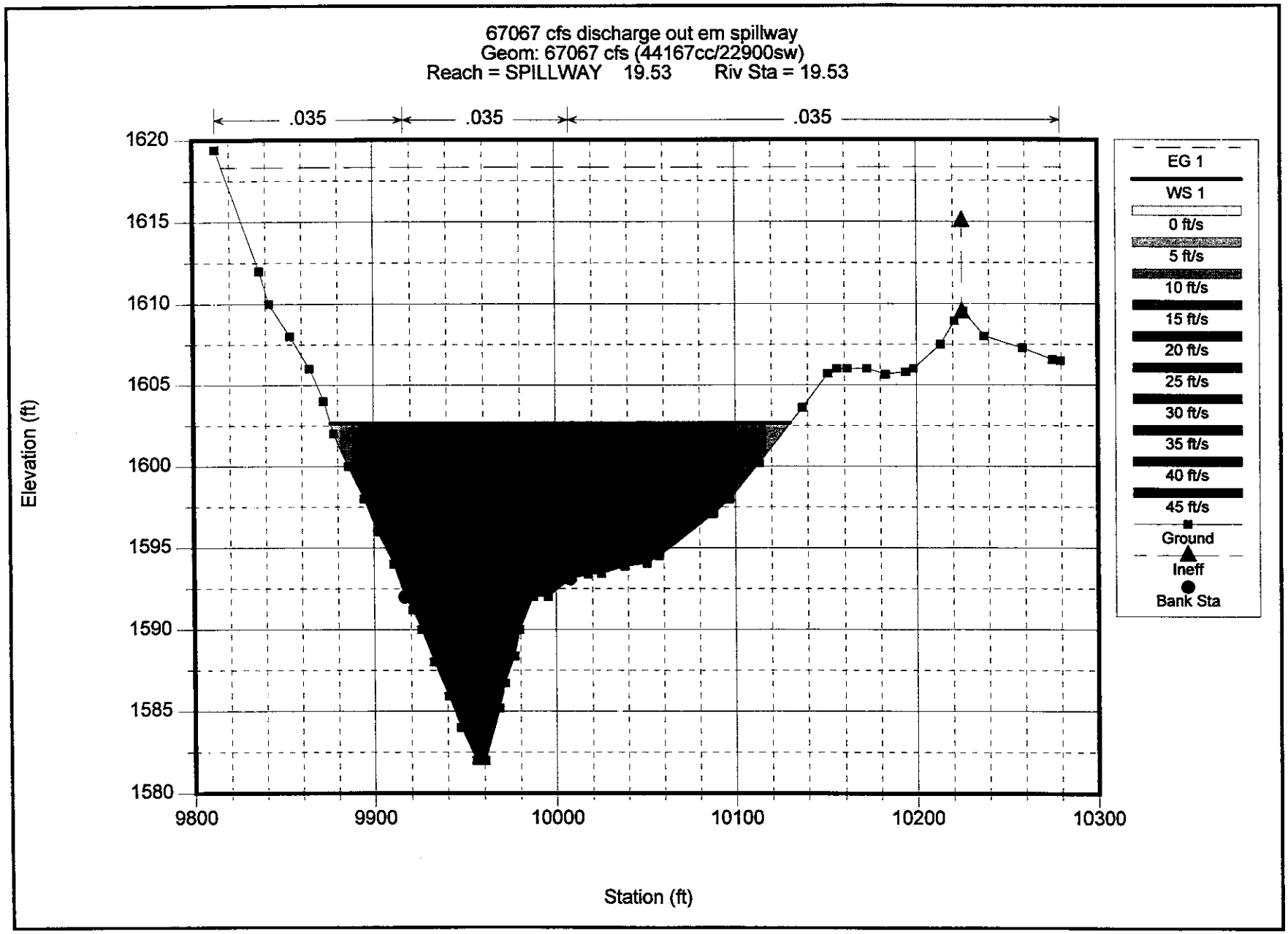

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.89 Riv Sta = 19.89
.025
.025
.025
1665
1660
1655
1650
1645
1640
Elevation (ft)
9600
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
Ground
Bank Sta

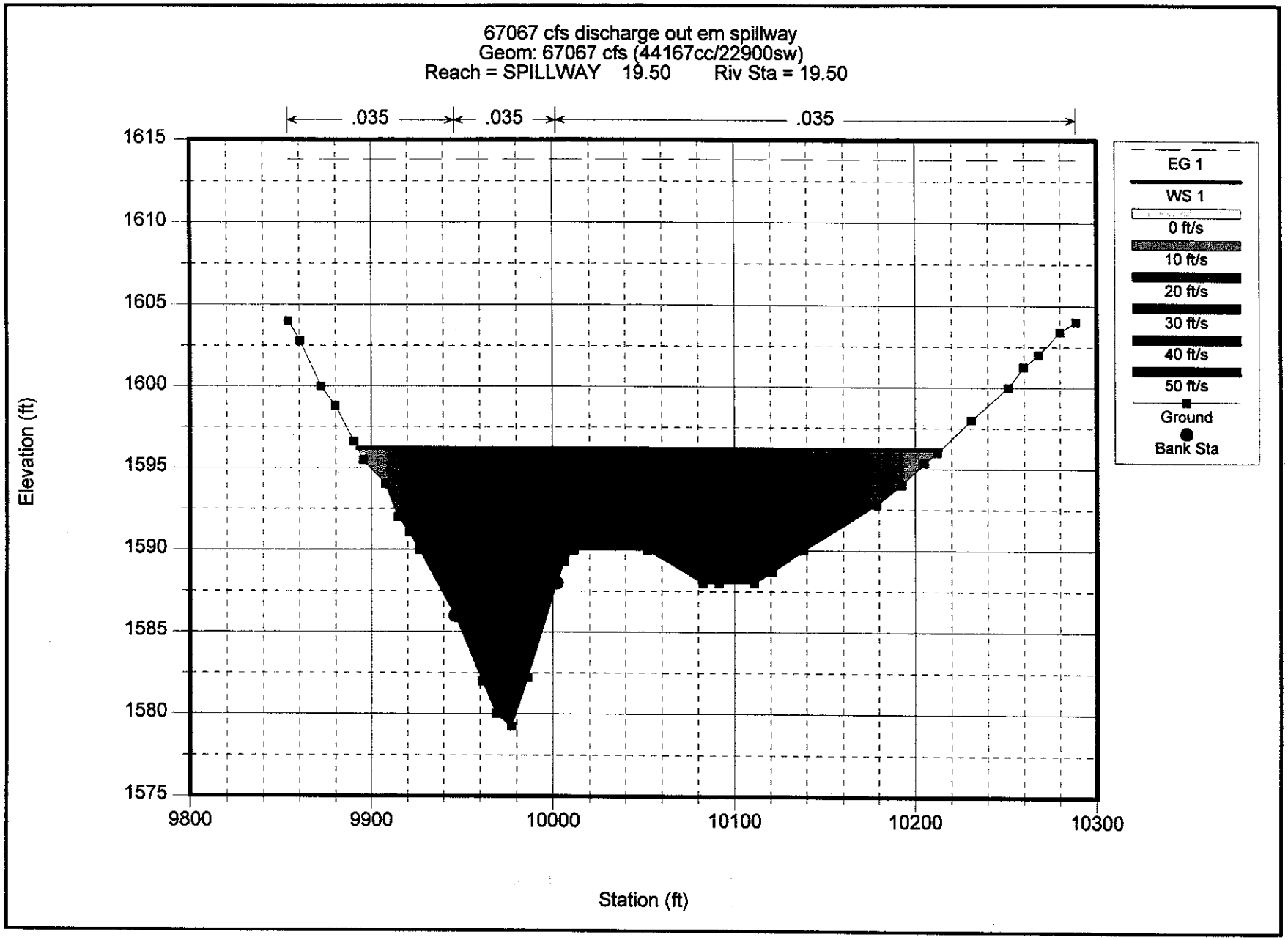

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.79 Riv Sta = 19.79
.035
.035
.035
1640
1635
1630
1625
1620
1615
1610
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
Ground
Bank Sta

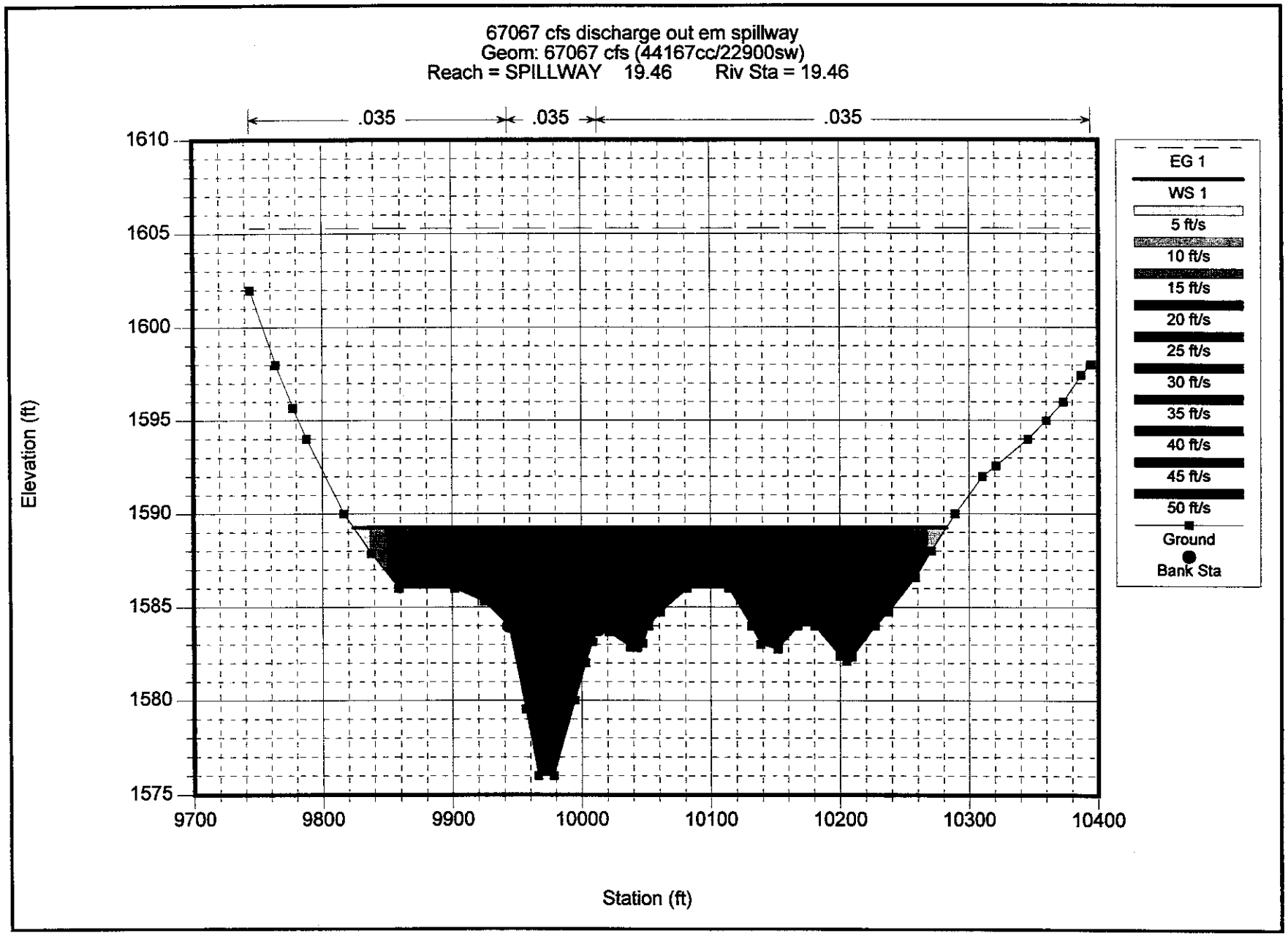

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.72 Riv Sta = 19.72
.035
.035
.035
1630
1625
1620
1615
1610
1605
1600
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
Ground
Bank Sta

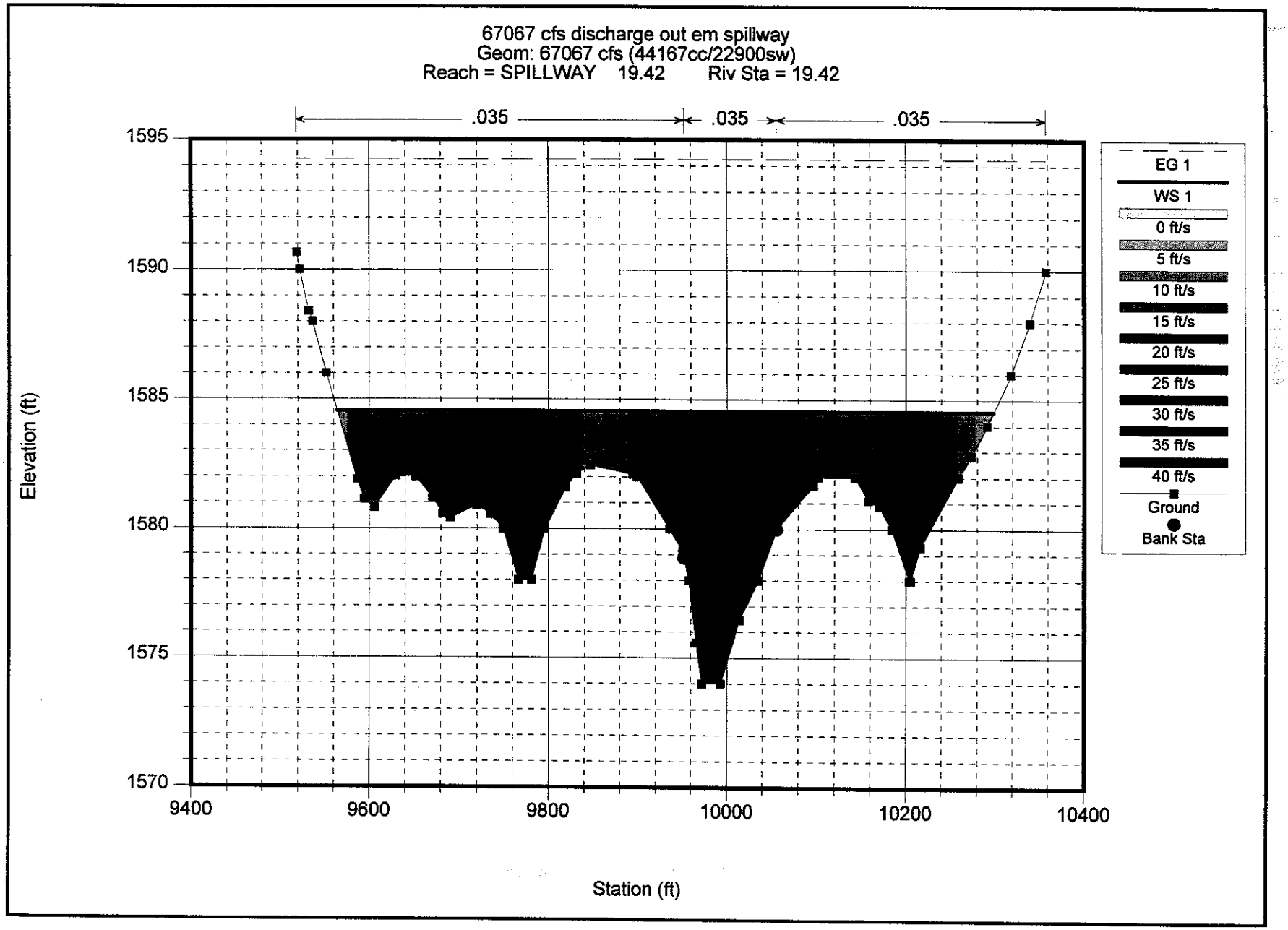

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.65 Riv Sta = 19.65
.035
.035
.035
1630
1625
1620
1615
1610
1605
1600
1595
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

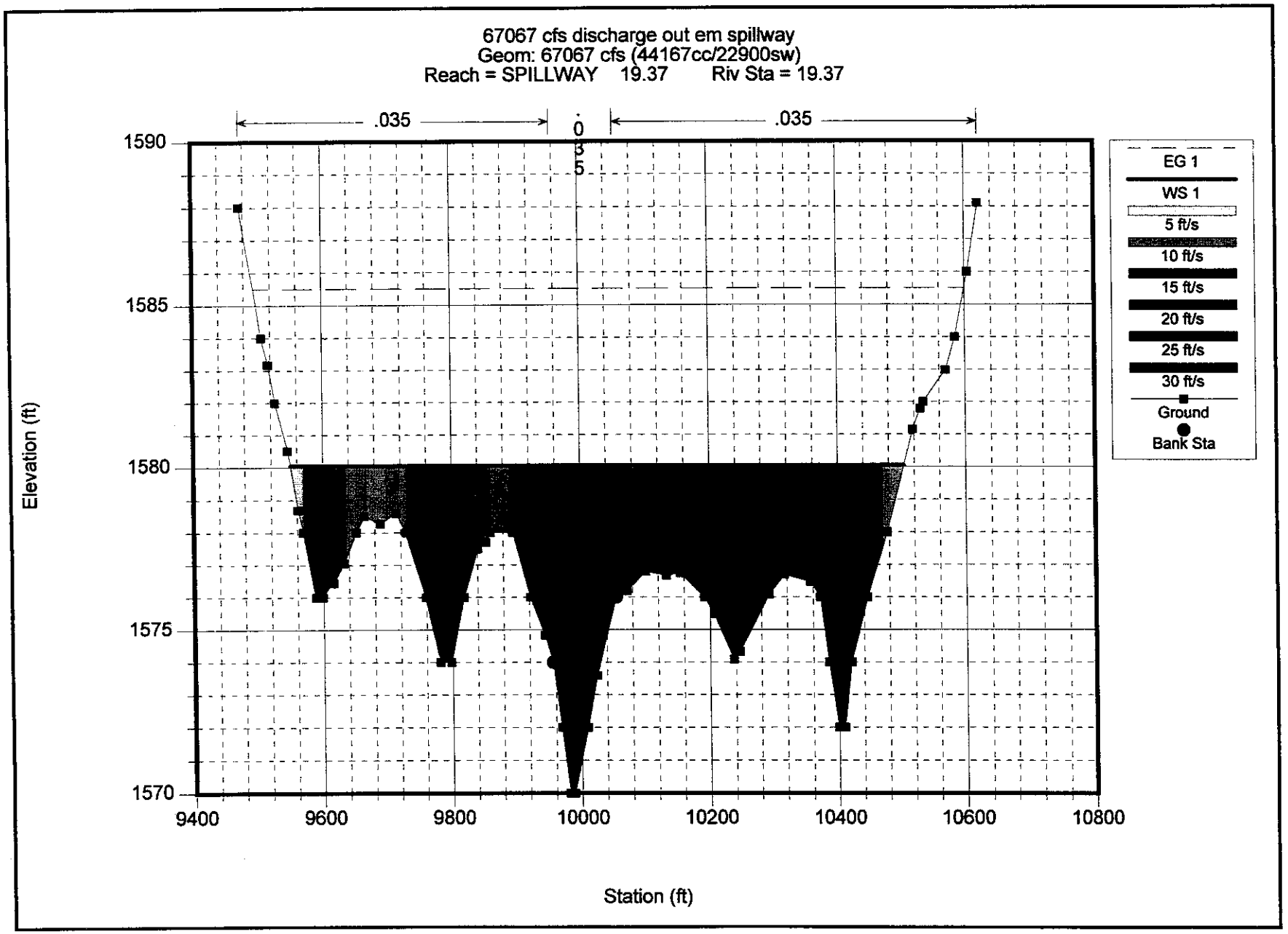

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.58 Riv Sta = 19.58
.035
.035
.035
1630
1620
1610
1600
1590
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Bank Sta

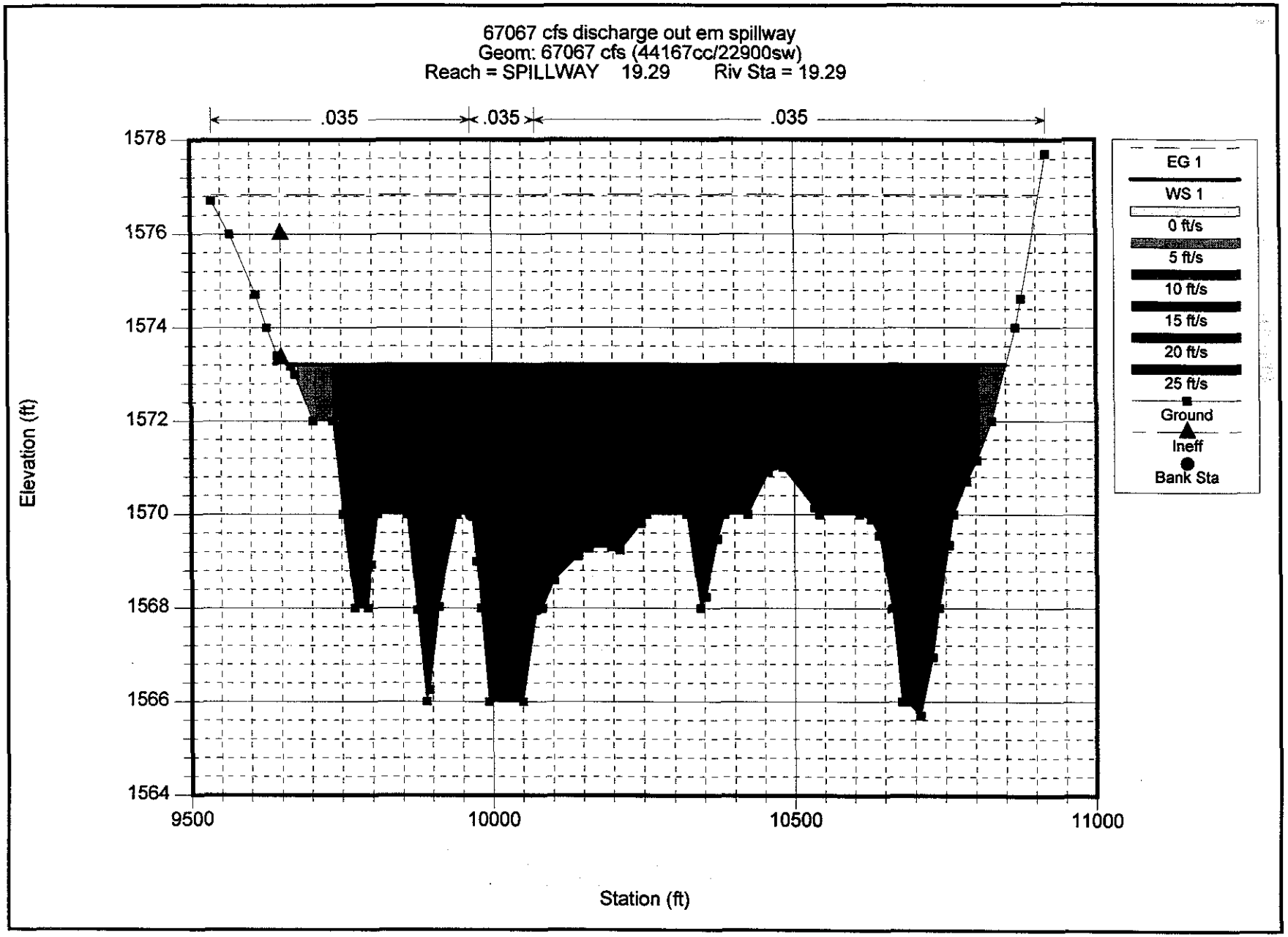

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.53 Riv Sta = 19.53
.035
.035
.035
1620
1615
1610
1605
1600
1595
1590
1585
1580
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
Ground
Ineff
Bank Sta

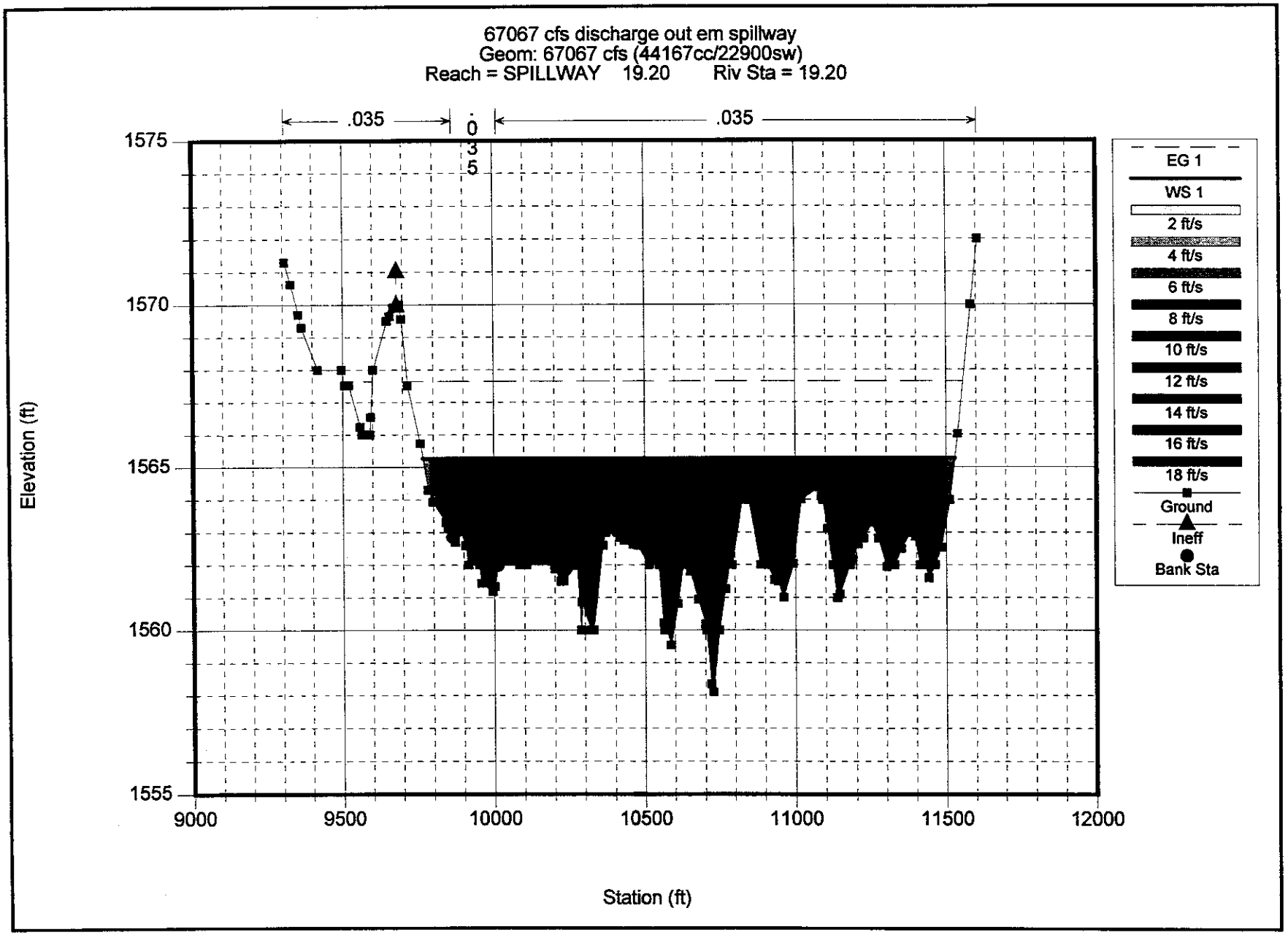

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.50 Riv Sta = 19.50
.035
.035
.035
1615
1610
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
10 ft/s
20 ft/s
30 ft/s
40 ft/s
50 ft/s
Ground
Bank Sta

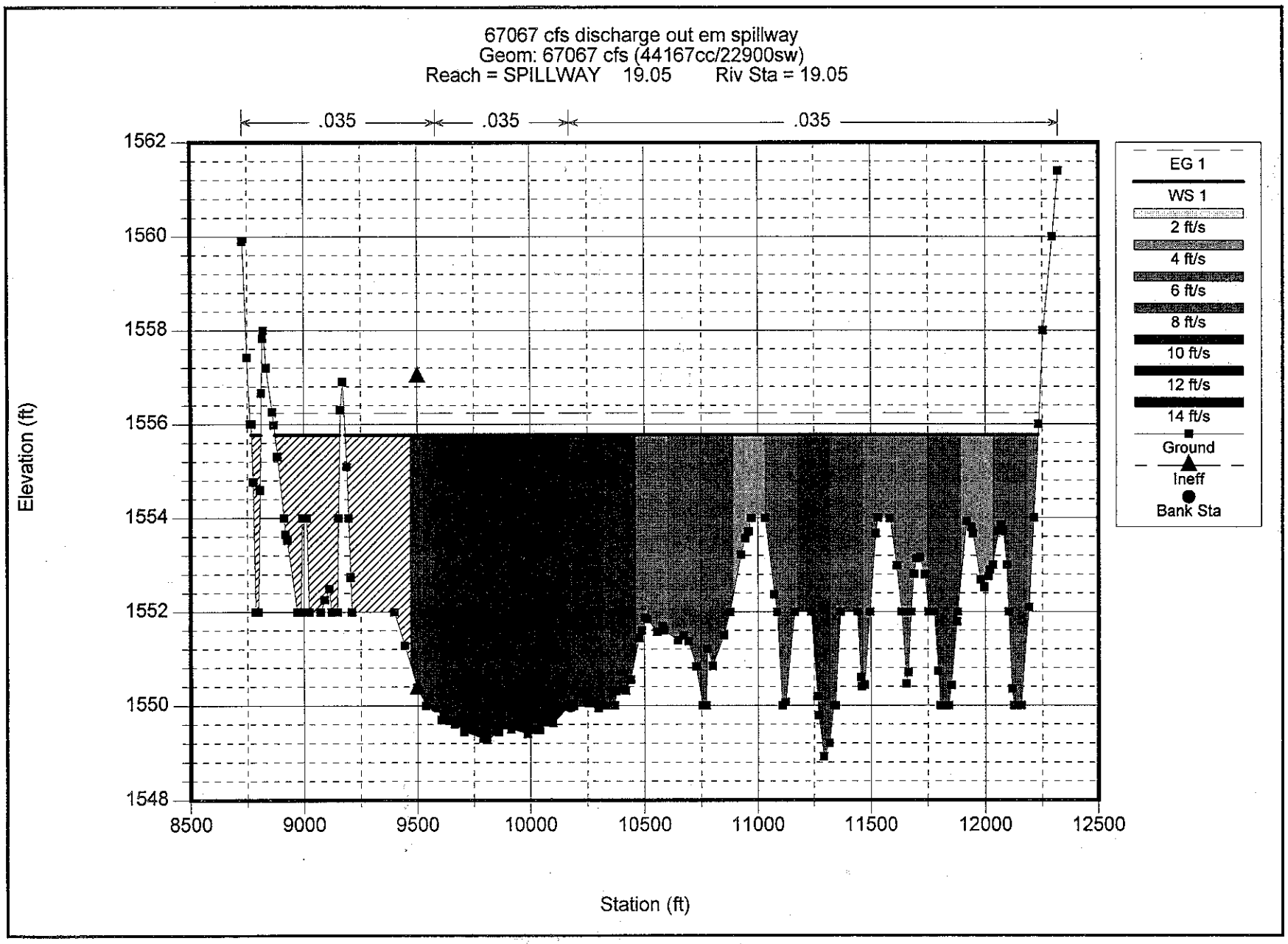

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.46 Riv Sta = 19.46
.035
.035
.035
1610
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
50 ft/s
Ground
Bank Sta

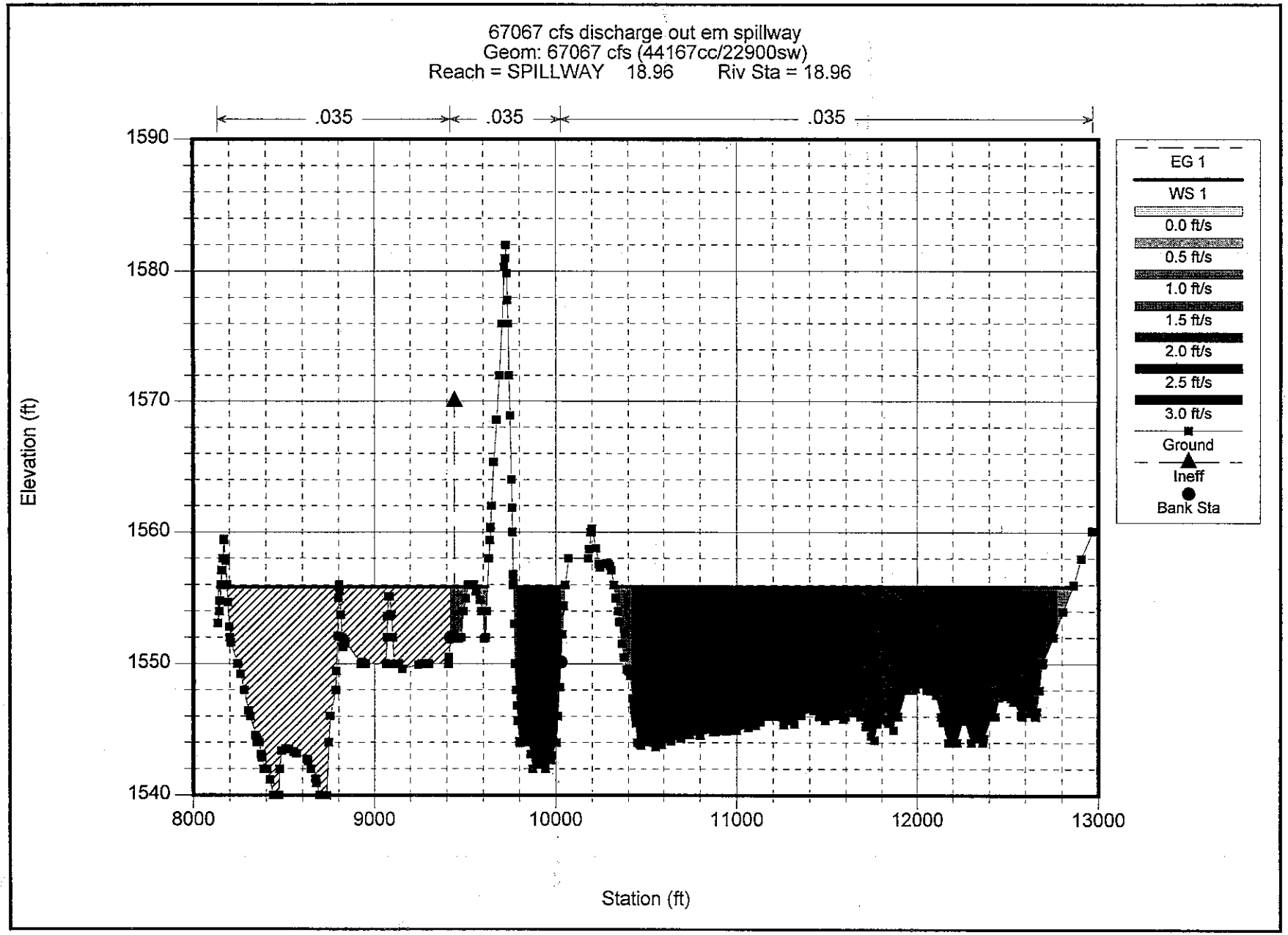

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.42 Riv Sta = 19.42
.035
.035
.035
1595
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
Ground
Bank Sta

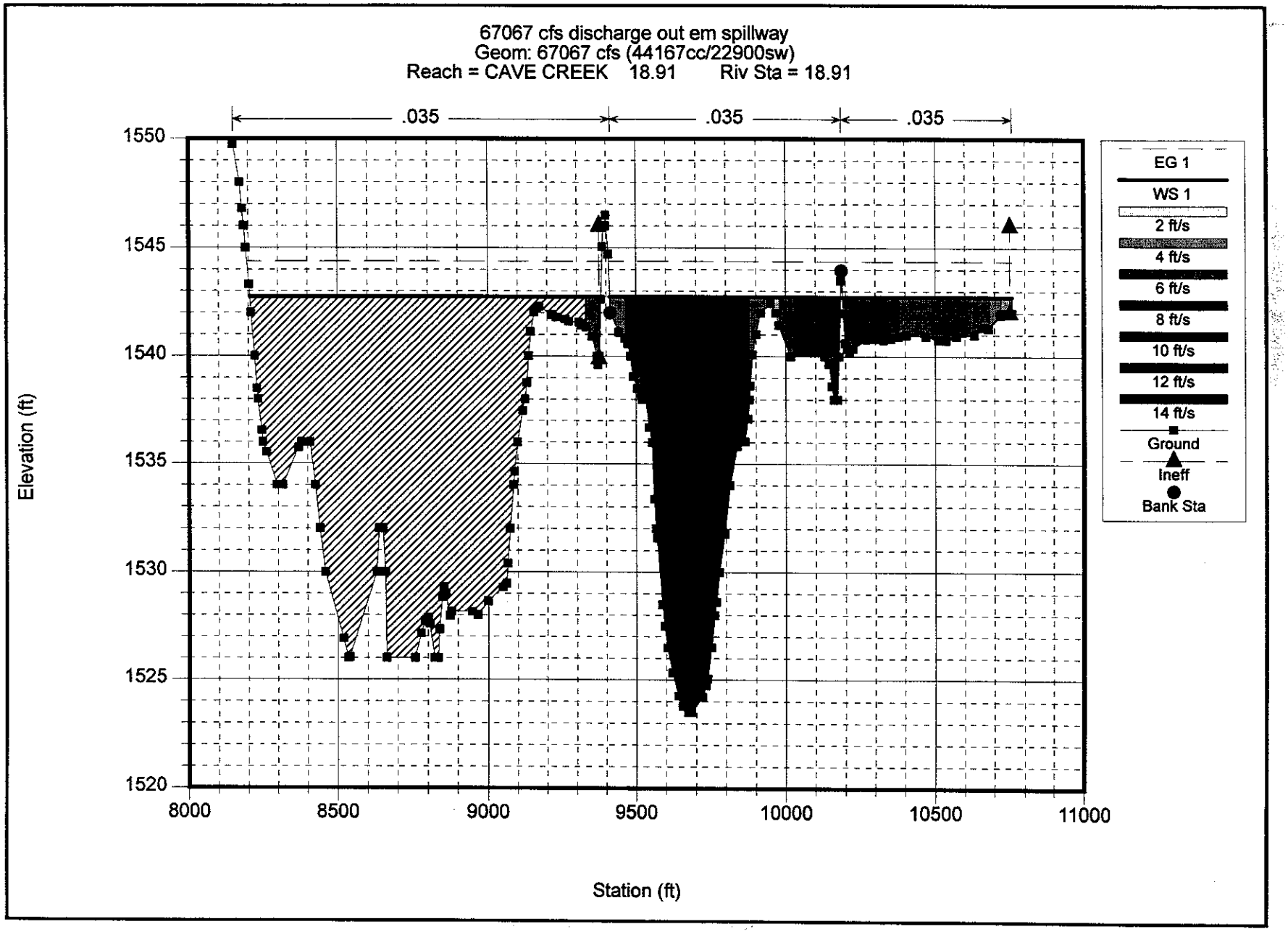

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.37 Riv Sta = 19.37
.035
.035
.035
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
10800
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Bank Sta

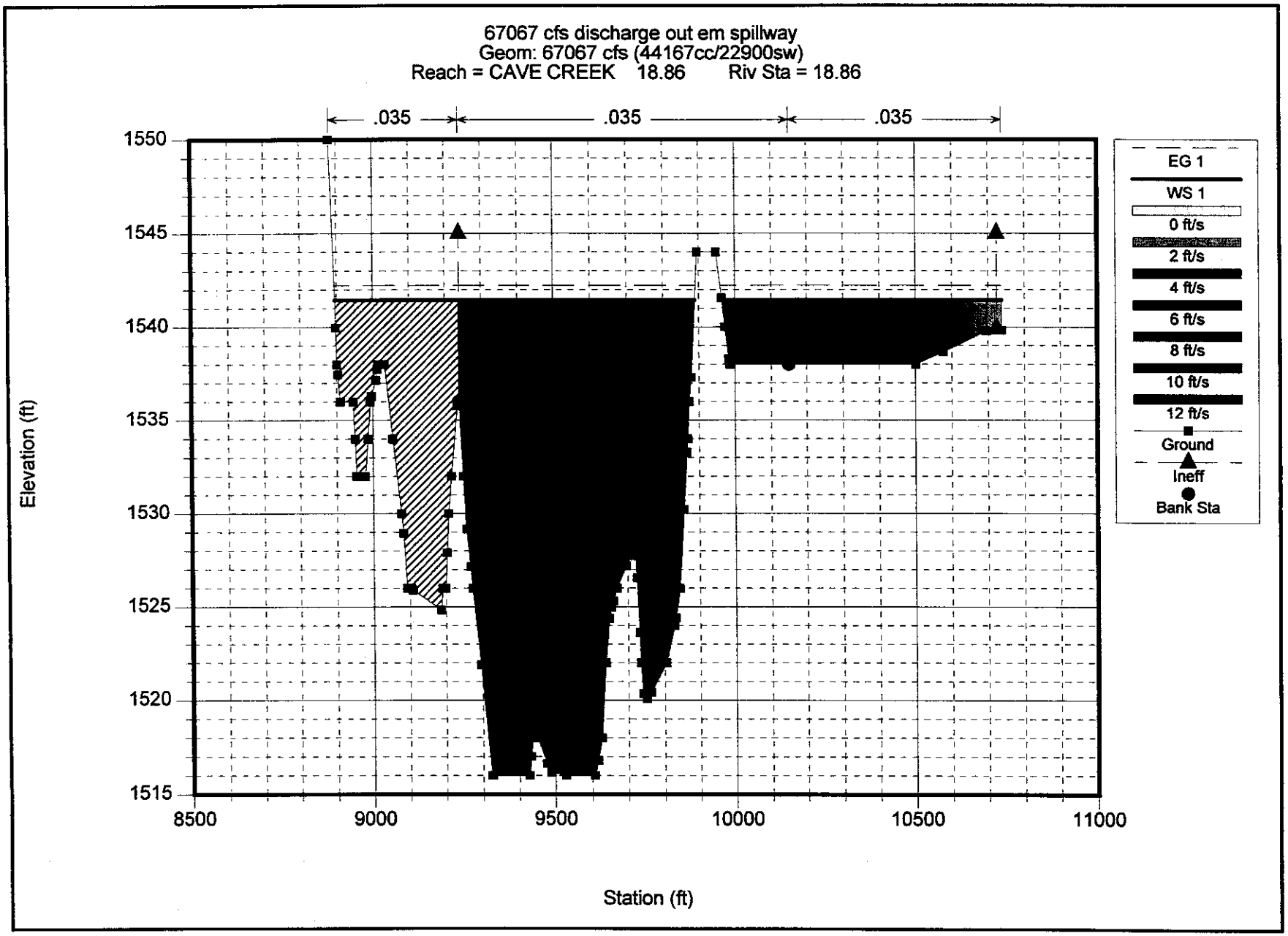

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.29 Riv Sta = 19.29
.035
.035
.035
1578
1576
1574
1572
1570
1568
1566
1564
Elevation (ft)
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Ineff
Bank Sta

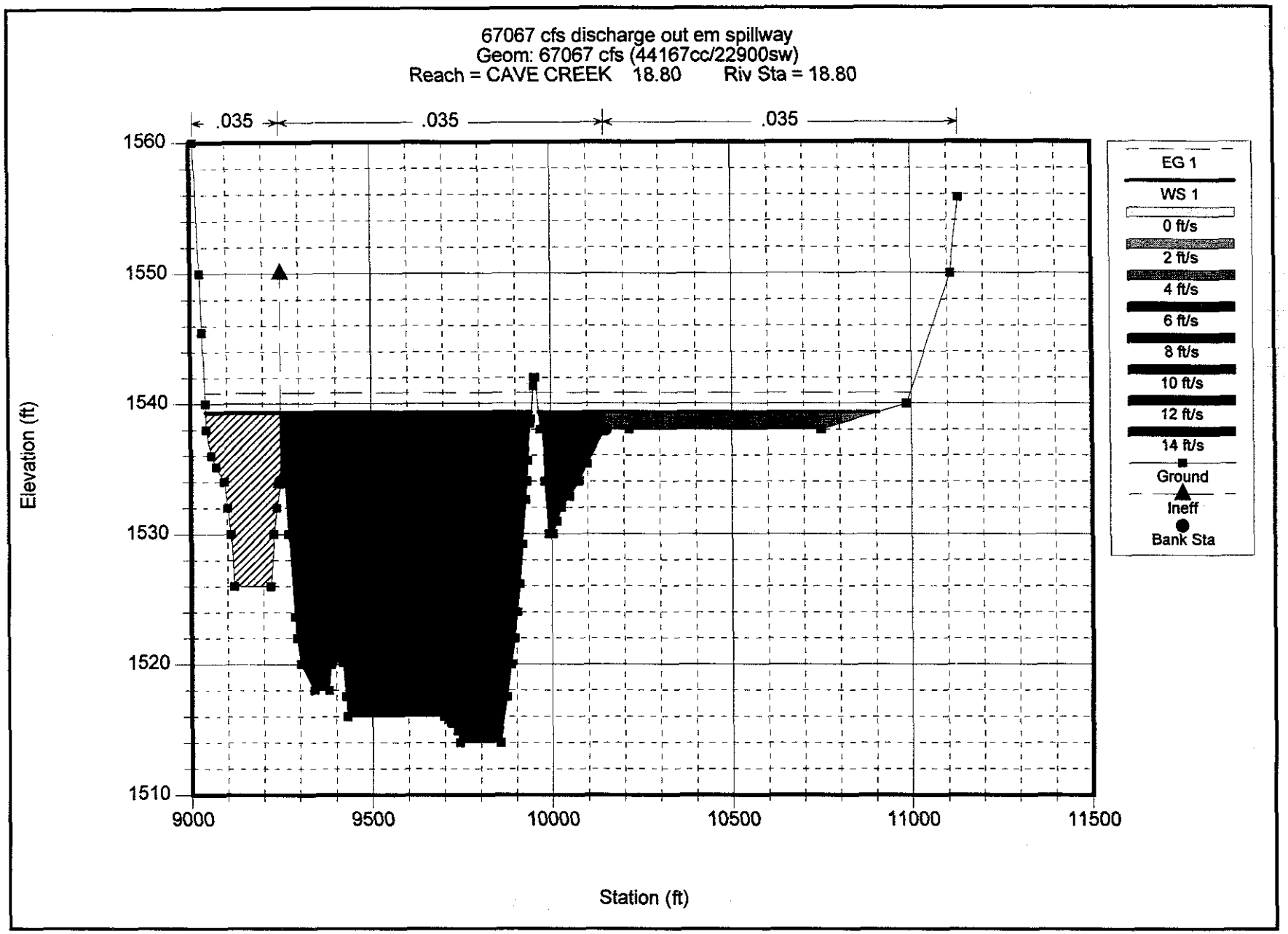

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.20 Riv Sta = 19.20
.035
.035
0.035
1575
1570
1565
1560
1555
Elevation (ft)
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Ineff
Bank Sta

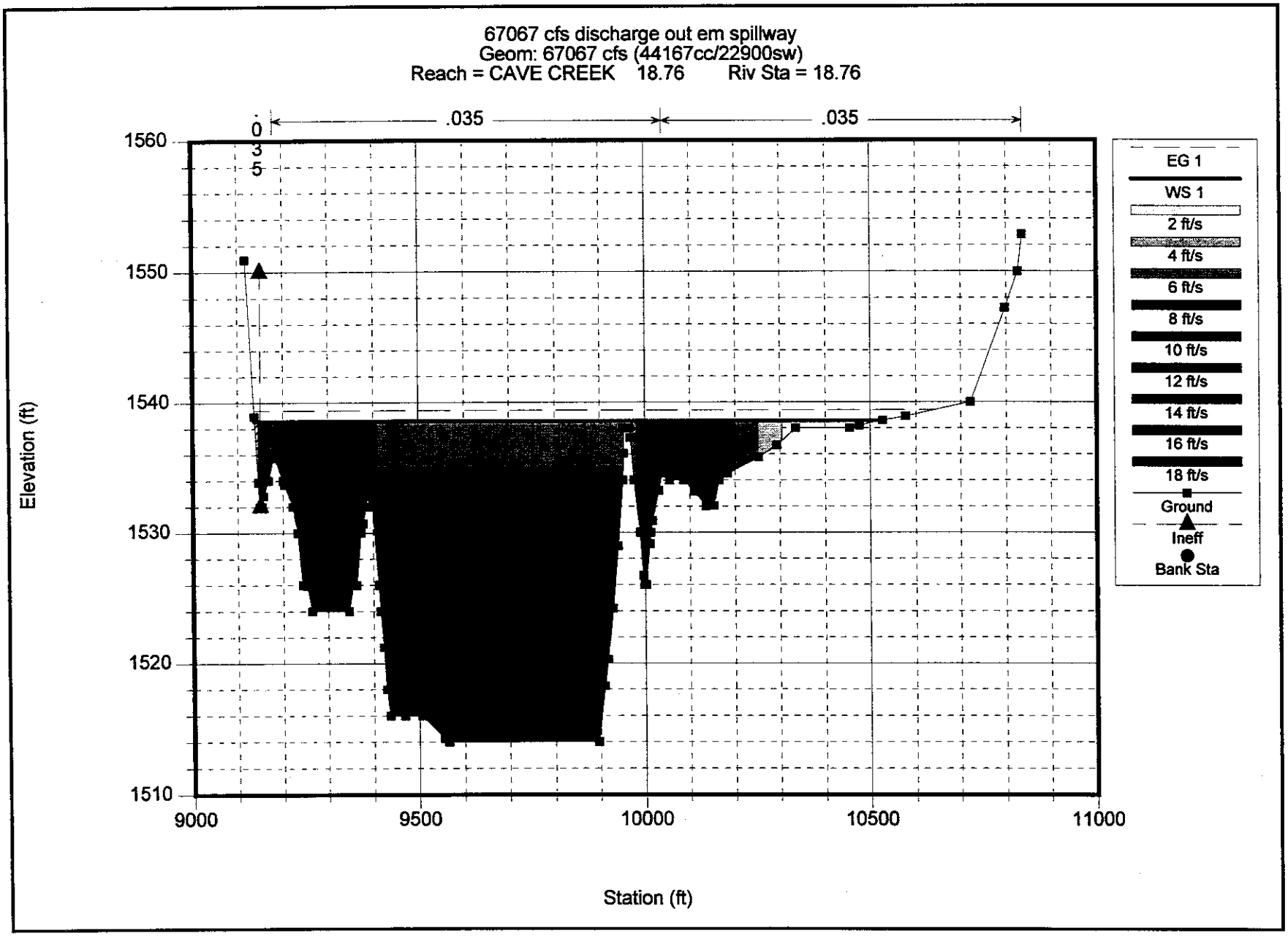

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 19.05 Riv Sta = 19.05
.035
.035
.035
1562
1560
1558
1556
1554
1552
1550
1548
Elevation (ft)
8500
9000
9500
10000
10500
11000
11500
12000
12500
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta

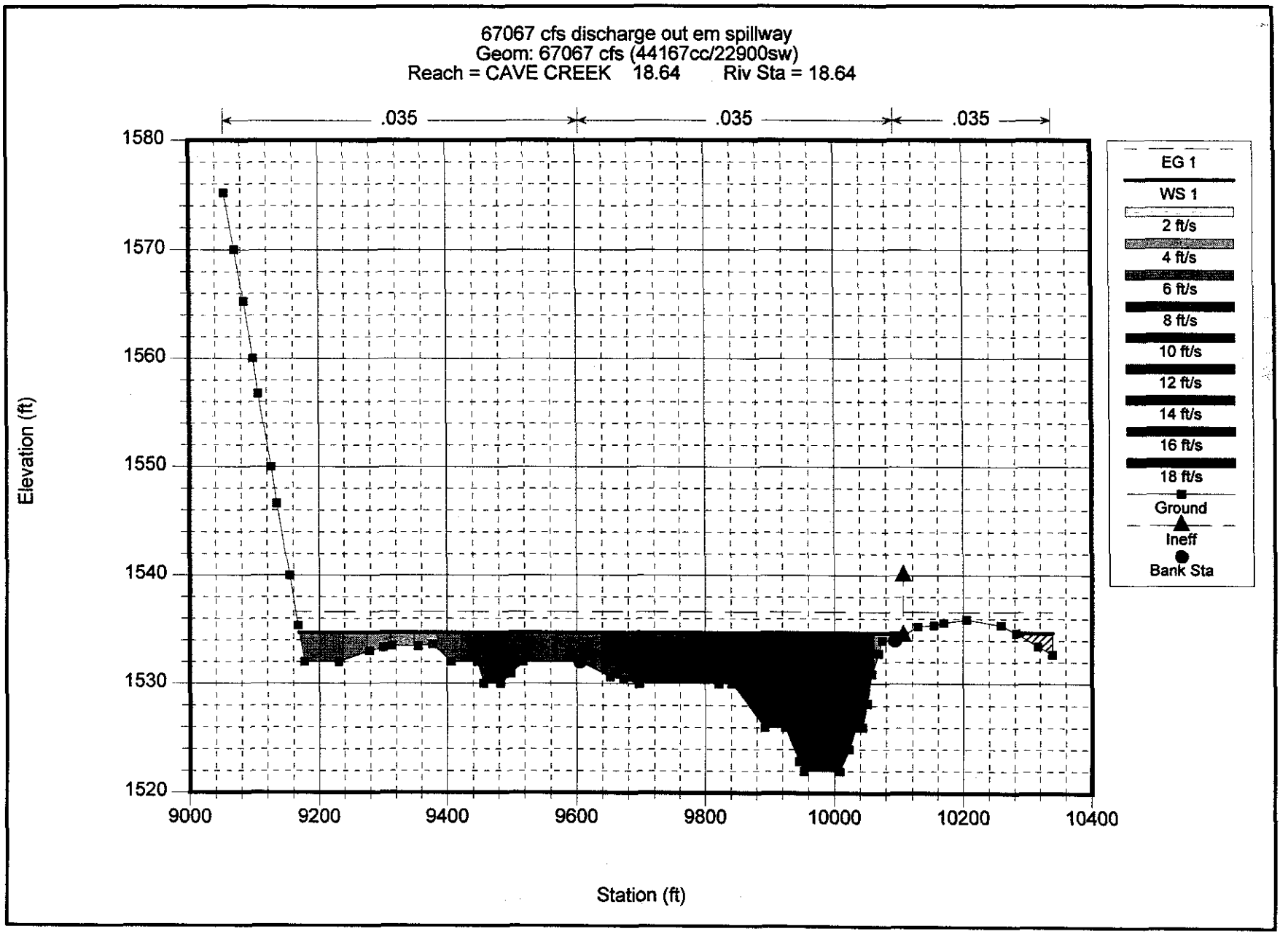

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SPILLWAY 18.96 Riv Sta = 18.96
.035
.035
.035
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
9000
10000
11000
12000
13000
Station (ft)
EG 1
WS 1
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
Ground
Ineff
Bank Sta

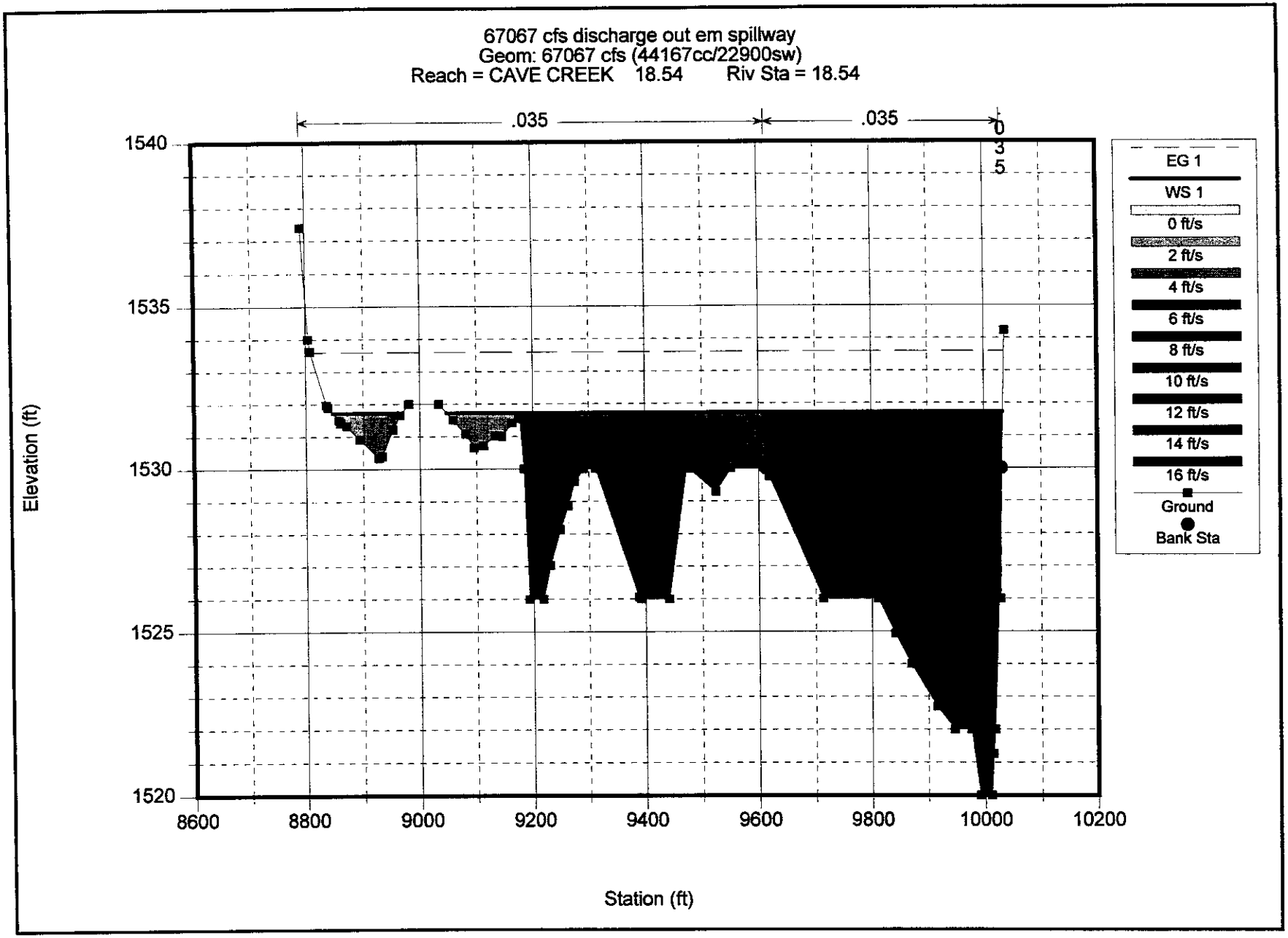

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.91 Riv Sta = 18.91
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta

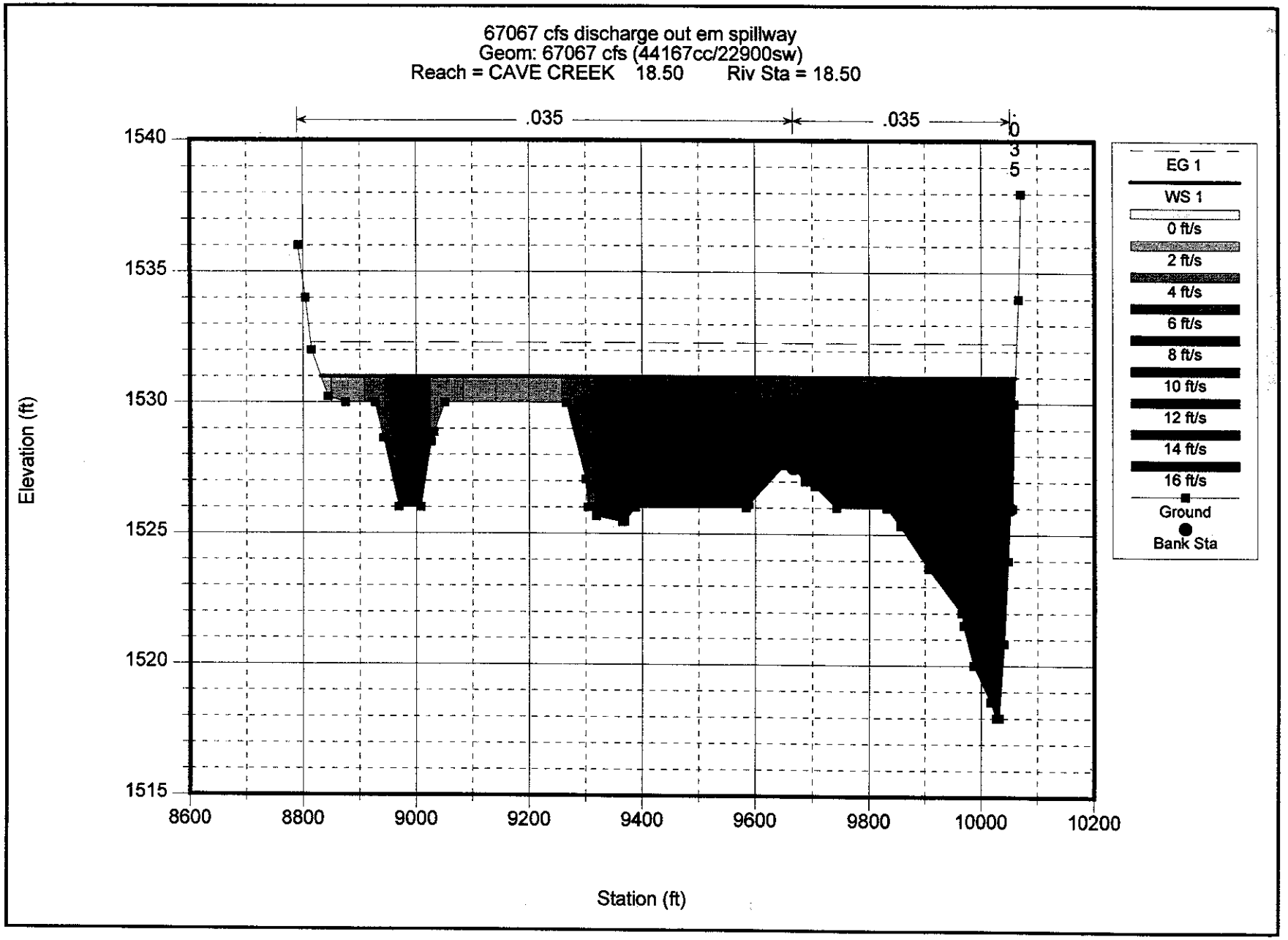

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.86 Riv Sta = 18.86
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta

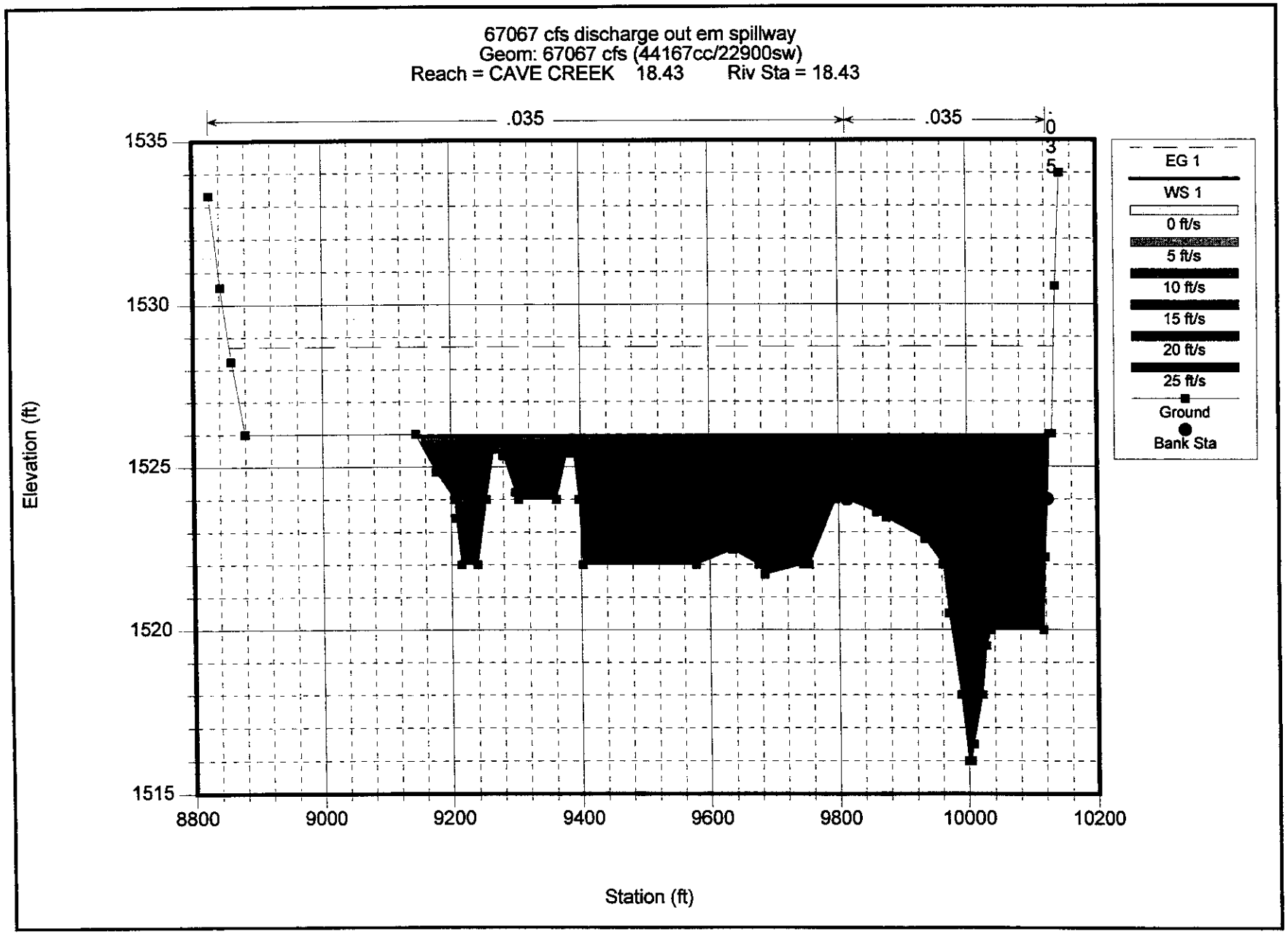

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.80 Riv Sta = 18.80
.035
.035
.035
1560
1550
1540
1530
1520
1510
Elevation (ft)
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta

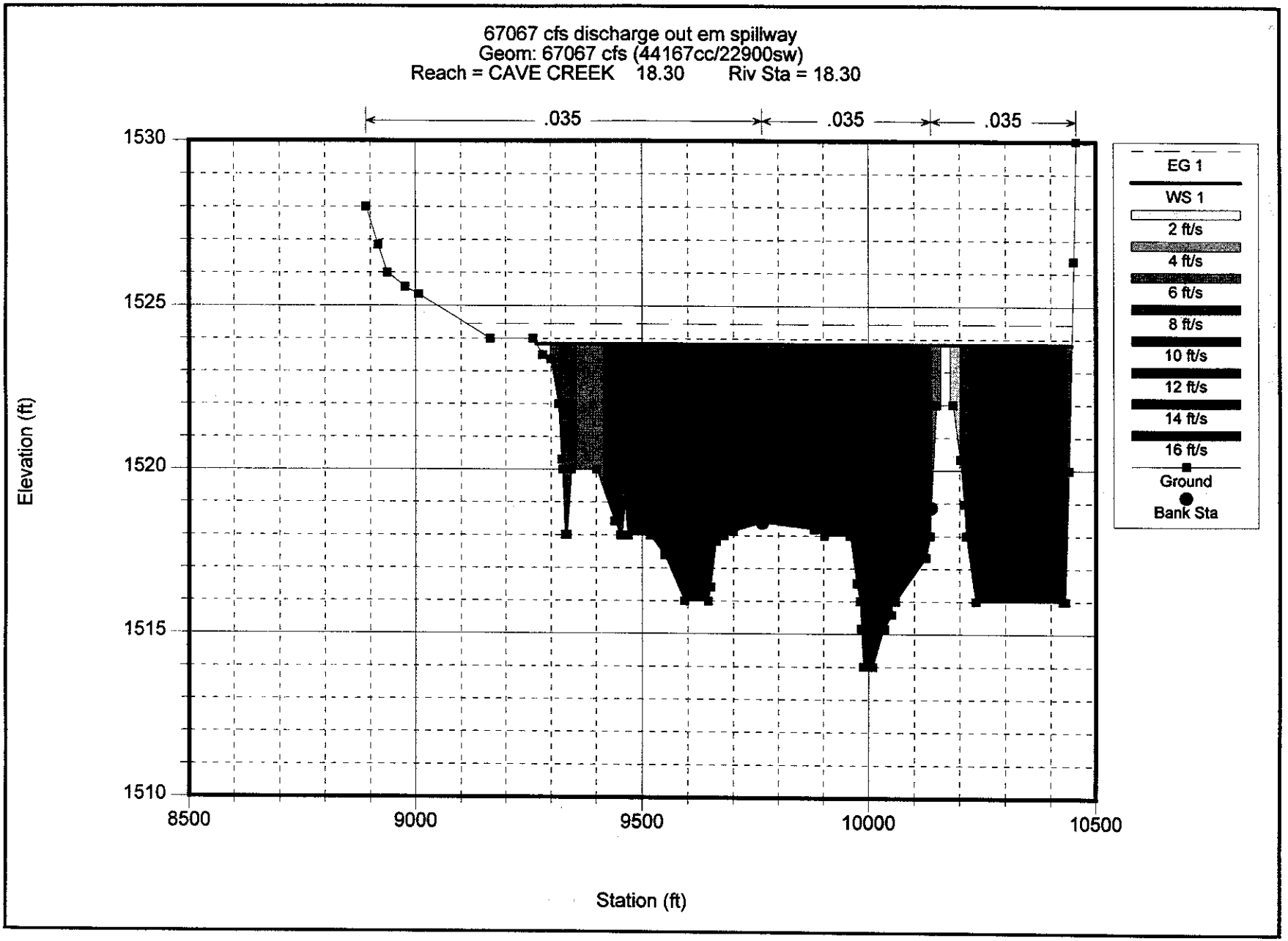

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.76 Riv Sta = 18.76
.035
.035
0
3
5
1560
1550
1540
1530
1520
1510
Elevation (ft)
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Ineff
Bank Sta

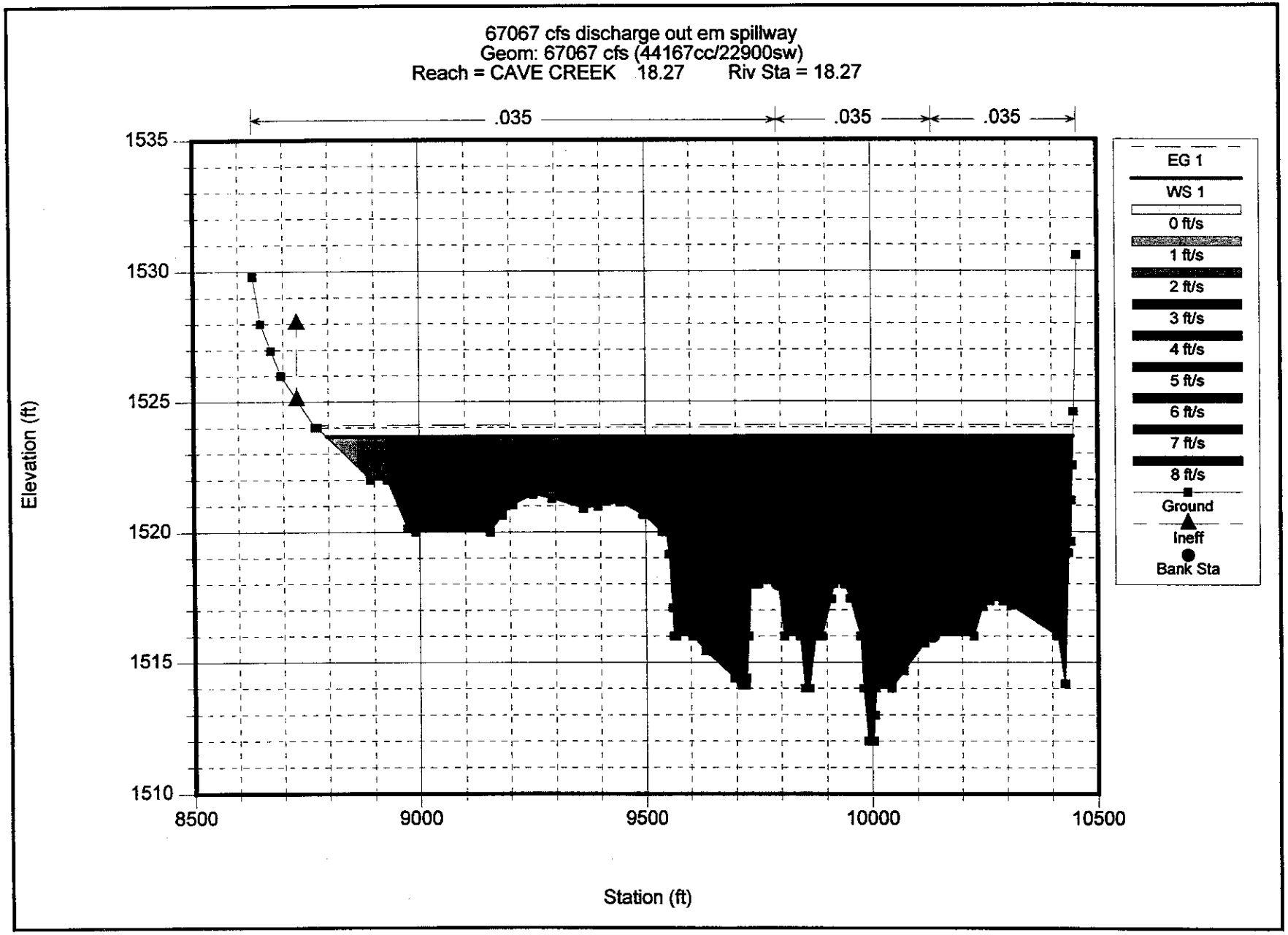

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.64 Riv Sta = 18.64
.035
.035
.035
1580
1570
1560
1550
1540
1530
1520
Elevation (ft)
9000
9200
9400
9600
9800
10000
10200
10400
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Ineff
Bank Sta

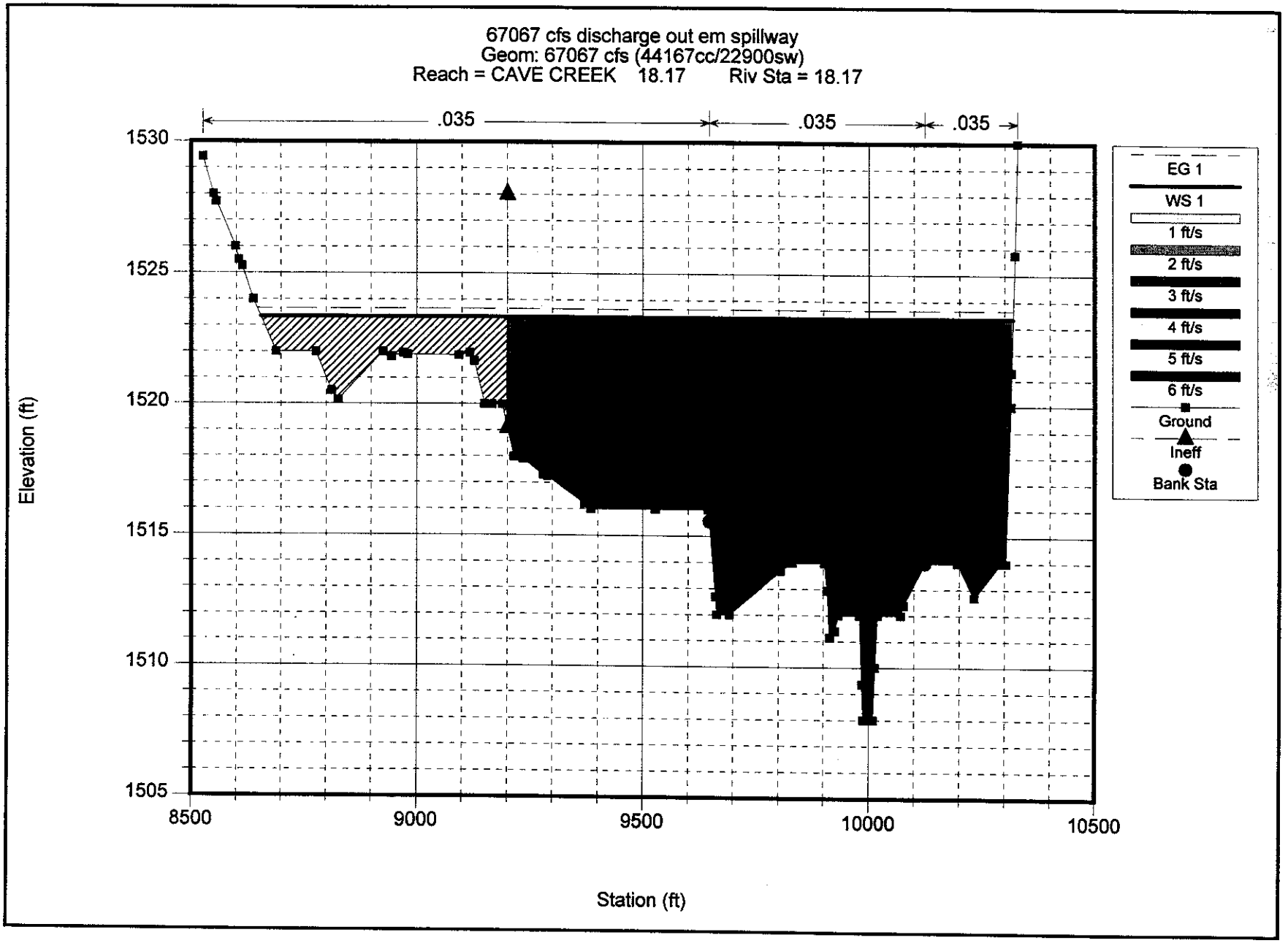

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.54 Riv Sta = 18.54
.035
.035
0
3
5
1540
1535
1530
1525
1520
Elevation (ft)
8600
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
Ground
Bank Sta


67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.50 Riv Sta = 18.50
.035
.035
.035
Elevation (ft)
1540
1535
1530
1525
1520
1515
8600
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
Ground
Bank Sta

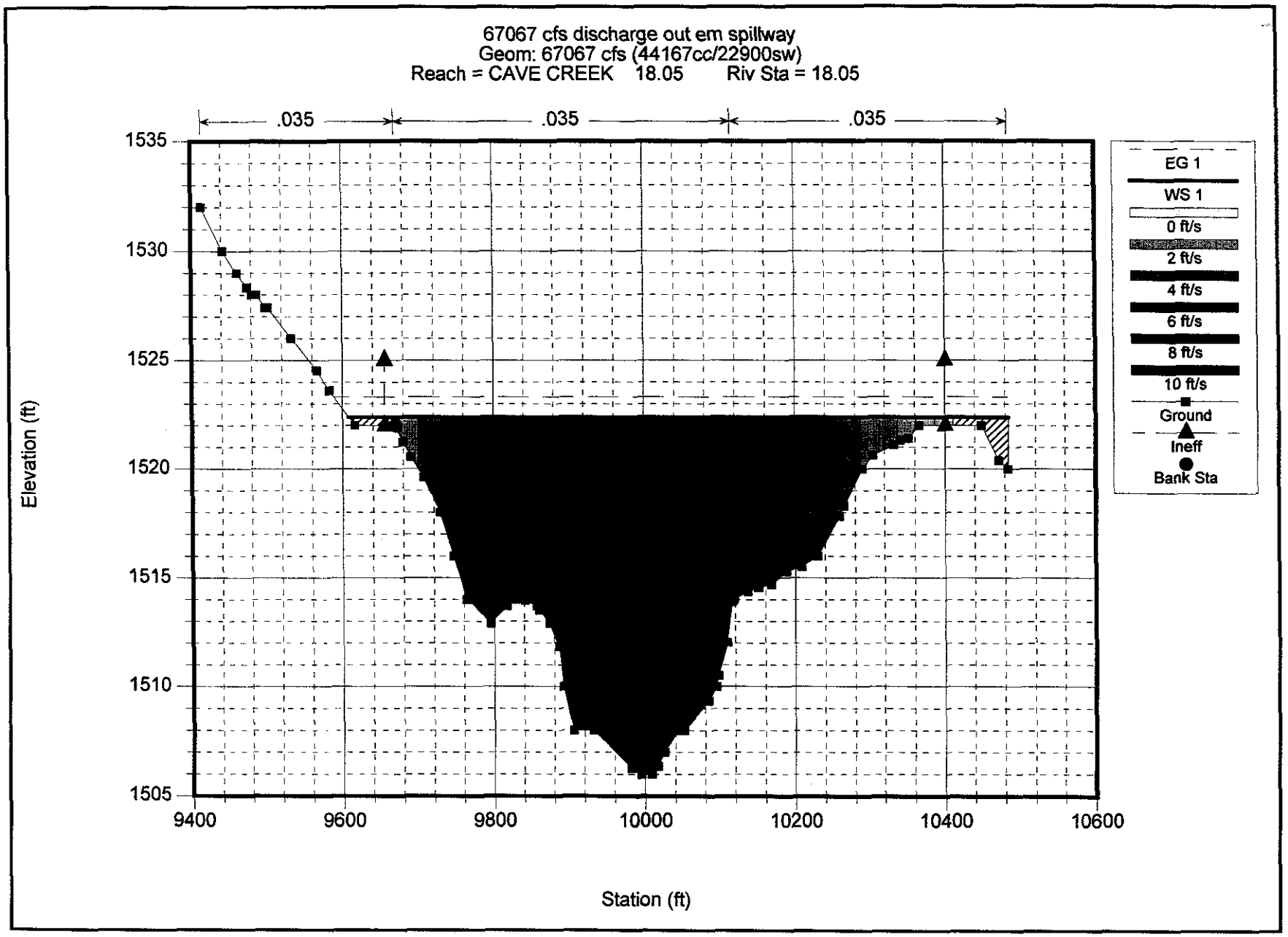

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.43 Riv Sta = 18.43
.035
.035
0
3
5
1535
1530
1525
1520
1515
Elevation (ft)
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

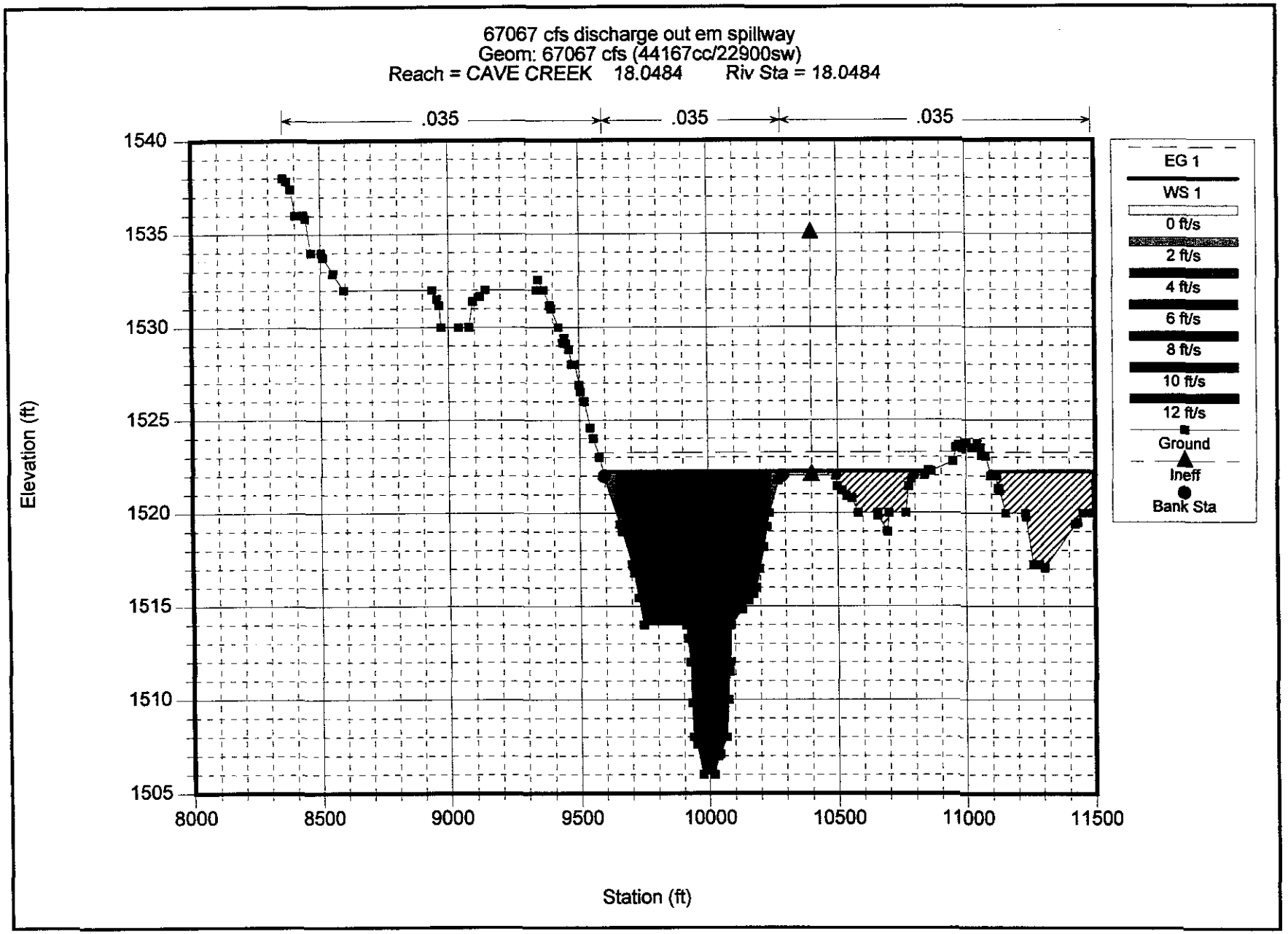

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.30 Riv Sta = 18.30
.035
.035
.035
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
Ground
Bank Sta

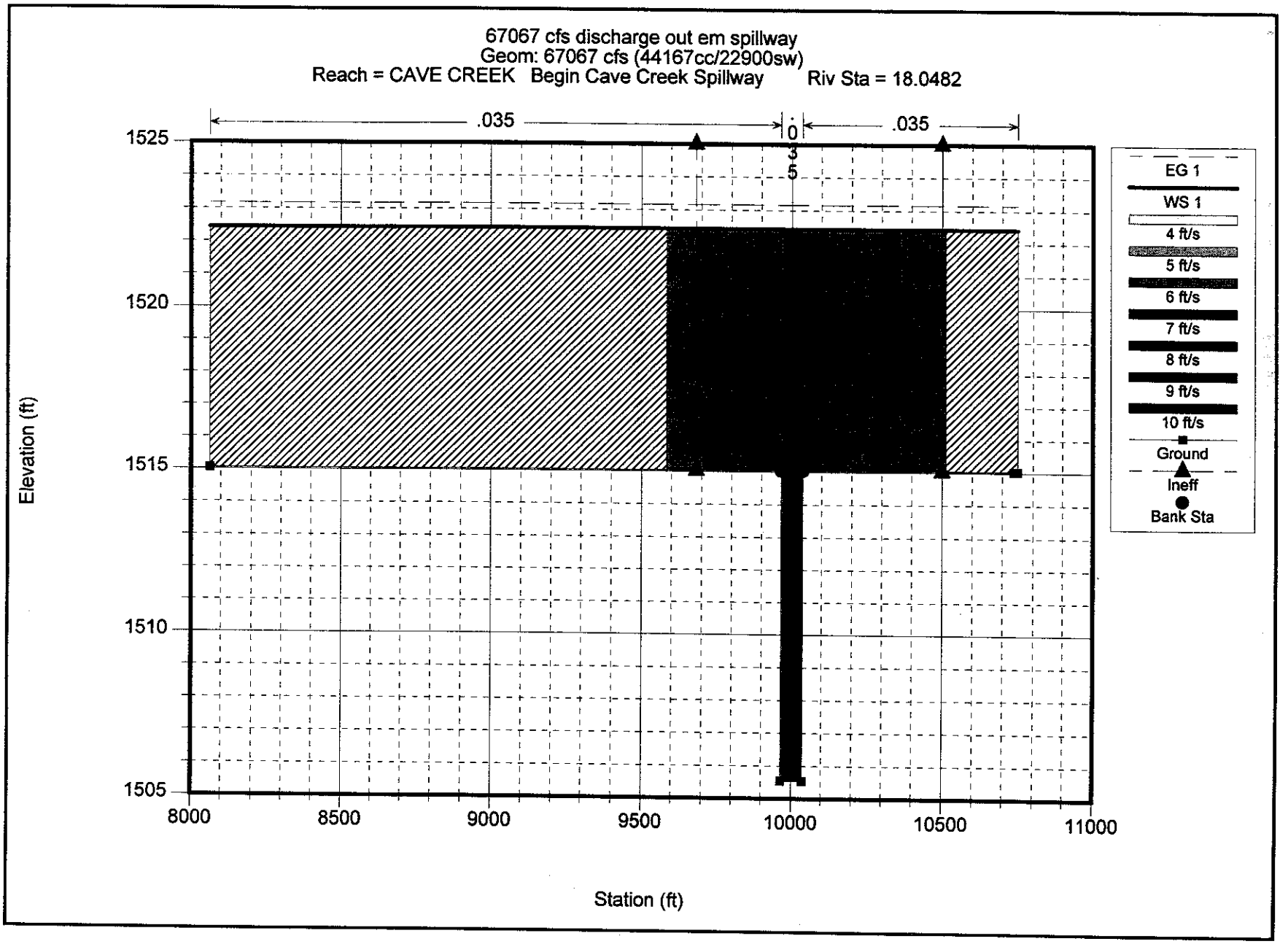

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.27 Riv Sta = 18.27
.035
.035
.035
1535
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
Ground
Ineff
Bank Sta

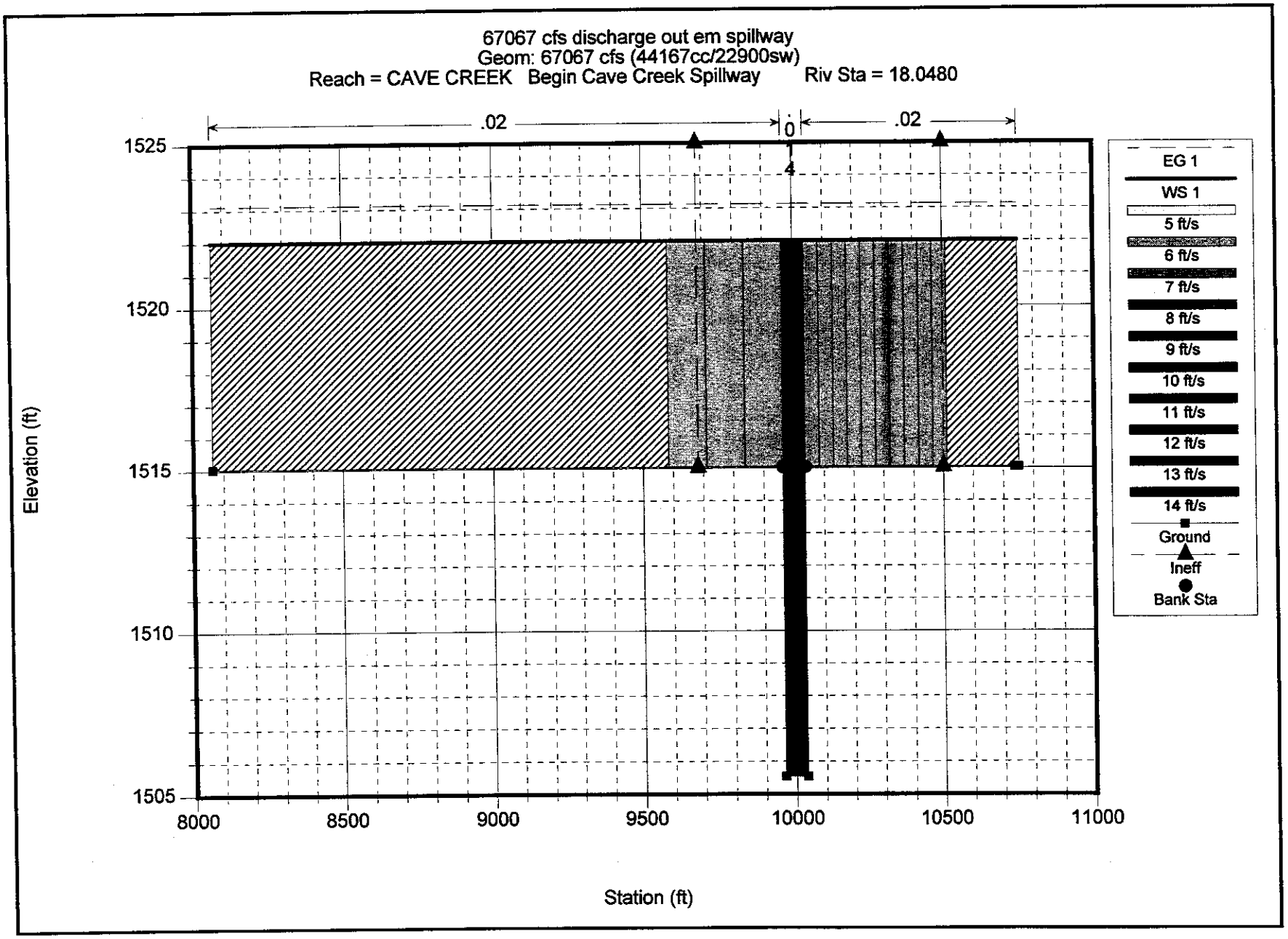

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.17 Riv Sta = 18.17
.035
.035
.035
1530
1525
1520
1515
1510
1505
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
Ground
Ineff
Bank Sta

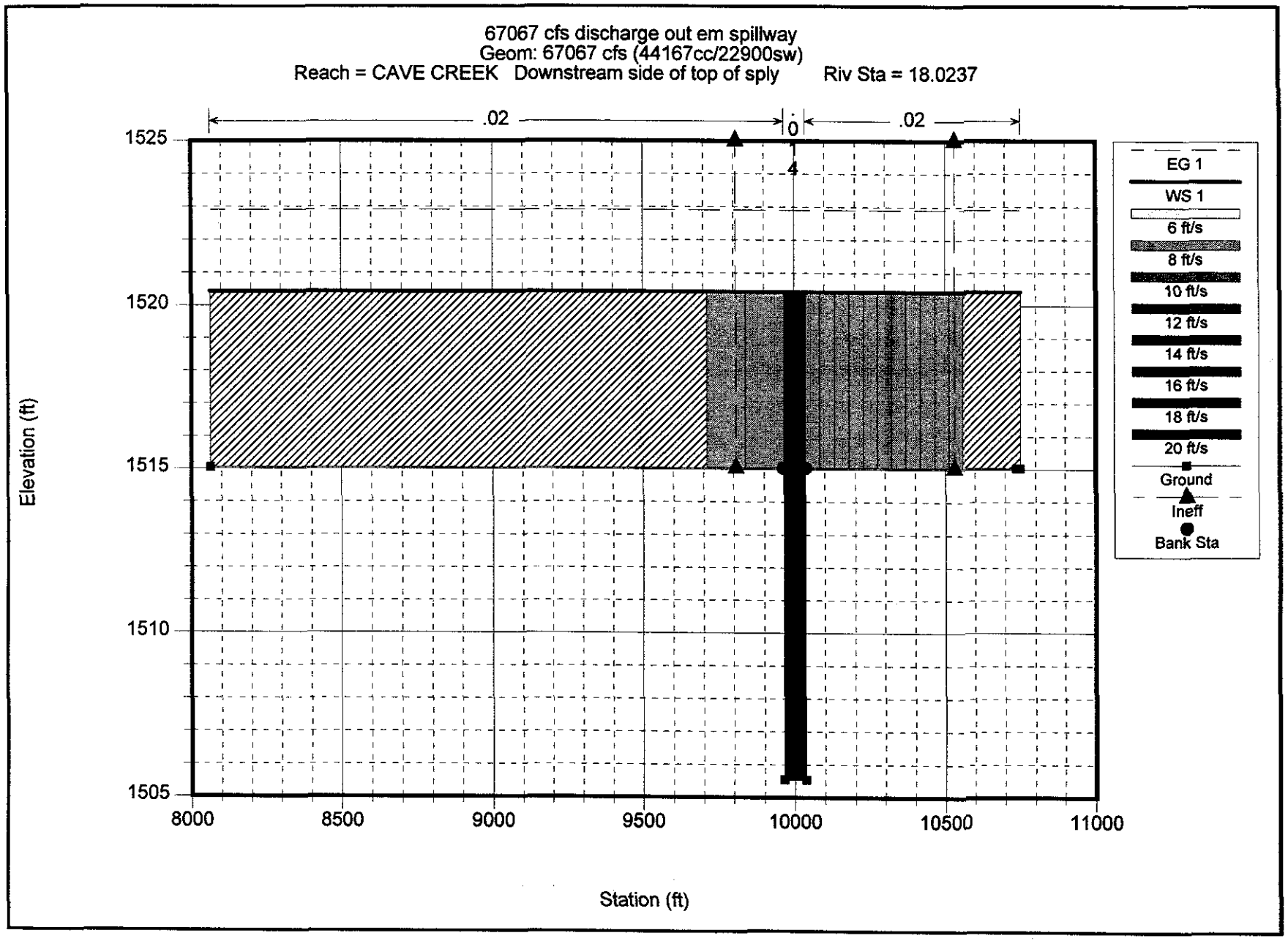
No Data for Plot

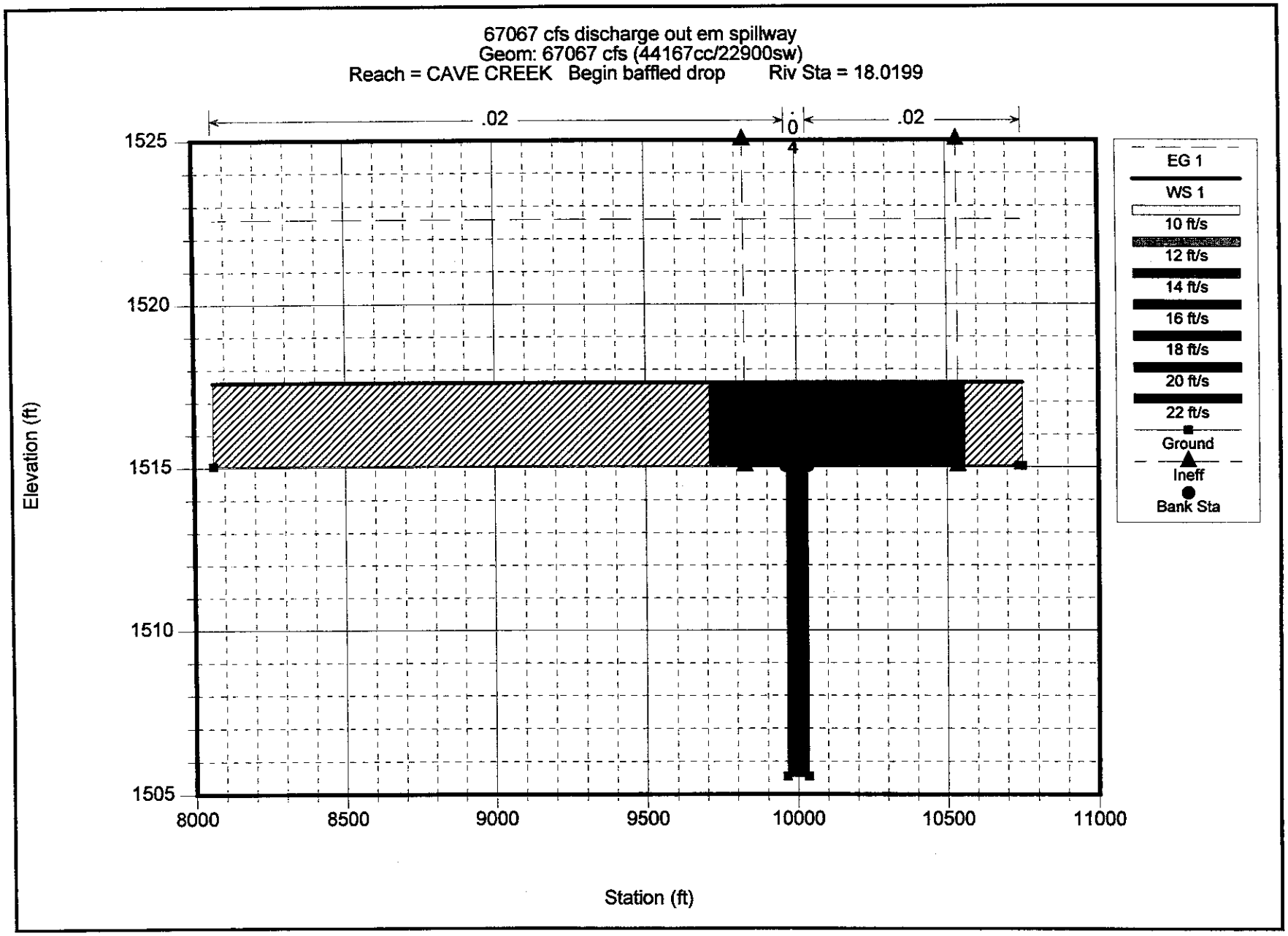

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.05 Riv Sta = 18.05
.035
.035
.035
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
Ground
Ineff
Bank Sta

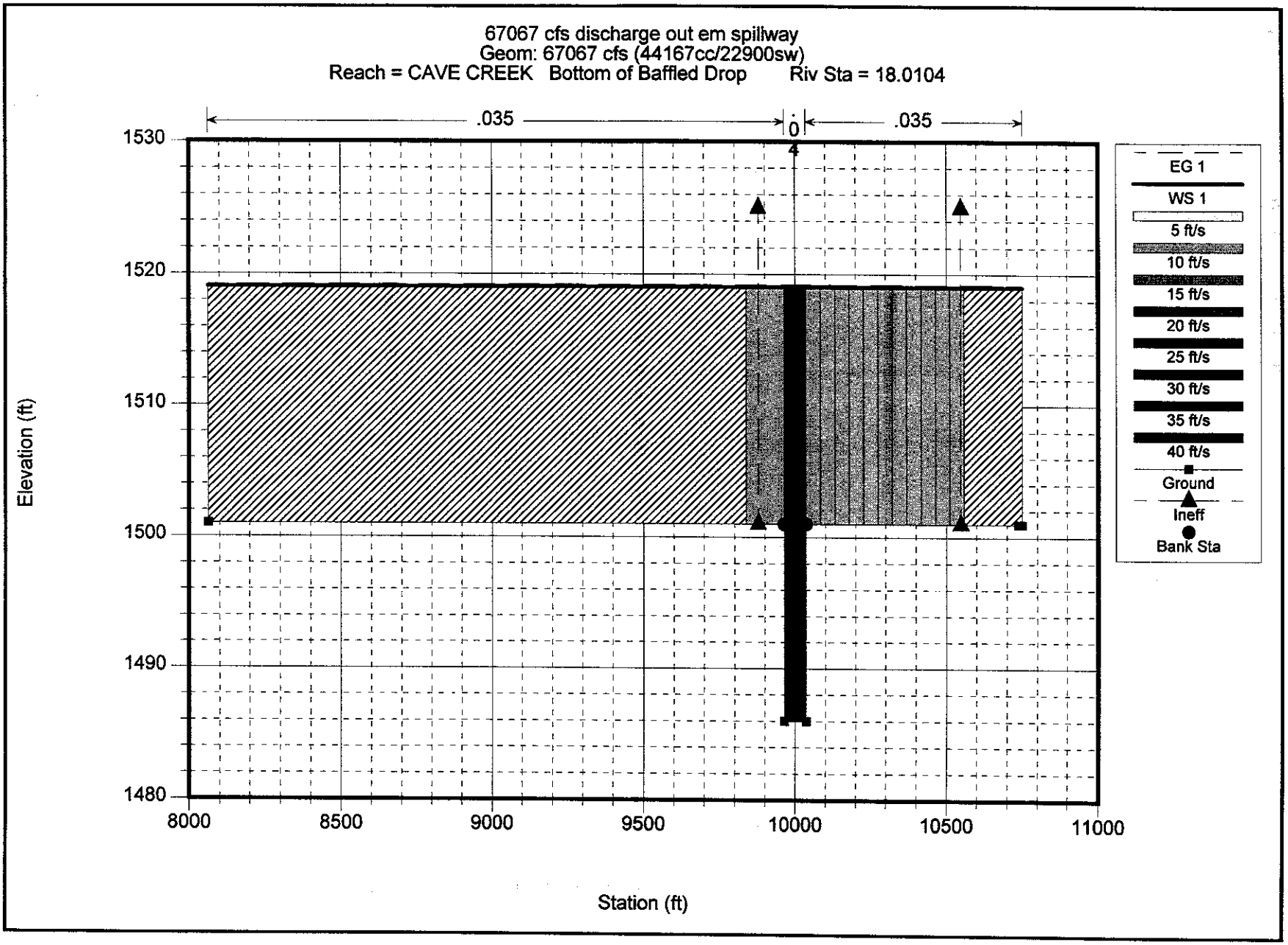

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.0484 Riv Sta = 18.0484
.035
.035
.035
1540
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta

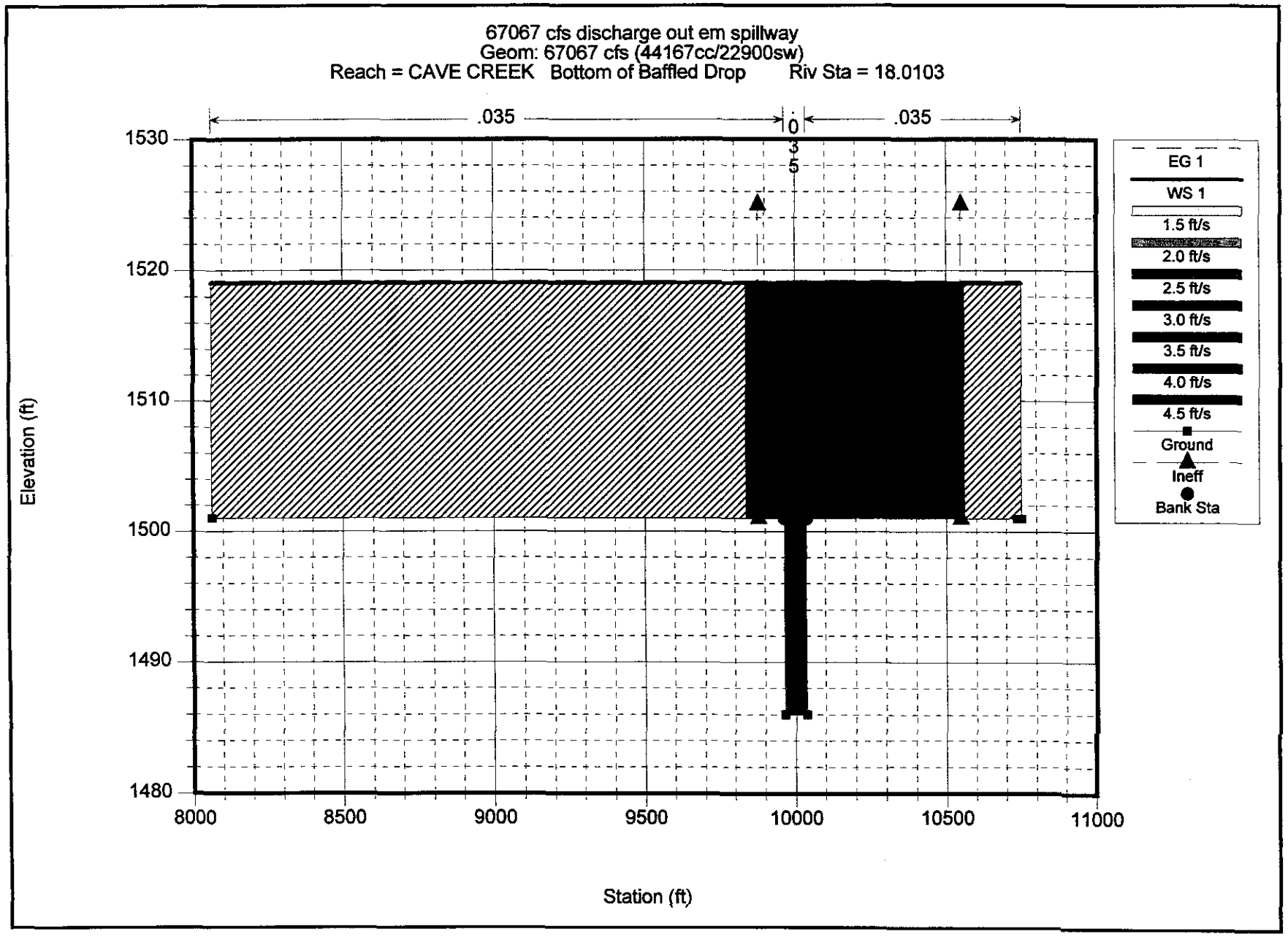

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 18.0482
.035
.035
.035
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
10 ft/s
Ground
Ineff
Bank Sta

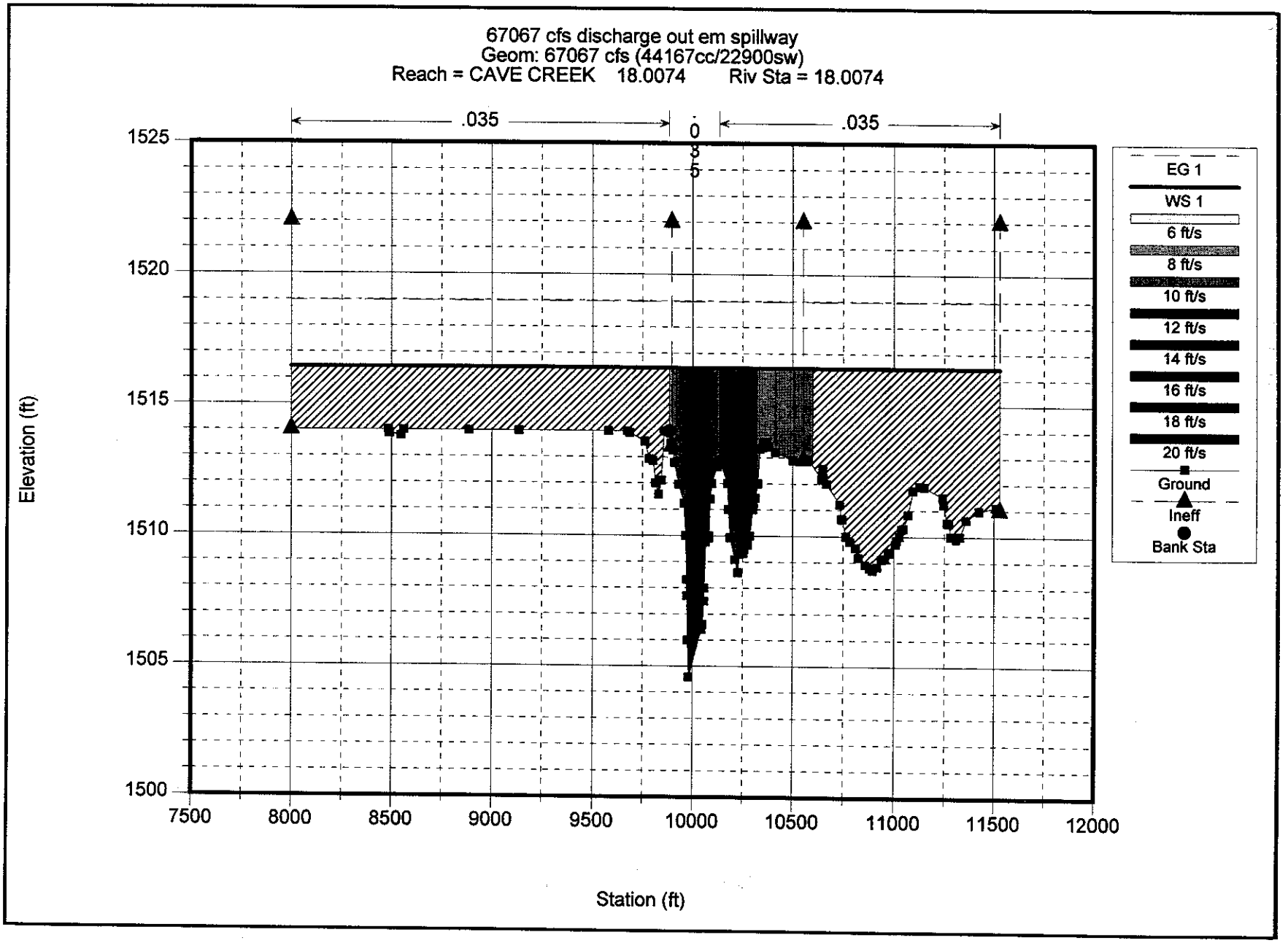

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 18.0480
.02
0
.02
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
10 ft/s
11 ft/s
12 ft/s
13 ft/s
14 ft/s
Ground
Ineff
Bank Sta

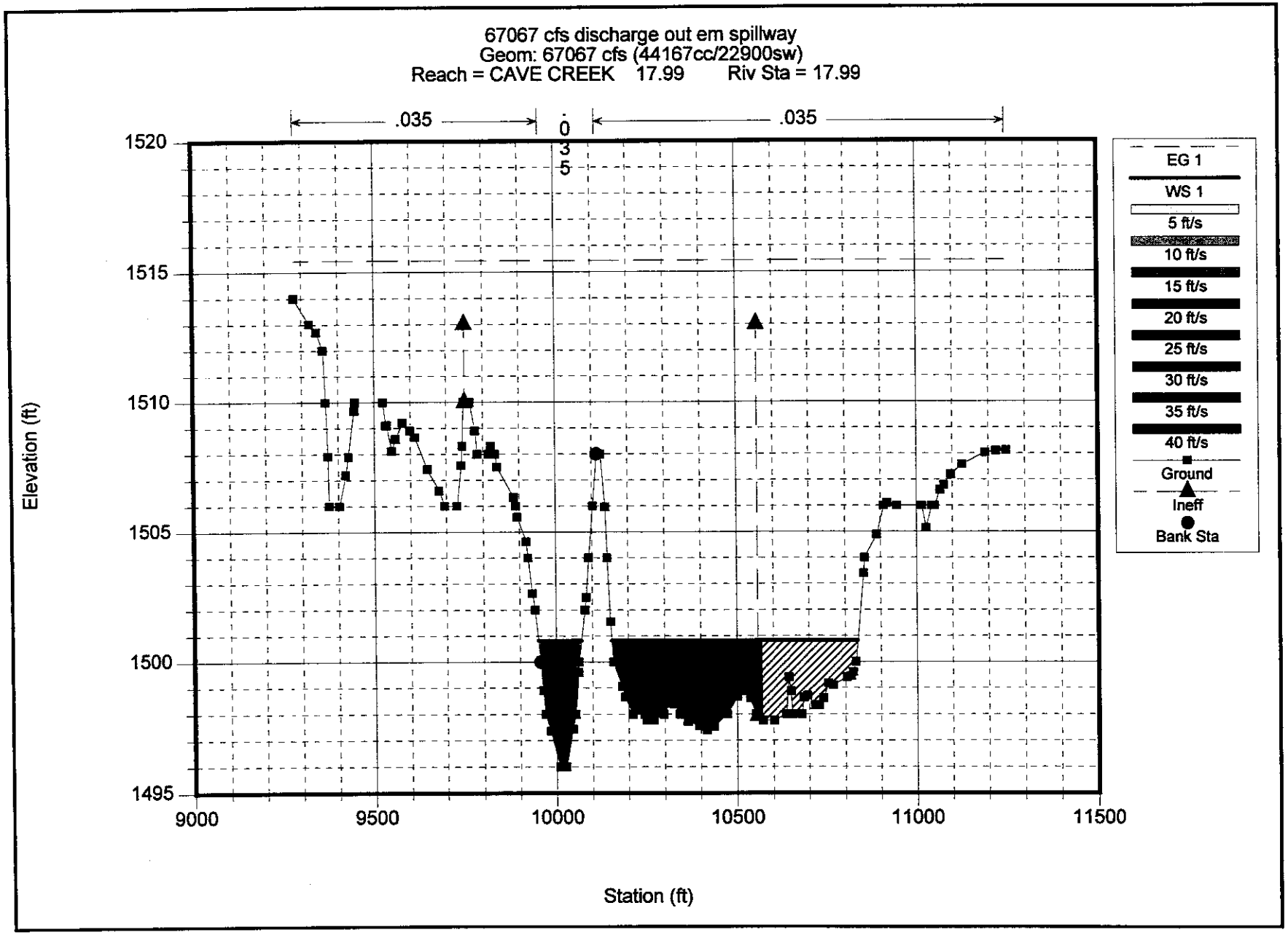

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK Downstream side of top of sply
Riv Sta = 18.0237
.02
0
.02
4
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Ineff
Bank Sta

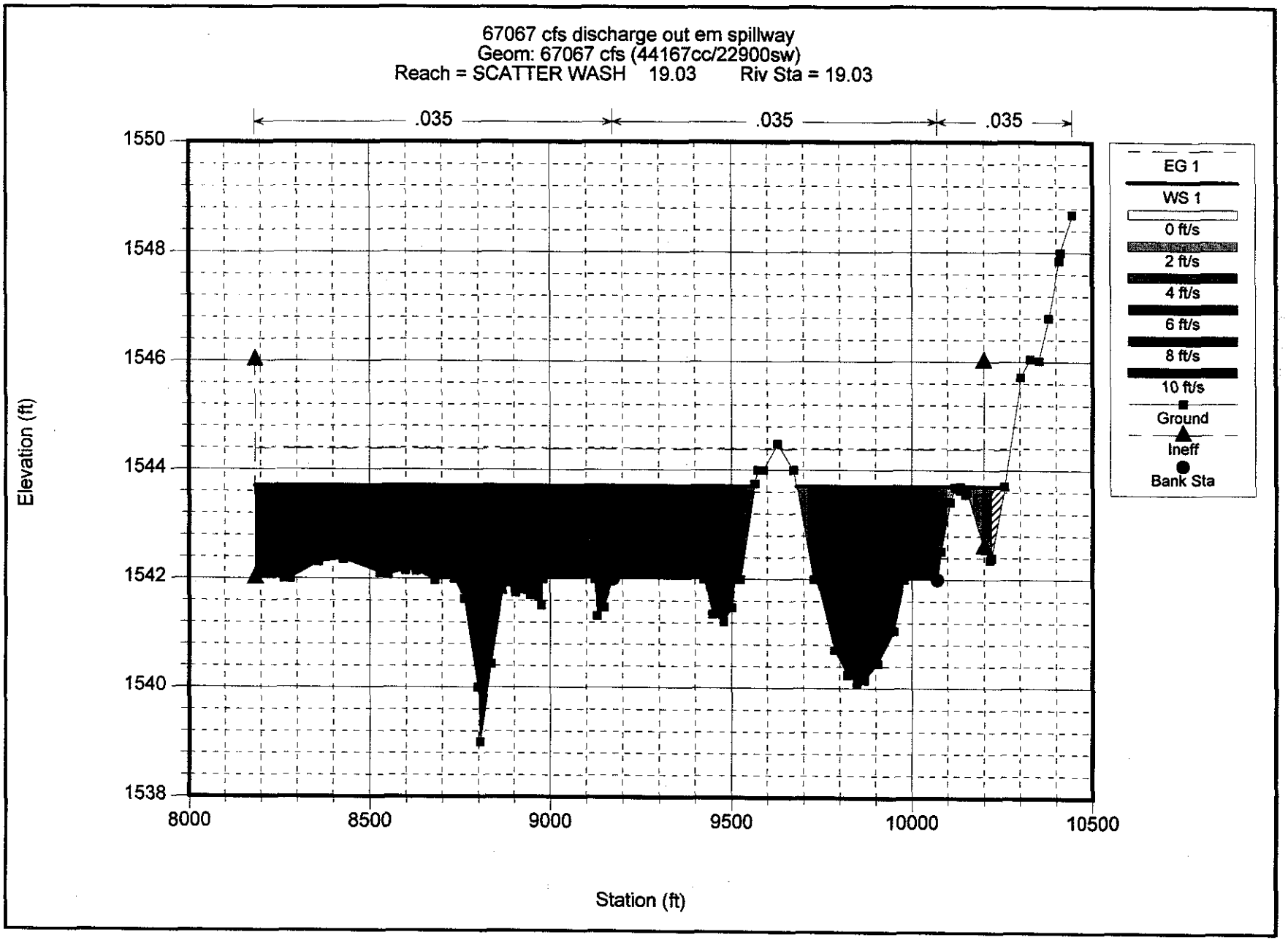

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK Begin baffled drop Riv Sta = 18.0199
.02
.02
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
22 ft/s
Ground
Ineff
Bank Sta

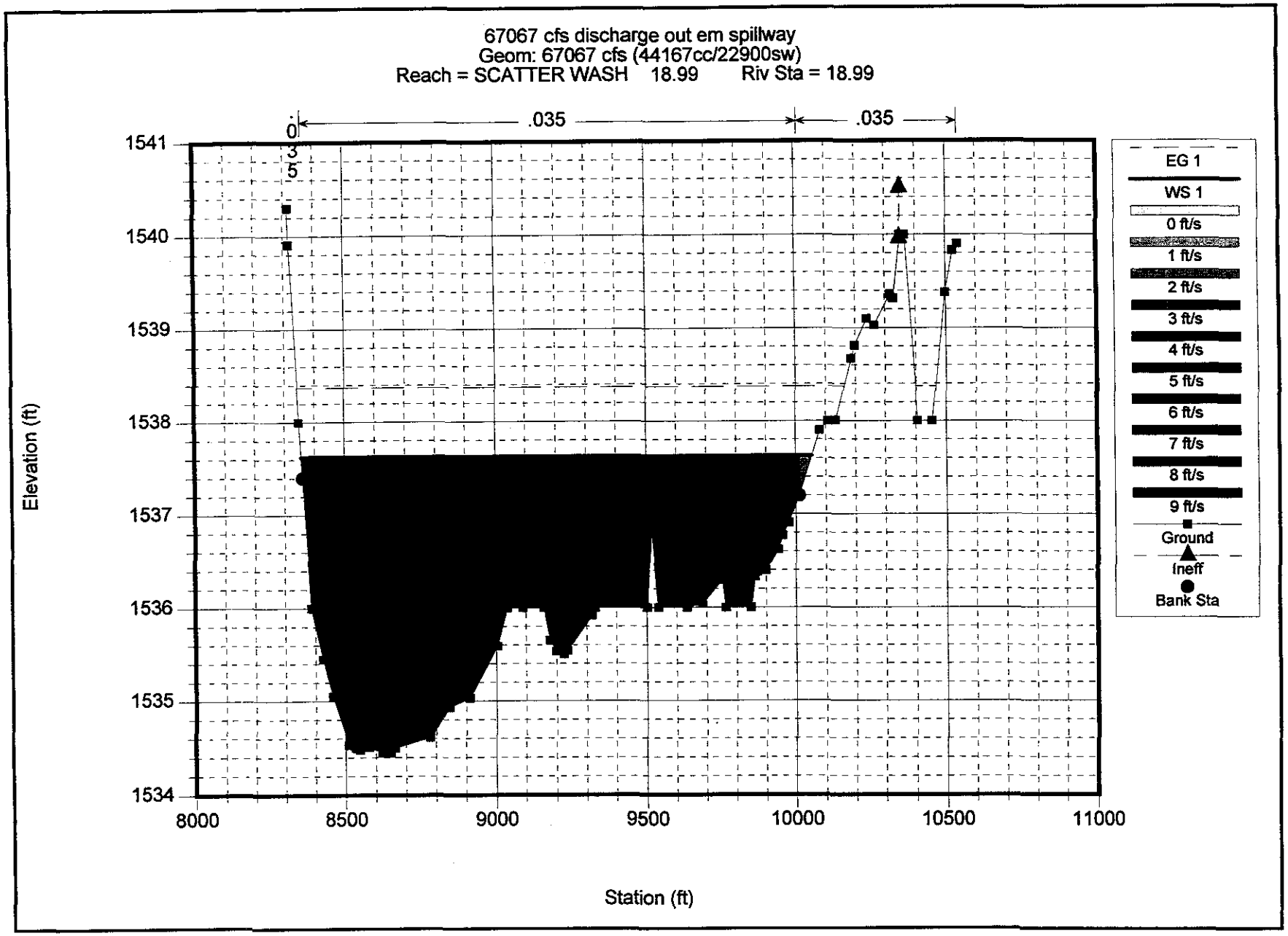

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK Bottom of Baffled Drop Riv Sta = 18.0104
.035
0
.035
1530
1520
1510
1500
1490
1480
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
Ground
Ineff
Bank Sta

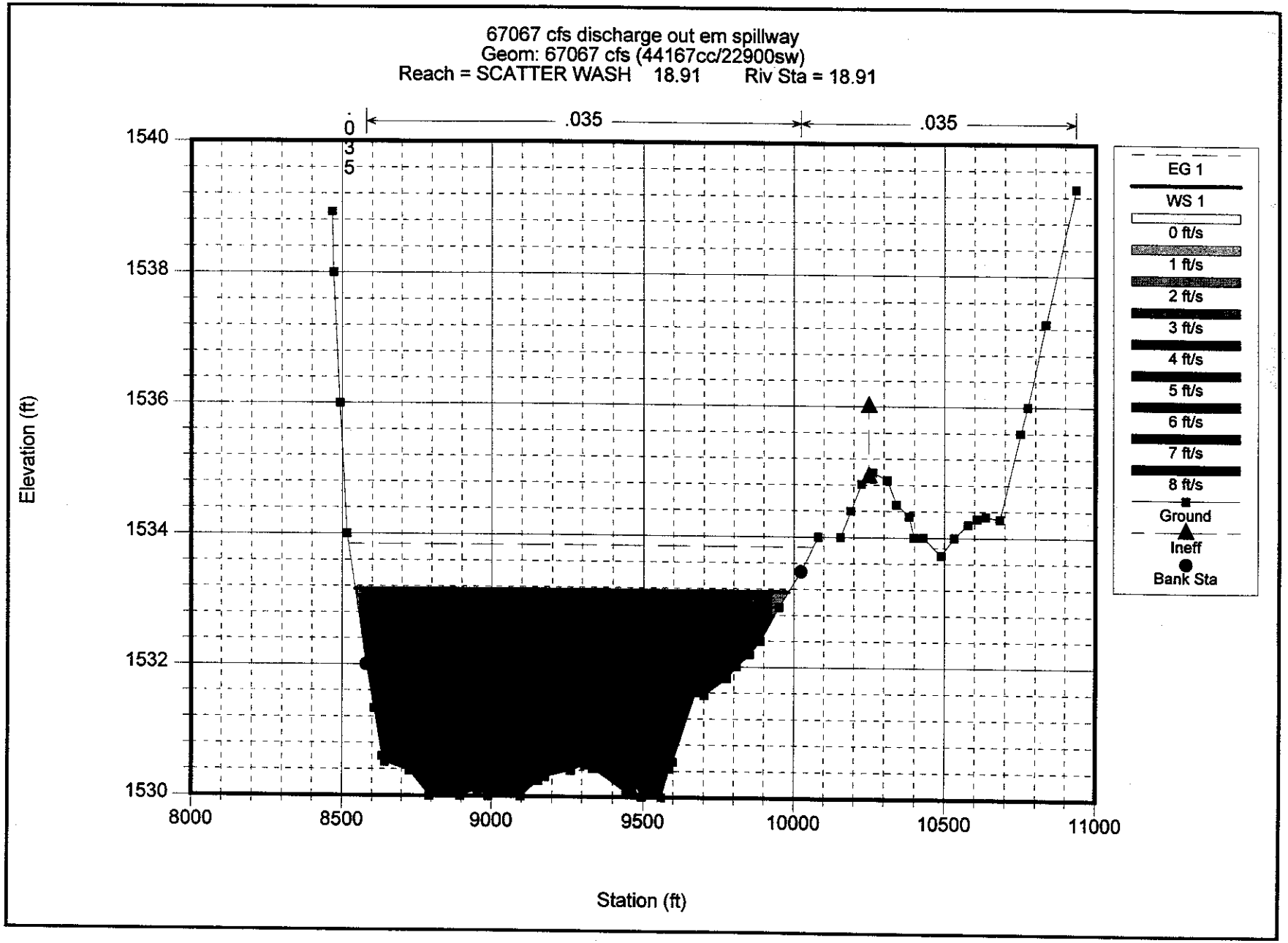

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK Bottom of Baffled Drop Riv Sta = 18.0103
.035
.035
0.035
1530
1520
1510
1500
1490
1480
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
4.0 ft/s
4.5 ft/s
Ground
Ineff
Bank Sta

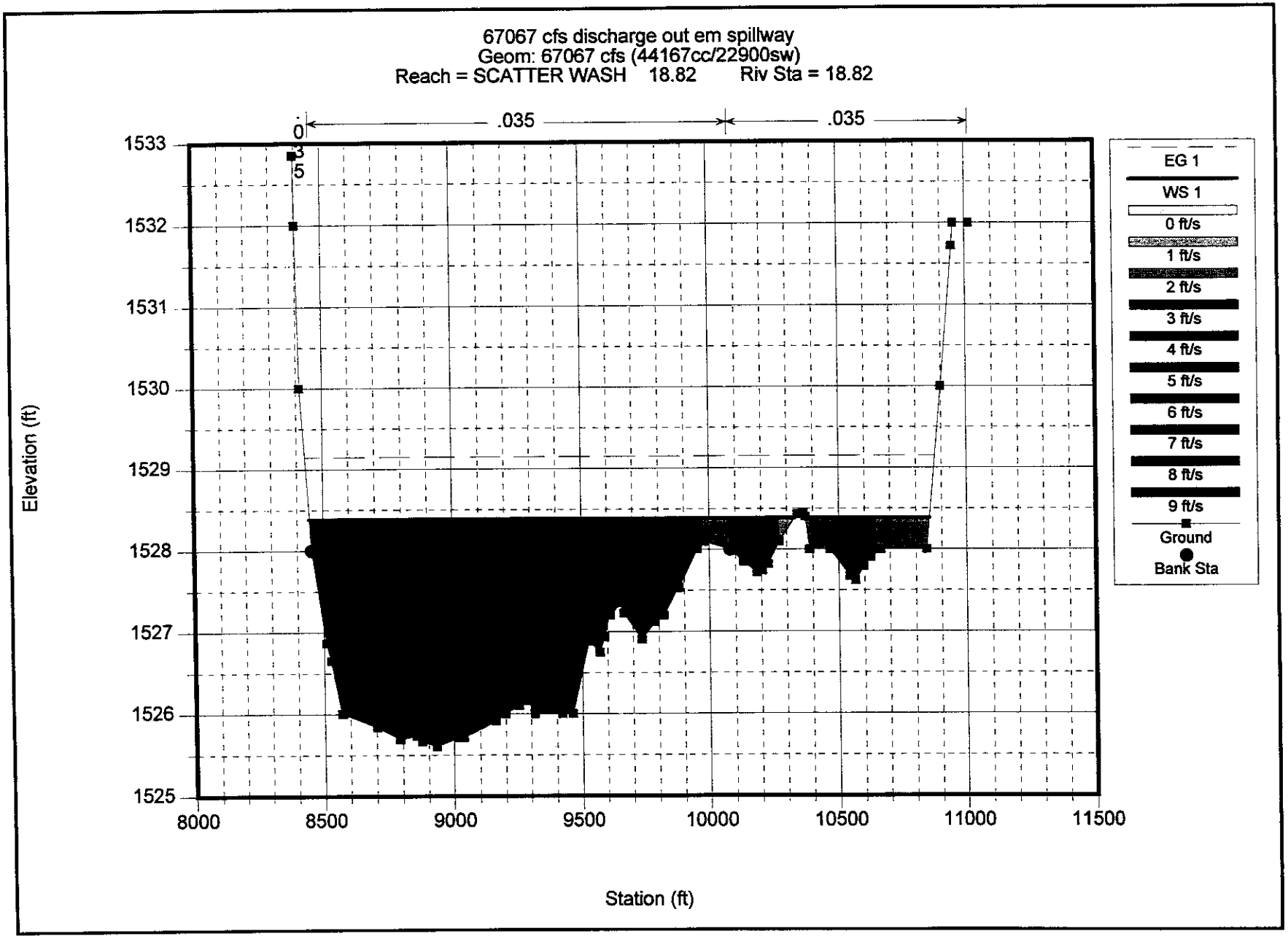

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 18.0074 Riv Sta = 18.0074
.035
.035
Elevation (ft)
1525
1520
1515
1510
1505
1500
7500
8000
8500
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Ineff
Bank Sta

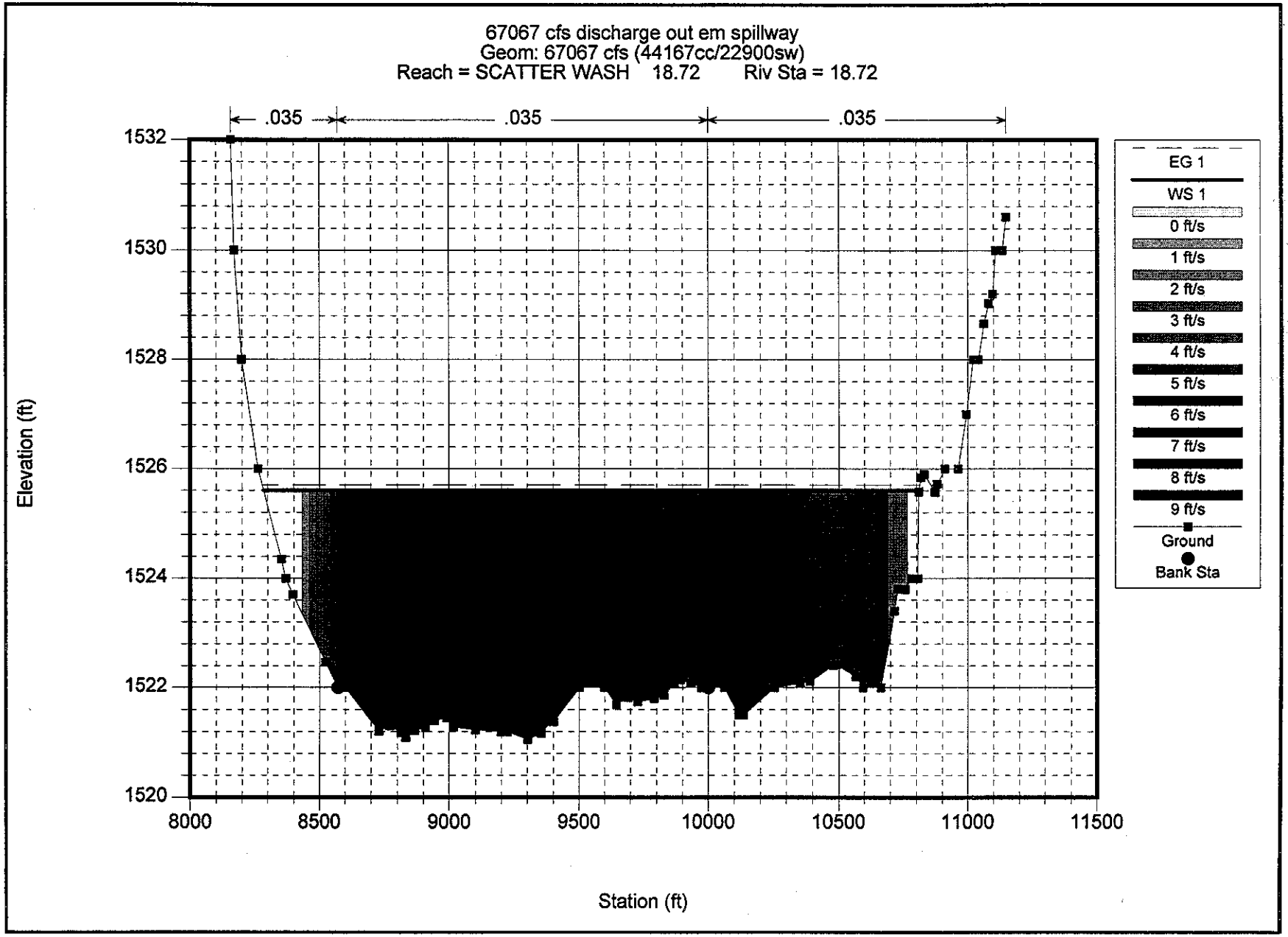

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = CAVE CREEK 17.99 Riv Sta = 17.99
.035
.035
0
3
5
1520
1515
1510
1505
1500
1495
Elevation (ft)
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
Ground
Ineff
Bank Sta

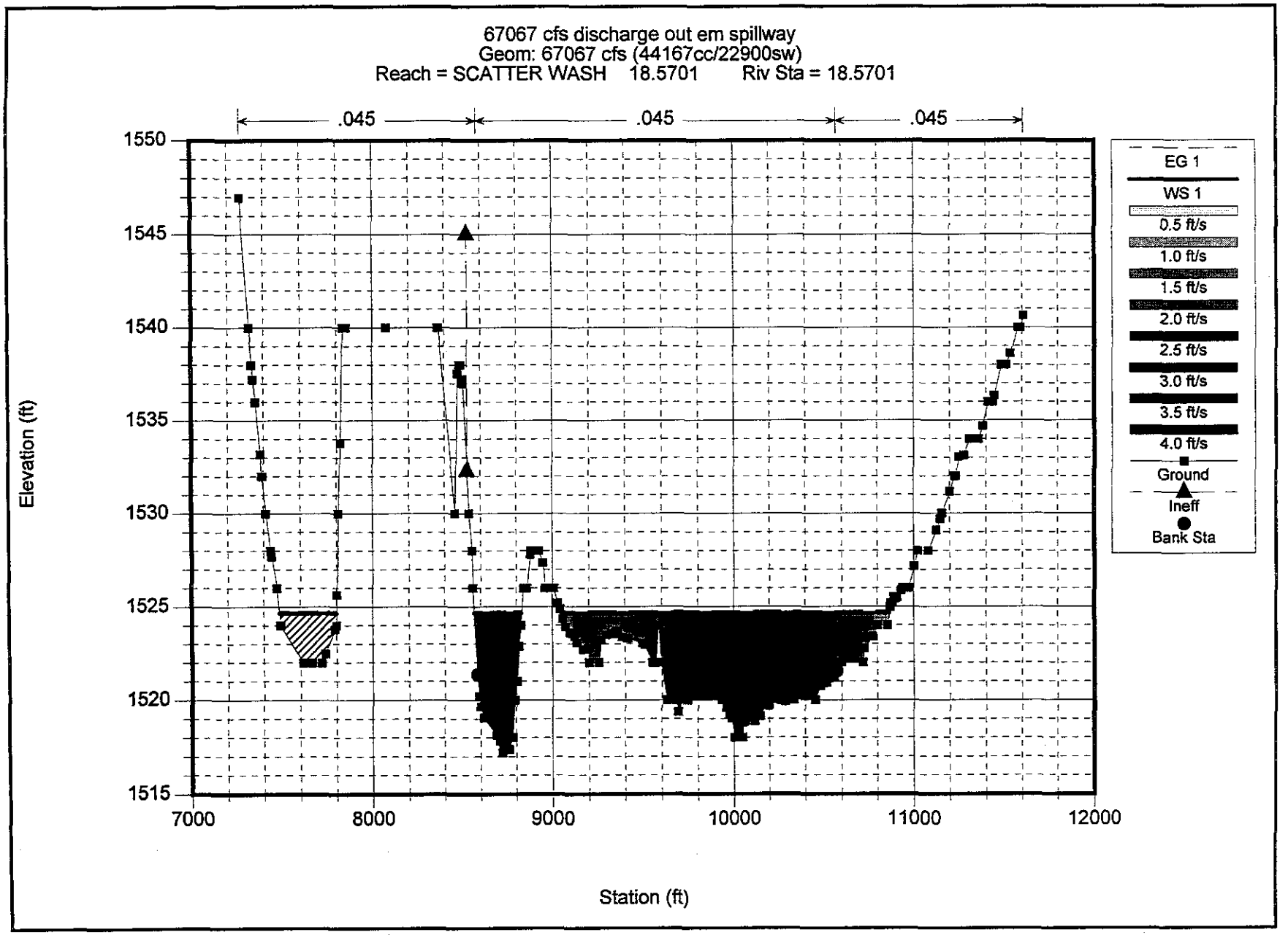

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 19.03 Riv Sta = 19.03
.035
.035
.035
1550
1548
1546
1544
1542
1540
1538
Elevation (ft)
8000
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
Ground
Ineff
Bank Sta

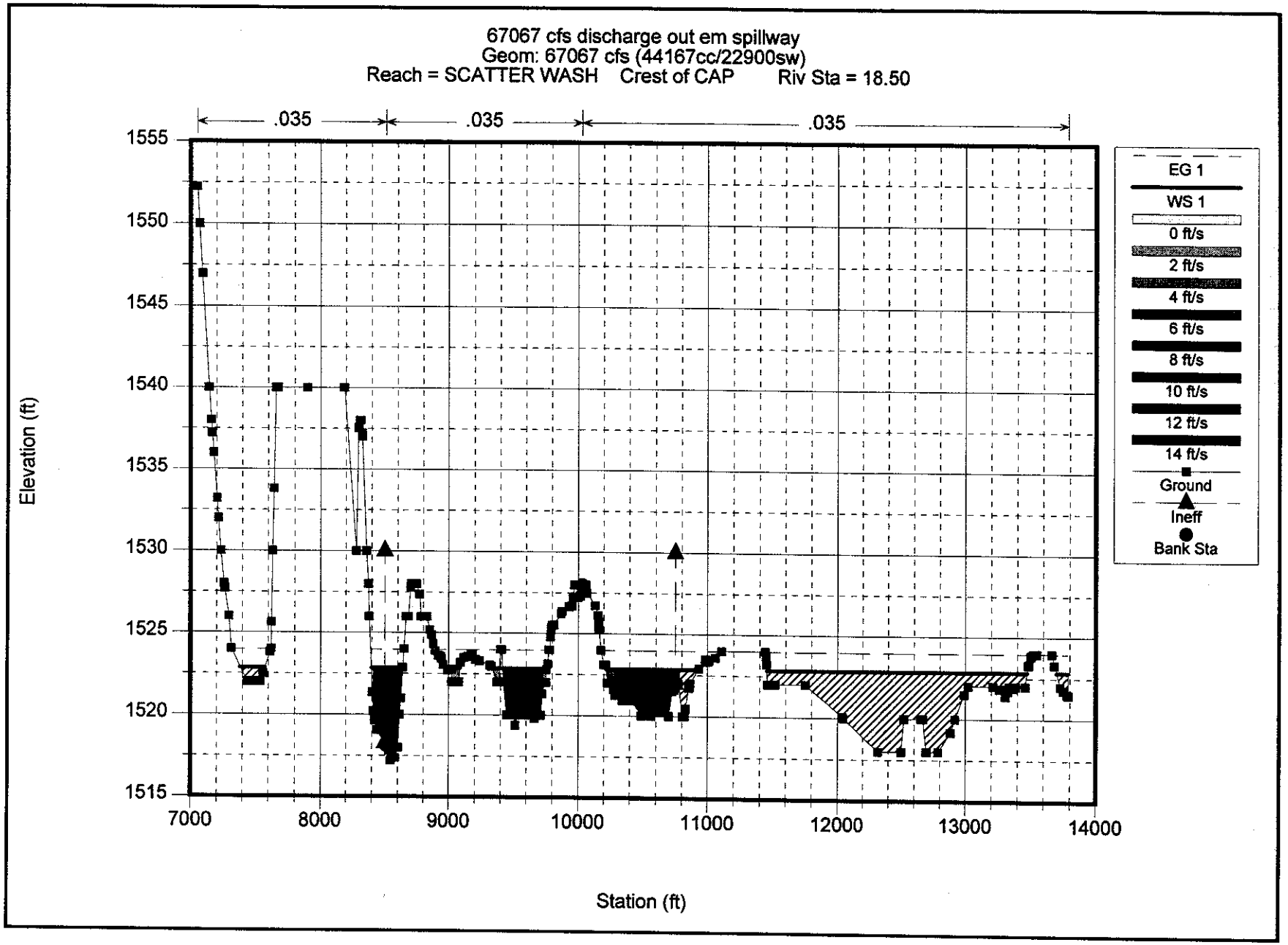

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 18.99 Riv Sta = 18.99
.035
.035
0.035
1541
1540
1539
1538
1537
1536
1535
1534
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Ineff
Bank Sta

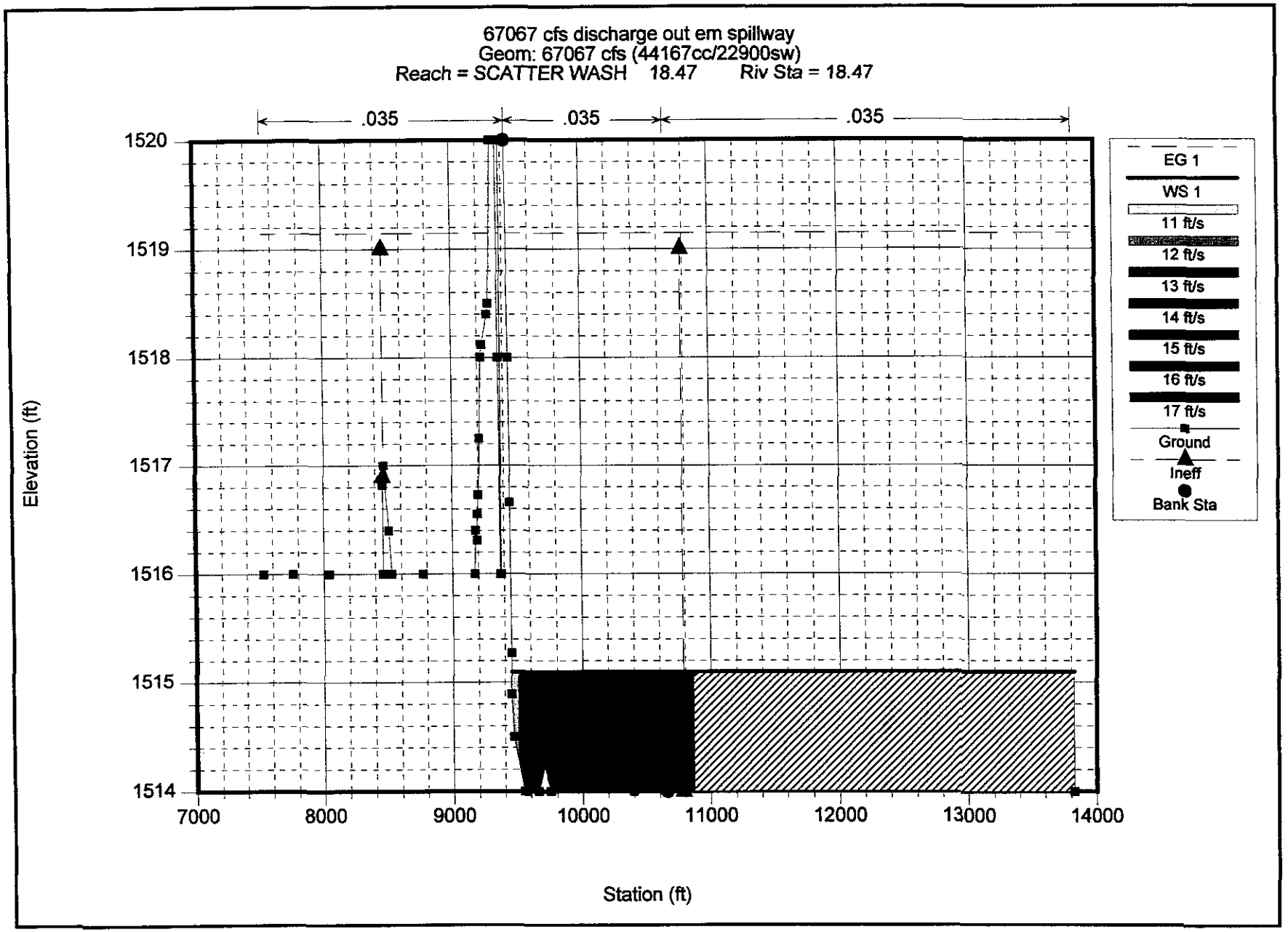

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 18.91 Riv Sta = 18.91
.035
.035
0
3
5
1540
1538
1536
1534
1532
1530
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
Ground
Ineff
Bank Sta

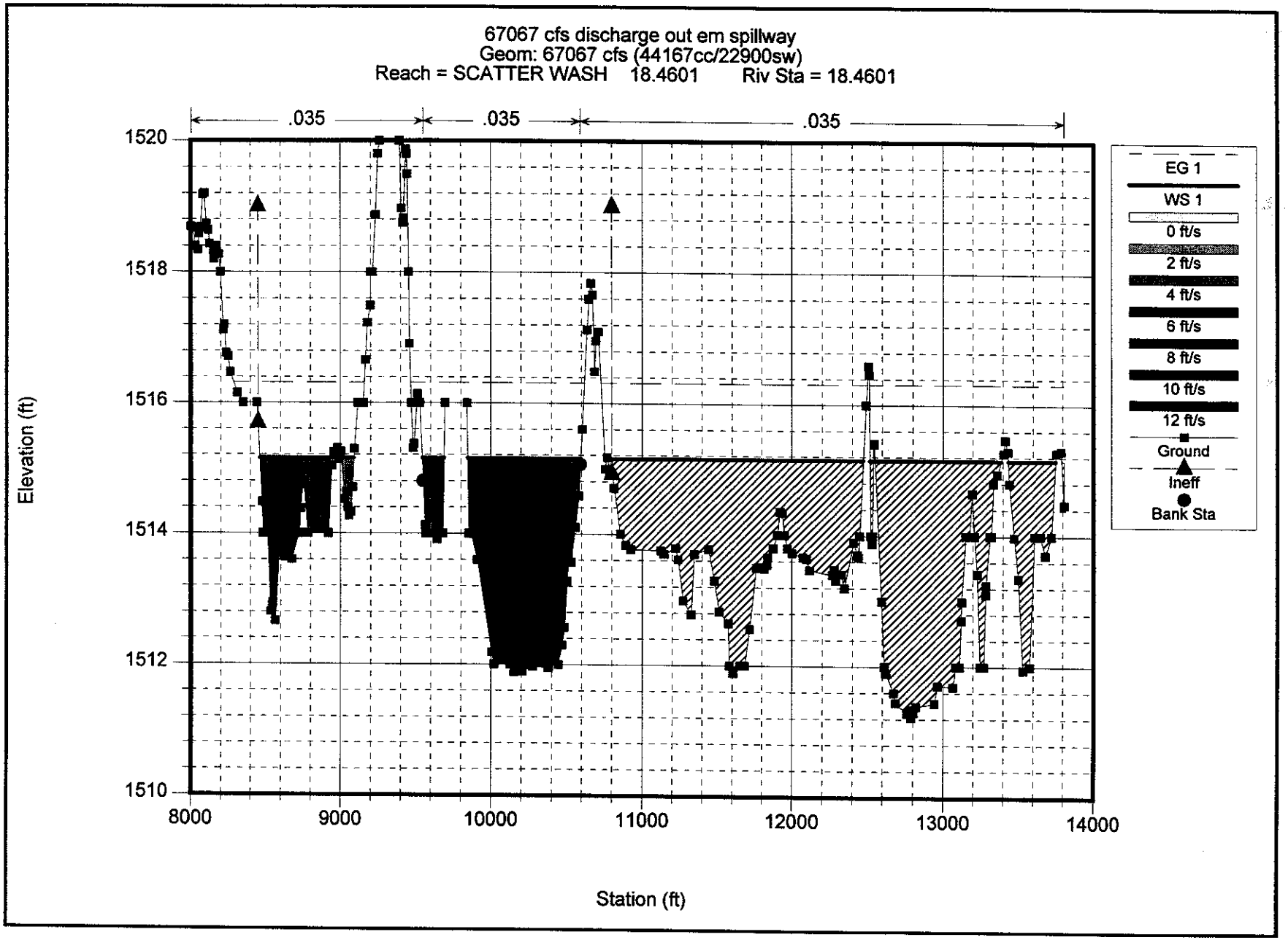

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 18.82 Riv Sta = 18.82
.035
.035
0
3
5
1533
1532
1531
1530
1529
1528
1527
1526
1525
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Bank Sta

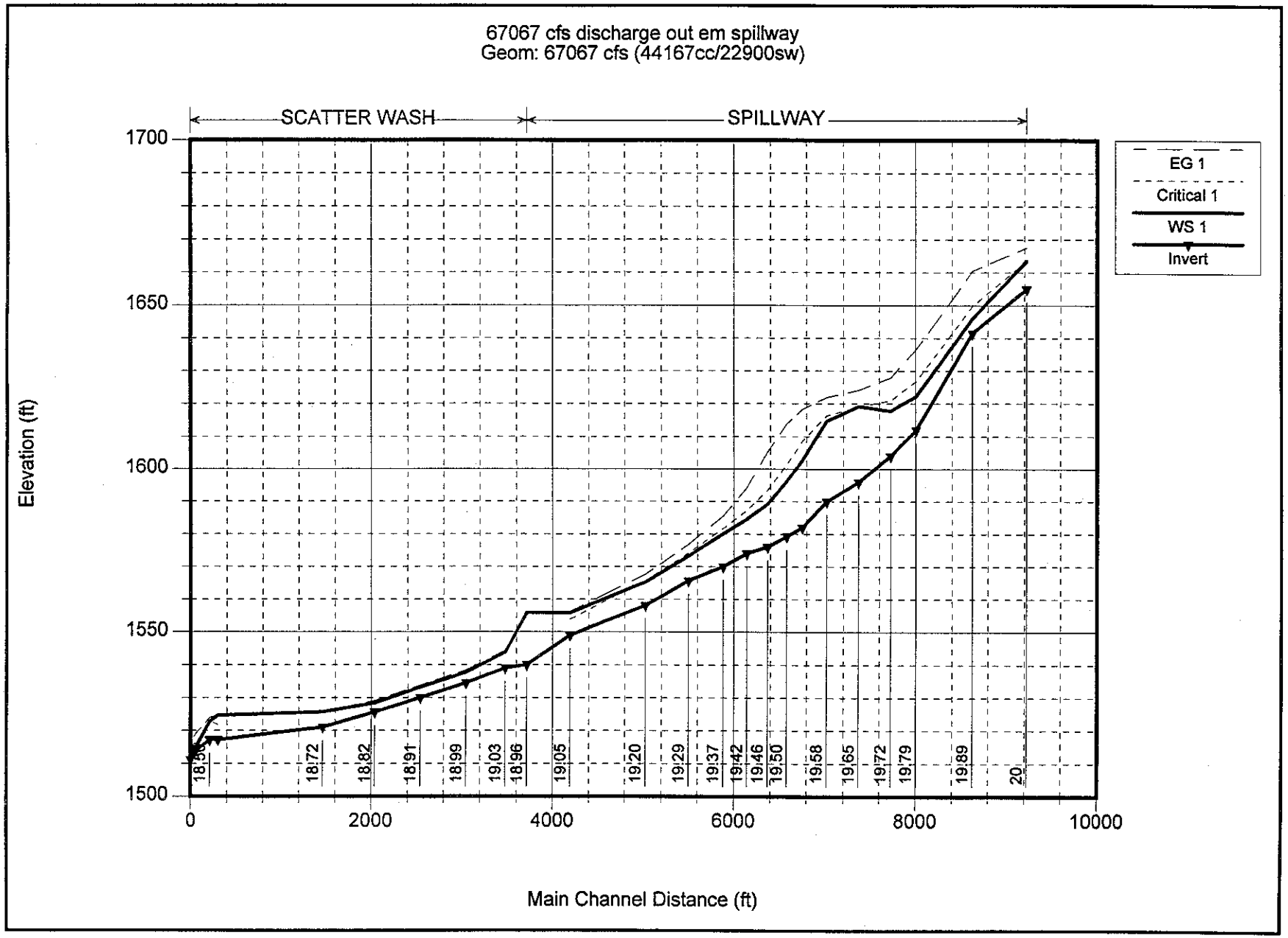

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 18.72 Riv Sta = 18.72
.035
.035
.035
1532
1530
1528
1526
1524
1522
1520
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Bank Sta

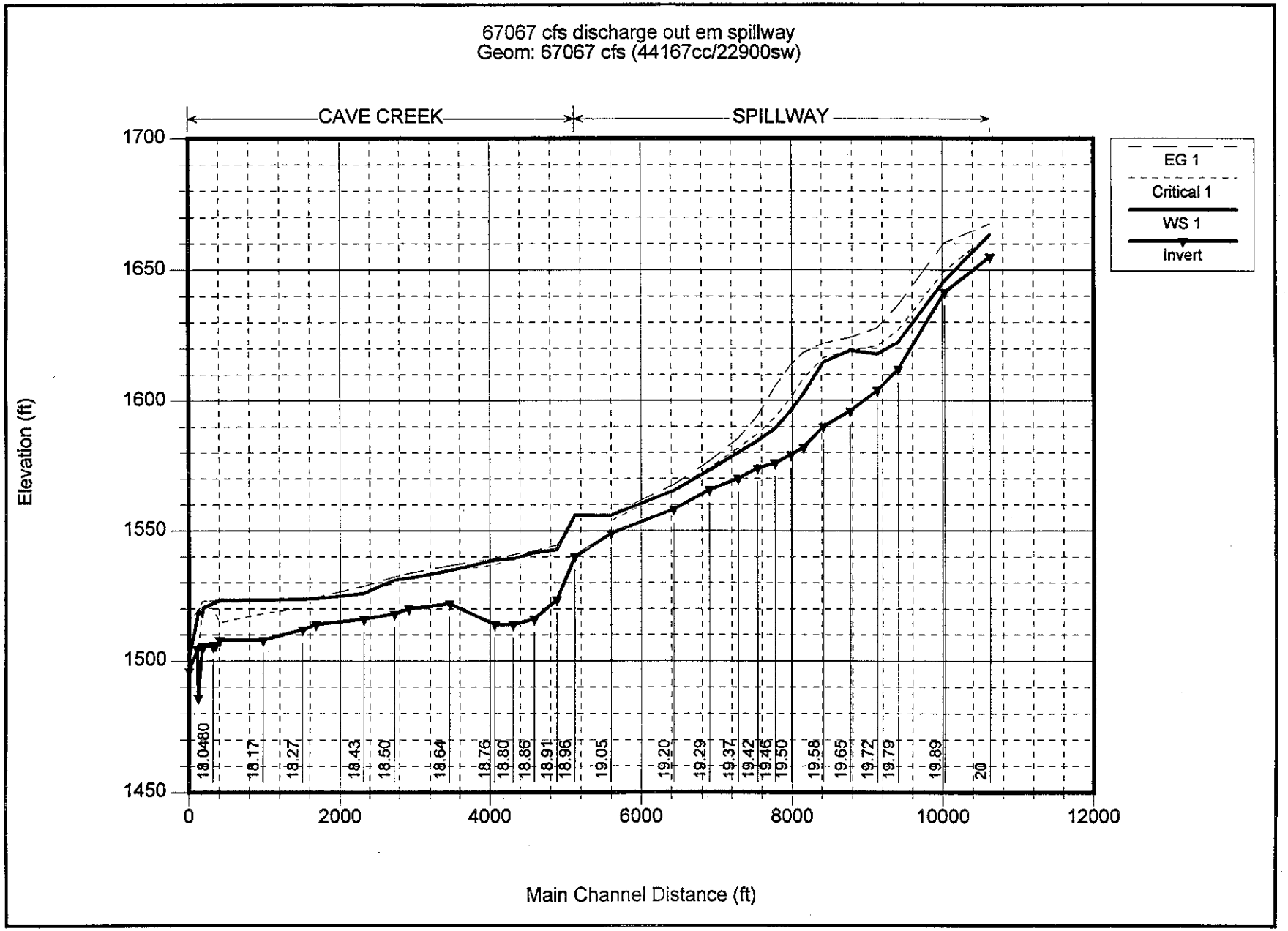

67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 18.5701 Riv Sta = 18.5701
.045
.045
.045
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
Station (ft)
EG 1
WS 1
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
4.0 ft/s
Ground
Ineff
Bank Sta


67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH Crest of CAP Riv Sta = 18.50
.035
.035
.035
1555
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta


67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 18.47 Riv Sta = 18.47
.035
.035
.035
1520
1519
1518
1517
1516
1515
1514
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
11 ft/s
12 ft/s
13 ft/s
14 ft/s
15 ft/s
16 ft/s
17 ft/s
Ground
Ineff
Bank Sta


67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
Reach = SCATTER WASH 18.4601 Riv Sta = 18.4601
.035
.035
.035
1520
1518
1516
1514
1512
1510
Elevation (ft)
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta


67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
SCATTER WASH
SPILLWAY
EG 1
Critical 1
WS 1
Invert
Elevation (ft)
1700
1650
1600
1550
1500
0
2000
4000
6000
8000
10000
Main Channel Distance (ft)
18.72
18.82
18.91
18.99
19.03
18.96
19.05
19.20
19.29
19.37
19.42
19.46
19.50
19.58
19.65
19.72
19.79
19.89
20


67067 cfs discharge out em spillway
Geom: 67067 cfs (44167cc/22900sw)
CAVE CREEK
SPILLWAY
EG 1
Critical 1
WS 1
Invert
Elevation (ft)
1700
1650
1600
1550
1500
1450
0
2000
4000
6000
8000
10000
12000
Main Channel Distance (ft)
18.0480
18.17
18.27
18.43
18.50
18.64
18.76
18.80
18.86
18.91
18.96
19.05
19.20
19.29
19.37
19.42
19.46
19.50
19.58
19.65
19.72
19.79
19.89
20

HEC-RAS Version 1.1 January 1996
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
XXXXXXX  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: 33533 cfs discharge out em spillway
Project File : 33s2.prj
Run Date and Time: 10/1/96 12:35:32 PM

Project in English units

PLAN DATA

Plan Title: Plan 01
Plan File : p:\proj\cb-dam\engfiles\submit3e\33s2.p01

Geometry Title: Plan 01
Geometry File : p:\proj\cb-dam\engfiles\submit3e\33s2.p01

Flow Title : Plan 01
Flow File : p:\proj\cb-dam\engfiles\submit3e\33s2.p01

Plan Summary Information:

Number of:	Cross Sections	= 46	Mulitple Openings	=	0
	Culverts	= 0	Inline Weirs	=	0
	Bridges	= 0			

Computational Information

Water surface calculation tolerance	=	.01
Critical depth calculaton tolerance	=	.01
Maximum number of interations	=	20
Maximum difference tolerance	=	.3
Flow tolerance factor	=	.001

Computational Flow Regime: Mixed Flow

Encroachment Data: None

Flow Distribution Locations

Reach	RS Start	RS End	LOB	Channel	ROB
SPILLWAY	20	18.96	15	15	15
CAVE CREEK	18.91	17.99	15	15	15
SCATTER WASH	19.03	18.4601	15	15	15

FLOW DATA

Flow Title: 33533 cfs (19750cc/13783sw)
Flow File : p:\proj\cb-dam\engfiles\submit3e\33s2.f01

Flow Data (cfs)

Reach	Riv Sta	PF#1
SPILLWAY	20	33533
CAVE CREEK	18.91	19750
SCATTER WASH	19.03	13783

Boundary Conditions

Reach	Profile	Upstream	Downstream
SPILLWAY	1	Critical	
CAVE CREEK	1		Critical
SCATTER WASH	1		Critical

GEOMETRY DATA

Geometry Title: 33533 cfs (19750cc/13783sw)
Geometry File : p:\proj\cb-dam\engfiles\submit3e\33s2.g01

Reach Connection Table

Reach Name	Upstream Boundary	Downstream Boundary
SPILLWAY		FLOW SPLIT
CAVE CREEK	FLOW SPLIT	
SCATTER WASH	FLOW SPLIT	

JUNCTION INFORMATION

Name: FLOW SPLIT
Description: ESTIMATED FLOW SPLIT
Momentum computation Method
Add Friction
Add Weight

Length across Junction Reaches		Length	Tributary Angle
SPILLWAY	to SCATTER WASH	237.9	70
SPILLWAY	to CAVE CREEK	237.9	12

CROSS SECTION INPUT Reach: SPILLWAY River Station: 20
Description: 20

Station Elevation Data, num = 41

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9695.26	1690	9706.52	1680	9715.4	1670	9725.57	1660	9733.78	1656.1
9743.35	1656	9746.57	1655.68	9759.77	1655.67	9778.43	1655.4	9788.91	1655.4
9809.05	1655.27	9835.95	1655.4	9863.6	1655.42	9873.92	1655.34	9927.49	1655.3
9958.15	1655.35	9975.69	1655.22	10000	1655.2	10028.15	1655.27	10071.39	1655.1
10094.7	1654.96	10115.07	1654.96	10128.41	1655.05	10157.82	1655.15	10167.19	1655.1
10193.69	1655.49	10200.28	1655.46	10212.03	1655.62	10221.6	1656	10230.63	1657.3
10232.85	1658.05	10235.9	1660	10246.69	1670	10247.68	1671.81	10249.58	1674.2
10257.04	1679.72	10258.3	1680	10259.3	1681.67	10265.15	1686.2	10269.06	1688.2
10279.54	1690.42								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9695.26	.035	9725.57	.025	10235.9	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9725.57	10235.9	597.8	597.8	597.8	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 20 Profile # 1

W.S. Elev (ft) 1660.52 Element Left OB Channel Right OB

Vel Head (ft)	2.56	Wt. n-Val.	0.035	0.025	0.035
E.G. Elev (ft)	1663.08	Reach Len. (ft)	597.80	597.80	597.80
E.G. Slope (ft/ft)	0.005318	Flow Area (sq ft)	0.14	2611.21	0.15
Q Total (cfs)	33533.00	Flow (cfs)	0.14	33532.71	0.15
Top Width (ft)	511.42	Top Width (ft)	0.53	510.33	0.56
Vel Total (ft/s)	12.84	Avg. Vel. (ft/s)	1.01	12.84	1.03
Max Chl Dpth (ft)	5.56	Hydr. Depth (ft)	0.26	5.12	0.26
Crit W.S. (ft)	1660.52	Wetted Per. (ft)	0.74	512.03	0.77
Conv. Total (cfs)	459832.0	Conv. (cfs)	1.9	459828.0	2.1

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 20 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9723.55	9725.57	0.00	0.14	0.74	1.9	0.26	1.01
9725.57	9759.59	4.62	141.23	34.92	21308.6	4.15	10.96
9759.59	9793.61	6.50	171.70	34.02	30026.0	5.05	12.70
9793.61	9827.64	6.84	177.02	34.02	31592.8	5.20	12.96
9827.64	9861.66	6.66	174.13	34.02	30736.9	5.12	12.82
9861.66	9895.68	6.77	175.86	34.02	31246.6	5.17	12.90
9895.68	9929.70	6.86	177.22	34.02	31652.1	5.21	12.97
9929.70	9963.72	6.82	176.68	34.02	31490.9	5.19	12.94
9963.72	9997.75	7.03	179.99	34.02	32482.1	5.29	13.11
9997.75	10031.77	7.02	179.79	34.02	32421.7	5.28	13.10
10031.77	10065.79	7.13	181.38	34.02	32901.2	5.33	13.17
10065.79	10099.81	7.48	186.70	34.02	34522.8	5.49	13.43
10099.81	10133.83	7.57	188.03	34.02	34935.2	5.53	13.49
10133.83	10167.86	7.29	183.95	34.02	33680.6	5.41	13.30
10167.86	10201.88	6.79	176.18	34.02	31341.2	5.18	12.92
10201.88	10235.90	4.63	141.35	34.82	21381.0	4.15	10.99
10235.90	10238.81	0.00	0.15	0.77	2.1	0.26	1.03

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.89
Description: 19.89

Station Elevation Data, num = 41

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9615.64	1663.42	9628.81	1660	9670.29	1649.53	9678.23	1647.55	9694.47	1644
9707.59	1642	9710.45	1641.8	9744.62	1641.55	9776.51	1641.72	9815.46	1641.72
9838.33	1641.54	9856.78	1641.5	9883.54	1641.71	9918.86	1641.79	9963.06	1641.77
9997.21	1641.91	10051.57	1641.81	10098.91	1641.91	10123.47	1641.79	10143.68	1641.62
10155.61	1641.51	10200.31	1642	10217.95	1642	10220.15	1642.72	10222.56	1644
10224.94	1646	10228.44	1647.31	10232.73	1648	10238.66	1648.42	10251.71	1650.75
10263.94	1652	10267.78	1652	10285.1	1654	10305.01	1656.11	10316.92	1656.91
10322.42	1657.07	10325.81	1657.41	10334.53	1657.51	10337.94	1658	10356.24	1659.86
10362.92	1660.78								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9615.64	.035	9694.47	.02510222.56	.035	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9694.4710222.56		619.5	619.5	619.5	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.89 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1644.23	Element			
Vel Head (ft)	10.53	Wt. n-Val.	0.035	0.025	0.035
E.G. Elev (ft)	1654.76	Reach Len. (ft)	619.50	619.50	619.50
E.G. Slope (ft/ft)	0.058610	Flow Area (sq ft)	0.12	1287.47	0.03
Q Total (cfs)	33533.00	Flow (cfs)	0.29	33532.65	0.06
Top Width (ft)	529.42	Top Width (ft)	1.05	528.09	0.27
Vel Total (ft/s)	26.04	Avg. Vel. (ft/s)	2.39	26.05	2.03
Max Chl Dpth (ft)	2.73	Hydr. Depth (ft)	0.11	2.44	0.11
Crit W.S. (ft)	1646.80	Wetted Per. (ft)	1.08	528.69	0.36
Conv. Total (cfs)	138512.3	Conv. (cfs)	1.2	138510.8	0.3

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.89 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9689.21	9694.47	0.00	0.12	1.08	1.2	0.11	2.39
9694.47	9729.68	4.82	70.87	35.37	6694.8	2.01	22.80
9729.68	9764.88	7.53	92.44	35.21	10456.0	2.63	27.30
9764.88	9800.09	7.03	88.72	35.21	9765.8	2.52	26.57
9800.09	9835.29	7.19	89.91	35.21	9984.4	2.55	26.81
9835.29	9870.50	7.86	94.84	35.21	10913.7	2.69	27.78
9870.50	9905.71	7.04	88.83	35.21	9784.4	2.52	26.59
9905.71	9940.91	6.70	86.20	35.21	9307.7	2.45	26.06
9940.91	9976.12	6.70	86.16	35.21	9300.9	2.45	26.06
9976.12	10011.32	6.30	83.05	35.21	8748.2	2.36	25.42
10011.32	10046.53	6.43	84.08	35.21	8928.6	2.39	25.63
10046.53	10081.74	6.48	84.46	35.21	8996.9	2.40	25.71
10081.74	10116.94	6.27	82.81	35.21	8705.1	2.35	25.37
10116.94	10152.15	7.11	89.31	35.21	9873.7	2.54	26.69
10152.15	10187.35	7.25	90.41	35.21	10077.0	2.57	26.90
10187.35	10222.56	5.31	75.37	35.64	7381.3	2.14	23.64
10222.56	10231.92	0.00	0.03	0.36	0.3	0.11	2.03

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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 INPUT Reach: SPILLWAY River Station: 19.79
Description: 19.79

Station Elevation Data, num = 44

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9736.86	1628.5	9744.92	1627.33	9756.21	1626	9776.58	1624.76	9790.49	1624.53

9797.83	1624	9835.62	1624	9847.93	1622	9864.7	1620	9882.28	1618.33
9887.43	1617.73	9892.96	1618	9927.84	1618	9936.92	1616.71	9952.87	1615.14
9961.03	1614	9966.98	1612.73	9974.08	1612	9989.96	1612	10001.07	1614
10010.79	1614.97	10018.96	1615.64	10025.12	1615.61	0067.11	1614	10080.63	1613.78
10083.52	1614	10099.87	1614	10109.46	1614.31	0132.62	1614.71	10139.66	1615.04
10147.05	1616	10167.02	1616	10185.06	1618	10192.11	1618.53	10220.61	1620.64
10226.47	1621.02	10250.21	1622	10264.16	1622	10274.45	1622.59	10291.97	1623.4
10302.54	1624	10304.76	1624	10342.54	1626	10377.56	1629.06		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9736.86	.035	9952.87	.035	10185.06	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9952.87	10185.06	281.9	281.9	281.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.79 Profile # 1

W.S. Elev (ft)	1620.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	8.07	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1628.21	Reach Len. (ft)	281.90	281.90	281.90
E.G. Slope (ft/ft)	0.031141	Flow Area (sq ft)	207.97	1297.89	30.77
Q Total (cfs)	33533.00	Flow (cfs)	2730.43	30562.17	240.40
Top Width (ft)	350.37	Top Width (ft)	89.36	232.19	28.82
Vel Total (ft/s)	21.82	Avg. Vel. (ft/s)	13.13	23.55	7.81
Max Chl Dpth (ft)	8.14	Hydr. Depth (ft)	2.33	5.59	1.07
Crit W.S. (ft)	1622.75	Wetted Per. (ft)	89.65	232.92	28.90
Conv. Total (cfs)	190021.8	Conv. (cfs)	15472.6	173186.9	1362.3

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.79 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9852.07	9866.47	0.00	0.48	2.97	6.1	0.16	2.00
9866.47	9880.87	0.29	14.31	14.47	602.8	0.99	6.68
9880.87	9895.27	1.03	30.87	14.45	2174.2	2.14	11.17
9895.27	9909.67	1.03	30.84	14.40	2175.4	2.14	11.18
9909.67	9924.07	1.03	30.84	14.40	2175.4	2.14	11.18
9924.07	9938.47	1.50	38.82	14.50	3177.2	2.70	12.98
9938.47	9952.87	3.27	61.82	14.47	6910.2	4.29	17.72
9952.87	9968.35	6.99	96.03	15.70	13635.8	6.20	24.39
9968.35	9983.83	10.83	124.34	15.51	21145.0	8.03	29.21
9983.83	9999.31	9.90	118.16	15.63	19322.6	7.63	28.09
9999.31	10014.79	5.86	86.10	15.57	11431.5	5.56	22.81
10014.79	10030.27	4.28	71.23	15.50	8359.8	4.60	20.16
10030.27	10045.75	4.97	77.90	15.49	9707.9	5.03	21.41
10045.75	10061.23	5.98	87.03	15.49	11677.5	5.62	23.05
10061.23	10076.70	6.94	95.15	15.48	13552.9	6.15	24.47
10076.70	10092.18	7.06	96.12	15.49	13782.1	6.21	24.63
10092.18	10107.66	6.82	94.12	15.48	13309.0	6.08	24.29
10107.66	10123.14	6.19	88.82	15.48	12083.7	5.74	23.37
10123.14	10138.62	5.64	84.03	15.49	11015.2	5.43	22.52
10138.62	10154.10	4.02	68.67	15.54	7850.9	4.44	19.64
10154.10	10169.58	3.56	63.75	15.50	6948.5	4.12	18.73
10169.58	10185.06	2.09	46.43	15.57	4083.6	3.00	15.11
10185.06	10197.89	0.58	21.31	12.87	1266.5	1.66	9.06
10197.89	10210.73	0.14	9.09	12.87	306.2	0.71	5.14
10210.73	10223.56	0.00	0.37	3.16	3.7	0.12	1.54

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.72
Description: 19.72

Station Elevation Data, num = 40

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9799.29	1628.47	9836.99	1620	9857.97	1616.4	9870.69	1614	9881.27	1611.47
9886.38	1610	9891.03	1608.46	9891.55	1608	9899.02	1606	9902.06	1606.03
9914.37	1608	9923.9	1609.13	9926.95	1609.3	9938.14	1608.51	9945.09	1606
9947.88	1604.67	9950.07	1604	9956.25	1604	9977.32	1606	9997.49	1608
10013.72	1608	10017.01	1607.38	10021.36	1606	10035.89	1606	10050.21	1608.56
10062.83	1610.12	10083.78	1612	10138.54	1612	10144.21	1612.27	10158.98	1613.02
10160.97	1613.01	10188.28	1614.31	10214.98	1616	10232.84	1618	10240.35	1618.6
10261.06	1620.27	10285.44	1622.18	10304.43	1624	10313.81	1625.14	10346.44	1628.87

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9799.29	.035	9926.95	.035	10083.78	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9926.95	10083.78	355.3	355.3	355.3	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.72 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1614.97	Element			
Vel Head (ft)	6.26	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1621.23	Reach Len. (ft)	355.30	355.30	355.30
E.G. Slope (ft/ft)	0.017539	Flow Area (sq ft)	341.11	1176.42	255.89
Q Total (cfs)	33533.00	Flow (cfs)	5920.07	25160.33	2452.60
Top Width (ft)	333.11	Top Width (ft)	61.39	156.83	114.89
Vel Total (ft/s)	18.91	Avg. Vel. (ft/s)	17.36	21.39	9.58
Max Chl Dpth (ft)	10.97	Hydr. Depth (ft)	5.56	7.50	2.23
Crit W.S. (ft)	1616.91	Wetted Per. (ft)	62.90	158.57	114.97
Conv. Total (cfs)	253204.9	Conv. (cfs)	44701.9	189983.6	18519.4

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.72 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9858.87	9867.38	0.00	0.31	1.85	4.0	0.17	1.52
9867.38	9875.89	0.17	10.43	8.72	498.8	1.23	5.60
9875.89	9884.40	0.88	27.71	8.79	2529.1	3.26	10.69
9884.40	9892.91	2.25	49.17	9.06	6447.0	5.78	15.36
9892.91	9901.42	4.29	71.29	8.73	12277.4	8.38	20.18
9901.42	9909.93	4.31	71.11	8.61	12335.1	8.36	20.32
9909.93	9918.44	3.24	59.90	8.60	9276.9	7.04	18.15
9918.44	9926.95	2.50	51.19	8.55	7163.9	6.01	16.40
9926.95	9937.41	3.37	63.11	10.48	8868.8	6.04	17.90
9937.41	9947.86	5.30	85.01	11.20	13942.9	8.13	20.89
9947.86	9958.32	8.94	113.72	10.57	23533.8	10.88	26.36
9958.32	9968.77	8.16	107.43	10.50	21492.0	10.28	25.48
9968.77	9979.23	6.89	97.05	10.50	18141.9	9.28	23.81
9979.23	9989.68	5.67	86.37	10.51	14934.8	8.26	22.02
9989.68	10000.14	4.57	75.87	10.49	12043.8	7.26	20.22
10000.14	10010.59	4.29	72.85	10.46	11282.3	6.97	19.73
10010.59	10021.05	4.82	78.96	10.71	12696.5	7.55	20.48
10021.05	10031.50	6.52	93.75	10.47	17161.2	8.97	23.32

10031.50	10041.96	6.11	90.46	10.55	16088.7	8.65	22.65
10041.96	10052.41	4.24	72.78	10.60	11159.3	6.96	19.53
10052.41	10062.87	2.87	57.39	10.53	7543.1	5.49	16.74
10062.87	10073.33	1.97	45.75	10.50	5181.2	4.38	14.43
10073.33	10083.78	1.32	35.93	10.50	3464.8	3.44	12.28
10083.78	10101.29	1.64	51.97	17.51	4556.0	2.97	10.57
10101.29	10118.80	1.64	51.97	17.51	4556.0	2.97	10.57
10118.80	10136.31	1.64	51.97	17.51	4556.0	2.97	10.57
10136.31	10153.82	1.35	46.26	17.53	3750.2	2.64	9.77
10153.82	10171.33	0.74	32.34	17.53	2064.9	1.85	7.70
10171.33	10188.84	0.29	18.34	17.53	802.4	1.05	5.27
10188.84	10206.36	0.02	3.05	9.84	59.4	0.31	2.35

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.65
Description: 19.65

Station Elevation Data, num = 33

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9707.37	1627.7	9745.38	1619.99	9758.47	1618	9765.47	1617.09	9771.64	1616.6
9801.22	1615.4	9816.86	1614.37	9821.09	1614	9847.64	1612.32	9854	1612
9875.21	1610.7	9891.95	1609.3	9914.39	1608	9925.59	1605.86	9950.15	1600
9953.62	1599.1	9956.2	1598	9962.83	1596	9974.33	1596	9977.46	1596
9987.84	1598.2	10003.64	1600	10020.53	1602.37	10049.96	1605.83	10067.61	1608
10105.51	1612	10127.9	1614	10143.47	1616	10158.21	1618.47	10169.25	1620
10188.48	1624	10199.97	1626	10219.85	1629.15				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9707.37	.035	9914.39	.035	10067.61	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9914.39	10067.61	351.9	351.9	351.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.65 Profile # 1

W.S. Elev (ft)	1613.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	4.12	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1617.89	Reach Len. (ft)	351.90	351.90	351.90
E.G. Slope (ft/ft)	0.005920	Flow Area (sq ft)	256.58	1826.25	160.67
Q Total (cfs)	33533.00	Flow (cfs)	1686.08	30812.32	1034.61
Top Width (ft)	300.72	Top Width (ft)	89.74	153.22	57.76
Vel Total (ft/s)	14.95	Avg. Vel. (ft/s)	6.57	16.87	6.44
Max Chl Dpth (ft)	17.77	Hydr. Depth (ft)	2.86	11.92	2.78
Crit W.S. (ft)	1613.77	Wetted Per. (ft)	89.93	155.58	58.05
Conv. Total (cfs)	435817.5	Conv. (cfs)	21913.4	400457.7	13446.5

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.65 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9817.78	9831.58	0.00	1.52	6.94	23.4	0.22	0.99
9831.58	9845.38	0.09	12.08	13.83	468.4	0.88	2.49
9845.38	9859.18	0.27	23.41	13.82	1412.3	1.70	3.88
9859.18	9872.99	0.52	34.71	13.83	2722.0	2.52	5.04
9872.99	9886.79	0.89	47.89	13.85	4649.2	3.47	6.24
9886.79	9900.59	1.40	62.80	13.83	7309.2	4.55	7.48
9900.59	9914.39	1.85	74.18	13.82	9652.2	5.37	8.36
9914.39	9924.60	2.25	68.95	10.40	10331.7	6.75	10.95
9924.60	9934.82	3.55	90.91	10.49	16283.5	8.90	13.09
9934.82	9945.03	5.31	115.79	10.50	24351.3	11.34	15.37
9945.03	9955.25	7.33	141.16	10.61	33639.7	13.82	17.42
9955.25	9965.46	10.29	172.84	10.59	47203.4	16.92	19.96
9965.46	9975.68	11.44	181.56	10.21	52499.0	17.77	21.14
9975.68	9985.89	10.54	174.03	10.40	48328.9	17.04	20.30
9985.89	9996.11	8.79	155.60	10.31	40338.7	15.23	18.95
9996.11	10006.32	7.69	143.43	10.29	35268.7	14.04	17.97
10006.32	10016.54	6.48	129.54	10.31	29712.9	12.68	16.77
10016.54	10026.75	5.34	115.34	10.30	24513.8	11.29	15.54
10026.75	10036.97	4.42	102.88	10.28	20278.3	10.07	14.41
10036.97	10047.18	3.58	90.62	10.29	16412.8	8.87	13.24
10047.18	10057.40	2.80	78.21	10.29	12834.9	7.66	12.00
10057.40	10067.61	2.08	65.40	10.29	9525.4	6.40	10.65
10067.61	10077.76	1.29	53.17	10.21	6784.0	5.24	8.16
10077.76	10087.91	0.88	42.30	10.21	4633.6	4.17	7.01
10087.91	10098.06	0.54	31.43	10.21	2824.0	3.10	5.75
10098.06	10108.21	0.27	20.61	10.20	1398.7	2.03	4.34
10108.21	10118.36	0.09	10.96	10.19	488.7	1.08	2.85
10118.36	10128.51	0.01	2.20	7.05	43.0	0.31	1.25

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.58
Description: 19.58

Station Elevation Data, num = 42

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9782.8	1630	9802.36	1622.4	9810	1619.67	9831.14	1613.82	9840.5	1611.05
9845.27	1610	9852.91	1607.8	9860.45	1606	9873.39	1603.72	9893.27	1600.48
9896.88	1600	9903.54	1598	9910.72	1596	9916.24	1594	9923.21	1592
9931.74	1590	9947.82	1590	9976.78	1596.89	9991.62	1600	9999.42	1602.61
10004.85	1604	10013.77	1606	10017.89	1607.07	10033.48	1610	10038.44	1611.08
10043.81	1612	10064.88	1612	10085.6	1610	10106	1609.07	10122.71	1608
10127.48	1608	10142.93	1608.8	10159.82	1610	10178.39	1612	10191.02	1613.07
10201.07	1614	10218.53	1616	10237.78	1618	10255.65	1620	10270.99	1622.01
10303.08	1626	10319.95	1628						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9782.8	.035	9896.88	.035	10004.85	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9896.88	10004.85	267.4	267.4	267.4	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.58 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1608.50	Element			
Vel Head (ft)	6.69	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1615.18	Reach Len. (ft)	267.40	267.40	267.40
E.G. Slope (ft/ft)	0.008317	Flow Area (sq ft)	216.94	1444.39	51.39
Q Total (cfs)	33533.00	Flow (cfs)	2322.06	30914.06	296.88
Top Width (ft)	197.13	Top Width (ft)	46.39	107.97	42.77
Vel Total (ft/s)	19.58	Avg. Vel. (ft/s)	10.70	21.40	5.78
Max Chl Dpth (ft)	18.50	Hydr. Depth (ft)	4.68	13.38	1.20
Crit W.S. (ft)	1610.14	Wetted Per. (ft)	47.19	111.13	43.29
Conv. Total (cfs)	367697.9	Conv. (cfs)	25462.0	338980.6	3255.3

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.58 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9843.64	9851.25	0.00	0.08	0.79	0.8	0.11	0.75
9851.25	9858.85	0.10	9.12	7.84	428.3	1.20	3.74
9858.85	9866.46	0.44	21.87	7.74	1855.1	2.88	6.75
9866.46	9874.06	0.84	32.13	7.72	3530.0	4.23	8.74
9874.06	9881.67	1.30	41.88	7.71	5496.6	5.51	10.44
9881.67	9889.27	1.83	51.31	7.71	7709.7	6.75	11.95
9889.27	9896.88	2.41	60.54	7.69	10171.6	7.96	13.36
9896.88	9904.08	3.31	68.94	7.51	12829.3	9.58	16.10
9904.08	9911.28	4.60	83.86	7.49	17824.6	11.65	18.39
9911.28	9918.47	6.16	100.60	7.60	23892.3	13.98	20.54
9918.47	9925.67	7.95	116.24	7.46	30798.3	16.15	22.92
9925.67	9932.87	9.51	128.83	7.36	36863.5	17.90	24.75
9932.87	9940.07	10.20	133.13	7.20	39531.0	18.50	25.69
9940.07	9947.27	10.20	133.15	7.20	39536.4	18.50	25.69
9947.27	9954.46	9.38	127.90	7.38	36350.7	17.77	24.59
9954.46	9961.66	7.91	115.61	7.40	30674.1	16.06	22.95
9961.66	9968.86	6.56	103.27	7.40	25415.7	14.35	21.29
9968.86	9976.06	5.31	90.95	7.40	20566.6	12.64	19.56
9976.06	9983.26	4.23	79.22	7.36	16397.0	11.01	17.91
9983.26	9990.45	3.31	68.35	7.35	12827.9	9.50	16.24
9990.45	9997.65	2.28	55.21	7.55	8830.4	7.67	13.84
9997.65	10004.85	1.29	39.13	7.47	5010.2	5.44	11.08
10004.85	10025.86	0.85	44.70	21.13	3127.6	2.17	6.37
10025.86	10109.88						
10109.88	10130.89	0.03	5.70	15.96	121.7	0.36	1.94
10130.89	10151.90	0.00	0.99	6.20	12.4	0.16	1.14

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.53
Description: 19.53

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9812.31	1619.4	9836.38	1612	9841.94	1610	9853.65	1608	9864.37	1606
9872.09	1604	9877.64	1602	9885.8	1600	9894.69	1598	9902.11	1596
9910.89	1594	9916.8	1592	9921.11	1591.21	9925.77	1590	9932.63	1588
9940.68	1585.9	9947.31	1584	9955.63	1582	9960.56	1582	9968.41	1585.18
9971.35	1586.7	9976.63	1588.36	9979.55	1590	9987.15	1592	9995.67	1592
10007.63	1593.1	10017.6	1593.37	10025.11	1593.41	10038.32	1593.87	10050.56	1594.04
10057.4	1594.51	10087.74	1597.09	10096.92	1598	10113.04	1600.19	10137.03	1603.61
10151.03	1605.71	10156.03	1606	10161.7	1606	10172.6	1606	10182.85	1605.65
10194.09	1605.81	10198.28	1606	10213.25	1607.51	10220.86	1608.95	10225.97	1609.54
10237.54	1608	10258.64	1607.27	10275.23	1606.57	10279.53	1606.49		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9812.31	.035	9916.8	.035	10007.63	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9916.8	10007.63	169.2	169.2	169.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10225	10279.53	1615

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.53 Profile # 1

W.S. Elev (ft)	1598.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	12.83	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1610.99	Reach Len. (ft)	169.20	169.20	169.20
E.G. Slope (ft/ft)	0.025160	Flow Area (sq ft)	66.87	916.42	300.07
Q Total (cfs)	33533.00	Flow (cfs)	900.37	28144.48	4488.15
Top Width (ft)	204.10	Top Width (ft)	22.81	90.83	90.46
Vel Total (ft/s)	26.13	Avg. Vel. (ft/s)	13.47	30.71	14.96
Max Chl Dpth (ft)	16.16	Hydr. Depth (ft)	2.93	10.09	3.32
Crit W.S. (ft)	1602.22	Wetted Per. (ft)	23.65	94.10	90.65
Conv. Total (cfs)	211404.5	Conv. (cfs)	5676.3	177433.2	28294.9

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.53 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9888.94	9895.90	0.00	0.45	1.98	7.0	0.23	2.13
9895.90	9902.87	0.21	9.91	7.21	520.0	1.42	7.12
9902.87	9909.83	0.79	21.76	7.14	1941.8	3.12	12.11
9909.83	9916.80	1.69	34.75	7.32	4166.4	4.99	16.27
9916.80	9922.86	2.70	40.77	6.19	6085.0	6.73	22.19
9922.86	9928.91	3.72	49.73	6.28	8386.6	8.21	25.07
9928.91	9934.97	5.11	60.21	6.29	11526.0	9.94	28.46
9934.97	9941.02	6.59	69.99	6.26	14856.6	11.56	31.55
9941.02	9947.08	8.21	80.07	6.30	18515.1	13.22	34.38
9947.08	9953.13	10.01	89.81	6.23	22580.3	14.83	37.38
9953.13	9959.19	11.53	97.10	6.13	26009.8	16.03	39.82
9959.19	9965.24	10.47	93.39	6.42	23617.6	15.42	37.59
9965.24	9971.30	7.64	78.47	6.67	17234.3	12.96	32.65
9971.30	9977.35	5.53	63.66	6.42	12469.5	10.51	29.12

9977.35	9983.41	3.52	48.79	6.51	7934.6	8.06	24.17
9983.41	9989.46	2.52	39.14	6.18	5685.3	6.46	21.60
9989.46	9995.52	2.36	37.29	6.06	5319.5	6.16	21.20
9995.52	10001.57	2.19	35.68	6.08	4929.6	5.89	20.54
10001.57	10007.63	1.85	32.32	6.08	4178.6	5.34	19.22
10007.63	10025.76	4.56	87.96	18.13	10702.2	4.85	17.38
10025.76	10043.88	3.91	80.27	18.13	9186.4	4.43	16.35
10043.88	10062.01	3.14	70.36	18.16	7369.4	3.88	14.96
10062.01	10080.14	1.50	45.16	18.19	3514.8	2.49	11.12
10080.14	10098.26	0.28	16.32	18.03	648.0	0.91	5.67

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SPILLWAY River Station: 19.50
Description: 19.50

Station Elevation Data, num = 34

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9853.99	1604	9860.4	1602.78	9871.79	1600	9879.79	1598.79	9890.41	1596.6
9895.55	1595.46	9907.69	1594	9914.87	1592	9920.91	1591.05	9926.44	1590
9946.34	1586	9961.18	1582	9968.7	1580	9977.07	1579.22	9986.15	1582.2
10002.21	158810006.31	1589.2910011.55	1590	10052	1590	10082.6	1588		
10091.42	158810110.69	158810120.95	1588.6810138.25	159010178.75	1592.8				
10192.64	159410204.93	1595.3510212.15	1596	10230.9	159810251.34	1600			
10259.72	1601.2610267.85	160210279.75	1603.410288.57	1604.01					

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9853.99	.035	9946.34	.03510002.21	.035	

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9946.3410002.21		211.8	211.8	211.8	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.50 Profile # 1

W.S. Elev (ft)	1593.24	Element	Left OB	Channel	Right OB
Vel Head (ft)	13.06	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1606.29	Reach Len. (ft)	211.80	211.80	211.80
E.G. Slope (ft/ft)	0.030418	Flow Area (sq ft)	132.26	587.52	638.30
Q Total (cfs)	33533.00	Flow (cfs)	2304.11	20322.36	10906.53
Top Width (ft)	273.36	Top Width (ft)	35.91	55.87	181.58
Vel Total (ft/s)	24.69	Avg. Vel. (ft/s)	17.42	34.59	17.09
Max Chl Dpth (ft)	14.02	Hydr. Depth (ft)	3.68	10.52	3.52
Crit W.S. (ft)	1596.99	Wetted Per. (ft)	36.65	58.19	182.08
Conv. Total (cfs)	192267.0	Conv. (cfs)	13211.0	116521.6	62534.4

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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.50 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9909.40	9915.56	0.05	3.63	5.30	119.6	0.71	4.93

9915.56	9921.71	0.32	11.26	6.24	709.2	1.83	9.42
9921.71	9927.87	0.69	18.01	6.27	1544.6	2.92	12.83
9927.87	9934.03	1.23	25.50	6.28	2755.4	4.14	16.16
9934.03	9940.18	1.90	33.12	6.28	4260.8	5.38	19.24
9940.18	9946.34	2.68	40.74	6.28	6015.8	6.62	22.09
9946.34	9950.06	2.36	28.82	3.86	4676.1	7.74	27.41
9950.06	9953.79	2.89	32.56	3.86	5730.4	8.74	29.73
9953.79	9957.51	3.46	36.30	3.86	6868.8	9.75	31.96
9957.51	9961.24	4.07	40.04	3.86	8088.1	10.75	34.12
9961.24	9964.96	4.73	43.75	3.85	9382.3	11.75	36.22
9964.96	9968.69	5.41	47.44	3.85	10737.5	12.74	38.23
9968.69	9972.41	6.01	49.94	3.74	11931.0	13.41	40.36
9972.41	9976.14	6.27	51.25	3.74	12454.4	13.76	41.05
9976.14	9979.86	6.06	50.88	3.88	12023.7	13.66	39.91
9979.86	9983.59	5.18	46.51	3.92	10273.3	12.49	37.31
9983.59	9987.31	4.35	41.94	3.93	8626.8	11.26	34.75
9987.31	9991.04	3.52	37.04	3.96	6980.0	9.94	31.83
9991.04	9994.76	2.76	32.03	3.96	5478.4	8.60	28.89
9994.76	9998.49	2.08	27.02	3.96	4125.9	7.25	25.80
9998.49	10002.21	1.48	22.01	3.96	2931.2	5.91	22.50
10002.21	10021.30	3.30	69.19	19.34	6871.9	3.62	15.99
10021.30	10040.39	2.75	61.77	19.09	5737.6	3.24	14.95
10040.39	10059.48	2.89	63.60	19.11	6020.2	3.33	15.24
10059.48	10078.57	4.50	83.02	19.13	9376.8	4.35	18.18
10078.57	10097.66	6.09	99.43	19.10	12679.0	5.21	20.53
10097.66	10116.75	6.01	98.74	19.10	12531.0	5.17	20.43
10116.75	10135.84	4.15	79.09	19.14	8646.1	4.14	17.60
10135.84	10154.94	2.09	52.37	19.14	4350.0	2.74	13.37
10154.94	10174.03	0.70	27.15	19.14	1455.6	1.42	8.63
10174.03	10193.12	0.04	3.93	9.80	90.7	0.40	3.72

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 INPUT Reach: SPILLWAY River Station: 19.46
Description: 19.46

Station Elevation Data, num = 45

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9744	1601.98	9764.15	1598	9777.67	1595.67	9788.16	1594	9816.74	1590
9837.81	1587.87	9858.88	1586	9901.8	1586	9924.9	1585.3	9943.41	1584
9956.62	1579.54	9966.28	1576	9978.42	1576	9994.83	1580	10003.16	1582
10008.57	1583.14	10013.14	1583.8	10021.28	1583.67	10037.66	1582.85	10043.22	1582.83
10047.41	1583.06	10052	1584	10061.01	1584.72	10081.69	1586	10114.03	1586
10131.46	1584	10138.45	1583	10151.86	1582.75	10167.43	1584	10180.79	1584
10200.1	1582.37	10205.21	1582.1	10209.14	1582.31	10227.08	1584	10237.39	1584.76
10258.31	1586.58	10270.44	1588	10288.96	1590	10310.4	1592	10321.13	1592.57
10345.8	1594	10360.23	1595	10373.25	1596	10387	1597.43	10394.54	1598

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9744	.035	9943.41	.035	10013.14	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9943.41	10013.14	228.1	228.1	228.1	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.46 Profile # 1

W.S. Elev (ft)	1587.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	11.13	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1598.46	Reach Len. (ft)	228.10	228.10	228.10
E.G. Slope (ft/ft)	0.039433	Flow Area (sq ft)	155.54	552.62	769.28
Q Total (cfs)	33533.00	Flow (cfs)	1764.63	18132.35	13636.02
Top Width (ft)	420.84	Top Width (ft)	99.53	69.73	251.58
Vel Total (ft/s)	22.70	Avg. Vel. (ft/s)	11.34	32.81	17.73
Max Chl Dpth (ft)	11.33	Hydr. Depth (ft)	1.56	7.93	3.06
Crit W.S. (ft)	1590.25	Wetted Per. (ft)	99.64	71.97	252.33

Conv. Total (cfs) 168866.7 Conv. (cfs) 8886.4 91311.5 68668.8

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.46 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9837.06	9850.35	0.02	1.86	6.49	34.2	0.29	3.35
9850.35	9863.65	0.35	14.46	13.33	648.6	1.09	8.14
9863.65	9876.94	0.49	17.69	13.29	908.7	1.33	9.33
9876.94	9890.23	0.49	17.69	13.29	908.7	1.33	9.33
9890.23	9903.53	0.49	17.74	13.29	912.6	1.33	9.35
9903.53	9916.82	0.66	21.07	13.30	1215.2	1.58	10.48
9916.82	9930.12	0.99	26.96	13.31	1832.7	2.03	12.35
9930.12	9943.41	1.76	38.07	13.33	3254.5	2.86	15.53
9943.41	9948.06	1.12	19.13	4.91	2012.1	4.12	19.65
9948.06	9952.71	1.92	26.43	4.91	3447.3	5.68	24.37
9952.71	9957.36	2.88	33.74	4.91	5173.6	7.26	28.64
9957.36	9962.00	4.04	41.43	4.95	7249.5	8.91	32.69
9962.00	9966.65	5.42	49.32	4.93	9726.6	10.61	36.84
9966.65	9971.30	6.28	52.67	4.65	11280.7	11.33	40.01
9971.30	9975.95	6.28	52.67	4.65	11280.7	11.33	40.01
9975.95	9980.60	6.11	52.10	4.71	10976.9	11.21	39.35
9980.60	9985.25	5.20	47.57	4.78	9337.3	10.23	36.67
9985.25	9989.90	4.28	42.30	4.78	7678.4	9.10	33.91
9989.90	9994.54	3.43	37.03	4.78	6152.0	7.97	31.03
9994.54	9999.19	2.66	31.80	4.78	4775.3	6.84	28.05
9999.19	10003.84	1.98	26.63	4.78	3553.3	5.73	24.93
10003.84	10008.49	1.43	21.83	4.75	2562.6	4.70	21.92
10008.49	10013.14	1.04	17.97	4.70	1866.6	3.87	19.40
10013.14	10038.57	5.77	100.01	25.45	10574.3	3.93	19.36
10038.57	10063.99	4.92	91.01	25.56	9008.6	3.58	18.12
10063.99	10089.42	1.44	43.53	25.46	2642.4	1.71	11.11
10089.42	10114.85	0.95	33.88	25.43	1741.1	1.33	9.41
10114.85	10140.27	3.50	74.21	25.61	6403.4	2.92	15.80
10140.27	10165.70	6.51	107.53	25.47	11924.7	4.23	20.30
10165.70	10191.13	4.78	89.32	25.47	8753.4	3.51	17.94
10191.13	10216.55	8.02	121.93	25.50	14690.7	4.80	22.06
10216.55	10241.98	4.10	81.59	25.52	7517.6	3.21	16.87
10241.98	10267.41	0.67	26.27	22.85	1223.9	1.15	8.53

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.42
Description: 19.42

Station Elevation Data, num = 49

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9518.41	1590.66	9521.93	1590	9532.05	1588.4	9536.31	1588	9551.92	1586
9586.41	1581.89	9594.28	1581.13	9606	1580.8	9629.56	1582.03	9651.84	1582
9671.03	1581.16	9682.17	1580.56	9690.43	1580.4	9719.63	1580.9	9734.92	1580.55
9749.13	1580	9766.42	1578	9781.1	1578	9795.75	1580	9819.09	1581.59
9830.89	1582.12	9847.03	1582.44	9894.19	1582.1	9899.3	1582	9935.48	1580
9950.42	1579.14	9952.14	1578.87	9957.39	1578	9965.69	1575.58	9971.89	1574
9992.83	157410013.89	1576.4610035.46	157810055.98	158010096.67	1581.68				
10101.48	158210143.07	158210158.14	1581.110170.18	1580.8810183.98	1580				
10203.75	157810204.89	157810215.89	1579.310259.02	158210273.46	1582.82				
10291.21	158410318.22	158610339.48	158810357.65	1590					

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9518.41	.035	9952.14	.035	10055.98	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9952.14	10055.98	257.9	257.9	257.9	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.42 Profile # 1

W.S. Elev (ft)	1583.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	6.31	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1589.47	Reach Len. (ft)	257.90	257.90	257.90
E.G. Slope (ft/ft)	0.028144	Flow Area (sq ft)	820.42	701.31	493.85
Q Total (cfs)	33533.00	Flow (cfs)	9812.78	17743.19	5977.04
Top Width (ft)	702.74	Top Width (ft)	376.36	103.84	222.54
Vel Total (ft/s)	16.64	Avg. Vel. (ft/s)	11.96	25.30	12.10
Max Chl Dpth (ft)	9.16	Hydr. Depth (ft)	2.18	6.75	2.22
Crit W.S. (ft)	1584.96	Wetted Per. (ft)	376.99	104.75	222.94
Conv. Total (cfs)	199885.5	Conv. (cfs)	58492.6	105764.7	35628.3

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.42 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9547.33	9576.24	0.00	0.01	0.46	0.0	0.03	0.57
9576.24	9605.16	1.06	43.38	29.03	2407.7	1.50	8.20
9605.16	9634.07	1.26	48.11	28.95	2865.4	1.66	8.80
9634.07	9662.99	0.78	35.95	28.93	1764.3	1.24	7.25
9662.99	9691.90	2.16	66.38	28.94	4900.8	2.30	10.91
9691.90	9720.82	2.47	71.85	28.92	5595.2	2.48	11.51
9720.82	9749.73	2.79	77.35	28.93	6326.0	2.68	12.09
9749.73	9778.65	6.87	133.00	29.03	15576.6	4.60	17.31
9778.65	9807.56	4.70	106.08	29.08	10672.0	3.67	14.87
9807.56	9836.48	1.06	43.43	28.95	2415.6	1.50	8.22
9836.48	9865.39	0.37	23.04	28.92	840.7	0.80	5.39
9865.39	9894.31	0.50	27.56	28.92	1133.4	0.95	6.08
9894.31	9923.22	1.30	49.02	28.95	2956.4	1.70	8.91
9923.22	9952.14	3.94	95.26	28.98	8940.5	3.29	13.87
9952.14	9959.06	1.96	33.82	7.06	4079.1	4.89	19.39
9959.06	9965.99	3.23	46.06	7.21	6733.5	6.65	23.51
9965.99	9972.91	4.92	58.95	7.11	10250.1	8.51	27.96
9972.91	9979.83	5.65	63.38	6.92	11777.2	9.16	29.88
9979.83	9986.75	5.65	63.39	6.92	11778.9	9.16	29.88
9986.75	9993.68	5.64	63.35	6.93	11759.4	9.15	29.85
9993.68	10000.60	5.12	59.91	6.97	10671.8	8.65	28.65
10000.60	10007.52	4.35	54.31	6.97	9062.0	7.84	26.83
10007.52	10014.44	3.63	48.72	6.97	7562.8	7.04	24.96
10014.44	10021.37	3.11	44.38	6.94	6489.9	6.41	23.52
10021.37	10028.29	2.72	40.95	6.94	5677.5	5.92	22.29
10028.29	10035.21	2.35	37.53	6.94	4908.4	5.42	21.03
10035.21	10042.13	1.95	33.53	6.96	4062.3	4.84	19.48
10042.13	10049.06	1.52	28.86	6.96	3163.6	4.17	17.63
10049.06	10055.98	1.13	24.19	6.96	2357.1	3.49	15.67
10055.98	10076.09	2.01	55.13	20.13	4582.2	2.74	12.22
10076.09	10096.20	1.10	38.43	20.13	2511.3	1.91	9.60
10096.20	10116.31	0.51	24.18	20.12	1160.7	1.20	7.05
10116.31	10136.43	0.48	23.26	20.11	1088.1	1.16	6.88
10136.43	10156.54	0.68	28.68	20.14	1541.1	1.43	7.90
10156.54	10176.65	1.45	45.37	20.13	3310.8	2.26	10.73
10176.65	10196.76	2.99	70.03	20.19	6812.3	3.48	14.30
10196.76	10216.87	4.77	92.78	20.23	10874.4	4.61	17.23
10216.87	10236.98	2.55	63.67	20.15	5819.8	3.17	13.44
10236.98	10257.09	1.10	38.35	20.15	2499.9	1.91	9.58

10257.09	10277.21	0.20	13.92	20.15	461.9	0.69	4.88
10277.21	10297.32	0.00	0.06	1.32	0.3	0.04	0.77

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.37
Description: 19.37

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9473.71	1588	9506.54	1584	9516.44	1583.18	9526.83	1582	9546.05	1580.51
9561.62	1578.68	9569.53	1578	9588.36	1576	9599.3	1576	9614.55	1576.51
9615.92	1576.44	9632.32	1577.06	9650.84	1578	9663.93	1578.5	9688.79	1578.27
9713.63	1578.59	9728.31	1578	9758.8	1576	9780.93	1574	9797.55	1574
9817.7	1576	9840.24	1577.49	9853.03	1577.7	9860.5	1578	9895.23	1578
9921.6	1576	9943.79	1574.83	9956.18	1574	9969.36	1572	9981.56	1570
9988.65	157	10009.74	157	210024.43	1573.59	10054.63	157	610071.46	1576.19
10100.59	1576.79	10133.21	1576.67	10154.58	1576.74	10191.51	157	610206.22	1575.49
10236.67	1574.08	10246.06	1574.32	10291.73	1576.08	10316.26	1576.71	10356.52	1576.47
10371.26	157	610384.78	157	410399.67	157	210408.96	157	210419.96	1574
10445.46	157	610476.91	157	810517.88	1581.15	10530.24	1581.81	0534.92	1582
10569.82	1582.98	10584.47	158	410603.93	158	610620.52	1588.1		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9473.71	.035	9956.18	.035	10054.63	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9956.18	10054.63	383.6	383.6	383.6	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.37 Profile # 1

W.S. Elev (ft)	1578.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.68	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1582.26	Reach Len. (ft)	383.60	383.60	383.60
E.G. Slope (ft/ft)	0.021705	Flow Area (sq ft)	685.95	586.61	1205.92
Q Total (cfs)	33533.00	Flow (cfs)	6536.57	12011.20	14985.23
Top Width (ft)	921.43	Top Width (ft)	393.08	98.45	429.90
Vel Total (ft/s)	13.53	Avg. Vel. (ft/s)	9.53	20.48	12.43
Max Chl Dpth (ft)	8.59	Hydr. Depth (ft)	1.75	5.96	2.81
Crit W.S. (ft)	1579.71	Wetted Per. (ft)	393.73	99.04	430.64
Conv. Total (cfs)	227610.5	Conv. (cfs)	44368.0	81527.9	101714.6

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.37 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9538.04	9570.20	0.02	2.42	7.52	48.2	0.32	2.39
9570.20	9602.37	1.60	65.52	32.27	4460.1	2.04	8.18
9602.37	9634.53	1.54	64.03	32.19	4299.9	1.99	8.07
9634.53	9666.70	0.24	20.98	32.20	669.5	0.65	3.84
9666.70	9698.86	0.04	7.26	32.17	114.2	0.23	1.89
9698.86	9731.03	0.04	7.46	31.80	120.5	0.23	1.94
9731.03	9763.19	1.33	58.76	32.24	3721.6	1.83	7.61
9763.19	9795.36	5.23	133.30	32.24	14578.6	4.14	13.15
9795.36	9827.52	3.48	104.53	32.29	9712.9	3.25	11.17

9827.52	9859.69	0.62	36.98	32.20	1721.4	1.15	5.60
9859.69	9891.85	0.20	18.87	32.17	561.3	0.59	3.58
9891.85	9924.01	1.03	50.21	32.24	2863.6	1.56	6.86
9924.01	9956.18	4.13	115.65	32.22	11510.3	3.60	11.96
9956.18	9962.74	1.74	33.37	6.64	4157.2	5.08	17.49
9962.74	9969.31	2.34	39.91	6.64	5601.2	6.08	19.70
9969.31	9975.87	3.04	46.70	6.65	7270.4	7.12	21.85
9975.87	9982.43	3.84	53.69	6.64	9185.1	8.18	24.01
9982.43	9989.00	4.20	56.35	6.57	10028.9	8.59	24.98
9989.00	9995.56	3.91	54.10	6.59	9343.2	8.24	24.24
9995.56	10002.12	3.43	50.01	6.59	8197.2	7.62	23.00
10002.12	10008.69	2.98	45.93	6.59	7112.0	7.00	21.73
10008.69	10015.25	2.53	41.64	6.60	6035.3	6.34	20.34
10015.25	10021.81	2.07	36.98	6.60	4952.4	5.63	18.79
10021.81	10028.38	1.68	32.54	6.59	4005.7	4.96	17.28
10028.38	10034.94	1.38	29.00	6.58	3308.9	4.42	16.01
10034.94	10041.50	1.12	25.57	6.58	2681.9	3.90	14.72
10041.50	10048.07	0.88	22.13	6.58	2108.3	3.37	13.37
10048.07	10054.63	0.67	18.69	6.58	1591.2	2.85	11.95
10054.63	10092.36	2.63	87.50	37.73	6508.5	2.32	10.07
10092.36	10130.08	1.82	70.06	37.73	4493.8	1.86	8.69
10130.08	10167.81	1.91	72.35	37.73	4741.1	1.92	8.88
10167.81	10205.53	3.03	95.35	37.74	7509.0	2.53	10.67
10205.53	10243.26	6.24	147.00	37.76	15444.5	3.90	14.23
10243.26	10280.99	5.58	137.54	37.75	13825.8	3.65	13.61
10280.99	10318.71	2.64	87.67	37.74	6528.0	2.32	10.09
10318.71	10356.44	2.07	75.75	37.73	5118.7	2.01	9.15
10356.44	10394.16	5.21	132.27	37.97	12905.0	3.51	13.21
10394.16	10431.89	10.90	205.99	37.99	26990.7	5.46	17.75
10431.89	10469.62	2.56	86.23	37.82	6342.7	2.29	9.96
10469.62	10507.34	0.09	8.20	14.96	233.3	0.55	3.85

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.29
Description: 19.29

Station Elevation Data, num = 62

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9535.53	1576.71	9565.5	1576	9608.28	1574.71	9626.57	1574	9644.46	1573.4
9666.5	1573.17	9673.04	1573	9702.04	1572	9735.08	1572	9752	1570
9770.44	1568	9791.57	1568	9798.17	1568.93	9808.86	1570	9857.31	1570
9873.26	1567.96	9889.29	1566	9894.06	1566.25	9909.54	1568.03	9940.35	1570
9964.44	1570	9972.99	1569	9979.08	1568	9992.61	1566	10049.68	1566
10072.87	1568	10081.33	1568	10101.39	1568.61	0141.94	1569.11	0160.11	1569.28
10197.78	1569.31	0204.38	1569.41	0211.46	1569.24	0245.53	1569.81	0254.73	1570
10320.91	1570	10342.69	1568	10351.62	1568.24	0371.13	1569.47	10383.4	1570
10421.64	1570	10456.56	1570.9	10480	1571.01	10533.5	1570.14	0541.43	1570
10608.66	1570	10627.81	1569.91	0641.49	1569.55	0661.34	1568	10677.4	1566
10685.23	1566	10708.33	1565.71	0728.37	1566.95	0738.63	1568	10756.03	1569.35
10763.42	1570	10784.98	1570.71	0801.92	1571.16	10825.6	1572	10866.05	1574
10875.39	1574.62	10917.36	1577.7						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9535.53	.035	9964.44	.035	10072.87	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964.44	10072.87	473.7	473.7	473.7	.1	.3

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.29 Profile # 1

W.S. Elev (ft) 1571.72 Element Left OB Channel Right OB

Vel Head (ft)	2.45	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1574.17	Reach Len. (ft)	473.70	473.70	473.70
E.G. Slope (ft/ft)	0.018852	Flow Area (sq ft)	611.60	538.04	1721.89
Q Total (cfs)	33533.00	Flow (cfs)	6888.57	9103.54	17540.89
Top Width (ft)	1080.15	Top Width (ft)	226.97	108.43	744.76
Vel Total (ft/s)	11.68	Avg. Vel. (ft/s)	11.26	16.92	10.19
Max Chl Dpth (ft)	6.02	Hydr. Depth (ft)	2.69	4.96	2.31
Crit W.S. (ft)	1572.41	Wetted Per. (ft)	227.72	108.80	745.34
Conv. Total (cfs)	244223.9	Conv. (cfs)	50170.1	66301.9	127751.9

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.29 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9735.69	9764.28	0.89	41.74	26.98	2370.6	1.56	7.16
9764.28	9792.88	3.93	104.11	28.64	10449.1	3.64	12.65
9792.88	9821.47	1.67	62.46	28.70	4453.2	2.18	8.99
9821.47	9850.06	1.12	49.10	28.59	2989.2	1.72	7.68
9850.06	9878.66	2.43	78.16	28.76	6462.1	2.73	10.42
9878.66	9907.25	6.62	142.66	28.77	17614.2	4.99	15.57
9907.25	9935.85	2.72	83.61	28.66	7246.6	2.92	10.93
9935.85	9964.44	1.15	49.75	28.60	3054.6	1.74	7.74
9964.44	9971.67	0.43	15.47	7.28	1085.6	2.14	9.37
9971.67	9978.90	0.80	22.40	7.32	2005.7	3.10	11.95
9978.90	9986.13	1.34	30.54	7.31	3363.3	4.22	14.70
9986.13	9993.36	1.95	38.22	7.30	4893.5	5.29	17.09
9993.36	10000.58	2.23	41.33	7.23	5609.8	5.72	18.12
10000.58	10007.81	2.23	41.33	7.23	5609.8	5.72	18.12
10007.81	10015.04	2.23	41.33	7.23	5609.8	5.72	18.12
10015.04	10022.27	2.23	41.33	7.23	5609.8	5.72	18.12
10022.27	10029.50	2.23	41.33	7.23	5609.8	5.72	18.12
10029.50	10036.73	2.23	41.33	7.23	5609.8	5.72	18.12
10036.73	10043.96	2.23	41.33	7.23	5609.8	5.72	18.12
10043.96	10051.18	2.22	41.23	7.24	5585.6	5.70	18.08
10051.18	10058.41	1.95	38.14	7.26	4894.4	5.28	17.13
10058.41	10065.64	1.58	33.63	7.26	3969.0	4.65	15.76
10065.64	10072.87	1.24	29.12	7.26	3122.8	4.03	14.32
10072.87	10129.17	6.11	181.74	56.31	16850.3	3.23	11.28
10129.17	10185.47	4.04	141.69	56.30	11130.1	2.52	9.56
10185.47	10241.77	3.48	129.65	56.31	9598.1	2.30	9.01
10241.77	10298.07	2.20	98.38	56.30	6059.5	1.75	7.49
10298.07	10354.37	3.95	139.84	56.40	10875.9	2.48	9.46
10354.37	10410.67	2.96	117.67	56.34	8162.0	2.09	8.44
10410.67	10466.97	1.29	71.34	56.31	3546.2	1.27	6.05
10466.97	10523.26	0.84	55.43	56.30	2328.7	0.98	5.11
10523.26	10579.56	2.03	93.84	56.30	5600.0	1.67	7.26
10579.56	10635.86	2.23	99.27	56.30	6150.6	1.76	7.54
10635.86	10692.16	9.08	230.66	56.49	25018.4	4.10	13.19
10692.16	10748.46	12.54	279.96	56.42	34577.8	4.97	15.03
10748.46	10804.76	1.54	79.48	56.37	4242.8	1.41	6.49
10804.76	10861.06	0.02	2.93	12.87	46.5	0.23	1.93

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.20
Description: 19.20

Station Elevation Data, num = 112

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.

```
 9306.78  1571.3 9327.81 1570.63 9353.47  1569.7 9363.92  1569.3 9417.52    1568
  9495.9    1568 9506.04 1567.52  9520.6 1567.53 9558.31 1566.24 9564.21    1566
 9591.99    1566 9594.07 1566.55 9602.17    1568 9648.05  1569.5 9657.45 1569.64
 9669.24  1569.9 9688.62    1570 9696.24 1569.56 9716.17 1567.51 9757.67 1565.73
 9783.34  1564.3 9798.17 1563.93 9841.19 1563.31  9847.5 1563.12 9864.24 1562.85
 9871.16  1562.7 9892.64 1563.02 9905.19 1562.59 9907.22  1562.6 9915.39    1562
 9952.88    1562 9957.91 1561.44  9995.7 1561.1810001.74 1561.3410012.72    1562
10083.83    156210106.82    156210198.45    156210200.75 1561.8810220.08  1561.5
   10229  1561.510271.36    156210275.31 1561.9810287.07    156010289.61 1560.87
10319.27    156010327.53    156010358.83  1562.610368.23 1562.99 10400.8 1563.06
10406.35    156310416.05 1562.8410431.13 1562.7510447.15 1562.7910459.69 1562.63
10476.88  1562.610513.22    156210547.84    156210561.48 1560.2210564.39    1560
10572.39    156010586.03 1559.54 10608.6 1560.8110627.85    156210641.72    1562
10651.26  1561.810677.35 1560.9410701.26 1560.1810704.28    156010719.86 1558.35
10726.62  1558.110746.51    156010767.27 1561.2610781.62    156210789.73    1562
10823.93    156410847.95    156410884.97    156210908.41    156210931.22 1561.54
10943.17  1561.510960.72    156110993.16 1562.0311019.57 1564.01 11078.4 1564.38
11086.63  1564.111091.02    156411106.88 1563.1111123.99    156211138.41 1560.99
11145.55  1561.111179.14    156211188.31 1562.1711205.33 1562.6311223.67 1562.82
11251.96  1563.3 11273.3 1562.8111301.64 1561.9411307.21    156211327.67    1562
11349.76  1562.511381.41    156311397.02 1562.8711412.23    156211430.11    1562
11441.38  1561.611462.86    156211483.07 1562.5411511.78    156411538.57 1566.02
11582.05    157011605.43    1572

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9306.78    .035 9864.24    .03510012.72    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9864.2410012.72             832.7   832.7   832.7             .1       .3

CROSS SECTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.20     Profile # 1

  W.S. Elev (ft)       1564.24   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.32   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1565.56   Reach Len. (ft)       832.70     832.70     832.70
  E.G. Slope (ft/ft)  0.016230   Flow Area (sq ft)      55.80     330.07    3265.52
  Q Total (cfs)       33533.00   Flow (cfs)            240.67    3039.54   30252.79
  Top Width (ft)       1702.01   Top Width (ft)         78.36     148.48    1475.18
  Vel Total (ft/s)        9.18   Avg. Vel. (ft/s)        4.31       9.21       9.26
  Max Chl Dpth (ft)       6.14   Hydr. Depth (ft)        0.71       2.22       2.21
  Crit W.S. (ft)       1564.40   Wetted Per. (ft)       78.37     148.57    1476.57
  Conv. Total (cfs)   263215.5   Conv. (cfs)           1889.1    23858.7   237467.7


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT  Reach: SPILLWAY      Riv Sta: 19.20     Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9752.75      9789.91        0.00       0.20      4.03        1.2       0.05       0.65
  9789.91      9827.08        0.14      16.56     37.17      410.2       0.45       2.81
  9827.08      9864.24        0.58      39.04     37.17     1712.5       1.05       4.97
  9864.24      9874.14        0.29      14.62      9.90      805.3       1.48       6.74
  9874.14      9884.04        0.27      14.04      9.90      752.5       1.42       6.56
  9884.04      9893.94        0.23      12.62      9.90      630.1       1.28       6.11
  9893.94      9903.83        0.28      14.16      9.90      763.0       1.43       6.60
  9903.83      9913.73        0.41      17.75      9.92     1110.9       1.79       7.66
  9913.73      9923.63        0.58      22.04      9.90     1594.8       2.23       8.86
  9923.63      9933.53        0.59      22.14      9.90     1607.4       2.24       8.89
  9933.53      9943.43        0.59      22.14      9.90     1607.6       2.24       8.89
  9943.43      9953.33        0.59      22.15      9.90     1608.5       2.24       8.89
  9953.33      9963.23        0.80      26.61      9.93     2180.1       2.69      10.03
```

9963.23	9973.13	0.89	28.38	9.90	2431.8	2.87	10.49
9973.13	9983.02	0.92	29.05	9.90	2528.8	2.94	10.66
9983.02	9992.92	0.96	29.73	9.90	2627.6	3.00	10.82
9992.92	10002.82	0.95	29.54	9.90	2598.5	2.98	10.77
10002.82	10012.72	0.72	25.08	9.92	1977.0	2.53	9.65
10012.72	10118.90	6.17	237.48	106.18	17242.9	2.24	8.71
10118.90	10225.08	6.54	246.11	106.19	18299.2	2.32	8.91
10225.08	10331.26	10.96	335.75	106.52	30642.6	3.16	10.94
10331.26	10437.44	3.89	180.24	106.29	10881.3	1.70	7.24
10437.44	10543.62	4.61	199.55	106.19	12901.5	1.88	7.75
10543.62	10649.80	12.03	354.86	106.39	33633.5	3.34	11.36
10649.80	10755.98	17.13	438.82	106.41	47907.8	4.13	13.09
10755.98	10862.17	2.86	149.79	106.30	7993.4	1.41	6.40
10862.17	10968.35	6.91	254.28	106.23	19317.3	2.39	9.11
10968.35	11074.53	1.68	100.74	87.34	4703.9	1.15	5.60
11074.53	11180.71	4.75	196.72	98.20	13271.6	2.01	8.09
11180.71	11286.89	3.06	155.94	106.21	8552.9	1.47	6.58
11286.89	11393.07	4.43	194.84	106.20	12397.0	1.83	7.63
11393.07	11499.25	5.14	213.06	106.24	14384.7	2.01	8.09
11499.25	11605.43	0.07	7.33	15.69	187.3	0.47	3.06

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SPILLWAY River Station: 19.05
Description: 19.05

Station Elevation Data, num = 146

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8728.41	1559.9	8749.09	1557.42	8761.93	1556	8767.62	1556	8776.15	1554.76
8785.52	1552	8797.1	1552	8805.89	1554.59	8811.79	1556.66	8817.37	1557.83
8820.8	1558	8833.88	1557.2	8860.47	1556.26	8867.27	1555.98	8883.93	1555.31
8913.02	1554	8919.39	1553.65	8927.21	1553.53	8970.3	1552	8985.9	1552
8994.37	1554	9013.96	1554	9022.4	1552	9071.95	1552	9090.2	1552.26
9110.6	1552.5	9120.8	1552	9146.41	1552	9151.49	1554	9160.57	1556.3
9170.47	1556.9	9188.8	1555.09	9197.23	1554	9205.66	1552.74	9211.73	1552
9398.68	1552	9443.85	1551.28	9498.04	1550.38	9536.11	1550	9581.95	1550
9604.53	1549.7	9640.2	1549.68	9663.15	1549.61	9672.43	1549.63	9705.54	1549.44
9792.06	1549.3	9805.85	1549.27	9858.05	1549.44	9894.44	1549.59	9912.55	1549.5
9986.45	1549.4	10019.79	1549.49	10040.4	1549.4	910078.34	1549.6	510098.92	1549.63
10174.83	1550	10189.62	1549.9	910296.31	1549.9	510328.79	1550	10367.95	1550
10376.28	1550.3	10407.05	1550.3	510416.84	1550.32	10439.1	1550.5	510476.74	1551.44
10487.45	1551.6	10502.39	1551.88	10513	1551.8	510555.67	1551.57	10580.4	1551.7
10584.84	1551.6	10647.1	1551.39	10671.5	1551.4	910691.82	1551.37	10725.7	1550.83
10754.58	1550	10770.09	1550	10775.56	1551.2	110798.95	1550.8	410850.57	1551.5
10876.42	1552	10925.78	1553.2	210944.57	1553.5	710959.24	1553.7	110971.78	1554
11032.72	1554	11072.6	1552.3	711084.75	1552	11108.18	1550	11121.81	1550.07
11162.9	1552	11237.64	1552	11264.95	1550.19	11269.7	1549.7	911292.29	1548.92
11317.38	1549.2	11335.53	1550	11344.13	1550	11366.49	1552	11439.85	1552
11455.32	1550.6	11458.92	1550.4	11470.46	1550.4	411494.63	1552	11521.18	1553.67
11531.09	1554	11583.46	1553.9	911613.88	1552.9	911635.91	1552	11655.39	1550.46
11663.31	1550.7	11675.95	1552	11688.64	1552.81	11699.8	1553.14	11715.2	1553.16
11736.87	1552.8	11753.08	1552	11776.74	1552	11793.82	1550.7	311802.78	1550
11838.79	1550	11849.2	1550.4	311874.59	1551.7	911877.64	1552	11917.89	1553.93
11938.49	1553.8	11945.38	1553.6	711979.18	1552.6	911995.04	1552.5	312013.16	1552.76
12018.28	1552.9	12031.85	1553	12057.42	1553.72	12069.3	1553.8	512079.16	1553.72
12094.59	1553	12102.52	1552	12117.05	1550.3	512125.38	1550	12155.55	1550
12189.86	1552.1	12212.3	1554	12233.64	1556	12253.17	1558	12295.61	1560
12321.78	1561.4								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8728.41	.035	9581.95	.035	10174.83	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9581.95	10174.83	410	477.6	477.6	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8728.41	9500	1556

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 19.05 Profile # 1

W.S. Elev (ft)	1554.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.18	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1555.14	Reach Len. (ft)	410.00	477.60	477.60
E.G. Slope (ft/ft)	0.000928	Flow Area (sq ft)	400.21	3215.34	6725.83
Q Total (cfs)	33533.00	Flow (cfs)	1729.19	17454.19	14349.62
Top Width (ft)	3328.65	Top Width (ft)	688.02	592.88	2047.75
Vel Total (ft/s)	3.24	Avg. Vel. (ft/s)	3.72	3.99	2.86
Max Chl Dpth (ft)	6.04	Hydr. Depth (ft)	4.88	5.42	3.28
Crit W.S. (ft)	1552.65	Wetted Per. (ft)	81.95	592.88	2049.30
Conv. Total (cfs)	1100889.0	Conv. (cfs)	48906.9	421364.7	630617.2

Warning - Divided flow computed for this cross-section.
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.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 19.05 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9468.14	9525.05	1.41	57.20	25.05	4211.6	2.28	8.27
9525.05	9581.95	3.75	142.74	56.90	11188.2	2.51	8.80
9581.95	9621.48	3.00	108.13	39.53	8978.9	2.74	9.32
9621.48	9661.00	3.22	112.78	39.53	9632.8	2.85	9.58
9661.00	9700.53	3.41	116.59	39.53	10181.2	2.95	9.80
9700.53	9740.05	3.70	122.60	39.53	11070.7	3.10	10.13
9740.05	9779.58	3.84	125.18	39.53	11461.5	3.17	10.27
9779.58	9819.10	3.95	127.44	39.53	11807.5	3.22	10.40
9819.10	9858.63	3.78	124.18	39.53	11309.3	3.14	10.22
9858.63	9898.15	3.50	118.46	39.52	10453.9	3.00	9.90
9898.15	9937.68	3.54	119.25	39.53	10570.7	3.02	9.95
9937.68	9977.20	3.66	121.74	39.53	10941.0	3.08	10.08
9977.20	10016.73	3.67	122.00	39.53	10979.6	3.09	10.10
10016.73	10056.25	3.54	119.22	39.53	10565.8	3.02	9.94
10056.25	10095.78	3.31	114.59	39.53	9890.6	2.90	9.69
10095.78	10135.30	3.14	110.97	39.53	9375.7	2.81	9.48
10135.30	10174.83	2.79	103.38	39.53	8332.1	2.62	9.04
10174.83	10317.96	9.17	364.59	143.13	28869.6	2.55	8.44
10317.96	10461.09	7.33	318.65	143.14	23064.3	2.23	7.71
10461.09	10604.22	1.60	127.79	143.14	5029.9	0.89	4.19
10604.22	10747.35	2.97	185.19	143.14	9334.6	1.29	5.37
10747.35	10890.48	3.27	196.35	143.28	10285.0	1.37	5.58
10890.48	11033.61	0.00	0.60	6.95	4.9	0.09	0.88
11033.61	11176.74	2.30	141.97	107.93	7235.8	1.32	5.43
11176.74	11319.87	4.85	248.94	143.23	15278.0	1.74	6.54
11319.87	11463.00	2.65	173.34	143.30	8354.4	1.21	5.14
11463.00	11606.13	0.76	49.16	39.95	2396.2	1.23	5.19
11606.13	11749.26	0.79	61.48	66.60	2474.3	0.93	4.29
11749.26	11892.39	3.67	208.13	139.36	11545.3	1.50	5.91
11892.39	12035.52						
12035.52	12178.65	3.34	158.00	80.43	10522.3	1.97	7.10
12178.65	12321.78	0.09	9.58	16.20	286.8	0.59	3.19

Warning - Divided flow computed for this cross-section.
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 INPUT Reach: SPILLWAY River Station: 18.96
Description: 18.96

Station Elevation Data, num = 239

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8136.62	1553.1	8143.98	1554	8147.15	1554.78	8153.97	1556	8156.79	1557.1
8164.48	1558	8169.66	1559.4	8170.73	1559.47	8177.45	1558	8179.34	1557.82
8185.27	1556	8190.35	1554.67	8198.78	1552.83	8201.73	1552	8207.53	1551.61
8243.33	1550	8246.96	1550	8260.51	1549.23	8280.31	1548	8304.56	1546.43
8314.41	1546	8342.26	1544.53	8349.43	1544.36	8350.69	1544	8363.14	1544
8373.68	1543.1	8377.48	1542.88	8387.48	1542	8406.62	1542	8421.34	1541.17
8439.04	1540	8468.98	1540	8474.4	1542	8484.7	1543.38	8507.71	1543.52
8525.53	1543.5	8552.33	1543.31	8568.17	1543.16	8624.18	1542.76	8631.96	1542.61
8647.17	1542	8674.08	1541.25	8677.96	1540.93	8695.41	1540	8734.23	1540
8746.21	1544	8753.47	1546.03	8784.73	1548	8786.45	1549.46	8794.16	1552.11
8799.92	1555	8803.03	1556	8805.24	1555.53	8811.78	1553.71	8818.94	1552
8823.58	1551.3	8833.15	1551.54	8837.74	1551.68	8923.74	1550	8930.28	1550.13
8949.93	1550	9064.98	1550	9069.83	1552	9072.55	1553.63	9079.42	1555.12
9086.08	1555.1	9095.02	1553.76	9101.81	1552	9108.59	1550	9136.72	1550
9154.82	1549.6	9245.18	1549.94	9260.94	1550	9299.78	1550	9409.35	1550
9410.53	1550.5	9420.36	1552	9477.21	1552	9489.49	1554	9504.12	1554.97
9516.08	1556	9548.49	1556	9560.65	1555.49	9583.48	1554.84	9590.79	1554
9601.28	1554	9605.42	1551.9	9613.86	1552	9618.9	1554	9631.22	1558
9637.79	1559.4	9641.6	1560.38	9646.11	1562	9658.31	1565.36	9674	1568.59
9688.85	1572	9703.67	1576	9717.26	1580.35	9722.36	1580.99	9724.03	1582
9726.11	1582	9730.36	1579.83	9733.46	1577.79	9737.31	1576	9741.75	1572
9748.3	1568.9	9755.94	1564	9760.14	1561.85	9762.13	1560	9764.9	1556
9765.41	1556.8	9768.45	1556.14	9772.38	1553.03	9775.4	1550	9781.77	1548
9786.95	1546.8	9790.2	1545.66	9799.81	1544.09	9804.13	1543.95	9850.91	1544
9862.94	1543.1	9873.99	1542	9942.47	1542	9970.16	1542.67	9977.87	1543.01
10002.54	1544	10010.05	1546	10019.66	1548.2	10026.51	1550.14	10034.49	1552.26
10041.75	1554.4	10050.58	1556	10068.99	1558	10180.6	1558	10185.91	1558.71
10193.21	1560	10197.43	1560	10199.66	1560.25	10222.05	1558.77	10237.26	1557.56
10245.21	1557.3	10280.39	1557.63	10291.33	1557.59	10299.64	1557.41	10305.86	1557.09
10319.86	1556	10330.72	1554.99	10342.92	1554	10351.18	1553.19	10364.97	1551.52
10375.92	1550.5	10391.37	1549.59	10400.77	1549.46	10409.41	1549.06	10422.91	1547.36
10429.94	1546.9	10432.15	1546.49	10439.77	1546	10442.08	1545.45	10450.06	1544
10462.18	1543.9	10472.17	1543.77	10555.43	1543.66	10587.63	1543.85	10639.13	1544.11
10693.57	1544.3	10743.38	1544.58	10798.92	1544.54	10872.16	1544.8	10884.69	1544.82
10914.1	1544.9	10942.73	1544.84	10973.99	1544.91	11000.35	1544.91	11065.59	1545.14
11104.88	1545.3	11129.61	1545.59	11160.04	1546	11205.45	1546	11257.69	1545.35
11315.94	1545.4	11352.31	1546.08	11420.43	1546.44	11453.01	1546	11469.5	1546
11486.03	1545.7	11586.46	1545.82	11597.75	1546	11679.29	1546	11710.93	1545.23
11740.73	1544.5	11757.86	1544.18	11774.25	1545.43	11781.88	1545.93	11790.79	1545.99
11820.83	1545.8	11830.71	1545.67	11837.29	1545.47	11863.75	1544.96	11876.18	1546
11890.89	1546	11937.26	1546	11978.62	1548	11990.07	1548.11	12016.17	1548.51
12053.27	1548	12074.24	1547.95	12077.3	1548	12100.31	1548	12105.8	1547.63
12133.92	1546	12144.1	1545.54	12174.99	1544	12222.42	1544	12256.64	1545.84
12265.45	1545.7	12302.02	1544	12364.36	1544	12370.3	1544.31	12408.18	1546
12432.27	1546	12453.04	1547.46	12466.62	1547.59	12482.77	1547.58	12505.14	1547.55
12522.17	1547.4	12536.45	1547.14	12578.48	1546.11	12584.31	1546	12655.79	1546
12661.52	1546.4	12675.9	1548	12690.06	1550	12694.99	1550.12	12752.26	1552.03
12804.49	1554	12864.28	1556	12907.7	1558	12968.89	1560.09		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8136.62	.035	9790.2	.035	10026.51	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9790.2	10026.51	0	0	0	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8136.62	9791	1560

CROSS SECTION OUTPUT Reach: SPILLWAY Riv Sta: 18.96 Profile # 1

W.S. Elev (ft)	1555.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.03	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1555.03	Reach Len. (ft)	237.90	237.90	237.90
E.G. Slope (ft/ft)	0.000053	Flow Area (sq ft)		2737.73	22141.43

Q Total (cfs)	33533.00	Flow (cfs)		4332.65	29200.35
Top Width (ft)	4135.22	Top Width (ft)	1376.54	236.31	2522.37
Vel Total (ft/s)	1.35	Avg. Vel. (ft/s)		1.58	1.32
Max Chl Dpth (ft)	15.00	Hydr. Depth (ft)		11.62	8.78
Crit W.S. (ft)		Wetted Per. (ft)		236.53	2524.50
Conv. Total (cfs)	4602947.0	Conv. (cfs)		594726.9	4008220.0

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SPILLWAY Riv Sta: 18.96 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9790.20	9805.95	0.69	157.38	15.07	31918.5	10.52	1.46
9805.95	9821.71	0.79	173.93	15.75	36613.4	11.04	1.52
9821.71	9837.46	0.78	173.67	15.75	36520.3	11.02	1.51
9837.46	9853.22	0.78	173.60	15.76	36488.0	11.02	1.51
9853.22	9868.97	0.88	185.76	15.81	40757.4	11.79	1.58
9868.97	9884.72	1.02	203.56	15.78	47537.8	12.92	1.68
9884.72	9900.48	1.03	204.82	15.75	48077.5	13.00	1.69
9900.48	9916.23	1.03	204.83	15.75	48080.5	13.00	1.69
9916.23	9931.99	1.03	204.82	15.75	48077.5	13.00	1.69
9931.99	9947.74	1.03	204.48	15.76	47942.9	12.98	1.69
9947.74	9963.49	0.99	199.80	15.76	46123.5	12.68	1.66
9963.49	9979.25	0.93	192.98	15.76	43517.5	12.25	1.62
9979.25	9995.00	0.86	183.05	15.77	39847.3	11.62	1.57
9995.00	10010.76	0.72	165.47	16.04	33290.6	10.50	1.45
10010.76	10026.51	0.36	109.57	16.25	16601.0	6.96	1.09
10026.51	10222.67	0.07	43.46	19.20	3181.3	2.34	0.52
10222.67	10418.83	0.74	337.15	88.57	34898.0	3.82	0.73
10418.83	10614.99	9.30	2124.41	196.46	441043.2	10.83	1.47
10614.99	10811.14	9.03	2085.71	196.16	428163.5	10.63	1.45
10811.14	11007.30	8.40	1997.62	196.16	398452.5	10.18	1.41
11007.30	11203.46	7.54	1872.35	196.16	357676.8	9.55	1.35
11203.46	11399.62	7.18	1818.76	196.17	340773.3	9.27	1.32
11399.62	11595.78	6.92	1778.02	196.17	328149.6	9.06	1.30
11595.78	11791.94	7.47	1862.48	196.24	354446.7	9.49	1.35
11791.94	11988.10	6.12	1652.97	196.26	290504.9	8.43	1.24
11988.10	12184.25	5.50	1550.02	196.27	260965.4	7.90	1.19
12184.25	12380.41	8.94	2073.45	196.27	423821.2	10.57	1.45
12380.41	12576.57	5.90	1617.07	196.25	280067.4	8.24	1.22
12576.57	12772.73	3.90	1262.16	196.45	185188.0	6.43	1.04
12772.73	12968.89	0.06	65.79	61.72	2914.4	1.07	0.31

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.91
Description: 18.91

Station Elevation Data, num = 156

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8149.34	1549.73	8171.29	1548	8178.79	1546.79	8185.19	1546	8190.56	1545
8201.69	1543.3	8208.31	1542	8220.55	1540	8228.35	1538.49	8231.64	1538
8244.84	1536.54	8248.38	1536	8260.58	1535.53	8295.83	1534	8316.32	1534
8368.62	1535.74	8379.16	1536	8407.92	1536	8425.55	1534	8440.05	1532
8458.16	1530	8518.4	1526.9	8534.55	1526	8538.93	1526.04	8630.11	1530
8638.25	1532	8650.68	1532	8658.37	1530	8662.19	1526	8755.91	1526
8776.07	1527.14	8789.13	1527.7	8799.94	1527.87	8804.87	1527.58	8821.89	1526
8833.46	1526	8836.63	1527.3	8838.3	1527.35	8846.96	1528.83	8852.34	1529.3
8857.6	1529	8872.69	1527.97	8877.68	1528.17	8947.11	1528.15	8965.37	1528
8998.32	1528.64	9047.47	1529.29	9060.63	1529.47	9064.54	1530.39	9072.72	1532
9084.78	1534	9087.93	1534.62	9098.52	1536	9116.98	1537.46	9124.96	1538
9131.51	1538.76	9137.12	1540	9144.15	1541.13	9156.79	1542.05	9165.2	1542.2
9173.88	1542.29	9213.23	1541.92	9231.46	1541.8	9261.03	1541.71	9272.06	1541.6
9306.83	1541.57	9314.62	1541.43	9331.59	1541.35	9351.25	1540.91	9367.09	1540
9371.2	1539.6	9376.52	1540	9380.96	1542.63	9386.19	1545.05	9389.36	1546
9395.86	1546	9397.74	1546.49	9406.45	1544.7	9413.15	1542	9441.97	1541.1
9461.89	1540.83	9472.02	1540.57	9480.77	1540	9491.01	1539.05	9503.77	1538.5
9518.08	1538.21	9520.83	1538	9532.06	1538	9543.27	1536.69	9552.71	1536
9560.3	1533.36	9566.04	1532	9569.34	1531.57	9586.74	1528.49	9593.63	1527.5
9603.66	1526.48	9619.94	1525.33	9639.9	1524.25	9653.69	1523.79	9672.44	1523.5
9682.58	1523.5	9719.68	1524.21	9732.57	1524.75	9737.02	1525.05	9750.63	1526.5
9761.29	1528	9766.83	1528.63	9776.88	1530	9795.02	1531.75	9812.73	1534
9836.54	1535.82	9840.48	1536.18	9848.92	1536.52	9861.95	1536.04	9871.88	1537.1
9877.06	1538	9878.91	1538.64	9888.17	1540.08	9899.78	1541.02	9915.21	1542
9948.94	1542.43	9966.85	1542	9977.05	1541.44	10016.62	1540	10129.89	1540
10135.11	1540.42	10144.37	1539.67	10153.64	1538.63	10161.12	1538	10172.24	1538
10177.54	1540	10181.88	1542	10184.41	1543.51	10186.15	1543.96	10191.72	1542
10197.78	1540.62	10205.53	1540.34	10212.51	1540.22	10223.59	1540.37	10272.85	1540.8
10301.09	1540.81	10328.18	1540.77	10352.37	1540.82	10378.09	1540.93	10403.9	1541
10469.08	1540.93	10509.93	1540.77	10536.15	1540.74	10571.7	1540.91	10631.63	1541
10665.63	1541.33	10678.91	1541.28	10719.3	1541.91	10722.38	1542	10747.97	1542
10757.15	1542								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8149.34	.035	9682.58	.035	10186.15	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9682.58	10186.15	1015	295.64	295.64	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8149.34	9715	1546	10750	10757.15	1546

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9447	9900	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.91 Profile # 1

W.S. Elev (ft)	1542.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.72	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1543.68	Reach Len. (ft)	1015.00	295.64	295.64
E.G. Slope (ft/ft)	0.004511	Flow Area (sq ft)		1985.37	1106.68
Q Total (cfs)	19750.00	Flow (cfs)		14788.51	4961.49
Top Width (ft)	2519.02	Top Width (ft)	1449.99	500.90	568.14
Vel Total (ft/s)	6.39	Avg. Vel. (ft/s)		7.45	4.48
Max Chl Dpth (ft)	16.95	Hydr. Depth (ft)		4.24	1.97
Crit W.S. (ft)	1542.36	Wetted Per. (ft)		470.21	561.32
Conv. Total (cfs)	294065.5	Conv. (cfs)		220191.9	73873.6

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 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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.91 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9682.58	9716.15	0.44	9.16	1.15	1548.7	7.95	9.45
9716.15	9749.72	12.78	266.97	33.57	45157.0	7.95	9.45
9749.72	9783.29	12.78	266.97	33.57	45157.0	7.95	9.45
9783.29	9816.87	12.78	266.97	33.57	45157.0	7.95	9.45
9816.87	9850.44	11.06	244.98	33.63	39085.3	7.30	8.92
9850.44	9884.01	7.66	197.04	33.88	27052.0	5.87	7.67
9884.01	9917.58	1.23	65.67	33.69	4350.6	1.96	3.70
9917.58	9951.15	0.23	23.87	33.58	807.0	0.71	1.89
9951.15	9984.72	0.48	37.24	33.60	1693.3	1.11	2.54
9984.72	10018.29	1.74	80.60	33.59	6133.2	2.40	4.25
10018.29	10051.87	2.45	99.12	33.57	8660.0	2.95	4.88
10051.87	10085.44	2.45	99.12	33.57	8660.0	2.95	4.88
10085.44	10119.01	2.45	99.12	33.57	8660.0	2.95	4.88
10119.01	10152.58	2.65	104.09	33.67	9378.2	3.10	5.04
10152.58	10186.15	3.70	124.46	32.00	13069.6	4.03	5.87
10186.15	10224.22	1.95	80.12	35.53	5849.1	2.28	4.82
10224.22	10262.28	2.34	91.77	38.07	7004.8	2.41	5.04
10262.28	10300.35	1.95	82.29	38.07	5840.3	2.16	4.68
10300.35	10338.42	1.96	82.40	38.07	5853.3	2.16	4.69
10338.42	10376.48	1.87	80.13	38.07	5587.6	2.11	4.60
10376.48	10414.55	1.69	75.40	38.07	5049.1	1.98	4.42
10414.55	10452.62	1.69	75.53	38.07	5063.7	1.98	4.43
10452.62	10490.68	1.78	77.75	38.07	5313.9	2.04	4.51
10490.68	10528.75	1.96	82.55	38.07	5871.9	2.17	4.70
10528.75	10566.82	1.94	81.94	38.07	5799.3	2.15	4.67
10566.82	10604.88	1.75	76.98	38.07	5225.8	2.02	4.48
10604.88	10642.95	1.64	74.24	38.07	4919.5	1.95	4.37
10642.95	10681.02	1.31	64.66	38.07	3907.8	1.70	3.99
10681.02	10719.08	0.89	51.31	38.07	2657.7	1.35	3.42
10719.08	10757.15	0.41	29.62	30.92	1222.1	0.96	2.72

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 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 INPUT Reach: CAVE CREEK River Station: 18.86
Description: 18.86

Station Elevation Data, num = 82

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8879.72	1550	8898.27	1539.97	8900.17	1538	8903.59	1537.45	8909.68	1536
8944.88	1536	8950.51	1534	8953.67	1532	8977.97	1532	8986.06	1534
8992.87	1536	8995.65	1536.29	9008.76	1537.15	9012.06	1537.74	9013.82	1538
9032.29	1538	9054.18	1534	9077.26	1530	9082.15	1528.95	9091.65	1526
9103.65	1526	9107.37	1525.9	9185.28	1524.84	9189.82	1526	9198.63	1526
9202.7	1527.9	9208	1530	9216.56	1532	9235.26	1536	9239.6	1536
9249.88	1532	9258.04	1529.17	9269.02	1527.15	9274.36	1526	9295.79	1521.9
9325.11	1516	9427.87	1516	9431.23	1517.01	9436.15	1518	9451.37	1518
9476.23	1516.63	9488.19	1516.17	9528.18	1516	9607.33	1516	9615.82	1516.8
9626.34	1518	9638.07	1522	9647.88	1524.39	9654.72	1524.98	9660.39	1525.3
9669.64	1526	9695.49	1527.19	9711.87	1527.81	9715.63	1527.73	9721.54	1527.9
9726.23	1526.54	9732.77	1523.63	9735.58	1522	9741.47	1520.35	9751.01	1520.1
9762.06	1520.42	9803.45	1522	9827.09	1524	9830.79	1524.4	9842.45	1526
9855.48	1530.23	9864.3	1533.28	9867.28	1534	9871.13	1536	9876.82	1537.3
9894.79	1544	9948.05	1544	9963.78	1541.56	9972.85	1540	9983.06	1538.3
9985.97	1538	10150	1538	10500.59	1538	10575.63	1538.66	10696.09	1539.78
10724.63	1539.91	10737.64	1539.81						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value

8879.72 .035 9948.05 .035 10150 .035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
9948.05 10150 245 281.3 281.3 .1 .3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8879.72	9650	1549	10724	10737.64	1549

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9231	9890	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.86 Profile # 1

W.S. Elev (ft)	1540.65	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.82	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1541.47	Reach Len. (ft)	245.00	281.30	281.30
E.G. Slope (ft/ft)	0.004327	Flow Area (sq ft)	1286.90	459.01	1299.68
Q Total (cfs)	19750.00	Flow (cfs)	11108.93	2382.48	6258.58
Top Width (ft)	1757.39	Top Width (ft)	988.81	180.95	587.64
Vel Total (ft/s)	6.48	Avg. Vel. (ft/s)	8.63	5.19	4.82
Max Chl Dpth (ft)	15.81	Hydr. Depth (ft)	5.46	2.54	2.26
Crit W.S. (ft)	1540.24	Wetted Per. (ft)	236.81	181.16	574.01
Conv. Total (cfs)	300238.1	Conv. (cfs)	168877.2	36218.3	95142.5

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 parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.86 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9591.94	9663.16	3.30	74.40	13.16	10023.7	5.65	8.75
9663.16	9734.38	17.83	402.60	71.22	54239.6	5.65	8.75
9734.38	9805.61	17.83	402.60	71.22	54239.6	5.65	8.75
9805.61	9876.83	17.01	392.24	71.61	51742.6	5.51	8.56
9876.83	9948.05	0.28	15.05	9.59	862.8	1.67	3.72
9948.05	9961.51						
9961.51	9974.98	0.03	3.00	6.01	80.3	0.51	1.73
9974.98	9988.44	0.61	27.41	13.59	1858.1	2.04	4.39
9988.44	10001.90	0.95	35.72	13.46	2905.9	2.65	5.27
10001.90	10015.37	0.95	35.71	13.46	2905.7	2.65	5.27
10015.37	10028.83	0.95	35.72	13.46	2905.9	2.65	5.27
10028.83	10042.29	0.95	35.71	13.46	2905.7	2.65	5.27
10042.29	10055.76	0.95	35.72	13.46	2905.9	2.65	5.27
10055.76	10069.22	0.95	35.71	13.46	2905.7	2.65	5.27
10069.22	10082.68	0.95	35.72	13.46	2905.9	2.65	5.27
10082.68	10096.15	0.95	35.71	13.46	2905.7	2.65	5.27
10096.15	10109.61	0.95	35.72	13.46	2905.9	2.65	5.27
10109.61	10123.07	0.95	35.71	13.46	2905.7	2.65	5.27
10123.07	10136.54	0.95	35.72	13.46	2905.9	2.65	5.27
10136.54	10150.00	0.95	35.71	13.46	2905.7	2.65	5.27
10150.00	10189.18	2.70	103.93	39.18	8455.3	2.65	5.14
10189.18	10228.35	2.70	103.93	39.18	8455.3	2.65	5.14
10228.35	10267.53	2.70	103.93	39.18	8455.5	2.65	5.14
10267.53	10306.70	2.70	103.93	39.18	8455.3	2.65	5.14
10306.70	10345.88	2.70	103.93	39.18	8455.3	2.65	5.14
10345.88	10385.06	2.70	103.93	39.18	8455.3	2.65	5.14
10385.06	10424.23	2.70	103.93	39.18	8455.3	2.65	5.14
10424.23	10463.41	2.70	103.93	39.18	8455.5	2.65	5.14
10463.41	10502.58	2.70	103.91	39.18	8452.9	2.65	5.14
10502.58	10541.76	2.39	96.49	39.18	7471.0	2.46	4.89

10541.76	10580.94	1.86	82.98	39.18	5810.8	2.12	4.42
10580.94	10620.11	1.37	69.00	39.18	4272.4	1.76	3.91
10620.11	10659.29	0.93	54.73	39.18	2903.9	1.40	3.35
10659.29	10698.46	0.56	40.48	39.18	1756.2	1.03	2.74
10698.46	10737.64	0.24	20.66	25.54	761.7	0.81	2.33

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 parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.80
Description: 18.80

Station Elevation Data, num = 65

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9009.97	1560	9026.32	1550	9032.94	1545.49	9041.37	1540	9044.12	1538
9056.71	1536	9069.72	1535.14	9092.5	1534	9102.11	1532	9110.79	1530
9118.67	1526	9220.45	1526	9230.14	1530	9238.76	1532	9249.33	1534
9261.37	1534	9270.71	1530	9287.63	1523.65	9291.8	1522	9302.56	1520
9339.38	1518	9380.2	1518	9385	1520	9386.85	1520.1	9417.84	1520.15
9427.09	1517.52	9431.68	1516	9697.91	1516	9714.36	1515.8	9718.83	1515.48
9734.88	1514.88	9741.61	1514	9854.43	1514	9872.93	1517.5	9885.33	1520
9894.57	1522	9902.78	1524	9909.61	1526.15	9918.08	1529.2	9928.07	1532.61
9931.12	1534	9933.75	1535.6	9941.31	1538.46	9943.67	1538.8	9950.53	1541.32
9951.61	1542	9956.03	1542	9969.39	1538	9976.49	1538	9981.25	1534
9992.96	153	10004.38	153	10016.43	1530.94	10027.97	153	10050.13	1532.85
10077.05	153	10098.58	1535.34	10150.35	153	10215.89	153	10748.55	1538
10751.62	1538.01	10985.14	1539.98	10987.33	154	11108.15	155	11131.95	1555.75

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9009.97	.035	9951.61	.035	10150.35	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9951.61	10150.35	455	245.2	245.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
9009.97	9665	1550

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
9257	9952	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.80 Profile # 1

W.S. Elev (ft)	1540.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1540.58	Reach Len. (ft)	455.00	245.20	245.20
E.G. Slope (ft/ft)	0.002199	Flow Area (sq ft)	1398.96	1111.63	1519.95
Q Total (cfs)	19750.00	Flow (cfs)	8079.67	7170.22	4500.11
Top Width (ft)	1932.13	Top Width (ft)	905.99	187.97	838.17
Vel Total (ft/s)	4.90	Avg. Vel. (ft/s)	5.78	6.45	2.96
Max Chl Dpth (ft)	14.10	Hydr. Depth (ft)	4.96	5.91	1.81
Crit W.S. (ft)	1538.97	Wetted Per. (ft)	283.15	190.64	838.19
Conv. Total (cfs)	421140.4	Conv. (cfs)	172287.4	152894.7	95958.3

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.80 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9637.73	9700.51	5.39	181.04	35.51	22768.5	5.10	5.89
9700.51	9763.28	9.54	320.08	62.78	40256.0	5.10	5.89
9763.28	9826.06	9.54	320.08	62.78	40256.0	5.10	5.89
9826.06	9888.83	9.54	320.08	62.78	40255.3	5.10	5.89
9888.83	9951.61	6.90	257.68	59.32	29125.4	4.41	5.29
9951.61	9964.86	0.00	0.92	2.59	19.6	0.37	0.90
9964.86	9978.11	0.36	25.84	13.94	1654.8	1.95	2.71
9978.11	9991.36	2.94	94.11	14.78	13723.1	7.10	6.18
9991.36	10004.61	5.64	133.36	13.34	26273.1	10.07	8.35
10004.61	10017.86	5.19	126.70	13.29	24184.5	9.56	8.09
10017.86	10031.11	4.21	111.82	13.29	19632.9	8.44	7.44
10031.11	10044.36	3.64	102.34	13.26	16969.3	7.72	7.03
10044.36	10057.60	3.24	95.49	13.26	15116.7	7.21	6.71
10057.60	10070.85	2.83	88.06	13.26	13207.7	6.65	6.35
10070.85	10084.10	2.42	80.08	13.27	11269.5	6.04	5.96
10084.10	10097.35	1.91	69.52	13.27	8901.7	5.25	5.42
10097.35	10110.60	1.47	59.38	13.27	6847.3	4.48	4.89
10110.60	10123.85	1.12	50.36	13.27	5202.0	3.80	4.38
10123.85	10137.10	0.80	41.34	13.27	3744.0	3.12	3.84
10137.10	10150.35	0.53	32.32	13.27	2483.9	2.44	3.26
10150.35	10215.79	2.15	137.34	65.44	9558.2	2.10	3.10
10215.79	10281.23	2.15	137.34	65.44	9558.1	2.10	3.10
10281.23	10346.67	2.15	137.34	65.44	9558.2	2.10	3.10
10346.67	10412.11	2.15	137.34	65.44	9558.1	2.10	3.10
10412.11	10477.55	2.15	137.34	65.44	9558.2	2.10	3.10
10477.55	10542.99	2.15	137.34	65.44	9558.2	2.10	3.10
10542.99	10608.43	2.15	137.34	65.44	9558.1	2.10	3.10
10608.43	10673.87	2.15	137.34	65.44	9558.2	2.10	3.10
10673.87	10739.31	2.15	137.34	65.44	9558.1	2.10	3.10
10739.31	10804.75	1.84	124.89	65.44	8157.6	1.91	2.91
10804.75	10870.19	1.05	89.29	65.44	4663.6	1.36	2.32
10870.19	10935.63	0.44	53.17	65.44	1965.5	0.81	1.64
10935.63	11001.07	0.07	16.52	52.90	322.8	0.31	0.87

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.76
Description: 18.76

Station Elevation Data, num = 71

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9117.03	1550.94	9136.73	1538.94	9145.51	1533.88	9149.18	1532	9153.27	1532

```
 9156.37 1532.83 9167.14    1534 9179.71 1535.95 9200.27    1534 9203.81  1533.7
 9221.81    1532 9232.63    1530 9242.97    1526 9253.35 1525.94 9263.68    1524
 9346.12    1524 9354.82    1526 9363.09    1526 9372.76    1530  9377.6  1530.7
 9388.19 1532.83 9394.33    1532 9399.18    1532 9412.09    1526 9416.05    1524
 9422.55 1521.23 9428.88    1518 9435.83    1516 9468.23    1516 9506.35    1516
 9555.49 1514.28  9565.2    1514  9895.4    1514 9909.42 1518.25 9916.62  1520.3
 9928.49 1524.21 9940.23 1528.98 9950.93    1534 9952.72 1536.06 9953.46    1538
 9966.13    1538 9968.16 1537.26 9975.57    1534 9989.16    1530 9996.06  1526.7
 9998.51    152610001.16    152610009.98 1529.1410011.92    1530 10016.2  1530.9
 10030.1  1533.210039.13 1534.9310046.78 1534.5410054.69    153410086.26    1534
10110.53 1533.1310135.81    153210153.13 1532.0410164.28    153410183.26  1534.5
10253.09 1535.7610294.02 1536.6710335.22    153810454.29    153810475.64  1538.2
10527.47 1538.5910577.43 1538.9210720.98    154010797.46 1547.2310826.12    1550
10836.15  1552.8

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9117.03    .035 9966.13    .03510039.13    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9966.1310039.13               410   599.9     550             .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

 9117.03    9650    1545
Blocked Obstructions,  num = 1
   Sta L   Sta R    Elev

    9400    9960    1535

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.76     Profile # 1

  W.S. Elev (ft)       1537.80   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.45   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1539.26   Reach Len. (ft)       410.00     599.90     550.00
  E.G. Slope (ft/ft)  0.008053   Flow Area (sq ft)     848.79     471.39     899.38
  Q Total (cfs)       19750.00   Flow (cfs)           6396.85    6071.29    7281.87
  Top Width (ft)       1177.15   Top Width (ft)        814.68      72.46     290.00
  Vel Total (ft/s)        8.90   Avg. Vel. (ft/s)        7.54      12.88       8.10
  Max Chl Dpth (ft)      13.80   Hydr. Depth (ft)        2.80       6.51       3.10
  Crit W.S. (ft)       1537.80   Wetted Per. (ft)      305.07      75.84     290.29
  Conv. Total (cfs)   220089.9   Conv. (cfs)          71285.1    67657.2    81147.6


Warning - The energy equation could not be balanced within the specified number
                of iterations.  The program used critical depth for the water surface and
                continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface
                was set equal to critical depth, the calculated water surface came back
                below critical depth.  This indicates that there is not a valid subcritical
                answer.  The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.76     Profile # 1

  Left Sta    Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)        (ft)                    (sq ft)     (ft)      (cfs)      (ft)     (ft/s)
  9626.49     9683.10        3.56      92.79     33.10     7832.5      2.80       7.57
  9683.10     9739.70        6.09     158.70     56.61    13396.3      2.80       7.57
  9739.70     9796.31        6.09     158.70     56.61    13396.3      2.80       7.57
  9796.31     9852.92        6.09     158.70     56.61    13396.5      2.80       7.57
  9852.92     9909.52        6.09     158.70     56.61    13396.3      2.80       7.57
```

9909.52	9966.13	4.49	121.20	45.54	9880.6	2.76	7.31
9966.13	9971.00	0.06	3.72	4.69	135.2	0.86	2.92
9971.00	9975.86	0.46	13.92	5.30	1125.0	2.86	6.50
9975.86	9980.73	1.04	22.41	5.07	2562.3	4.61	9.19
9980.73	9985.60	1.64	29.39	5.07	4024.6	6.04	11.01
9985.60	9990.46	2.33	36.51	5.16	5714.0	7.50	12.58
9990.46	9995.33	3.40	46.68	5.40	8352.2	9.59	14.38
9995.33	10000.20	4.81	55.94	5.04	11813.0	11.50	16.97
10000.20	10005.06	4.60	54.74	5.11	11297.0	11.25	16.59
10005.06	10009.93	3.47	46.46	5.17	8531.4	9.55	14.76
10009.93	10014.80	2.50	37.99	5.12	6139.2	7.81	12.99
10014.80	10019.66	2.00	32.81	4.94	4918.9	6.74	12.05
10019.66	10024.53	1.62	28.85	4.93	3976.1	5.93	11.08
10024.53	10029.40	1.27	24.93	4.93	3116.6	5.12	10.05
10029.40	10034.26	0.93	20.79	4.95	2296.3	4.27	8.88
10034.26	10039.13	0.62	16.25	4.95	1523.2	3.34	7.53
10039.13	10092.26	7.96	194.99	53.17	19687.3	3.67	8.07
10092.26	10145.40	13.48	267.36	53.17	33315.1	5.03	9.95
10145.40	10198.53	9.26	213.76	53.31	22904.3	4.02	8.56
10198.53	10251.67	4.34	135.42	53.14	10725.7	2.55	6.33
10251.67	10304.80	1.74	78.29	53.15	4302.8	1.47	4.39
10304.80	10357.94	0.09	9.55	24.34	217.5	0.39	1.82

```
Warning - The energy equation could not be balanced within the specified number
                of iterations.  The program used critical depth for the water surface and
                continued on with the calculations.
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.
Warning - During the standard step iterations, when the assumed water surface
                was set equal to critical depth, the calculated water surface came back
                below critical depth.  This indicates that there is not a valid subcritical
                answer.  The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.

CROSS SECTION INPUT    Reach: CAVE CREEK     River Station: 18.64
Description:  18.64

Station Elevation Data,  num = 49
    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.

 9054.07  1575.2 9070.38    1570 9084.35 1565.27 9098.46    1560 9106.68 1556.77
 9126.28    1550 9135.06 1546.63 9154.07    1540 9166.83 1535.37 9177.47    1532
 9231.03    1532  9278.8 1532.99 9299.89 1533.32 9313.85 1533.47 9354.85 1533.45
 9377.62  1533.6 9406.26    1532 9446.75    1532 9456.69    1530 9483.04    1530
 9499.19  1530.9 9518.08    1532 9605.58    1532 9652.41 1530.62 9672.86  1530.4
 9697.14    1530 9821.47    1530 9841.81    1530 9892.31    1526 9924.59    1526
 9946.01  1522.9 9953.16    152210008.15    152210022.49    152410032.84    1526
10043.68    152610050.42 1528.1710058.55 1530.92   10069 1532.7910074.43    1534
10093.77    153410129.09 1535.2910154.07 1535.39 10169.1 1535.6310205.09 1535.94
 10258.9  1535.410282.39 1534.6610316.29 1533.4610339.03 1532.72

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9054.07    .035 9605.58    .03510058.55    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
        9605.5810058.55              170   538.2   538.2              .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 9054.07 9549.84    154010205.8410339.03    1540

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.64     Profile # 1
```

W.S. Elev (ft)	1532.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.44	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1533.78	Reach Len. (ft)	170.00	538.20	538.20
E.G. Slope (ft/ft)	0.006944	Flow Area (sq ft)	18.83	2044.10	5.62
Q Total (cfs)	19750.00	Flow (cfs)		19747.41	2.59
Top Width (ft)	737.19	Top Width (ft)	276.30	452.97	7.92
Vel Total (ft/s)	9.55	Avg. Vel. (ft/s)	1.72	9.64	2.78
Max Chl Dpth (ft)	10.34	Hydr. Depth (ft)	0.34	4.51	0.71
Crit W.S. (ft)	1531.70	Wetted Per. (ft)	55.74	454.56	8.05
Conv. Total (cfs)	237007.7	Conv. (cfs)	387.9	236432.2	187.6

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.64 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9605.58	9635.78	0.02	3.56	15.56	56.7	0.23	1.32
9635.78	9665.98	0.41	25.56	30.21	970.5	0.85	3.15
9665.98	9696.17	0.84	39.51	30.20	2006.3	1.31	4.22
9696.17	9726.37	1.14	47.36	30.20	2713.9	1.57	4.76
9726.37	9756.57	1.14	47.37	30.20	2714.6	1.57	4.76
9756.57	9786.77	1.14	47.36	30.20	2714.5	1.57	4.76
9786.77	9816.97	1.14	47.37	30.20	2714.6	1.57	4.76
9816.97	9847.16	1.19	48.50	30.22	2822.9	1.61	4.83
9847.16	9877.36	3.72	96.29	30.29	8837.4	3.19	7.62
9877.36	9907.56	8.61	159.30	30.24	20474.5	5.28	10.67
9907.56	9937.76	10.60	180.71	30.34	25210.5	5.98	11.58
9937.76	9967.96	21.13	273.38	30.34	50255.9	9.05	15.26
9967.96	9998.15	23.24	288.95	30.20	55290.1	9.57	15.89
9998.15	10028.35	19.33	259.56	30.44	45988.6	8.60	14.71
10028.35	10058.55	6.33	133.97	31.07	15066.3	4.44	9.34
10058.55	10077.25	0.01	1.17	3.68	23.3	0.32	2.21

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.54
Description: 18.54

Station Elevation Data, num = 57

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8791.77	1537.4	8804.47	1534	8807.88	1533.63	8836.07	1531.97	8838.37	1531.9
8858.09	1531.5	8860.88	1531.41	8871.74	1531.32	8894.39	1530.91	8928.58	1530.34
8933.99	1530.4	8953.16	1531.21	8966.02	1531.66	8981.06	1532	9032.95	1532
9058.9	1531.5	9080.89	1531.07	9096.07	1530.65	9112.71	1530.71	9133.3	1531.02
9144.49	1531	9163.09	1531.41	9175.31	1531.61	9177.25	1531.54	9184.14	1530
9192.88	1526	9217.86	1526	9230.36	1527.04	9248.98	1528.14	9262.89	1528.85
9274.45	1529.6	9290.79	1530	9312.3	1530	9387.82	1526.06	9392.63	1526
9441.33	1526	9471.9	1530	9477.65	1530	9524.11	1529.29	9551.09	1530
9612.9	1530	9618.82	1529.74	9713.93	1526	9811.25	1526	9841.75	1524.93
9869.92	1524	9915.14	1522.69	9945.69	1522	9975.51	1522	9991.26	1520

10010.79 152010013.94 1521.2510016.93 1522 10024.8 152610027.84 1526
10030.6 153010036.44 1534.23

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8791.77	.035	9612.9	.035	10030.6	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9612.9	10030.6	240	193.6	193.6	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.54 Profile # 1

W.S. Elev (ft)	1529.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.03	Wt. n-Val.	0.035	0.035	
E.G. Elev (ft)	1530.64	Reach Len. (ft)	240.00	193.60	193.60
E.G. Slope (ft/ft)	0.005109	Flow Area (sq ft)	567.32	1952.36	
Q Total (cfs)	19750.00	Flow (cfs)	3020.37	16729.63	
Top Width (ft)	678.71	Top Width (ft)	270.71	407.99	
Vel Total (ft/s)	7.84	Avg. Vel. (ft/s)	5.32	8.57	
Max Chl Dpth (ft)	9.60	Hydr. Depth (ft)	2.10	4.79	
Crit W.S. (ft)		Wetted Per. (ft)	271.95	411.43	
Conv. Total (cfs)	276318.4	Conv. (cfs)	42257.4	234061.0	

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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.54 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9174.96	9229.71	4.17	140.98	45.52	12717.0	3.15	5.85
9229.71	9284.45	0.98	58.91	44.90	2997.4	1.31	3.30
9284.45	9339.19	0.09	9.68	19.29	259.4	0.50	1.74
9339.19	9393.93	3.32	132.43	54.81	10123.1	2.42	4.96
9393.93	9448.67	6.26	193.65	54.80	19072.1	3.54	6.39
9448.67	9503.42	0.44	26.65	20.36	1354.3	1.32	3.29
9503.42	9558.16	0.02	5.03	32.27	61.9	0.16	0.80
9558.16	9612.90						
9612.90	9640.75	0.05	6.67	18.43	143.7	0.36	1.36
9640.75	9668.59	0.56	35.41	27.87	1763.7	1.27	3.15
9668.59	9696.44	1.59	65.90	27.87	4966.5	2.37	4.77
9696.44	9724.29	2.89	94.29	27.86	9023.2	3.39	6.05
9724.29	9752.13	3.20	100.30	27.85	10006.0	3.60	6.31
9752.13	9779.98	3.20	100.30	27.85	10006.0	3.60	6.31
9779.98	9807.83	3.20	100.30	27.85	10006.0	3.60	6.31
9807.83	9835.67	3.78	110.76	27.86	11800.8	3.98	6.74
9835.67	9863.52	5.40	137.27	27.86	16874.0	4.93	7.77
9863.52	9891.37	7.12	161.98	27.86	22236.1	5.82	8.68
9891.37	9919.21	8.84	184.48	27.86	27618.5	6.62	9.47
9919.21	9947.06	10.44	203.77	27.85	32602.6	7.32	10.12
9947.06	9974.91	11.13	211.69	27.85	34746.2	7.60	10.38
9974.91	10002.75	14.68	250.42	27.97	45838.3	8.99	11.58
10002.75	10030.60	8.61	188.81	30.75	26876.9	6.85	9.00

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 INPUT Reach: CAVE CREEK River Station: 18.50
Description: 18.50

Station Elevation Data, num = 43

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8791.13	1536	8804.32	1534	8815.11	1532	8844.4	1530.21	8874.4	1530

```
 8926.85    1530 8942.56 1528.63 8969.74    1526 9008.12    1526  9025.7  1528.5
  9030.8 1528.86 9050.51    1530 9265.42    1530 9299.64 1527.07 9303.68    1526
 9314.18    1526 9318.25 1525.66 9363.97 1525.45 9368.18 1525.46  9387.7    1526
 9584.22    1526 9588.15 1526.13 9650.89 1527.63 9666.48 1527.52 9687.05    1527
  9703.9 1526.82 9742.56    1526 9830.95    1526 9855.25 1525.32 9905.83  1523.7
 9965.17    1522  9968.4 1521.53 9986.01    152010016.96 1518.6110026.83    1518
10032.15 1518.0110040.75 1520.8410047.83    152410051.83    152610055.68    1526
10059.08    1530 10066.7    153410070.69    1538

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8791.13    .035 9666.48    .03510051.83    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9666.4810051.83              465   409.9     385             .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

 8791.13    9200    1535
```

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.50 Profile # 1

W.S. Elev (ft)	1528.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.07	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1529.47	Reach Len. (ft)	465.00	409.90	385.00
E.G. Slope (ft/ft)	0.006439	Flow Area (sq ft)	838.20	1656.79	11.70
Q Total (cfs)	19750.00	Flow (cfs)	4816.55	14877.30	56.14
Top Width (ft)	853.76	Top Width (ft)	462.51	385.35	5.89
Vel Total (ft/s)	7.88	Avg. Vel. (ft/s)	5.75	8.98	4.80
Max Chl Dpth (ft)	10.40	Hydr. Depth (ft)	2.19	4.30	1.99
Crit W.S. (ft)	1528.06	Wetted Per. (ft)	382.65	387.18	7.00
Conv. Total (cfs)	246118.0	Conv. (cfs)	60022.3	185396.0	699.7

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.50 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9257.98	9316.34	1.06	48.53	32.47	2693.5	1.50	4.30
9316.34	9374.70	5.57	166.29	58.37	14187.5	2.85	6.61
9374.70	9433.05	4.31	142.55	58.36	10976.6	2.44	5.97
9433.05	9491.41	4.19	140.21	58.36	10678.7	2.40	5.90
9491.41	9549.77	4.19	140.21	58.36	10678.7	2.40	5.90
9549.77	9608.12	3.82	132.59	58.37	9728.2	2.27	5.69
9608.12	9666.48	1.25	67.81	58.37	3181.7	1.16	3.64
9666.48	9692.17	0.50	30.83	25.70	1477.7	1.20	3.23
9692.17	9717.86	0.84	41.99	25.69	2473.6	1.63	3.97
9717.86	9743.55	1.33	55.26	25.70	3908.5	2.15	4.77
9743.55	9769.24	1.60	61.72	25.69	4700.9	2.40	5.13
9769.24	9794.93	1.60	61.73	25.69	4701.1	2.40	5.13
9794.93	9820.62	1.60	61.72	25.69	4700.9	2.40	5.13
9820.62	9846.31	1.75	65.03	25.70	5126.9	2.53	5.32
9846.31	9872.00	2.61	82.57	25.70	7632.3	3.21	6.23
9872.00	9897.69	3.80	103.55	25.70	11130.3	4.03	7.25
9897.69	9923.38	5.14	124.16	25.70	15064.2	4.83	8.18
9923.38	9949.07	6.52	143.19	25.70	19104.4	5.57	8.99
9949.07	9974.76	8.35	166.27	25.75	24475.9	6.47	9.92
9974.76	10000.45	12.83	215.05	25.75	37585.1	8.37	11.78
10000.45	10026.14	16.29	248.05	25.72	47710.4	9.66	12.97
10026.14	10051.83	10.54	195.66	27.29	30885.5	7.62	10.64

10051.83	10053.09	0.08	3.02	1.26	230.2	2.40	5.33
10053.09	10054.34	0.08	3.02	1.26	230.0	2.40	5.33
10054.34	10055.60	0.08	3.02	1.26	230.2	2.40	5.33
10055.60	10056.86	0.04	2.20	1.90	103.1	1.75	3.28
10056.86	10058.12	0.00	0.44	1.33	8.9	0.51	1.41

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.43
Description: 18.43

Station Elevation Data, num = 48

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8825.35	1533.33	8841.68	1530.53	8858.56	1528.25	8879.51	1526	9145.45	1526
9177.3	1524.84	9205.61	1524	9207.48	1523.42	9215.1	1522	9239.56	1522
9253.73	1524	9265.95	1525.53	9280.28	1525.34	9299.06	1524.22	9304	1524
9361.79	1524	9380.62	1525.59	9384.55	1525.41	9388.46	1525.56	9397.16	1524
9402.91	1522	9579.11	1522	9634.78	1522.46	9675.23	1522	9684.75	1521.7
9744.7	1522	9753.86	1522	9795.75	1524	9813.6	1524	9859.65	1523.6
9873.78	1523.44	9933.77	1522.79	9962.33	1522	9970.8	1520.51	9988.7	1518
10000.01	1516	10003.83	1516	10006.99	1516.5	10021.05	1518	10027.41	1519.5
10034.52	1520	10116.32	1520	10119.3	1522.22	10123.24	1524	10126.6	1526
10130.56	1526	10136.73	1530.55	10143.98	1534				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8825.35	.035	9813.6	.035	10123.24	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9813.6	10123.24	641.1	641.1	641.1	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.43 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1524.70	Element			
Vel Head (ft)	1.25	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1525.95	Reach Len. (ft)	641.10	641.10	641.10
E.G. Slope (ft/ft)	0.010722	Flow Area (sq ft)	1193.59	1070.46	0.41
Q Total (cfs)	19750.00	Flow (cfs)	9034.76	10714.44	0.80
Top Width (ft)	887.17	Top Width (ft)	576.36	309.64	1.17
Vel Total (ft/s)	8.72	Avg. Vel. (ft/s)	7.57	10.01	1.96
Max Chl Dpth (ft)	8.70	Hydr. Depth (ft)	2.07	3.46	0.35
Crit W.S. (ft)	1524.70	Wetted Per. (ft)	577.28	311.57	1.36
Conv. Total (cfs)	190738.3	Conv. (cfs)	87254.5	103476.1	7.7

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical

answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.43 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9154.77	9220.65	0.90	40.07	38.70	1741.3	1.04	4.43
9220.65	9286.53	2.66	76.92	38.82	5152.3	1.99	6.83
9286.53	9352.42	0.62	38.45	61.35	1195.6	0.63	3.17
9352.42	9418.30	1.73	61.96	43.06	3352.7	1.45	5.52
9418.30	9484.18	7.54	177.57	65.88	14600.9	2.70	8.39
9484.18	9550.07	7.54	177.58	65.88	14601.2	2.70	8.39
9550.07	9615.95	7.15	171.97	65.88	13840.7	2.61	8.21
9615.95	9681.83	6.46	161.77	65.89	12498.5	2.46	7.88
9681.83	9747.72	8.24	187.31	65.89	15958.9	2.84	8.69
9747.72	9813.60	2.89	99.99	65.93	5603.4	1.52	5.72
9813.60	9834.24	0.25	16.20	20.64	585.4	0.78	3.08
9834.24	9854.88	0.36	19.91	20.64	824.8	0.96	3.54
9854.88	9875.53	0.48	23.94	20.64	1121.8	1.16	4.00
9875.53	9896.17	0.65	28.61	20.64	1510.2	1.39	4.51
9896.17	9916.81	0.84	33.23	20.64	1937.6	1.61	4.98
9916.81	9937.46	1.05	37.96	20.64	2418.8	1.84	5.44
9937.46	9958.10	1.51	47.33	20.65	3492.7	2.29	6.30
9958.10	9978.74	3.45	77.95	20.85	7972.0	3.78	8.73
9978.74	9999.38	9.27	141.35	20.91	21456.6	6.85	12.96
9999.38	10020.03	11.83	163.09	20.77	27356.1	7.90	14.32
10020.03	10040.67	6.00	108.75	20.84	13890.9	5.27	10.90
10040.67	10061.31	4.99	96.93	20.64	11538.6	4.70	10.16
10061.31	10081.96	4.99	96.92	20.64	11538.0	4.70	10.16
10081.96	10102.60	4.99	96.92	20.64	11538.0	4.70	10.16
10102.60	10123.24	3.60	81.36	21.76	8320.7	3.94	8.73
10123.24	10124.62	0.00	0.41	1.36	7.7	0.35	1.96

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.30
Description: 18.30

Station Elevation Data, num = 57

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8890.57	1528	8916.81	1526.84	8937.6	1526	8977	1525.57	9007.02	1525.34
9165.29	1524	9260.26	1524	9281.52	1523.5	9299.2	1523.37	9316.04	1522
9323.16	1520.31	9325.38	1520	9331.05	1518	9335.33	1518	9345.49	1520
9401.04	1520	9439.89	1518.42	9453.12	1518	9455.82	1518	9462.75	1519.03
9468.54	1518	9517.63	1518	9549.4	1517.4	9592.87	1516	9644.13	1516
9649.8	1516.43	9661.16	1517.82	9666.92	1518	9678.59	1518	9699.54	1518.13
9764.31	1518.39	9879.13	1518.19	9901.5	1518	9958.86	1518	9973.78	1516.55
9981.59	1516	9984.02	1515.17	9988.75	1514	10008.8	151410033.75		1515.16

```
 10050.2  1515.6 10051.9    151610058.28    151610125.51 1517.3410134.98    1518
10136.96 1518.8510148.82    152210185.31    152210201.58 1520.3410209.52 1518.97
10214.15    151810234.61    1516 10426.7    151610432.18    151610439.67    1520
 10450.3 1526.3810455.97    1530

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8890.57    .035 9764.31    .03510136.96    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9764.3110136.96              225   173.9   173.9             .1       .3

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.30     Profile # 1

  W.S. Elev (ft)        1521.09   Element              Left OB    Channel   Right OB
  Vel Head (ft)            0.40   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)        1521.49   Reach Len. (ft)       225.00     173.90     173.90
  E.G. Slope (ft/ft)   0.002308   Flow Area (sq ft)    1348.28    1480.01    1149.66
  Q Total (cfs)        19750.00   Flow (cfs)           4787.04    7312.93    7650.03
  Top Width (ft)        1072.82   Top Width (ft)        444.44     372.65     255.72
  Vel Total (ft/s)         4.96   Avg. Vel. (ft/s)        4.27       5.11       5.60
  Max Chl Dpth (ft)        7.09   Hydr. Depth (ft)        3.03       3.97       4.50
  Crit W.S. (ft)                  Wetted Per. (ft)      445.43     373.31     257.67
  Conv. Total (cfs)    411099.4   Conv. (cfs)         119776.6   157394.4   133928.4


Warning - Divided flow computed for this cross-section.

FLOW DISTRIBUTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 18.30     Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9298.32      9356.56        0.32      16.14     16.97      663.1       0.98       3.90
  9356.56      9414.81        0.00       0.15      2.71        0.9       0.06       0.58
  9414.81      9473.06        1.17      57.64     58.44     2424.7       0.99       4.00
  9473.06      9531.31        2.55      92.06     58.25     5302.5       1.58       5.47
  9531.31      9589.56        5.63     148.12     58.27    11712.3       2.54       7.51
  9589.56      9647.81        9.77     206.10     58.26    20313.9       3.54       9.36
  9647.81      9706.06        3.01     101.73     58.34     6256.5       1.75       5.84
  9706.06      9764.31        1.79      74.38     58.25     3716.9       1.28       4.75
  9764.31      9789.15        0.64      29.36     24.84     1393.1       1.18       4.29
  9789.15      9814.00        0.68      30.43     24.84     1479.1       1.22       4.39
  9814.00      9838.84        0.72      31.51     24.84     1567.3       1.27       4.49
  9838.84      9863.68        0.76      32.58     24.84     1657.4       1.31       4.59
  9863.68      9888.53        0.81      33.96     24.84     1775.5       1.37       4.72
  9888.53      9913.37        0.97      37.79     24.84     2122.4       1.52       5.07
  9913.37      9938.21        1.00      38.51     24.84     2189.6       1.55       5.13
  9938.21      9963.06        1.04      39.36     24.86     2270.2       1.58       5.21
  9963.06      9987.90        3.40      80.65     25.17     7442.2       3.25       8.33
  9987.90      10012.74       8.34     137.43     24.87    18235.6       5.53      11.98
  10012.74     10037.59       6.57     119.13     24.87    14371.9       4.80      10.89
  10037.59     10062.43       4.55      95.53     24.89     9941.6       3.85       9.40
  10062.43     10087.27       3.39      79.99     24.85     7403.8       3.22       8.36
  10087.27     10112.12       2.56      67.69     24.85     5605.0       2.72       7.48
  10112.12     10136.96       1.61      51.42     25.04     3526.6       2.07       6.19
  10136.96     10158.23       0.01       0.92      2.73       19.0       0.35       2.12
  10158.23     10200.76
  10200.76     10222.03       0.56      21.15     16.06     1079.2       1.33       5.25
  10222.03     10243.30       3.24      67.76     21.33     6217.8       3.19       9.45
  10243.30     10264.56       3.89      75.50     21.27     7459.0       3.55      10.17
  10264.56     10285.83       3.89      75.50     21.27     7459.4       3.55      10.17
  10285.83     10307.10       3.89      75.50     21.27     7459.4       3.55      10.17
  10307.10     10328.37       3.89      75.50     21.27     7459.4       3.55      10.17
  10328.37     10349.63       3.89      75.50     21.27     7459.0       3.55      10.17
  10349.63     10370.90       3.89      75.50     21.27     7459.4       3.55      10.17
  10370.90     10392.17       3.89      75.50     21.27     7459.4       3.55      10.17
  10392.17     10413.44       3.89      75.50     21.27     7459.4       3.55      10.17
  10413.44     10434.70       3.71      73.80     21.60     7106.5       3.47       9.92
  10434.70     10455.97       0.10       4.54      4.68      189.3       1.10       4.29
```

Warning - Divided flow computed for this cross-section.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.27
Description: 18.27

Station Elevation Data, num = 69

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8632.78	1529.8	8650.17	1528	8672.95	1526.96	8695.06	1526	8770.25	1524
8776.21	1524	8892.3	1522	8929.13	1522	8974.46	1520.13	8992	1520
9155.46	1520	9181.79	1520.63	9205.68	1521.03	9250.98	1521.44	9292.36	1521.28
9362.25	1520.9	9394.79	1520.98	9443.43	1521.12	9494.5	1520.66	9536.96	1520
9546.1	1520	9551.9	1519.14	9559.62	1517.09	9561.92	1516	9567.53	1516
9603.76	1516	9632.5	1515.42	9695.86	1514.39	9712.31	1514.11	9721.33	1514.11
9723.43	1514.4	9728.61	1516	9734.04	1518	9750.5	1518	9793.98	1518
9807.24	1516	9842.03	1516	9852.12	1514	9861.6	1514	9875.11	1516
9888.87	1516	9909.4	1517.42	9915	1518	9938.58	1518	9951.7	1517.44
9974.5	1516	9980.82	1514	9990.81	1512	10002.59	1512	10005.57	1512.99
10007.41	1514	10042.42	1514	10069.31	1514.68	10115.88	1515.73	10134.3	1516
10225.33	1516	10244.75	1517.13	10260.91	1517.35	10290.41	1517.34	10307.94	1517.18
10412.04	1516	10426.98	1514.17	10427.86	1514.18	10436.14	1519.19	10441.29	1519.63
10442.27	1521.2	10444.84	1522.54	10447.69	1524.6	10455.34	1530.6		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8632.78	.035	9793.98	.035	10134.3	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9793.98	10134.3	500	523.2	385	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8632.78	8730	1530

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.27 Profile # 1

W.S. Elev (ft)	1520.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1521.12	Reach Len. (ft)	500.00	523.20	385.00
E.G. Slope (ft/ft)	0.001532	Flow Area (sq ft)	1346.89	1804.06	1310.83
Q Total (cfs)	19750.00	Flow (cfs)	4965.23	9087.37	5697.41
Top Width (ft)	1196.15	Top Width (ft)	548.11	340.32	307.72
Vel Total (ft/s)	4.43	Avg. Vel. (ft/s)	3.69	5.04	4.35
Max Chl Dpth (ft)	8.80	Hydr. Depth (ft)	2.46	5.30	4.26
Crit W.S. (ft)	1518.52	Wetted Per. (ft)	549.35	341.90	309.93
Conv. Total (cfs)	504519.8	Conv. (cfs)	126838.3	232139.5	145542.0

Warning - Divided flow computed for this cross-section.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.27 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8942.43	9019.85	0.22	40.41	61.56	1295.8	0.66	1.08
9019.85	9097.26	0.38	61.68	77.41	2250.5	0.80	1.23
9097.26	9174.67	0.34	57.26	77.42	1988.3	0.74	1.17
9174.67	9252.09	0.01	2.62	17.08	31.9	0.15	0.41
9252.09	9406.91						
9406.91	9484.33	0.00	0.11	5.01	0.4	0.02	0.11
9484.33	9561.74	0.41	64.77	77.98	2429.6	0.84	1.26
9561.74	9639.15	8.07	383.88	77.44	47381.2	4.96	4.15
9639.15	9716.57	11.44	473.33	77.42	67186.4	6.11	4.77

9716.57	9793.98	4.27	262.83	78.03	25073.2	3.40	3.21
9793.98	9816.67	2.01	95.57	22.84	10535.9	4.21	4.16
9816.67	9839.36	2.51	108.83	22.69	13141.5	4.80	4.55
9839.36	9862.04	3.74	138.75	22.89	19583.8	6.12	5.32
9862.04	9884.73	3.00	121.47	22.83	15716.1	5.35	4.88
9884.73	9907.42	2.07	96.93	22.73	10820.2	4.27	4.21
9907.42	9930.11	1.10	66.36	22.72	5756.4	2.92	3.27
9930.11	9952.80	1.14	67.78	22.70	5966.1	2.99	3.32
9952.80	9975.48	1.96	94.11	22.78	10286.8	4.15	4.12
9975.48	9998.17	5.43	174.41	23.15	28459.3	7.69	6.15
9998.17	10020.86	5.13	168.46	23.11	26889.3	7.42	6.02
10020.86	10043.55	4.48	154.19	22.69	23485.7	6.80	5.74
10043.55	10066.24	4.14	147.05	22.70	21697.6	6.48	5.56
10066.24	10088.92	3.57	134.55	22.69	18713.7	5.93	5.24
10088.92	10111.61	3.07	122.94	22.69	16099.7	5.42	4.94
10111.61	10134.30	2.66	112.67	22.69	13922.5	4.97	4.66
10134.30	10155.70	2.41	102.66	21.40	12396.5	4.80	4.64
10155.70	10177.11	2.41	102.67	21.40	12397.1	4.80	4.64
10177.11	10198.51	2.41	102.66	21.40	12396.5	4.80	4.64
10198.51	10219.91	2.41	102.66	21.40	12396.5	4.80	4.64
10219.91	10241.31	2.13	95.23	21.43	10928.5	4.45	4.41
10241.31	10262.72	1.48	76.65	21.41	7615.1	3.58	3.82
10262.72	10284.12	1.39	73.86	21.40	7161.0	3.45	3.73
10284.12	10305.52	1.43	75.02	21.40	7349.2	3.51	3.77
10305.52	10326.92	1.57	79.42	21.40	8081.7	3.71	3.91
10326.92	10348.33	1.75	84.61	21.40	8980.1	3.95	4.08
10348.33	10369.73	1.93	89.80	21.40	9917.8	4.20	4.25
10369.73	10391.13	2.12	94.99	21.40	10891.4	4.44	4.41
10391.13	10412.53	2.32	100.20	21.41	11902.9	4.68	4.57
10412.53	10433.94	2.93	117.81	22.54	15065.5	5.50	4.92
10433.94	10455.34	0.13	12.57	9.12	661.3	1.56	2.02

Warning - Divided flow computed for this cross-section.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.17
Description: 18.17

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8526.29	1529.42	8549.08	1528	8555.1	1527.71	8597.58	1526	8604.75	1525.5
8612.9	1525.26	8637.84	1524	8688.75	1522	8777.17	1522	8811.59	1520.5
8826.09	1520.15	8926.08	1522	8944.37	1521.82	8970.04	1521.96	8979.55	1521.9
9093.84	1521.87	9117.34	1521.97	9127.15	1521.65	9149.46	1520	9165.15	1520
9188.43	1520	9214	1518	9232.04	1518	9233.92	1517.91	9279.94	1517.3
9288.61	1517.25	9370.59	1516.21	9384.3	1516	9527.4	1516	9643.84	1516
9646.96	1515.56	9661.39	1512.69	9663.99	1512	9691.78	1512	9805.26	1513.7
9830.77	1514	9901.83	1514	9908.15	1512.95	9913.23	1511.15	9924.43	1511.4
9931.71	1512	9978.61	1512	9983.8	1509.35	9986.88	1508	10004.4	1508
10008.4	1508	10012.65	1510	10018.64	1512	10069.69	1512	10076.47	1512.4
10123.41	1514	10195.77	1514	10232.9	1512.69	10291.69	1514	10302.83	1514
10313.25	1520	10315.06	1521.31	10322.58	1525.78	10327.92	1530		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8526.29	.035	9646.96	.035	10123.41	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9646.96	10123.41	600	573.1	705	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
8526.29	9200	1529

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.17 Profile # 1

W.S. Elev (ft)	1520.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1520.75	Reach Len. (ft)	600.00	573.10	705.00
E.G. Slope (ft/ft)	0.000353	Flow Area (sq ft)	1840.74	3851.16	1287.18
Q Total (cfs)	19750.00	Flow (cfs)	3773.04	12332.15	3644.82
Top Width (ft)	1215.01	Top Width (ft)	547.88	476.45	190.69
Vel Total (ft/s)	2.83	Avg. Vel. (ft/s)	2.05	3.20	2.83
Max Chl Dpth (ft)	12.61	Hydr. Depth (ft)	4.12	8.08	6.75
Crit W.S. (ft)	1515.95	Wetted Per. (ft)	447.05	478.99	192.53
Conv. Total (cfs)	1050887.0	Conv. (cfs)	200761.2	656186.8	193938.7

Warning - Divided flow computed for this cross-section.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.17 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9198.69	9273.40	1.52	198.08	73.45	16293.0	2.70	1.52
9273.40	9348.11	2.57	272.86	74.72	27471.5	3.65	1.86
9348.11	9422.83	3.62	335.26	74.72	38721.7	4.49	2.13
9422.83	9497.54	3.79	344.62	74.71	40541.4	4.61	2.17
9497.54	9572.25	3.79	344.62	74.71	40541.9	4.61	2.17
9572.25	9646.96	3.80	345.30	74.74	40664.9	4.62	2.18
9646.96	9678.72	3.72	242.01	32.14	39474.6	7.62	3.03
9678.72	9710.49	4.52	270.94	31.76	48019.6	8.53	3.30
9710.49	9742.25	4.14	257.11	31.77	44002.1	8.09	3.18
9742.25	9774.01	3.74	242.00	31.77	39776.1	7.62	3.06
9774.01	9805.78	3.36	226.88	31.77	35721.8	7.14	2.93
9805.78	9837.54	3.04	213.72	31.77	32336.0	6.73	2.81
9837.54	9869.30	2.96	210.04	31.76	31416.1	6.61	2.78
9869.30	9901.07	2.96	210.04	31.76	31415.2	6.61	2.78
9901.07	9932.83	4.53	272.77	32.19	48135.4	8.59	3.28
9932.83	9964.59	4.59	273.57	31.76	48800.1	8.61	3.32
9964.59	9996.36	6.12	328.59	32.68	64981.9	10.35	3.68
9996.36	10028.12	6.51	340.49	32.54	69159.1	10.72	3.78
10028.12	10059.88	4.59	273.57	31.76	48800.1	8.61	3.32
10059.88	10091.65	4.28	262.21	31.78	45450.7	8.26	3.22
10091.65	10123.41	3.37	227.24	31.78	35804.5	7.15	2.93
10123.41	10137.04	1.27	90.16	13.63	13484.6	6.61	2.77
10137.04	10150.68	1.27	90.16	13.63	13484.6	6.61	2.77
10150.68	10164.31	1.27	90.16	13.63	13485.6	6.61	2.77
10164.31	10177.95	1.27	90.16	13.63	13484.6	6.61	2.77
10177.95	10191.58	1.27	90.16	13.63	13484.6	6.61	2.77
10191.58	10205.21	1.30	91.73	13.64	13875.2	6.73	2.80
10205.21	10218.85	1.45	97.98	13.64	15484.0	7.19	2.93
10218.85	10232.48	1.62	104.54	13.64	17250.8	7.67	3.06
10232.48	10246.12	1.66	106.07	13.64	17677.1	7.78	3.09
10246.12	10259.75	1.55	101.93	13.64	16543.1	7.48	3.01
10259.75	10273.38	1.45	97.79	13.64	15438.1	7.17	2.93
10273.38	10287.02	1.35	93.65	13.64	14363.6	6.87	2.84
10287.02	10300.65	1.27	90.41	13.64	13545.5	6.63	2.78
10300.65	10314.29	0.47	52.30	15.25	5050.8	3.89	1.79

Warning - Divided flow computed for this cross-section.
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.
Warning - The parabolic search method failed to converge on critical depth. The

program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.06
Description: 18.06

Station Elevation Data, num = 107

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7830.3	1519.6	7853.34	1519.01	7881.52	1518	7904.93	1518	7934.94	1516.26
7948.65	1516	7969.95	1516.55	7982.4	1516.71	7995.5	1516.45	8000.3	1516
8051.88	1516	8063.39	1516.76	8071.84	1517.04	8094.06	1517.55	8105.45	1517.5
8119.83	1516.9	8146.93	1516.83	8188.38	1516.38	8225.77	1516.04	8313.35	1516.67
8337.01	1516.7	8353.64	1516	8415.94	1516	8448.24	1515.07	8457.75	1514.95
8459.17	1514.7	8468.8	1512	8490.2	1512	8493.99	1512.31	8542.15	1515.51
8562.78	1515.6	8596.5	1516	8709.21	1516	8749.42	1515.71	8804.98	1515
8845.85	1514	8869.22	1514.49	8879.4	1514.14	8882.63	1514	8906.37	1514
8914.76	1514.4	8931.25	1514.55	8951.56	1515.21	8970.96	1515.5	8987.65	1515.55
8990.37	1515.4	9014.34	1515.46	9019.45	1514.58	9028.36	1513.82	9048.79	1513.12
9067.78	1513.1	9075.13	1513.52	9082.55	1514.47	9083.82	1514.79	9120.61	1514.55
9134.54	1515.5	9148.32	1515.4	9160.21	1515.87	9205.34	1515.82	9216.87	1515.72
9265.15	1515.7	9275.83	1515.56	9324.59	1515.61	9325.98	1515.64	9359.45	1515.67
9377.47	1513.4	9381.46	1512	9532.62	1512	9591.09	1512	9608.42	1512.56
9616.25	1512	9674.47	1512	9718.77	1511.33	9754.85	1511.07	9756.5	1511.02
9788.2	1510.9	9809.86	1510	9846.72	1510	9850.65	1509.65	9874.05	1509.48
9877.53	1509.4	9894.43	1509.28	9931.8	1508	10039.63	1508	10049.91	1510
10054.52	1510	10069.95	1510.41	10074.89	1510.4	10094.2	1510.99	10112.81	1512
10186.89	1512	10196.83	1512.57	10225.98	1512.93	10277.68	1513.15	10283.5	1512.94
10296.25	1512.71	10305.59	1512.62	10311.18	1512.36	10359.65	1510.58	10379.02	1510
10402.24	1510	10489.96	1510	10501.63	1514	10508.81	1518.57	10518.27	1523.61
10528.08	1530	10543.77	1536						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7830.3	.035	9381.46	.035	10508.81	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9381.46	10508.81	55.4	55.4	55.4	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
7830.3	9400	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.06 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1520.57	Element			
Vel Head (ft)	0.05	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1520.63	Reach Len. (ft)	55.40	55.40	55.40
E.G. Slope (ft/ft)	0.000095	Flow Area (sq ft)		10616.71	3.77
Q Total (cfs)	19750.00	Flow (cfs)		19748.57	1.43
Top Width (ft)	2682.27	Top Width (ft)	1551.16	1127.35	3.76
Vel Total (ft/s)	1.86	Avg. Vel. (ft/s)		1.86	0.38
Max Chl Dpth (ft)	12.57	Hydr. Depth (ft)		9.57	1.00
Crit W.S. (ft)	1513.11	Wetted Per. (ft)		1111.21	4.26
Conv. Total (cfs)	2029606.0	Conv. (cfs)		2029459.0	147.2

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.06 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9381.46	9456.62	4.20	485.36	56.62	86313.5	8.57	1.71
9456.62	9531.77	5.58	644.31	75.16	114580.0	8.57	1.71
9531.77	9606.93	5.52	640.25	75.16	113371.2	8.52	1.70
9606.93	9682.09	5.54	641.76	75.18	113802.6	8.54	1.71
9682.09	9757.24	6.25	689.88	75.16	128395.5	9.18	1.79
9757.24	9832.40	7.27	755.19	75.18	149271.0	10.05	1.90
9832.40	9907.56	8.53	831.00	75.18	175058.6	11.06	2.03
9907.56	9982.71	10.38	934.86	75.17	213047.4	12.44	2.19
9982.71	10057.87	10.06	918.59	75.35	206572.5	12.22	2.16
10057.87	10133.03	6.53	707.93	75.20	134001.1	9.42	1.82
10133.03	10208.18	5.43	634.21	75.17	111583.9	8.44	1.69
10208.18	10283.34	4.55	570.02	75.16	93412.5	7.58	1.58
10283.34	10358.50	5.64	648.87	75.20	115894.0	8.63	1.72
10358.50	10433.65	7.81	788.32	75.17	160353.6	10.49	1.96
10433.65	10508.81	6.69	726.15	77.15	137426.3	9.66	1.82
10508.81	10511.14	0.01	3.22	2.64	156.1	1.38	0.42
10511.14	10513.47	0.00	0.54	1.62	11.1	0.38	0.18

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.05
Description: 18.05

Station Elevation Data, num = 60

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9413.15	1532	9441.97	1530	9460.39	1528.99	9473.8	1528.35	9479.97	1528
9486.48	1528	9498.36	1527.4	9501.83	1527.4	9533.23	1526	9566.44	1524.52
9582.66	1523.6	9615.76	1522	9669.4	1521.98	9679.05	1521.23	9689.64	1520.54
9706.56	1519.6	9728.14	1518	9746.53	1516	9762.98	1514	9765.87	1514
9795.08	1512.9	9816.6	1513.71	9828.71	1514	9840.75	1513.96	9856.87	1513.71
9860.22	1513.5	9874.17	1512.89	9886.21	1511.83	9892.12	1510	9905.12	1508
9931.53	1508	9982.5	1506.27	9995.52	150610008.74		150610016.82		1506.36
10025.14	150710042.88		150810051.61		150810084.68		1509.3310095.09		1510
10097.18	1510.510109.14		1512.0410116.15		151410136.54		1514.3710150.31		1514.56
10167.5	1514.710187.67		1515.3	10208.3	1515.52	10230.3	151610258.85		1517.83
10264.63	1518.310289.84		152010304.11		1520.6210331.75		1521.1110340.73		1521.32
10351.04	1521.410365.38		152210448.52		152210471.72		1520.3910483.92		1520

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9413.15	.035	9706.56	.035	10116.15	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9706.56	10116.15	28	28	28	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.05 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1520.28	Element			
Vel Head (ft)	0.31	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1520.59	Reach Len. (ft)	28.00	28.00	28.00
E.G. Slope (ft/ft)	0.000609	Flow Area (sq ft)	4.15	3825.02	747.16
Q Total (cfs)	19750.00	Flow (cfs)	2.11	17733.03	2014.85
Top Width (ft)	610.65	Top Width (ft)	12.22	409.59	188.83
Vel Total (ft/s)	4.32	Avg. Vel. (ft/s)	0.51	4.64	2.70
Max Chl Dpth (ft)	14.28	Hydr. Depth (ft)	0.34	9.34	3.96
Crit W.S. (ft)		Wetted Per. (ft)	12.24	410.99	189.28
Conv. Total (cfs)	800233.0	Conv. (cfs)	85.6	718509.3	81638.1

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

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.05 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9687.00	9706.56	0.01	4.15	12.24	85.6	0.34	0.51
9706.56	9733.87	0.33	46.75	27.40	2833.7	1.71	1.37
9733.87	9761.17	1.59	121.15	27.49	13826.5	4.44	2.59
9761.17	9788.48	3.11	180.87	27.34	27065.1	6.62	3.39
9788.48	9815.78	3.45	192.60	27.33	30060.0	7.05	3.54
9815.78	9843.09	2.91	173.83	27.31	25347.3	6.37	3.31
9843.09	9870.40	3.16	182.65	27.32	27516.8	6.69	3.42
9870.40	9897.70	4.87	238.04	27.70	42399.4	8.72	4.04
9897.70	9925.01	8.50	331.05	27.39	74016.3	12.12	5.07
9925.01	9952.31	9.01	342.63	27.32	78522.0	12.55	5.20
9952.31	9979.62	10.12	367.20	27.32	88124.4	13.45	5.44
9979.62	10006.93	11.06	387.22	27.31	96303.1	14.18	5.64
10006.93	10034.23	10.30	371.38	27.35	89730.0	13.60	5.48
10034.23	10061.54	8.70	335.41	27.33	75768.3	12.28	5.12
10061.54	10088.84	7.59	309.19	27.33	66145.6	11.32	4.85
10088.84	10116.15	5.10	245.04	27.75	44450.4	8.97	4.11
10116.15	10140.67	2.36	148.53	24.52	20952.7	6.06	3.14
10140.67	10165.19	2.14	139.96	24.52	18978.0	5.71	3.02
10165.19	10189.70	1.88	129.51	24.53	16672.7	5.28	2.86
10189.70	10214.22	1.61	118.14	24.52	14307.9	4.82	2.69
10214.22	10238.74	1.33	105.45	24.54	11832.3	4.30	2.50
10238.74	10263.26	0.71	72.21	24.57	6289.8	2.95	1.94
10263.26	10287.78	0.17	30.53	24.58	1498.1	1.25	1.09
10287.78	10312.29	0.00	1.61	8.49	22.7	0.19	0.31
10312.29	10459.40						
10459.40	10483.92	0.00	1.22	9.01	13.6	0.14	0.25

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 INPUT Reach: CAVE CREEK River Station: 18.0484
Description: 18.0484

Station Elevation Data, num = 113

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8355.54	1538	8368.06	1537.83	8384.21	1537.42	8403.37	1536	8435.44	1536
8442.41	1535.83	8462.81	1534	8504.12	1534	8510.82	1533.76	8550.9	1532.9
8594.58	1532	8937.98	1532	8956.99	1531.51	8964.47	1531.18	8972.74	1530
9039.55	1530	9078.66	1530	9094.27	1531.39	9120.74	1531.65	9142.28	1532
9340.54	1532	9345.68	1532.55	9365.83	1532	9389.59	1531.17	9393.81	1531
9422.25	1530	9438.4	1529.16	9443.71	1529.42	9449.95	1529.12	9461.91	1528.8
9472.85	1528	9484.51	1528	9501.13	1526.89	9505.67	1526.52	9519.59	1526
9542.97	1524.58	9553.61	1524	9576.83	1523.01	9595.95	1522	9657.31	1519.4
9666.34	1519.01	9702.29	1517.25	9710.1	1516.8	9727.97	1515.45	9745.36	1514
9910.11	1514	9916.25	1513.28	9925.6	1512	9933.33	1509.83	9937.88	1508
9950.58	1507.61	9974.37	1506	10018.36	1506	10033.71	1506.98	10041.68	1507.1
10066.72	1508	10076	1510	10078.43	1511.5	10080.62	1512	10085.33	1514
10128.53	1514.83	10154.44	1515.32	10173.29	1515.67	10184.5	1516	10198.07	1517
10215.45	1518.19	10227.73	1519.27	10238.41	1520	10275.02	1521.75	10288.34	1522
10404.41	1522	10494.64	1522	10501.32	1521.44	10520.32	1521.21	10537.15	1520.9
10559.15	1520.79	10581.59	1520	10657.22	1520	10657.82	1519.84	10694.34	1519
10700.93	1520	10764.69	1520	10776.24	1521.42	10787.56	1521.85	10796.68	1522
10837.93	1522	10851.13	1522.3	10863.1	1522.23	10947.34	1522.77	10959.87	1523.5
10969.76	1523.62	10984.5	1523.45	10994.92	1523.74	11001.39	1523.78	11022.56	1523.5
11044.37	1523.73	11057.55	1523.5	11059.96	1523.1	11075.46	1523.06	11096.52	1522
11117.67	1522	11126.76	1521.33	11131.9	1521.21	11154.66	1520	11231.47	1520
11234.23	1519.79	11262.16	1517.24	11284.72	1517.23	11306.31	1517.05	11425.18	1519.4
11434.32	1519.49	11454.11	1520	11489.94	1520				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8355.54	.035	9657.31	.035	10238.41	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9657.31	10238.41	1	1	1	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10261.61	1489.94	1530

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0484 Profile # 1

W.S. Elev (ft)	1520.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1520.56	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.000968	Flow Area (sq ft)	7.57	4084.35	0.42
Q Total (cfs)	19750.00	Flow (cfs)	5.43	19744.45	0.12
Top Width (ft)	1133.71	Top Width (ft)	18.90	581.10	533.70
Vel Total (ft/s)	4.83	Avg. Vel. (ft/s)	0.72	4.83	0.29
Max Chl Dpth (ft)	14.20	Hydr. Depth (ft)	0.40	7.03	0.10
Crit W.S. (ft)	1515.78	Wetted Per. (ft)	18.92	583.44	4.21
Conv. Total (cfs)	634730.8	Conv. (cfs)	174.5	634552.4	3.9

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 parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0484 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9570.53	9657.31	0.03	7.57	18.92	174.5	0.40	0.72
9657.31	9696.05	0.54	65.98	38.78	3992.0	1.70	1.62
9696.05	9734.79	2.11	149.44	38.84	15580.1	3.86	2.78
9734.79	9773.53	4.50	235.56	38.78	33296.0	6.08	3.77
9773.53	9812.27	4.65	240.23	38.74	34423.1	6.20	3.83
9812.27	9851.01	4.65	240.23	38.74	34423.1	6.20	3.83
9851.01	9889.75	4.65	240.23	38.74	34423.1	6.20	3.83
9889.75	9928.49	5.36	262.10	38.98	39641.4	6.77	4.04
9928.49	9967.23	14.34	474.70	39.32	106050.2	12.25	5.97
9967.23	10005.97	18.42	548.42	38.76	136213.9	14.16	6.63
10005.97	10044.71	17.44	530.84	38.77	128974.2	13.70	6.49
10044.71	10083.45	12.75	444.18	39.69	94341.2	11.47	5.67
10083.45	10122.19	4.25	227.92	38.91	31444.3	5.88	3.68
10122.19	10160.93	3.39	198.54	38.75	25051.7	5.12	3.37
10160.93	10199.67	2.40	161.62	38.79	17767.2	4.17	2.94
10199.67	10238.41	0.52	64.37	38.85	3826.2	1.66	1.59
10238.41	10321.85	0.00	0.42	4.21	3.9	0.10	0.29

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 parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0482
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.

8063 1515.04 9964 1515.04 9964 1505.54 10036 1505.54 10036 1515.04
10737 1515.0410749.69 1515.04

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9600	1522	1022010749.69		1522

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0482 Profile # 1

W.S. Elev (ft)	1520.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1520.55	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.001236	Flow Area (sq ft)	1809.78	1041.98	914.83
Q Total (cfs)	19750.00	Flow (cfs)	7869.91	7901.89	3978.20
Top Width (ft)	2686.69	Top Width (ft)	1901.00	72.00	713.69
Vel Total (ft/s)	5.24	Avg. Vel. (ft/s)	4.35	7.58	4.35
Max Chl Dpth (ft)	14.47	Hydr. Depth (ft)	4.97	14.47	4.97
Crit W.S. (ft)	1517.93	Wetted Per. (ft)	364.00	91.00	184.00
Conv. Total (cfs)	561694.3	Conv. (cfs)	223821.9	224731.6	113140.8

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0482 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.80	9710.53	12.10	549.56	110.53	67966.4	4.97	4.35
9710.53	9837.27	13.87	630.11	126.73	77927.8	4.97	4.35
9837.27	9964.00	13.87	630.11	126.73	77927.8	4.97	4.35
9964.00	9968.80	1.38	69.46	14.30	8458.4	14.47	3.93
9968.80	9973.60	2.86	69.46	4.80	17513.0	14.47	8.15
9973.60	9978.40	2.87	69.48	4.80	17516.6	14.47	8.15
9978.40	9983.20	2.86	69.46	4.80	17513.0	14.47	8.15
9983.20	9988.00	2.86	69.46	4.80	17513.0	14.47	8.15
9988.00	9992.80	2.86	69.46	4.80	17513.0	14.47	8.15
9992.80	9997.60	2.86	69.46	4.80	17513.0	14.47	8.15
9997.60	10002.40	2.87	69.48	4.80	17516.6	14.47	8.15
10002.40	10007.20	2.86	69.46	4.80	17513.0	14.47	8.15
10007.20	10012.00	2.86	69.46	4.80	17513.0	14.47	8.15
10012.00	10016.80	2.86	69.46	4.80	17513.0	14.47	8.15
10016.80	10021.60	2.86	69.46	4.80	17513.0	14.47	8.15
10021.60	10026.40	2.87	69.48	4.80	17516.6	14.47	8.15
10026.40	10031.20	2.86	69.46	4.80	17513.0	14.47	8.15
10031.20	10036.00	1.38	69.46	14.30	8458.4	14.47	3.93
10036.00	10083.58	5.21	236.56	47.58	29256.2	4.97	4.35
10083.58	10131.16	5.21	236.56	47.58	29256.8	4.97	4.35
10131.16	10178.74	5.21	236.56	47.58	29256.2	4.97	4.35
10178.74	10226.32	4.52	205.15	41.26	25371.6	4.97	4.35

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0480
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10750	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	128.2	128.2	128.2	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9600	1522	10220	10750	1522

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0480 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1519.60	Element			
Vel Head (ft)	0.91	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1520.51	Reach Len. (ft)	128.20	128.20	128.20
E.G. Slope (ft/ft)	0.000356	Flow Area (sq ft)	1659.95	1012.34	839.10
Q Total (cfs)	19750.00	Flow (cfs)	6403.40	10109.72	3236.88
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	5.62	Avg. Vel. (ft/s)	3.86	9.99	3.86
Max Chl Dpth (ft)	14.06	Hydr. Depth (ft)	4.56	14.06	4.56
Crit W.S. (ft)	1518.25	Wetted Per. (ft)	364.00	91.00	184.00
Conv. Total (cfs)	1046035.0	Conv. (cfs)	339148.1	535449.0	171437.5

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0480 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.80	9710.53	9.85	504.06	110.53	102986.6	4.56	3.86
9710.53	9837.27	11.29	577.94	126.73	118080.7	4.56	3.86
9837.27	9964.00	11.29	577.94	126.73	118080.7	4.56	3.86
9964.00	9968.80	1.77	67.49	14.30	20153.2	14.06	5.18
9968.80	9973.60	3.67	67.49	4.80	41726.8	14.06	10.73
9973.60	9978.40	3.67	67.50	4.80	41735.3	14.06	10.73
9978.40	9983.20	3.67	67.49	4.80	41726.8	14.06	10.73
9983.20	9988.00	3.67	67.49	4.80	41726.8	14.06	10.73
9988.00	9992.80	3.67	67.49	4.80	41726.8	14.06	10.73
9992.80	9997.60	3.67	67.49	4.80	41726.8	14.06	10.73
9997.60	10002.40	3.67	67.50	4.80	41735.3	14.06	10.73
10002.40	10007.20	3.67	67.49	4.80	41726.8	14.06	10.73
10007.20	10012.00	3.67	67.49	4.80	41726.8	14.06	10.73
10012.00	10016.80	3.67	67.49	4.80	41726.8	14.06	10.73
10016.80	10021.60	3.67	67.49	4.80	41726.8	14.06	10.73
10021.60	10026.40	3.67	67.50	4.80	41735.3	14.06	10.73

10026.40	10031.20	3.67	67.49	4.80	41726.8	14.06	10.73
10031.20	10036.00	1.77	67.49	14.30	20153.2	14.06	5.18
10036.00	10083.60	4.24	217.07	47.60	44349.8	4.56	3.86
10083.60	10131.20	4.24	217.07	47.60	44350.7	4.56	3.86
10131.20	10178.80	4.24	217.07	47.60	44349.8	4.56	3.86
10178.80	10226.40	3.67	187.89	41.20	38387.3	4.56	3.86

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0237
Description: Downstream side of top of sply

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10749.81	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	20	20	20	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9708	1522	10251	10749.81	1522

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0237 Profile # 1

W.S. Elev (ft)	1518.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.94	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1520.34	Reach Len. (ft)	20.00	20.00	20.00
E.G. Slope (ft/ft)	0.000743	Flow Area (sq ft)	859.50	925.73	721.85
Q Total (cfs)	19750.00	Flow (cfs)	3901.88	12571.16	3276.97
Top Width (ft)	2686.81	Top Width (ft)	1901.00	72.00	713.81
Vel Total (ft/s)	7.88	Avg. Vel. (ft/s)	4.54	13.58	4.54
Max Chl Dpth (ft)	12.86	Hydr. Depth (ft)	3.36	12.86	3.36
Crit W.S. (ft)	1518.40	Wetted Per. (ft)	256.00	91.00	215.00
Conv. Total (cfs)	724728.4	Conv. (cfs)	143179.8	461300.0	120248.6

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0237 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.80	9710.53	0.20	8.51	2.53	1416.8	3.36	4.54
9710.53	9837.27	9.78	425.50	126.73	70881.5	3.36	4.54
9837.27	9964.00	9.78	425.50	126.73	70881.5	3.36	4.54
9964.00	9968.80	2.20	61.71	14.30	17362.4	12.86	7.04
9968.80	9973.60	4.56	61.71	4.80	35948.5	12.86	14.59
9973.60	9978.40	4.56	61.73	4.80	35955.8	12.86	14.59
9978.40	9983.20	4.56	61.71	4.80	35948.5	12.86	14.59
9983.20	9988.00	4.56	61.71	4.80	35948.5	12.86	14.59
9988.00	9992.80	4.56	61.71	4.80	35948.5	12.86	14.59
9992.80	9997.60	4.56	61.71	4.80	35948.5	12.86	14.59
9997.60	10002.40	4.56	61.73	4.80	35955.8	12.86	14.59
10002.40	10007.20	4.56	61.71	4.80	35948.5	12.86	14.59
10007.20	10012.00	4.56	61.71	4.80	35948.5	12.86	14.59
10012.00	10016.80	4.56	61.71	4.80	35948.5	12.86	14.59
10016.80	10021.60	4.56	61.71	4.80	35948.5	12.86	14.59
10021.60	10026.40	4.56	61.73	4.80	35955.8	12.86	14.59
10026.40	10031.20	4.56	61.71	4.80	35948.5	12.86	14.59
10031.20	10036.00	2.20	61.71	14.30	17362.4	12.86	7.04
10036.00	10083.59	3.67	159.77	47.59	26615.2	3.36	4.54
10083.59	10131.17	3.67	159.77	47.59	26615.7	3.36	4.54
10131.17	10178.76	3.67	159.77	47.59	26615.2	3.36	4.54
10178.76	10226.35	3.67	159.77	47.59	26615.7	3.36	4.54
10226.35	10273.94	1.90	82.76	24.65	13786.9	3.36	4.54

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - The cross section had to be extended vertically during the critical depth calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0199
Description: Begin baffled drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10750	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.04	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	50	50	50	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9728	1521	10256	10750	1521

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0199 Profile # 1

W.S. Elev (ft)	1516.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.75	Wt. n-Val.	0.020	0.040	0.020
E.G. Elev (ft)	1520.12	Reach Len. (ft)	50.00	50.00	50.00
E.G. Slope (ft/ft)	0.012564	Flow Area (sq ft)	314.99	780.10	293.64
Q Total (cfs)	19750.00	Flow (cfs)	3179.96	13605.67	2964.37
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	14.22	Avg. Vel. (ft/s)	10.10	17.44	10.10
Max Chl Dpth (ft)	10.83	Hydr. Depth (ft)	1.33	10.83	1.33
Crit W.S. (ft)	1517.43	Wetted Per. (ft)	236.00	91.00	220.00
Conv. Total (cfs)	176199.5	Conv. (cfs)	28370.0	121382.9	26446.6

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0199 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	7.45	145.84	109.27	13135.1	1.33	10.10
9837.27	9964.00	8.65	169.15	126.73	15234.8	1.33	10.10
9964.00	9968.80	2.38	52.00	14.30	4568.6	10.83	9.05
9968.80	9973.60	4.93	52.00	4.80	9459.2	10.83	18.73
9973.60	9978.40	4.93	52.02	4.80	9461.1	10.83	18.73
9978.40	9983.20	4.93	52.00	4.80	9459.2	10.83	18.73
9983.20	9988.00	4.93	52.00	4.80	9459.2	10.83	18.73
9988.00	9992.80	4.93	52.00	4.80	9459.2	10.83	18.73
9992.80	9997.60	4.93	52.00	4.80	9459.2	10.83	18.73
9997.60	10002.40	4.93	52.02	4.80	9461.1	10.83	18.73
10002.40	10007.20	4.93	52.00	4.80	9459.2	10.83	18.73
10007.20	10012.00	4.93	52.00	4.80	9459.2	10.83	18.73
10012.00	10016.80	4.93	52.00	4.80	9459.2	10.83	18.73
10016.80	10021.60	4.93	52.00	4.80	9459.2	10.83	18.73
10021.60	10026.40	4.93	52.02	4.80	9461.1	10.83	18.73
10026.40	10031.20	4.93	52.00	4.80	9459.2	10.83	18.73
10031.20	10036.00	2.38	52.00	14.30	4568.6	10.83	9.05
10036.00	10083.60	3.25	63.53	47.60	5722.0	1.33	10.10
10083.60	10131.20	3.25	63.53	47.60	5722.2	1.33	10.10
10131.20	10178.80	3.25	63.53	47.60	5722.0	1.33	10.10
10178.80	10226.40	3.25	63.53	47.60	5722.2	1.33	10.10
10226.40	10274.00	2.02	39.51	29.60	3558.2	1.33	10.10

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The cross section had to be extended vertically during the critical depth calculations.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical

depth.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0104
Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10737	1501	10750	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.04	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9778	1519	10268	10750	1519

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0104 Profile # 1

W.S. Elev (ft)	1516.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.	0.035	0.040	0.035
E.G. Elev (ft)	1516.37	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.000074	Flow Area (sq ft)	2844.29	2181.01	3547.71
Q Total (cfs)	19750.00	Flow (cfs)		19750.00	
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	2.30	Avg. Vel. (ft/s)	2.25	2.46	2.25
Max Chl Dpth (ft)	30.29	Hydr. Depth (ft)	15.29	30.29	15.29
Crit W.S. (ft)	1499.24	Wetted Per. (ft)	186.00	102.00	232.00
Conv. Total (cfs)	2296042.0	Conv. (cfs)	743945.4	624164.9	927931.9

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

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0104 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9964.00	9968.80	3.89	33.69	11.82	2515.7	7.02	22.81
9968.80	9973.60	7.09	33.69	4.80	4587.1	7.02	41.59
9973.60	9978.40	7.09	33.69	4.80	4588.0	7.02	41.59
9978.40	9983.20	7.09	33.69	4.80	4587.1	7.02	41.59
9983.20	9988.00	7.09	33.69	4.80	4587.1	7.02	41.59
9988.00	9992.80	7.09	33.69	4.80	4587.1	7.02	41.59
9992.80	9997.60	7.09	33.69	4.80	4587.1	7.02	41.59
9997.60	10002.40	7.09	33.69	4.80	4588.0	7.02	41.59
10002.40	10007.20	7.09	33.69	4.80	4587.1	7.02	41.59
10007.20	10012.00	7.09	33.69	4.80	4587.1	7.02	41.59
10012.00	10016.80	7.09	33.69	4.80	4587.1	7.02	41.59
10016.80	10021.60	7.09	33.69	4.80	4587.1	7.02	41.59
10021.60	10026.40	7.09	33.69	4.80	4588.0	7.02	41.59
10026.40	10031.20	7.09	33.69	4.80	4587.1	7.02	41.59
10031.20	10036.00	3.89	33.69	11.82	2515.7	7.02	22.81

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

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0103
Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.

8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10737	1501	10750	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	15	15	15	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9779	1519	10268	10750	1519

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0103 Profile # 1

W.S. Elev (ft)	1516.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.09	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1516.37	Reach Len. (ft)	15.00	15.00	15.00
E.G. Slope (ft/ft)	0.000069	Flow Area (sq ft)	2828.45	2180.80	3547.03
Q Total (cfs)	19750.00	Flow (cfs)	6136.90	5917.10	7696.00
Top Width (ft)	2687.00	Top Width (ft)	1901.00	72.00	714.00
Vel Total (ft/s)	2.31	Avg. Vel. (ft/s)	2.17	2.71	2.17
Max Chl Dpth (ft)	30.29	Hydr. Depth (ft)	15.29	30.29	15.29
Crit W.S. (ft)	1499.30	Wetted Per. (ft)	185.00	102.00	232.00
Conv. Total (cfs)	2380562.0	Conv. (cfs)	739709.5	713216.3	927635.6

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0103 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	9.79	890.83	58.27	232974.9	15.29	2.17
9837.27	9964.00	21.29	1937.62	126.73	506734.5	15.29	2.17
9964.00	9968.80	0.85	145.38	19.80	23316.6	30.29	1.15
9968.80	9973.60	2.17	145.38	4.80	59973.2	30.29	2.95
9973.60	9978.40	2.17	145.41	4.80	59985.4	30.29	2.95
9978.40	9983.20	2.17	145.38	4.80	59973.2	30.29	2.95
9983.20	9988.00	2.17	145.38	4.80	59973.2	30.29	2.95
9988.00	9992.80	2.17	145.38	4.80	59973.2	30.29	2.95
9992.80	9997.60	2.17	145.38	4.80	59973.2	30.29	2.95
9997.60	10002.40	2.17	145.41	4.80	59985.4	30.29	2.95
10002.40	10007.20	2.17	145.38	4.80	59973.2	30.29	2.95
10007.20	10012.00	2.17	145.38	4.80	59973.2	30.29	2.95
10012.00	10016.80	2.17	145.38	4.80	59973.2	30.29	2.95
10016.80	10021.60	2.17	145.38	4.80	59973.2	30.29	2.95
10021.60	10026.40	2.17	145.41	4.80	59985.4	30.29	2.95
10026.40	10031.20	2.17	145.38	4.80	59973.2	30.29	2.95
10031.20	10036.00	0.85	145.38	19.80	23316.6	30.29	1.15
10036.00	10083.60	7.99	727.75	47.60	190323.7	15.29	2.17
10083.60	10131.20	8.00	727.76	47.60	190327.6	15.29	2.17
10131.20	10178.80	7.99	727.75	47.60	190323.7	15.29	2.17
10178.80	10226.40	8.00	727.76	47.60	190327.6	15.29	2.17
10226.40	10274.00	6.99	636.01	41.60	166333.1	15.29	2.17

Warning - The cross-section end points had to be extended vertically for the

computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 18.0074
Description: 18.04

Station Elevation Data, num = 101

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7998.57	1514	8484.19	1514	8488.76	1513.86	8545.67	1513.78	8557.93	1514
8886.13	1514	9134.19	1514	9577.51	1514	9673.62	1514	9684.68	1513.93
9761.49	1513.6	9782.91	1512.93	9801.23	1512.86	9813.8	1512	9829.42	1511.56
9842.85	1512.1	9856.24	1514	9881.52	1514	9890.62	1513.54	9899.39	1513.27
9907.48	1512.8	9929.62	1511.96	9956.6	1511.23	9964.98	1510	9969.93	1508.32
9970.47	1507.7	9974.63	1506	9979.68	1504.57	10042.83	1506.41	10048.31	1506.6
10055.85	1507.5	10057.07	1508	10064.48	1509.76	10080.72	1509.92	10081.75	1510
10087.34	1511.4	10096.69	1512	10121.23	1512.65	10135.09	1512.82	10141.14	1512.75
10175.03	1512	10178.67	1511.01	10188.43	1509.93	10211.98	1509.09	10226.29	1508.59
10232.1	1509.3	10252.26	1509.33	10257.82	1509.49	10274.91	1509.66	10286.35	1510
10299.74	1511	10303.72	1511.25	10312.95	1511.45	10325.48	1512	10335.73	1513.34
10350.72	1513.4	10356.29	1513.58	10370.59	1513.57	10382.04	1513.43	10412.51	1513.21
10500.12	1512.9	10579.24	1512.94	10642.57	1512.18	10648.62	1512.6	10651.09	1512.25
10666.58	1512	10732.08	1511.21	10740.13	1510.67	10744.02	1510.64	10762.63	1510
10783.21	1509.8	10808.27	1509.55	10822.69	1509.19	10857.17	1508.91	10879.43	1508.78
10892.58	1508.7	10916.54	1508.83	10937.09	1509.11	10954.75	1509.15	10972.43	1509.35
10975.51	1509.4	11008.08	1509.71	11012.6	1509.85	11026.76	1510	11036.95	1510.27
11046.95	1510.3	11070.81	1510.83	11094.51	1511.76	11128.22	1511.92	11149.96	1511.89
11241.48	1511.5	11246.77	1511.22	11263.2	1510.54	11272.33	1510.5	11281.94	1510
11309.44	1509.9	11328.11	1510	11359.78	1510.64	11425.3	1510.99	11510.05	1511.12
11527.57	1511								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7998.57	.035	9881.52	.035	10135.09	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9881.52	10135.09	106.4	106.4	106.4	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7998.57	9794	1519	10272.25	11527.57	1519

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0074 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1514.27	Element			
Vel Head (ft)	1.92	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1516.19	Reach Len. (ft)	106.40	106.40	106.40
E.G. Slope (ft/ft)	0.009895	Flow Area (sq ft)	128.01	1160.63	535.89
Q Total (cfs)	19750.00	Flow (cfs)	695.59	13447.70	5606.71
Top Width (ft)	3529.00	Top Width (ft)	1882.95	253.57	1392.48
Vel Total (ft/s)	10.82	Avg. Vel. (ft/s)	5.43	11.59	10.46
Max Chl Dpth (ft)	9.70	Hydr. Depth (ft)	1.46	4.58	3.91
Crit W.S. (ft)	1514.27	Wetted Per. (ft)	87.70	255.40	137.43
Conv. Total (cfs)	198542.8	Conv. (cfs)	6992.6	135187.1	56363.1

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The cross section had to be extended vertically during the critical depth calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18.0074 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9755.99	9881.52	3.52	128.01	87.70	6992.6	1.46	5.43
9881.52	9898.42	0.15	11.18	16.92	359.9	0.66	2.59
9898.42	9915.33	0.51	23.64	16.93	1254.2	1.40	4.27
9915.33	9932.23	0.99	35.26	16.92	2442.7	2.09	5.57
9932.23	9949.14	1.44	44.10	16.91	3547.7	2.61	6.47
9949.14	9966.04	2.22	57.28	17.06	5453.6	3.39	7.66
9966.04	9982.95	8.60	131.72	17.94	21125.7	7.79	12.90
9982.95	9999.85	12.15	158.23	16.91	29827.4	9.36	15.16
9999.85	10016.76	11.11	149.94	16.91	27269.7	8.87	14.63
10016.76	10033.66	10.10	141.67	16.91	24807.3	8.38	14.09
10033.66	10050.57	9.08	132.94	16.93	22299.9	7.86	13.49
10050.57	10067.47	5.47	98.77	17.25	13421.8	5.84	10.93
10067.47	10084.38	3.36	73.28	16.99	8243.3	4.33	9.05
10084.38	10101.28	1.42	43.77	17.02	3488.4	2.59	6.41
10101.28	10118.19	0.87	32.53	16.91	2135.7	1.92	5.28
10118.19	10135.09	0.61	26.32	16.91	1501.1	1.56	4.59
10135.09	10227.92	15.27	319.22	93.07	30823.5	3.44	9.45
10227.92	10320.75	13.12	216.67	44.36	26478.9	4.89	11.96

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The cross section had to be extended vertically during the critical depth calculations.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 17.99
Description: 17.99

Station Elevation Data, num = 115

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9278.98	1514	9321.78	1513.02	9341.09	1512.71	9358.58	1512	9365.82	1510
9371.57	1507.92	9374.38	1506	9402.69	1506	9420.63	1507.2	9428.65	1507.9
9445.16	1509.67	9446.89	1510	9523.63	1510	9532.36	1509.1	9534.26	1509.11
9547.74	1508.12	9558.27	1508.58	9578.18	1509.2	9598.83	1508.9	9612.4	1508.65
9646.79	1507.42	9678.28	1506.59	9694.33	1506	9728.35	1506	9740.16	1507.57
9743.82	1508.31	9747.3	1510	9764.35	1510	9778.75	1508.9	9784.62	1508

```
 9815.92    1508 9822.01 1508.31 9833.33    1508 9838.59  1507.5 9884.06 1506.34
 9890.09    1506 9894.18 1505.57 9919.02 1504.63 9923.23    1504 9934.89 1502.63
 9942.33    1502 9957.78    1500 9964.21 1498.91 9970.67    1498 9984.43 1497.36
10009.01    1496 10025.5    149610043.89 1497.43 10052.1    149810060.97  1499.6
10062.11    150010079.84    150210083.44 1502.4810090.75    150410103.06    1506
10115.08    150810125.46    150810138.12 1505.96 10143.1    150410150.89 1501.55
10159.37    150010182.67 1499.0610191.32 1498.6510211.59    149810244.26    1498
 10250.2 1497.7810268.37 1497.7810296.27    149810312.16  1498.410323.49 1498.39
10341.85    149810362.89 1497.7210395.04 1497.5510415.88  1497.410435.61 1497.53
10472.13    149810500.49 1498.66 10525.3 1498.8910535.94  1498.6 10552.1    1498
10571.57 1497.7610602.27 1497.7610635.51    149810642.88  1499.410648.81 1498.88
10653.35    149810678.88    149810684.89 1498.6310694.66  1498.710716.08 1498.33
10725.97 1498.3410738.45 1498.6110752.16 1499.1710765.54  1499.110804.07 1499.41
10814.92 1499.4510821.36 1499.6110829.22    150010851.89  1503.410854.71    1504
10889.46 1504.8910908.95    150610918.54  1506.1   10946    150611014.83    1506
11026.62 1505.1411042.26    150611050.89    150611065.42  1506.611077.07 1506.79
11096.51  1507.211128.05 1507.5811192.02 1508.0311221.27  1508.111248.19 1508.12

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9278.98    .035 9957.78    .03510062.11    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9957.7810062.11                 0       0       0             .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 9278.98  9762.4    1514   1029911248.19    1514

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 17.99     Profile # 1

  W.S. Elev (ft)       1500.83   Element              Left OB    Channel   Right OB
  Vel Head (ft)          11.94   Wt. n-Val.             0.035      0.035      0.035
  E.G. Elev (ft)       1512.77   Reach Len. (ft)
  E.G. Slope (ft/ft)  0.095699   Flow Area (sq ft)       2.64     369.27     357.59
  Q Total (cfs)       19750.00   Flow (cfs)             19.14   11228.47    8502.39
  Top Width (ft)        797.93   Top Width (ft)          6.39     104.33     687.21
  Vel Total (ft/s)       27.07   Avg. Vel. (ft/s)        7.25      30.41      23.78
  Max Chl Dpth (ft)       4.83   Hydr. Depth (ft)        0.41       3.54       2.36
  Crit W.S. (ft)       1503.78   Wetted Per. (ft)        6.44     104.82     151.65
  Conv. Total (cfs)    63842.9   Conv. (cfs)             61.9    36296.6    27484.4


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 17.99     Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                    (sq ft)     (ft)      (cfs)      (ft)     (ft/s)
  9912.53      9957.78        0.10       2.64      6.44       61.9       0.41       7.25
  9957.78      9964.74        0.78       9.85      7.05      522.2       1.42      15.57
  9964.74      9971.69        1.97      17.21      7.02     1328.5       2.47      22.67
  9971.69      9978.65        2.79      21.12      6.96     1878.3       3.04      26.11
  9978.65      9985.60        3.31      23.37      6.96     2224.4       3.36      27.94
  9985.60      9992.56        3.92      25.90      6.97     2639.3       3.72      29.91
  9992.56      9999.51        4.62      28.58      6.97     3109.7       4.11      31.94
  9999.51      10006.47       5.37      31.25      6.97     3609.6       4.49      33.90
  10006.47     10013.42       5.99      33.39      6.96     4033.0       4.80      35.46
```

10013.42	10020.38	6.05	33.57	6.96	4070.6	4.83	35.60
10020.38	10027.33	6.01	33.44	6.96	4042.6	4.81	35.48
10027.33	10034.29	5.20	30.70	6.98	3499.7	4.41	33.47
10034.29	10041.24	4.18	26.94	6.98	2814.6	3.87	30.67
10041.24	10048.20	3.27	23.25	6.97	2203.2	3.34	27.82
10048.20	10055.16	2.40	19.35	7.01	1615.7	2.78	24.51
10055.16	10062.11	0.98	11.35	7.12	658.1	1.63	17.02
10062.11	10141.18	0.11	3.03	7.38	71.1	0.41	7.09
10141.18	10220.25	12.38	124.34	65.52	8091.6	1.90	19.66
10220.25	10299.33	30.57	230.22	78.75	19983.3	2.92	26.22

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 19.03
Description: 19.03

Station Elevation Data, num = 64

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8185.25	1542	8264.23	1542	8282.14	1542	8360.85	1542.3	8428.15	1542.35
8528.55	1542.1	8551.13	1542.07	8598.29	1542.15	8628.73	1542.14	8680.07	1541.97
8733.38	1542	8759.7	1541.63	8799.06	1540	8804.83	1539	8836.33	1540.43
8867.62	1541.8	8877.87	1541.93	8903.83	1541.75	8943.71	1541.71	8974.5	1541.51
8979.98	1542	9124.47	1542	9129.58	1541.32	9148.41	1541.48	9174.07	1542
9425.36	1542	9446.75	1541.36	9477.42	1541.22	9499.88	1541.48	9510.48	1542
9525.71	1542	9565.73	1543.75	9574.42	1544	9590.16	1544	9628.63	1544.48
9672.63	1544	9727.7	1542	9735.95	1542	9785.72	1540.7	9821.98	1540.25
9848.84	1540.1	9869.35	1540.15	9905.7	1540.46	9949.57	1541.05	9979.34	1542
10071.16	1542	10081.55	1542.5	10106.82	1543.4	10119.22	1543.69	10133.6	1543.64
10135.76	1543.7	10148.87	1543.56	10153.36	1543.6	10201.82	1542.55	10215.9	1542.36
10221.06	1542.4	10257.77	1543.71	10302.97	1545.72	10328.59	1546.05	10353.35	1546.02
10378.77	1546.8	10408.96	1547.85	10412.26	1548	10443.43	1548.69		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8185.25	.035	9174.07	.035	10071.16	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9174.07	10071.16	1050	430	330	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8185.25	8185.25	1546	10200	10443.43	1546

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 19.03 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1543.29	Element			
Vel Head (ft)	0.40	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1543.69	Reach Len. (ft)	1050.00	430.00	330.00
E.G. Slope (ft/ft)	0.007889	Flow Area (sq ft)	1419.08	1288.82	30.24
Q Total (cfs)	13783.00	Flow (cfs)	6801.20	6910.22	71.58
Top Width (ft)	1859.03	Top Width (ft)	988.82	760.04	110.17
Vel Total (ft/s)	5.03	Avg. Vel. (ft/s)	4.79	5.36	2.37
Max Chl Dpth (ft)	4.29	Hydr. Depth (ft)	1.44	1.70	0.47
Crit W.S. (ft)	1542.99	Wetted Per. (ft)	990.37	760.15	64.25
Conv. Total (cfs)	155179.0	Conv. (cfs)	76572.8	77800.3	805.9

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 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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 19.03 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8185.25	8251.17	2.54	84.93	67.21	4214.3	1.29	4.12
8251.17	8317.09	2.45	82.60	65.92	4075.7	1.25	4.10
8317.09	8383.01	1.80	68.61	65.92	2991.8	1.04	3.62
8383.01	8448.94	1.57	63.15	65.92	2605.4	0.96	3.42
8448.94	8514.86	1.89	70.68	65.92	3143.5	1.07	3.69
8514.86	8580.78	2.26	78.59	65.92	3751.3	1.19	3.96
8580.78	8646.70	2.14	76.17	65.92	3560.5	1.16	3.88
8646.70	8712.62	2.56	84.77	65.92	4255.5	1.29	4.17
8712.62	8778.54	3.62	104.24	65.94	6005.6	1.58	4.78
8778.54	8844.46	12.07	214.97	66.07	20040.6	3.26	7.74
8844.46	8910.38	3.87	108.49	65.94	6419.2	1.65	4.91
8910.38	8976.31	3.77	106.79	65.93	6252.6	1.62	4.86
8976.31	9042.23	2.60	85.53	65.94	4319.1	1.30	4.19
9042.23	9108.15	2.57	84.93	65.92	4269.1	1.29	4.17
9108.15	9174.07	3.64	104.64	65.97	6041.7	1.59	4.79
9174.07	9233.88	2.29	77.05	59.81	3873.0	1.29	4.10
9233.88	9293.68	2.29	77.05	59.81	3873.1	1.29	4.10
9293.68	9353.49	2.29	77.05	59.81	3873.0	1.29	4.10
9353.49	9413.29	2.29	77.05	59.81	3873.0	1.29	4.10
9413.29	9473.10	3.67	102.34	59.82	6215.7	1.71	4.95
9473.10	9532.91	3.34	96.60	59.83	5644.4	1.62	4.76
9532.91	9592.71	0.17	10.84	22.29	284.6	0.49	2.14
9592.71	9652.52						
9652.52	9712.32	0.09	7.33	20.11	158.9	0.36	1.77
9712.32	9772.13	2.96	89.85	59.83	5002.7	1.50	4.54
9772.13	9831.94	8.17	165.30	59.81	13820.8	2.76	6.81
9831.94	9891.74	9.96	186.11	59.81	16841.7	3.11	7.37
9891.74	9951.55	7.40	155.81	59.81	12523.7	2.61	6.55
9951.55	10011.35	2.93	89.37	59.82	4958.8	1.49	4.52
10011.35	10071.16	2.29	77.05	59.81	3873.0	1.29	4.10
10071.16	10095.98	0.36	18.06	24.84	620.1	0.73	2.76
10095.98	10120.80	0.01	0.91	7.15	9.8	0.13	0.86
10120.80	10145.61						
10145.61	10170.43	0.00	0.08	2.69	0.3	0.03	0.32
10170.43	10195.25	0.10	8.12	24.82	163.6	0.33	1.62
10195.25	10220.07	0.06	3.08	4.75	97.7	0.65	2.55

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 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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.99
Description: 18.99

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8314.12	1540.3	8317.26	1539.91	8347.52	1538	8359.78	1537.4	8387.4	1536
8425.18	1535.45	8457.57	1535.05	8510.44	1534.53	8533.6	1534.5	8547.8	1534.48
8577.1	1534.51	8620.3	1534.45	8648.18	1534.45	8662.93	1534.5	8780.58	1534.61
8843.96	1534.93	8910.73	1535.03	9003.51	1535.59	9037.55	1536	9090.41	1536
9160.08	1536	9179.03	1535.65	9198.99	1535.53	9223.53	1535.5	9235.25	1535.54
9319.03	1535.92	9329.62	1536	9502.15	1536	9513.65	1536.8	9516.44	1536.85
9538.55	1536	9634.11	1536	9686.27	1536.04	9754.87	1536.3	9764.93	1536
9848.76	1536	9862.37	1536.33	9870.79	1536.38	9899.51	1536.4	9939.67	1536.62
9954.62	1536.77	9975.7	1536.9110010.76		1537.210080.15		1537.910107.95		1538
10133.04	1538.0110185.43		1538.6710197.91		1538.8110238.94		1539.110263.58		1539.03
10317.03	1539.36	10327.5	1539.3210351.32		154010366.36		154010405.55		1538
10453.4	153810497.78		1539.3810524.06		1539.8310540.38		1539.9		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8314.12	.035	8387.4	.035	9975.7	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8387.4	9975.7	470	510	480	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.99 Profile # 1

W.S. Elev (ft)	1536.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.62	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1537.57	Reach Len. (ft)	470.00	510.00	480.00
E.G. Slope (ft/ft)	0.014525	Flow Area (sq ft)	8.85	2178.10	0.08
Q Total (cfs)	13783.00	Flow (cfs)	27.49	13755.48	0.03
Top Width (ft)	1611.49	Top Width (ft)	18.69	1588.30	4.50
Vel Total (ft/s)	6.30	Avg. Vel. (ft/s)	3.11	6.32	0.36
Max Chl Dpth (ft)	2.50	Hydr. Depth (ft)	0.47	1.37	0.02
Crit W.S. (ft)	1536.90	Wetted Per. (ft)	18.71	1588.37	4.50
Conv. Total (cfs)	114363.7	Conv. (cfs)	228.1	114135.3	0.2

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.

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.99 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8367.86	8372.74	0.00	0.41	4.04	3.8	0.10	0.95
8372.74	8377.63	0.02	1.60	4.89	32.4	0.33	2.07
8377.63	8382.51	0.06	2.81	4.89	82.6	0.58	3.00
8382.51	8387.40	0.11	4.02	4.89	149.9	0.82	3.81
8387.40	8493.29	8.12	175.19	105.89	10403.7	1.65	6.38
8493.29	8599.17	15.39	257.23	105.89	19734.7	2.43	8.25
8599.17	8705.06	15.75	260.81	105.89	20195.2	2.46	8.33
8705.06	8810.95	14.47	247.82	105.89	18546.8	2.34	8.05
8810.95	8916.83	11.18	212.29	105.89	14329.8	2.00	7.26
8916.83	9022.72	7.28	164.17	105.89	9336.0	1.55	6.11
9022.72	9128.61	3.27	101.63	105.89	4198.0	0.96	4.44
9128.61	9234.49	4.87	128.98	105.89	6245.3	1.22	5.21
9234.49	9340.38	4.54	123.69	105.89	5824.6	1.17	5.06
9340.38	9446.27	3.20	100.30	105.89	4107.3	0.95	4.40
9446.27	9552.15	2.38	84.00	105.93	3055.5	0.79	3.91
9552.15	9658.04	3.19	100.08	105.89	4092.3	0.95	4.40
9658.04	9763.93	2.49	86.32	105.89	3198.0	0.82	3.98
9763.93	9869.81	2.95	95.42	105.89	3779.5	0.90	4.26
9869.81	9975.70	0.70	40.15	105.89	893.1	0.38	2.39
9975.70	10013.35	0.00	0.08	4.50	0.2	0.02	0.36

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.

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 INPUT Reach: SCATTER WASH River Station: 18.91
Description: 18.91

Station Elevation Data, num = 55

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8466.74	1538.92	8471.19	1538	8492.23	1536	8515.18	1534	8579.9	1532
8605.71	1531.33	8633.81	1530.6	8642.79	1530.51	8726.06	1530.38	8792.52	1530
8895.33	1530	8953.25	1530.1	8988.82	1530	9095.83	1530	9153.61	1530.24
9175.39	1530.3	9260.84	1530.4	9308.87	1530.48	9334.59	1530.43	9443.27	1530.07
9464.29	1530.09	9473.5	1530.2	9494.24	1530	9559	1530	9585.51	1530.44
9596.92	1530.54	9673.14	1531.6	9701.28	1531.56	9774.96	1531.82	9808.53	1532
9852.35	1532.19	9888.04	1532.4	9950.52	1532.92	10023.32	1533.47	10080.59	1534
10156.22	1534	10190.71	1534.41	10225.81	1534.81	10253.24	1534.93	10262.01	1534.99
10310.44	1534.87	10340.12	1534.51	10382.69	1534.32	10398.36	1534	10428.9	1534
10488.81	1533.73	10532.72	1534	10577.89	1534.21	10607.68	1534.29	10635.42	1534.32
10682.21	1534.28	10751.19	1535.61	10774.78	1536	10834.38	1537.27	10933.49	1539.32

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8466.74	.035	8579.9	.035	9888.04	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8579.9	9888.04	520	500	480	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.91 Profile # 1

W.S. Elev (ft)	1532.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1533.00	Reach Len. (ft)	520.00	500.00	480.00
E.G. Slope (ft/ft)	0.005965	Flow Area (sq ft)	5.39	2634.23	1.88
Q Total (cfs)	13783.00	Flow (cfs)	7.72	13774.06	1.23
Top Width (ft)	1348.10	Top Width (ft)	18.68	1308.14	21.28
Vel Total (ft/s)	5.22	Avg. Vel. (ft/s)	1.43	5.23	0.65
Max Chl Dpth (ft)	2.58	Hydr. Depth (ft)	0.29	2.01	0.09
Crit W.S. (ft)		Wetted Per. (ft)	18.69	1308.18	21.28
Conv. Total (cfs)	178452.3	Conv. (cfs)	99.9	178336.5	15.9

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.

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.91 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8557.27	8564.81	0.00	0.20	3.59	1.2	0.06	0.41
8564.81	8572.36	0.01	1.72	7.55	27.1	0.23	1.05
8572.36	8579.90	0.04	3.47	7.55	87.9	0.46	1.68
8579.90	8667.11	4.17	137.74	87.23	7929.5	1.58	4.17
8667.11	8754.32	7.20	191.18	87.21	13697.2	2.19	5.19
8754.32	8841.53	9.14	220.58	87.21	17384.4	2.53	5.71
8841.53	8928.74	9.36	223.79	87.21	17808.0	2.57	5.77
8928.74	9015.95	9.17	221.04	87.21	17445.3	2.53	5.72
9015.95	9103.16	9.42	224.64	87.21	17921.0	2.58	5.78
9103.16	9190.37	8.25	207.42	87.21	15690.9	2.38	5.48
9190.37	9277.58	7.29	192.54	87.21	13859.3	2.21	5.22
9277.58	9364.78	6.96	187.37	87.21	13244.8	2.15	5.12
9364.78	9451.99	8.32	208.41	87.21	15815.6	2.39	5.50
9451.99	9539.20	9.12	220.31	87.21	17348.8	2.53	5.71

9539.20	9626.41	7.21	191.35	87.22	13716.9	2.19	5.19
9626.41	9713.62	2.49	101.18	87.21	4743.1	1.16	3.40
9713.62	9800.83	1.38	70.87	87.21	2620.4	0.81	2.68
9800.83	9888.04	0.44	35.80	87.21	839.6	0.41	1.70
9888.04	9957.74	0.01	1.88	21.28	15.9	0.09	0.65

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.
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 INPUT Reach: SCATTER WASH River Station: 18.82
Description: 18.82

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8396.74	1532.85	8400.48	1532	8413.04	1530	8456.22	1528	8509.84	1526.87
8527.04	1526.65	8566.48	1526	8572.32	1526	8702	1525.84	8790.68	1525.69
8852.66	1525.73	8875.23	1525.66	8932.93	1525.6	9018.74	1525.71	9037.54	1525.71
9161.52	1525.91	9200.84	1526	9252.84	1526.1	9287.96	1526.16	9313.9	1526
9420.93	1526	9461.77	1526	9527.81	1526.9	9531.62	1526.88	9569.85	1526.75
9589.19	1526.94	9607.34	1527.22	9612.21	1527.2	9653.51	1527.35	9665.79	1527.23
9735.03	1526.91	9785.81	1527.12	9820.19	1527.2	9873.95	1527.53	9880.47	1527.54
9952.89	1528.01	9978.44	1528.1	10000	1528.05	10081.46	1528	10130.99	1527.85
10183.27	1527.72	10204.25	1527.74	10226.54	1527.82	10270.55	1528.11	10341.26	1528.43
10364.49	1528.45	10372.2	1528.41	10388.53	1528	10466.88	1528	10543.96	1527.67
10564.58	1527.62	10596.25	1527.79	10625.6	1527.91	10664.58	1528	10841.82	1528
10898.64	1530	10946.56	1531.72	10953.2	1532	11014.4	1532		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8396.74	.035	8509.84	.035	10000	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8509.84	10000	530	575	550	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.82 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1527.71	Element			
Vel Head (ft)	0.71	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1528.42	Reach Len. (ft)	530.00	575.00	550.00
E.G. Slope (ft/ft)	0.015550	Flow Area (sq ft)	16.73	2024.96	2.27
Q Total (cfs)	13783.00	Flow (cfs)	49.67	13731.72	1.61
Top Width (ft)	1483.30	Top Width (ft)	39.85	1396.79	46.65
Vel Total (ft/s)	6.74	Avg. Vel. (ft/s)	2.97	6.78	0.71
Max Chl Dpth (ft)	2.11	Hydr. Depth (ft)	0.42	1.45	0.05
Crit W.S. (ft)	1527.71	Wetted Per. (ft)	39.86	1396.82	46.65
Conv. Total (cfs)	110530.2	Conv. (cfs)	398.3	110119.0	12.9

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.82 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8464.60	8472.14	0.00	0.05	2.15	0.2	0.02	0.36
8472.14	8479.68	0.01	0.94	7.54	10.0	0.12	1.12
8479.68	8487.22	0.03	2.14	7.54	39.2	0.28	1.93
8487.22	8494.76	0.06	3.34	7.54	82.3	0.44	2.60
8494.76	8502.30	0.10	4.54	7.54	137.2	0.60	3.19
8502.30	8509.84	0.15	5.73	7.54	202.7	0.76	3.73
8509.84	8609.18	6.52	144.81	99.35	7903.4	1.46	6.21
8609.18	8708.53	9.41	180.48	99.34	11408.5	1.82	7.19
8708.53	8807.87	10.70	194.86	99.34	12962.7	1.96	7.57
8807.87	8907.22	11.25	200.89	99.34	13638.9	2.02	7.72
8907.22	9006.56	11.71	205.78	99.34	14196.7	2.07	7.85
9006.56	9105.90	10.71	195.00	99.34	12978.5	1.96	7.57
9105.90	9205.25	9.29	179.11	99.34	11264.2	1.80	7.15
9205.25	9304.59	7.77	160.91	99.34	9421.7	1.62	6.66
9304.59	9403.94	8.49	169.59	99.34	10284.6	1.71	6.90
9403.94	9503.28	7.55	158.12	99.35	9151.2	1.59	6.58
9503.28	9602.62	2.79	86.98	99.35	3379.2	0.88	4.42
9602.62	9701.97	1.05	48.42	99.35	1272.9	0.49	2.99
9701.97	9801.31	1.85	68.06	99.34	2245.8	0.69	3.75
9801.31	9900.66	0.52	31.83	99.35	632.6	0.32	2.26
9900.66	10000.00	0.00	0.12	5.98	0.4	0.02	0.35
10000.00	10473.39						
10473.39	10541.01	0.00	0.09	6.35	0.2	0.01	0.29
10541.01	10608.64	0.01	2.19	40.30	13.3	0.05	0.72

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.72
Description: 18.72

Station Elevation Data, num = 70

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8157.75	1532	8170.21	1530	8198.2	1528	8262.21	1526	8352.87	1524.35
8369.22	1524	8396.36	1523.7	8523.56	1522.46	8571.68	1522	8599.17	1522
8729.36	1521.21	8769.43	1521.3	8815.29	1521.18	8831.87	1521.09	8866.9	1521.22
8908.19	1521.27	8943.73	1521.4	8990.21	1521.45	9015.9	1521.28	9100.28	1521.23
9198.27	1521.2	9222.28	1521.2	9301.61	1521.05	9353.56	1521.17	9389.77	1521.38
9401.04	1521.38	9501.66	1522	9597.74	1522	9644.97	1521.69	9690.7	1521.82
9726.85	1521.74	9790.45	1521.8	9827.91	1521.86	9867.08	1522.07	9892.55	1522.14
9931.85	1522.08	9973.49	1522	10000.48	1522	10061.08	1522	10116.84	1521.5
10134	1521.5	10253.4	1522	10353.04	1522.08	10390.64	1522.11	10478.49	1522.41
10490.55	1522.42	10564.73	1522.21	10595.01	1522	10663.7	1522	10715.21	1523.4
10728.78	1523.81	10755.94	1523.8	10782.3	1524	10804.44	1524	10809.1	1525.58
10816.91	1525.84	10830.54	1525.9	10872.2	1525.57	10879.75	1525.72	10910.31	1526
10962.1	1526	10993.93	1527	11020.56	1528	11041.14	1528	11062.75	1528.66
11080.93	1529.03	11097.14	1529.2	11107.65	1530	11133.48	1530	11148.54	1530.61

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value

8157.75 .035 8571.68 .03510000.48 .035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8571.68	10000.48	540	1160	260	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.72 Profile # 1

W.S. Elev (ft)	1524.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.07	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1524.64	Reach Len. (ft)	540.00	1160.00	260.00
E.G. Slope (ft/ft)	0.000665	Flow Area (sq ft)	327.65	4297.96	1850.04
Q Total (cfs)	13783.00	Flow (cfs)	104.24	11192.60	2486.16
Top Width (ft)	2464.88	Top Width (ft)	230.47	1428.80	805.62
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	1.38	2.28	1.91
Max Chl Dpth (ft)	3.51	Hydr. Depth (ft)	1.42	3.01	2.30
Crit W.S. (ft)		Wetted Per. (ft)	230.48	1428.81	805.74
Conv. Total (cfs)	534517.3	Conv. (cfs)	17586.8	380232.0	136698.5

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.72 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8461.30	8488.89	0.00	0.05	3.13	0.1	0.02	0.28
8488.89	8516.49	0.04	4.55	27.60	58.1	0.16	1.35
8516.49	8544.08	0.22	11.94	27.60	289.8	0.43	2.56
8544.08	8571.68	0.49	19.22	27.60	641.1	0.70	3.52
8571.68	8666.93	3.34	92.84	95.25	3874.5	0.97	4.95
8666.93	8762.19	6.70	141.12	95.26	7786.4	1.48	6.55
8762.19	8857.44	7.86	155.28	95.25	9131.6	1.63	6.98
8857.44	8952.69	7.14	146.59	95.25	8295.9	1.54	6.72
8952.69	9047.95	6.61	139.99	95.25	7682.2	1.47	6.51
9047.95	9143.20	7.56	151.72	95.25	8785.5	1.59	6.87
9143.20	9238.45	7.83	154.89	95.25	9093.6	1.63	6.97
9238.45	9333.71	8.65	164.43	95.25	10045.8	1.73	7.25
9333.71	9428.96	6.93	143.99	95.25	8051.3	1.51	6.64
9428.96	9524.21	3.48	95.19	95.26	4039.4	1.00	5.04
9524.21	9619.47	2.63	80.45	95.25	3052.0	0.84	4.50
9619.47	9714.72	3.83	100.85	95.25	4447.4	1.06	5.23
9714.72	9809.97	3.78	100.12	95.25	4394.2	1.05	5.21
9809.97	9905.23	2.53	78.72	95.25	2943.2	0.83	4.44
9905.23	10000.48	2.32	74.57	95.25	2689.2	0.78	4.28
10000.48	10077.02	2.09	64.54	76.54	2445.6	0.84	4.47
10077.02	10153.55	3.90	93.76	76.54	4557.2	1.23	5.73
10153.55	10230.09	3.19	83.14	76.54	3729.8	1.09	5.29
10230.09	10306.63	2.03	63.40	76.54	2374.2	0.83	4.41
10306.63	10383.17	1.74	57.78	76.54	2034.0	0.75	4.15
10383.17	10459.70	1.23	46.86	76.54	1434.5	0.61	3.61
10459.70	10536.24	0.76	35.20	76.54	890.5	0.46	2.98
10536.24	10612.78	1.53	53.47	76.54	1787.5	0.70	3.94
10612.78	10689.32	1.58	54.48	76.55	1843.9	0.71	3.99
10689.32	10765.85	0.00	0.32	4.86	2.2	0.07	0.82

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 INPUT Reach: SCATTER WASH River Station: 18.5701
Description: 18.5701

Station Elevation Data, num = 151

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7270.31	1546.97	7319.52	1540	7335.79	1538	7343.07	1537.21	7355.43	1536
7381.95	1533.19	7392.54	1532	7412.67	1530	7436.38	1528	7442.39	1527.7

```
 7472.93    1526 7491.71    1524 7613.79    1522 7663.71    1522 7717.85    1522
 7738.32 1522.48 7791.36  1523.8 7800.41    1524 7803.04 1525.64 7811.09    1530
 7822.46 1533.79 7837.18    1540 7854.33    1540 8076.17    1540 8362.42    1540
 8366.48    1540 8458.65    1530 8476.15 1537.53 8485.39    1538 8493.88    1538
 8502.99 1537.22 8504.44    1537 8537.03    1530 8552.74    1528 8558.22    1526
 8582.73 1521.36 8590.75  1520.2 8601.33 1519.66 8618.49 1519.06 8689.96 1518.13
 8709.64 1517.81 8722.69  1517.2 8728.49 1517.38 8759.37 1517.37 8779.56    1518
 8791.14    1520 8803.48    1521 8817.14 1522.87 8826.89    1524 8841.79    1526
 8860.03    1526 8879.13  1527.8 8882.08    1528 8904.33    1528 8926.14    1528
 8948.58 1527.36 8960.69    1526 9007.84    1526 9029.25 1525.18 9042.71 1524.88
 9056.41 1524.33 9071.41  1523.9  9095.9 1523.61 9113.55 1523.55 9121.38 1523.41
    9134 1523.05 9168.17  1522.7 9186.73 1522.72 9199.92 1522.78 9201.65    1522
 9255.41    1522 9269.59  1523.2 9297.09 1523.48 9326.12 1523.57 9338.09 1523.55
 9352.94 1523.71 9360.93  1523.7  9384.6 1523.37 9414.87  1523.3 9495.44 1523.03
 9508.18 1522.96 9548.58    1522 9566.91    1522 9577.26    1524 9585.75    1524
  9599.9    1522 9626.81    1520 9676.47    1520  9691.7 1519.37 9711.85    1520
 9741.21    1520 9933.84    1520 9959.46 1519.59  9977.5 1519.23 9990.72 1519.03
10006.58    151810050.72    151810057.68 1518.8110064.38 1518.8810118.19 1518.88
10149.87 1519.1510185.15  1519.810195.49  1519.710261.68    152010287.93 1519.93
10336.05    152010454.74    152010482.24 1520.7510497.24 1520.91 10515.4 1520.92
10532.18 1521.1510558.22  1521.210573.57 1521.5410599.52    1522 10720.2    1522
10728.34 1522.7610776.28  1523.4 10802.5    152410857.98    152410873.73 1524.98
10878.66 1525.1810885.29  1525.210894.23 1525.5110898.76 1525.4210910.48 1525.46
10932.95 1525.8710939.21    152610970.35    152611002.19 1527.1611021.03    1528
 11080.1    152811125.48  1529.111147.79  1529.711157.16    153011201.64 1531.17
11227.89    1532 11235.3    153211249.86 1533.0411276.41 1533.1211308.59    1534
11358.63    153411382.58  1534.711411.78    153611436.97    153611446.02 1536.34
11486.89    153811512.55    153811537.04 1538.6211577.89    154011591.51    1540
11609.01 1540.63

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 7270.31    .045 8582.73    .04510573.57    .045

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       8582.7310573.57                 1      90     670              .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

 7270.31 8526.44    1545

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.5701   Profile # 1

  W.S. Elev (ft)        1523.57   Element              Left OB    Channel   Right OB
  Vel Head (ft)            0.11   Wt. n-Val.             0.045      0.045      0.045
  E.G. Elev (ft)        1523.68   Reach Len. (ft)        1.00      90.00     670.00
  E.G. Slope (ft/ft)   0.001438   Flow Area (sq ft)     12.90    5074.75     269.97
  Q Total (cfs)        13783.00   Flow (cfs)            17.06   13366.48     399.46
  Top Width (ft)        2148.21   Top Width (ft)       275.83    1662.25     210.14
  Vel Total (ft/s)         2.57   Avg. Vel. (ft/s)       1.32       2.63       1.48
  Max Chl Dpth (ft)        6.37   Hydr. Depth (ft)       1.10       3.05       1.28
  Crit W.S. (ft)        1521.15   Wetted Per. (ft)      11.88    1663.49     210.18
  Conv. Total (cfs)    363458.5   Conv. (cfs)           449.9   352474.7    10533.8


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.5701   Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                   (sq ft)      (ft)      (cfs)       (ft)      (ft/s)
  8495.24      8582.73        0.12      12.90     11.88      449.9       1.10       1.32
  8582.73      8715.45       14.13     633.16    132.85    59212.2       4.77       3.08
  8715.45      8848.18       11.18     506.66    108.13    46848.6       4.70       3.04
  8848.18      8980.90
```

8980.90	9113.62	0.00	0.06	5.93	0.1	0.01	0.05
9113.62	9246.34	0.98	127.72	132.90	4107.2	0.96	1.06
9246.34	9379.07	0.14	36.30	102.46	600.1	0.35	0.54
9379.07	9511.79	0.21	50.31	132.72	870.1	0.38	0.57
9511.79	9644.51	2.57	217.90	119.31	10750.8	1.83	1.62
9644.51	9777.23	9.07	484.96	132.75	37984.7	3.65	2.58
9777.23	9909.96	8.72	473.81	132.72	36545.2	3.57	2.54
9909.96	10042.68	12.82	596.96	132.76	53699.8	4.50	2.96
10042.68	10175.40	13.50	615.90	132.78	56565.8	4.64	3.02
10175.40	10308.13	9.26	491.19	132.73	38805.3	3.70	2.60
10308.13	10440.85	8.74	474.38	132.72	36618.2	3.57	2.54
10440.85	10573.57	5.66	365.44	132.74	23703.2	2.75	2.13
10573.57	10642.60	1.35	114.34	69.03	5285.4	1.66	1.63
10642.60	10711.63	1.24	108.37	69.03	4833.8	1.57	1.57
10711.63	10780.66	0.31	47.15	69.07	1207.2	0.68	0.90
10780.66	10849.69	0.00	0.11	3.05	0.4	0.03	0.12

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SCATTER WASH River Station: 18.50
Description: Crest of CAP

Station Elevation Data, num = 203

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7053.81	1552.23	7068.38	1550	7090.99	1546.97	7140.2	1540	7156.47	1538
7163.75	1537.21	7176.11	1536	7202.62	1533.19	7213.22	1532	7233.35	1530
7257.06	1528	7263.07	1527.7	7293.61	1526	7312.39	1524	7434.47	1522
7484.39	1522	7538.53	1522	7559	1522.48	7612.04	1523.8	7621.09	1524
7623.72	1525.64	7631.77	1530	7643.14	1533.79	7657.86	1540	7675.01	1540
7896.85	1540	8183.1	1540	8187.16	1540	8279.33	1530	8296.83	1537.53
8306.07	1538	8314.56	1538	8323.67	1537.22	8325.12	1537	8357.71	1530
8373.42	1528	8378.9	1526	8403.41	1521.36	8411.43	1520.2	8422.01	1519.66
8439.17	1519.06	8510.64	1518.13	8530.32	1517.81	8543.37	1517.2	8549.17	1517.38
8580.05	1517.37	8600.24	1518	8611.82	1520	8624.16	1521	8637.82	1522.87
8647.57	1524	8662.47	1526	8680.71	1526	8699.81	1527.8	8702.76	1528
8725.01	1528	8746.82	1528	8769.26	1527.36	8781.37	1526	8828.52	1526
8849.93	1525.18	8863.39	1524.88	8877.09	1524.33	8892.09	1523.9	8916.58	1523.61
8934.23	1523.55	8942.06	1523.41	8954.68	1523.05	8988.85	1522.7	9007.41	1522.72
9020.6	1522.78	9022.33	1522	9076.09	1522	9090.27	1523.2	9117.77	1523.48
9146.8	1523.57	9158.77	1523.55	9173.62	1523.71	9181.61	1523.7	9205.28	1523.37
9235.55	1523.3	9316.12	1523.03	9328.86	1522.96	9369.26	1522	9387.59	1522
9397.94	1524	9406.43	1524	9420.58	1522	9447.49	1520	9497.15	1520
9512.38	1519.37	9532.53	1520	9561.89	1520	9616.59	1520	9654.28	1520
9662.06	1519.8	9678.56	1520	9710.04	1520	9721.92	1521.3	9742.04	1522
9751.04	1522	9755.92	1522.78	9766.69	1523.13	9774.65	1524	9783.45	1524
9787.06	1524.79	9792.09	1525.25	9798.16	1525.51	9803.11	1525.5	9814.08	1525.53
9868.8	1526.23	9876.59	1526.36	9928.78	1526.65	9950.57	1526.7	9959.75	1527.23
9969.81	1528	9981.19	1528	9997.07	1527.23	10011.27	1527.3	10018.48	1527.31
10028.07	1527.65	10032.56	1528	10058.36	1528	10065.73	1527.5	10132.74	1526.73
10153.6	1526.12	10159.79	1525.73	10162.23	1525.26	10177.64	1524	10197.45	1523.11
10213.53	1523.09	10227.2	1522	10248.61	1522	10274.55	1521.6	10286.77	1521.25
10342.47	1520.93	10407.61	1520.93	10418.16	1520.91	10490.28	1520	10561.8	1520
10698.19	1520	10724.33	1521.51	10732.5	1521.82	10738.26	1521.6	10745.18	1522
10754.56	1522	10772.03	1522	10774.19	1521.91	10805.31	1520	10820.48	1520
10827.48	1520.46	10852.6	1521.73	10858.09	1521.76	10862.04	1522	10933.57	1522.92
10983.23	1523.48	10995.09	1523.33	11003.08	1523.34	11011.46	1523.4	11058.28	1523.59
11107.52	1524	11442.14	1524	11449.11	1523.65	11452.72	1523.2	11457.87	1522
11517.44	1522	11750.63	1522	12036.62	1520.08	12042.97	1520	12317.89	1518
12498.84	1518	12522.33	1520	12653.01	1520	12666.58	1520	12693.33	1518
12784.88	1518	12881.31	1519.19	12916.13	1520	12988.54	1521.5	13019.71	1522
13210.68	1522	13262.8	1521.83	13266.35	1521.86	13307.14	1521.4	13324.28	1521.71
13335.32	1522	13350.98	1522	13368.11	1521.91	13384.13	1522	13458.54	1522
13480.35	1523.28	13486.98	1523.34	13500.56	1523.83	13505.5	1523.9	13519.95	1523.99
13544.59	1523.96	13548.47	1524	13662.24	1523.99	13682.57	1523.3	13728.48	1521.99

13750.54 1521.7613775.87 1521.5313788.84 1521.48

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7053.81	.035	8510.64	.03510032.56		.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8510.6410032.56		151.3	151.3	151.3	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7053.81	8500	1550	1075013788.84		1550

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.50 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1522.14	Element			
Vel Head (ft)	0.84	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1522.97	Reach Len. (ft)	151.30	151.30	151.30
E.G. Slope (ft/ft)	0.012232	Flow Area (sq ft)	41.89	1112.79	780.84
Q Total (cfs)	13783.00	Flow (cfs)	490.35	8512.89	4779.76
Top Width (ft)	3480.21	Top Width (ft)	229.50	534.53	2716.18
Vel Total (ft/s)	7.12	Avg. Vel. (ft/s)	11.71	7.65	6.12
Max Chl Dpth (ft)	4.94	Hydr. Depth (ft)	3.94	2.08	1.49
Crit W.S. (ft)	1522.14	Wetted Per. (ft)	10.64	535.10	524.59
Conv. Total (cfs)	124621.0	Conv. (cfs)	4433.6	76970.6	43216.9

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and *continued on with the calculations.*

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 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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.50 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8413.52	8510.64	3.56	41.89	10.64	4433.6	3.94	11.71
8510.64	8612.10	32.84	444.34	101.66	50428.2	4.38	10.19
8612.10	8713.56	0.75	24.31	20.48	1157.1	1.19	4.27
8713.56	9017.95						
9017.95	9119.41	0.05	7.45	55.70	82.7	0.13	1.00
9119.41	9322.33						
9322.33	9423.79	0.03	3.82	28.97	42.0	0.13	0.99
9423.79	9525.25	9.14	206.18	101.55	14035.5	2.03	6.11
9525.25	9626.71	10.00	217.56	101.46	15358.5	2.14	6.34
9626.71	9728.18	8.88	202.63	101.54	13635.0	2.00	6.04
9728.18	9829.64	0.08	6.51	23.74	116.8	0.27	1.61
9829.64	10032.56						
10032.56	10282.98	0.25	17.29	57.50	329.3	0.30	2.00
10282.98	10533.40	15.22	366.15	250.43	20025.4	1.46	5.73
10533.40	10783.82	19.21	397.40	216.67	25280.5	1.83	6.66

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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 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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.47
Description: 18.47

Station Elevation Data, num = 39

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7530.1	1516	7759.54	1516	8042.21	1516	8458.63	1516	8460.54	1516.82
8465.45	1517	8506.91	1516.4	8527.11	1516	8771.85	1516	9171.77	1516
9179.4	1516.4	9193.22	1516.31	9196.12	1516.55	9203.71	1516.73	9211.33	1517.25
9226.67	1518	9237.12	1518.12	9280.33	1518.4	9290.31	1518.5	9315.32	1520
9354.36	1520	9362.22	1518	9372.08	1516	9376.91	1516	9380.77	1520
9427.27	1520	9441.17	1518	9447.45	1516.66	9451.46	1515.27	9453.61	1514.89
9470.65	1514.5	9550.9	1514	9567.29	1514	9659.47	1514	9704.68	1514.24
9750.29	1514	10396.4	1514	10660	1514	13824.67	1514		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7530.1	.035	9427.27	.035	10660	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9427.27	10660	60.1	60.1	60.1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7530.1	8462.5	1519	10787	13824.67	1519

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.47 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1514.73	Element			
Vel Head (ft)	3.40	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1518.13	Reach Len. (ft)	60.10	60.10	60.10
E.G. Slope (ft/ft)	0.194273	Flow Area (sq ft)		839.13	92.79
Q Total (cfs)	13783.00	Flow (cfs)		12374.60	1408.40
Top Width (ft)	4364.09	Top Width (ft)		1199.42	3164.67
Vel Total (ft/s)	14.79	Avg. Vel. (ft/s)		14.75	15.18
Max Chl Dpth (ft)	0.73	Hydr. Depth (ft)		0.70	0.73
Crit W.S. (ft)	1515.53	Wetted Per. (ft)		1199.43	127.00
Conv. Total (cfs)	31270.7	Conv. (cfs)		28075.3	3195.4

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with

the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 18.47 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9427.27	9509.45	0.90	14.80	48.88	283.3	0.30	8.36
9509.45	9591.63	5.61	54.69	82.18	1769.7	0.67	14.13
9591.63	9673.82	6.45	59.49	82.18	2036.5	0.72	14.94
9673.82	9756.00	4.78	49.69	82.18	1508.4	0.60	13.25
9756.00	9838.18	6.55	60.04	82.18	2067.7	0.73	15.04
9838.18	9920.36	6.55	60.04	82.18	2067.7	0.73	15.04
9920.36	10002.54	6.55	60.04	82.18	2067.7	0.73	15.04
10002.54	10084.73	6.55	60.04	82.18	2067.7	0.73	15.04
10084.73	10166.91	6.55	60.04	82.18	2067.7	0.73	15.04
10166.91	10249.09	6.55	60.04	82.18	2067.7	0.73	15.04
10249.09	10331.27	6.55	60.04	82.18	2067.7	0.73	15.04
10331.27	10413.45	6.55	60.04	82.18	2067.7	0.73	15.04
10413.45	10495.64	6.55	60.04	82.18	2067.7	0.73	15.04
10495.64	10577.82	6.55	60.04	82.18	2067.7	0.73	15.04
10577.82	10660.00	6.55	60.04	82.18	2067.7	0.73	15.04
10660.00	10870.98	10.22	92.79	127.00	3195.4	0.73	15.18

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 18.4601
Description: 18.4601

Station Elevation Data, num = 214

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8003.67	1518.69	8015.7	1518.67	8030.71	1518.4	8048.01	1518.34	8055.69	1518.58
8064.29	1518.68	8081.89	1519.18	8089.99	1519.2	8104.96	1518.73	8117.57	1518.64
8125.52	1518.43	8151.87	1518.32	8155.09	1518.2	8169.67	1518.4	8186.69	1518.27
8198.56	1518	8217.73	1517.12	8225.03	1517.2	8236.25	1516.76	8251.07	1516.71
8264.95	1516.47	8312.38	1516.15	8351.07	1516	8442.79	1516	8478.61	1514.48
8484.46	1514	8514.47	1514	8534.64	1512.8	8546.66	1512.94	8564.15	1512.66
8588.67	1513.7	8623.47	1513.64	8672.9	1513.6	8719.52	1514	8723.6	1514
8732.94	1514.38	8744.8	1514.74	8754.68	1514.8	8780.73	1514	8919.7	1514
8942.89	1515.03	8957.11	1515.24	8979.4	1515.3	8988.95	1515.13	9003.4	1515.25
9028.9	1514.52	9042.38	1514.63	9048.03	1514.4	9057.21	1514.27	9068.41	1514.33
9080.92	1514.7	9093.5	1515.29	9116.44	1516	9152.85	1516	9166.26	1516.66
9179.29	1517.23	9197.9	1517.49	9200.46	1518	9212.4	1518	9233.85	1518.87
9248.77	1519.8	9260.6	1520	9391.09	1520	9404.11	1518.97	9414.41	1518.75
9416.94	1518.82	9434.1	1519.87	9438.99	1519.8	9443.24	1519.49	9452.68	1518
9458.37	1516.91	9469.61	1516	9482.89	1515.3	9489.45	1515.37	9511.67	1516.14
9519.44	1516	9527.32	1516	9550.25	1514.8	9563.25	1514.13	9566.03	1514
9611.25	1514	9641.53	1513.91	9681.12	1514	9695.84	1516	9840.15	1516
9852.77	1514	9867.16	1514	9909.45	1513.6	10003.91	1512.19	10020.26	1512
10124.97	1512	10151.86	1511.89	10206.24	1511.9	10272.54	1511.97	10376.29	1511.95
10379.27	1511.97	10441.87	1512	10467.73	1512.3	10483.1	1512.57	10500.81	1513.28
10510.87	1513.62	10527.29	1513.57	10554.87	1514.1	10580.53	1514.58	10590.23	1515.06
10604.13	1515.6	10635.09	1517.13	10647.69	1517.6	10660.68	1517.84	10671.25	1517.66
10685.22	1516.49	10694.43	1516.96	10710.17	1517.1	10756.04	1514.99	10768.38	1515.17

```
10784.56 1514.9610800.62 1514.9110814.36  1514.710855.66    151410891.15 1513.83
 10922.9 1513.7711123.75 1513.7511143.88  1513.711220.69 1513.7911238.06 1513.62
11272.66 1512.9911326.26 1512.7811347.24  1513.711442.21 1513.7811480.48  1513.3
 11511.5 1512.8311572.14 1512.6511580.17    151211604.59 1511.8911648.63    1512
11682.46    151211715.71 1512.5611762.82  1513.511775.89 1513.5111815.74 1513.49
 11834.5 1513.5511838.98 1513.6611874.91  1513.811903.01    151411919.52 1514.36
11933.34 1514.3411949.84    151411969.74  1513.812000.02 1513.7312072.93 1513.67
12095.41 1513.6412115.64 1513.4712267.05  1513.412277.83 1513.4812288.62 1513.32
12325.31 1513.4112346.02  1513.212407.36  1513.912432.37 1513.7112439.91 1513.67
12448.94    151412490.71    151612507.37  1516.612512.19 1516.4712522.45    1514
12531.37 1513.8812533.83    151412543.64  1515.412545.67 1515.4112593.47    1513
12612.21    151212621.72  1511.912672.69  1511.612683.61 1511.4512760.69 1511.29
12779.08 1511.3412785.33 1511.2212801.86  1511.312818.84 1511.3912941.08 1511.44
12961.78 1511.7113065.64 1511.6913084.47    151213110.45    151213121.38 1512.71
13124.34    151313150.89    151413176.01    151413193.92 1514.6513208.61    1514
13227.43 1513.4213244.47    151213269.31    151213281.66 1513.1113284.25 1513.25
13311.01    1514 13319.3    151413334.84  1514.813359.49 1514.9413399.71 1515.26
13411.48 1515.47 13430.1 1515.2913440.74  1514.813472.82 1513.9813501.72 1513.35
   13533 1511.9513576.22    151213608.85    151413650.04    151413681.55 1513.71
 13722.5    151413754.13 1515.27 13787.7  1515.313807.13 1514.48

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8003.67    .035  9434.1    .03510660.68    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
        9434.110660.68                 0       0       0             .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 8003.67    8450    1519   1079913807.13    1519

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.4601   Profile # 1

  W.S. Elev (ft)       1514.66   Element              Left OB    Channel   Right OB
  Vel Head (ft)           0.76   Wt. n-Val.             0.035      0.035
  E.G. Elev (ft)       1515.41   Reach Len. (ft)
  E.G. Slope (ft/ft)  0.012249   Flow Area (sq ft)     386.77    1668.26
  Q Total (cfs)       13783.00   Flow (cfs)           1653.19   12129.81
  Top Width (ft)       4097.78   Top Width (ft)        498.37     866.46    2732.94
  Vel Total (ft/s)        6.71   Avg. Vel. (ft/s)        4.27       7.27
  Max Chl Dpth (ft)       3.44   Hydr. Depth (ft)        0.78       1.93
  Crit W.S. (ft)       1514.66   Wetted Per. (ft)      498.51     866.62
  Conv. Total (cfs)   124537.8   Conv. (cfs)          14937.6   109600.2


Warning - Divided flow computed for this cross-section.

FLOW DISTRIBUTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 18.4601   Profile # 1

  Left Sta     Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  8385.12      8480.48        0.01       0.85      6.08        9.7       0.14       1.23
  8480.48      8575.84        4.73     121.57     95.42     6065.5       1.27       5.37
  8575.84      8671.20        3.40      99.71     95.37     4360.5       1.05       4.70
  8671.20      8766.57        1.27      50.96     78.19     1626.1       0.65       3.43
  8766.57      8861.93        1.45      59.70     95.37     1854.6       0.63       3.34
  8861.93      8957.29        1.00      42.91     72.61     1283.0       0.59       3.22
  8957.29      9052.65        0.03       3.61     28.59       38.6       0.13       1.15
  9052.65      9148.01        0.11       7.46     26.87      134.8       0.28       1.94
  9148.01      9515.87
  9515.87      9597.64        0.52      25.17     44.66      729.1       0.56       2.85
  9597.64      9679.42        1.36      56.97     81.77     1901.0       0.70       3.29
  9679.42      9761.19        0.05       2.72      6.59       64.0       0.42       2.32
  9761.19      9842.96
  9842.96      9924.73        1.78      65.06     76.17     2486.3       0.85       3.77
  9924.73      10006.50       7.21     155.09     81.78    10088.3       1.90       6.41
  10006.50     10088.28      12.55     216.28     81.77    17560.5       2.64       8.00
  10088.28     10170.05      13.00     220.83     81.77    18180.6       2.70       8.11
  10170.05     10251.82      13.37     224.58     81.77    18698.1       2.75       8.20
```

10251.82 -	10333.59	12.96	220.42	81.77	18125.0	2.70	8.10
10333.59 -	10415.36	12.94	220.23	81.77	18098.7	2.69	8.10
10415.36 -	10497.14	10.56	195.03	81.79	14778.9	2.39	7.47
10497.14 -	10578.91	1.72	65.68	81.79	2408.9	0.80	3.61
10578.91 -	10660.68	0.00	0.21	3.21	1.5	0.07	0.69

Warning - Divided flow computed for this cross-section.

Profile Output Table - Standard Table 1

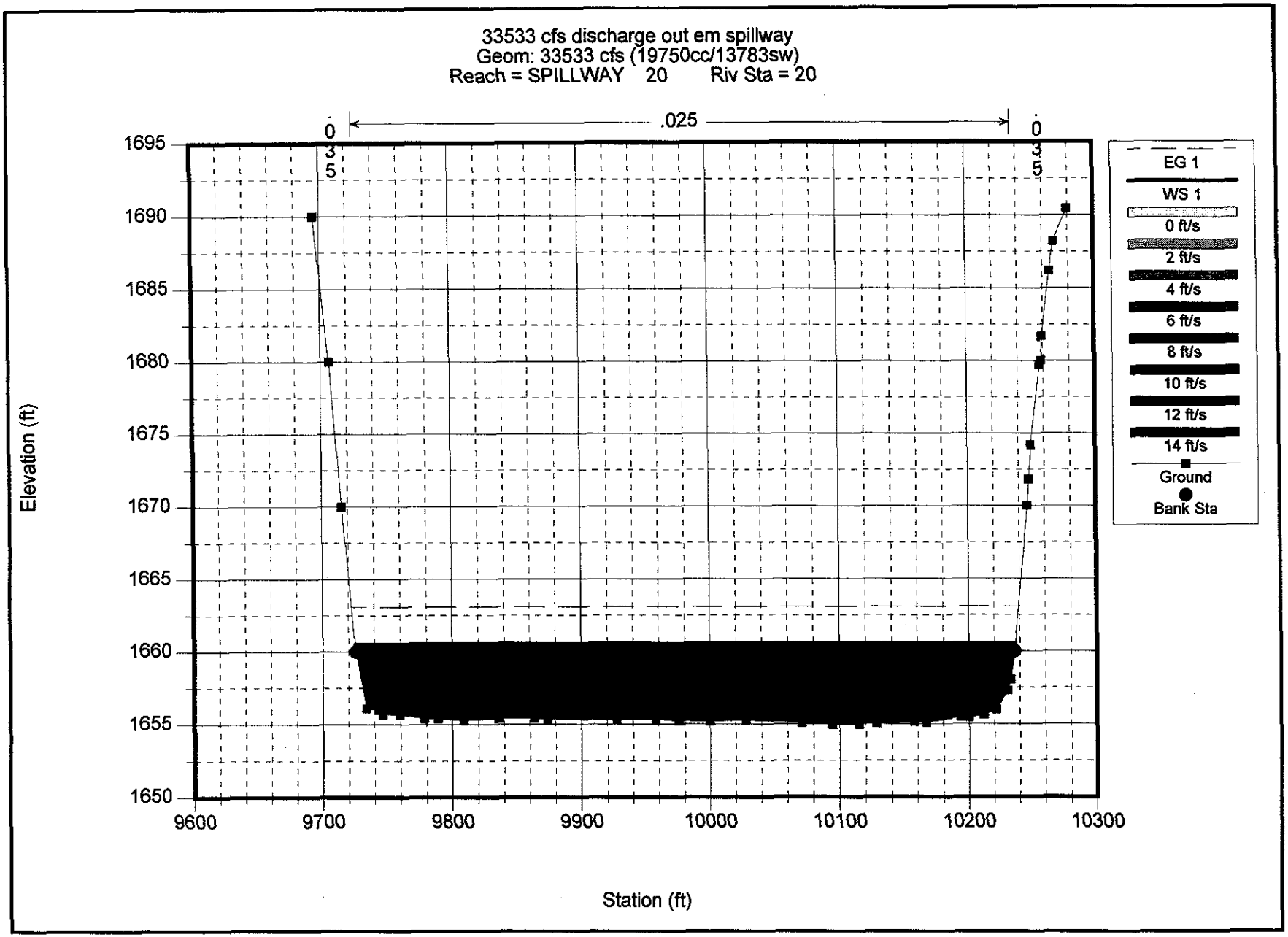
Reach	River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SCATTER WASH	19.03	13783.00	1540.10	1543.29	1542.99	1543.69	0.007889	5.36	2738.15	1859.03	0.73
SCATTER WASH	18.99	13783.00	1534.45	1536.95	1536.90	1537.57	0.014525	6.32	2187.03	1611.49	0.95
SCATTER WASH	18.91	13783.00	1530.00	1532.58		1533.00	0.005965	5.23	2641.51	1348.10	0.65
SCATTER WASH	18.82	13783.00	1525.60	1527.71	1527.71	1528.42	0.015550	6.78	2043.97	1483.30	0.99
SCATTER WASH	18.72	13783.00	1521.05	1524.56		1524.64	0.000665	2.28	6475.65	2464.88	0.23
SCATTER WASH	18.5701	13783.00	1517.20	1523.57	1521.15	1523.68	0.001438	2.63	5357.63	2148.22	0.27
SCATTER WASH	18.50	13783.00	1517.20	1522.14	1522.14	1522.97	0.012232	7.65	1935.52	3480.21	0.94
SCATTER WASH	18.47	13783.00	1514.00	1514.73	1515.53	1518.13	0.194273	14.75	931.91	4364.09	3.11
SCATTER WASH	18.4601	13783.00	1511.89	1514.66	1514.66	1515.41	0.012249	7.27	2055.03	4097.78	0.92
CAVE CREEK	18.91	19750.00	1523.50	1542.95	1542.36	1543.68	0.004511	7.45	3092.05	2519.02	0.64
CAVE CREEK	18.86	19750.00	1538.00	1540.65	1540.24	1541.47	0.004327	5.19	3045.59	1757.39	0.57
CAVE CREEK	18.80	19750.00	1530.00	1540.10	1538.97	1540.58	0.002199	6.45	4030.54	1932.13	0.47
CAVE CREEK	18.76	19750.00	1526.00	1537.80	1537.80	1539.26	0.008053	12.88	2219.57	1177.15	0.89
CAVE CREEK	18.64	19750.00	1522.00	1532.34	1531.70	1533.78	0.006944	9.64	2068.55	737.19	0.80
CAVE CREEK	18.54	19750.00	1520.00	1529.60		1530.64	0.005109	8.57	2519.69	678.71	0.69
CAVE CREEK	18.50	19750.00	1518.00	1528.40	1528.06	1529.47	0.006439	8.98	2506.70	853.76	0.76
CAVE CREEK	18.43	19750.00	1516.00	1524.70	1524.70	1525.95	0.010722	10.01	2264.45	887.17	0.95
CAVE CREEK	18.30	19750.00	1514.00	1521.09		1521.49	0.002308	5.11	3977.95	1072.82	0.45
CAVE CREEK	18.27	19750.00	1512.00	1520.80	1518.52	1521.12	0.001532	5.04	4461.78	1196.15	0.39
CAVE CREEK	18.17	19750.00	1508.00	1520.61	1515.95	1520.75	0.000353	3.20	6979.08	1215.01	0.20
CAVE CREEK	18.06	19750.00	1508.00	1520.57	1513.11	1520.63	0.000095	1.86	10620.48	2682.27	0.11
CAVE CREEK	18.05	19750.00	1506.00	1520.28		1520.59	0.000609	4.64	4576.33	610.65	0.27
CAVE CREEK	18.0484	19750.00	1506.00	1520.20	1515.78	1520.56	0.000968	4.83	4092.34	1133.71	0.32
CAVE CREEK	18.0482	19750.00	1505.54	1520.01	1517.93	1520.55	0.001236	7.58	3766.59	2686.69	0.35
CAVE CREEK	18.0480	19750.00	1505.54	1519.60	1518.25	1520.51	0.000356	9.99	3511.39	2687.00	0.47
CAVE CREEK	18.0237	19750.00	1505.54	1518.40	1518.40	1520.34	0.000743	13.58	2507.08	2686.81	0.67
CAVE CREEK	18.0199	19750.00	1505.54	1516.37	1517.43	1520.12	0.012564	17.44	1388.73	2687.00	0.93
CAVE CREEK	18.0104	19750.00	1486.00	1516.29	1499.24	1516.37	0.000074	2.46	8573.02	2687.00	0.08
CAVE CREEK	18.0103	19750.00	1486.00	1516.29	1499.30	1516.37	0.000069	2.71	8556.29	2687.00	0.09
CAVE CREEK	18.0074	19750.00	1504.57	1514.27	1514.27	1516.19	0.009895	11.59	1824.52	3529.00	0.95
CAVE CREEK	17.99	19750.00	1496.00	1500.83	1503.78	1512.77	0.095699	30.41	729.51	797.93	2.85
SPILLWAY	20	33533.00	1654.96	1660.52	1660.52	1663.08	0.005318	12.84	2611.49	511.42	1.00
SPILLWAY	19.89	33533.00	1641.50	1644.23	1646.80	1654.76	0.058610	26.05	1287.62	529.42	2.94
SPILLWAY	19.79	33533.00	1612.00	1620.14	1622.75	1628.21	0.031141	23.55	1536.64	350.37	1.76
SPILLWAY	19.72	33533.00	1604.00	1614.97	1616.91	1621.23	0.017539	21.39	1773.42	333.11	1.38
SPILLWAY	19.65	33533.00	1596.00	1613.77	1613.77	1617.89	0.005920	16.87	2243.50	300.72	0.86
SPILLWAY	19.58	33533.00	1590.00	1608.50	1610.14	1615.18	0.008317	21.40	1712.71	197.13	1.03
SPILLWAY	19.53	33533.00	1582.00	1598.16	1602.22	1610.99	0.025160	30.71	1283.36	204.10	1.70
SPILLWAY	19.50	33533.00	1579.22	1593.24	1596.99	1606.29	0.030418	34.59	1358.08	273.36	1.88
SPILLWAY	19.46	33533.00	1576.00	1587.33	1590.25	1598.46	0.039433	32.81	1477.44	420.84	2.05

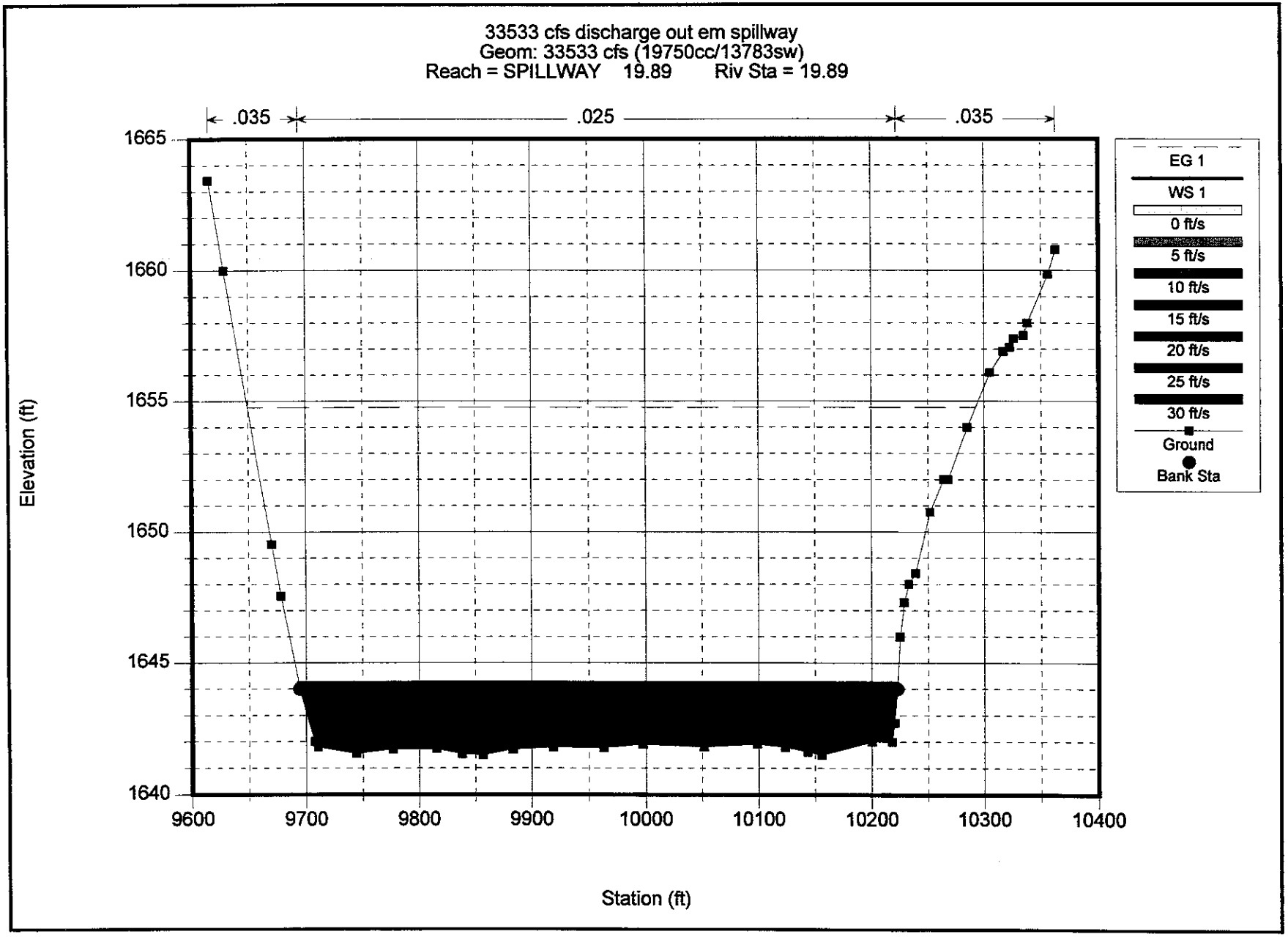
SPILLWAY	19.42	33533.00	1574.00	1583.16	1584.96	1589.47	0.028144	25.30	2015.58	702.74	1.72
SPILLWAY	19.37	33533.00	1570.00	1578.59	1579.71	1582.26	0.021705	20.48	2478.49	921.43	1.48
SPILLWAY	19.29	33533.00	1566.00	1571.72	1572.41	1574.17	0.018852	16.92	2871.53	1080.15	1.34
SPILLWAY	19.20	33533.00	1561.18	1564.24	1564.40	1565.56	0.016230	9.21	3651.39	1702.01	1.09
SPILLWAY	19.05	33533.00	1549.27	1554.96	1552.65	1555.14	0.000928	3.99	10341.38	3328.65	0.30
SPILLWAY	18.96	33533.00	1542.00	1555.00		1555.03	0.000053	1.58	24879.15	4135.22	0.00

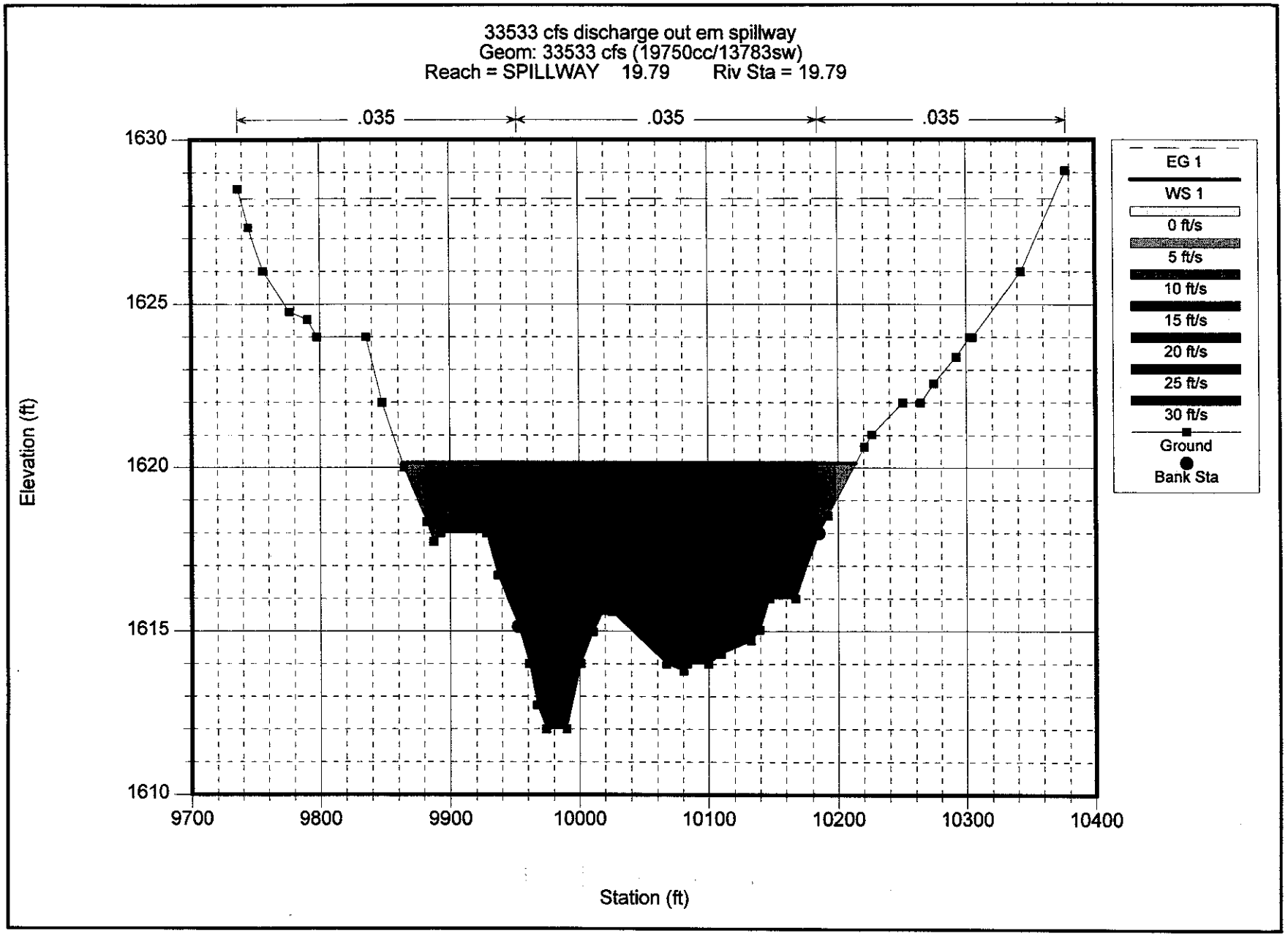
Profile Output Table - Standard Table 2

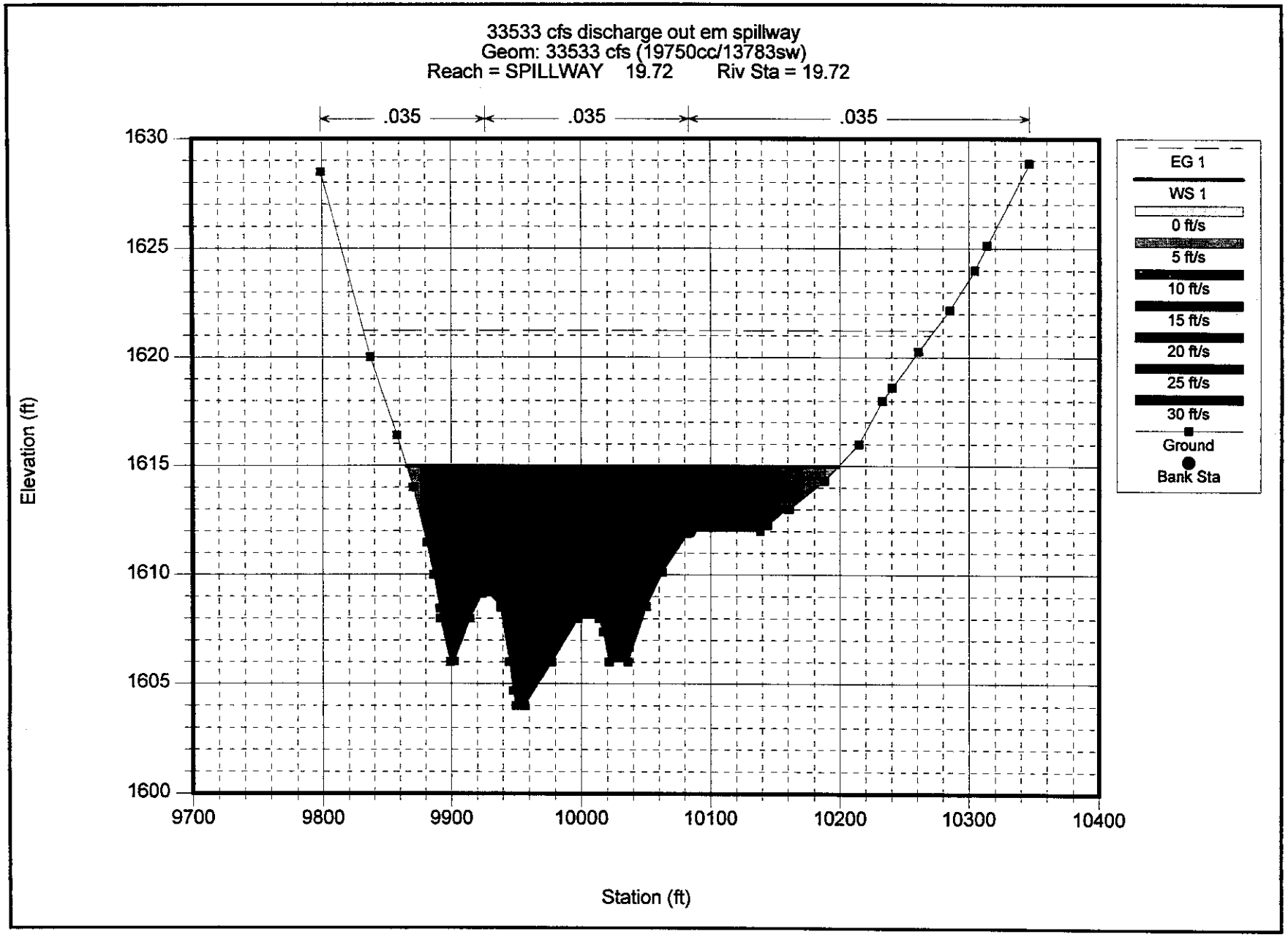
Reach	River Sta.	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
SCATTER WASH	19.03	1543.69	1543.29	0.40	6.10	0.02	6801.20	6910.22	71.58	1859.03
SCATTER WASH	18.99	1537.57	1536.95	0.62	4.50	0.06	27.49	13755.48	0.03	1611.49
SCATTER WASH	18.91	1533.00	1532.58	0.42	4.55	0.03	7.72	13774.06	1.23	1348.10
SCATTER WASH	18.82	1528.42	1527.71	0.71	1.04	0.19	49.67	13731.72	1.61	1483.30
SCATTER WASH	18.72	1524.64	1524.56	0.07	0.96	0.00	104.24	11192.60	2486.16	2464.88
SCATTER WASH	18.5701	1523.68	1523.57	0.11	0.63	0.07	17.06	13366.47	399.46	2148.22
SCATTER WASH	18.50	1522.97	1522.14	0.84			490.35	8512.89	4779.76	3480.21
SCATTER WASH	18.47	1518.13	1514.73	3.40	4.69	0.25		12374.60	1408.40	4364.09
SCATTER WASH	18.4601	1515.41	1514.66	0.76	0.00	0.00	1653.19	12129.81		4097.78
CAVE CREEK	18.91	1543.68	1542.95	0.72	2.20	0.01		14788.51	4961.49	2519.02
CAVE CREEK	18.86	1541.47	1540.65	0.82	0.79	0.10	11108.93	2382.48	6258.58	1757.39
CAVE CREEK	18.80	1540.58	1540.10	0.48	1.22	0.10	8079.67	7170.22	4500.11	1932.13
CAVE CREEK	18.76	1539.26	1537.80	1.45			6396.85	6071.29	7281.87	1177.15
CAVE CREEK	18.64	1533.78	1532.34	1.44	3.02	0.12		19747.41	2.59	737.19
CAVE CREEK	18.54	1530.64	1529.60	1.03	1.16	0.00	3020.37	16729.63		678.71
CAVE CREEK	18.50	1529.47	1528.40	1.07	3.51	0.02	4816.55	14877.30	56.14	853.76
CAVE CREEK	18.43	1525.95	1524.70	1.25	2.76	0.26	9034.76	10714.44	0.80	887.17
CAVE CREEK	18.30	1521.49	1521.09	0.40	0.35	0.02	4787.04	7312.93	7650.03	1072.82
CAVE CREEK	18.27	1521.12	1520.80	0.32	0.31	0.06	4965.23	9087.37	5697.41	1196.15
CAVE CREEK	18.17	1520.75	1520.61	0.13	0.10	0.02	3773.04	12332.15	3644.82	1215.01
CAVE CREEK	18.06	1520.63	1520.57	0.05	0.01	0.03		19748.57	1.43	2682.27
CAVE CREEK	18.05	1520.59	1520.28	0.31	0.02	0.01	2.11	17733.03	2014.85	610.65
CAVE CREEK	18.0484	1520.56	1520.20	0.36	0.00	0.02	5.43	19744.45	0.12	1133.71
CAVE CREEK	18.0482	1520.55	1520.01	0.53	0.00	0.04	7869.91	7901.89	3978.20	2686.69
CAVE CREEK	18.0480	1520.51	1519.60	0.91	0.06	0.10	6403.40	10109.72	3236.88	2687.00
CAVE CREEK	18.0237	1520.34	1518.40	1.94			3901.88	12571.16	3276.97	2686.81
CAVE CREEK	18.0199	1520.12	1516.37	3.75	0.04	0.18	3179.96	13605.67	2964.37	2687.00
CAVE CREEK	18.0104	1516.37	1516.29	0.08	0.00	0.00		19750.00		2687.00
CAVE CREEK	18.0103	1516.37	1516.29	0.09	0.00	0.18	6136.90	5917.10	7696.00	2687.00
CAVE CREEK	18.0074	1516.19	1514.27	1.92			695.59	13447.70	5606.71	3529.00
CAVE CREEK	17.99	1512.77	1500.83	11.94	2.41	1.00	19.14	11228.47	8502.39	797.93
SPILLWAY	20	1663.08	1660.52	2.56	3.17	0.03	0.14	33532.71	0.15	511.42
SPILLWAY	19.89	1654.76	1644.23	10.53	7.51	0.80	0.29	33532.65	0.06	529.42
SPILLWAY	19.79	1628.21	1620.14	8.07	25.81	0.74	2730.43	30562.17	240.40	350.37
SPILLWAY	19.72	1621.23	1614.97	6.26	6.45	0.55	5920.07	25160.33	2452.60	333.11
SPILLWAY	19.65	1617.89	1613.77	4.12	1.96	0.07	1686.08	30812.32	1034.61	300.72
SPILLWAY	19.58	1615.18	1608.50	6.69	2.45	0.26	2322.06	30914.06	296.88	197.13
SPILLWAY	19.53	1610.99	1598.16	12.83	3.59	0.61	900.37	28144.48	4488.15	204.10
SPILLWAY	19.50	1606.29	1593.24	13.06	4.67	0.02	2304.11	20322.36	10906.53	273.36
SPILLWAY	19.46	1598.46	1587.33	11.13	7.29	0.59	1764.63	18132.35	13636.02	420.84

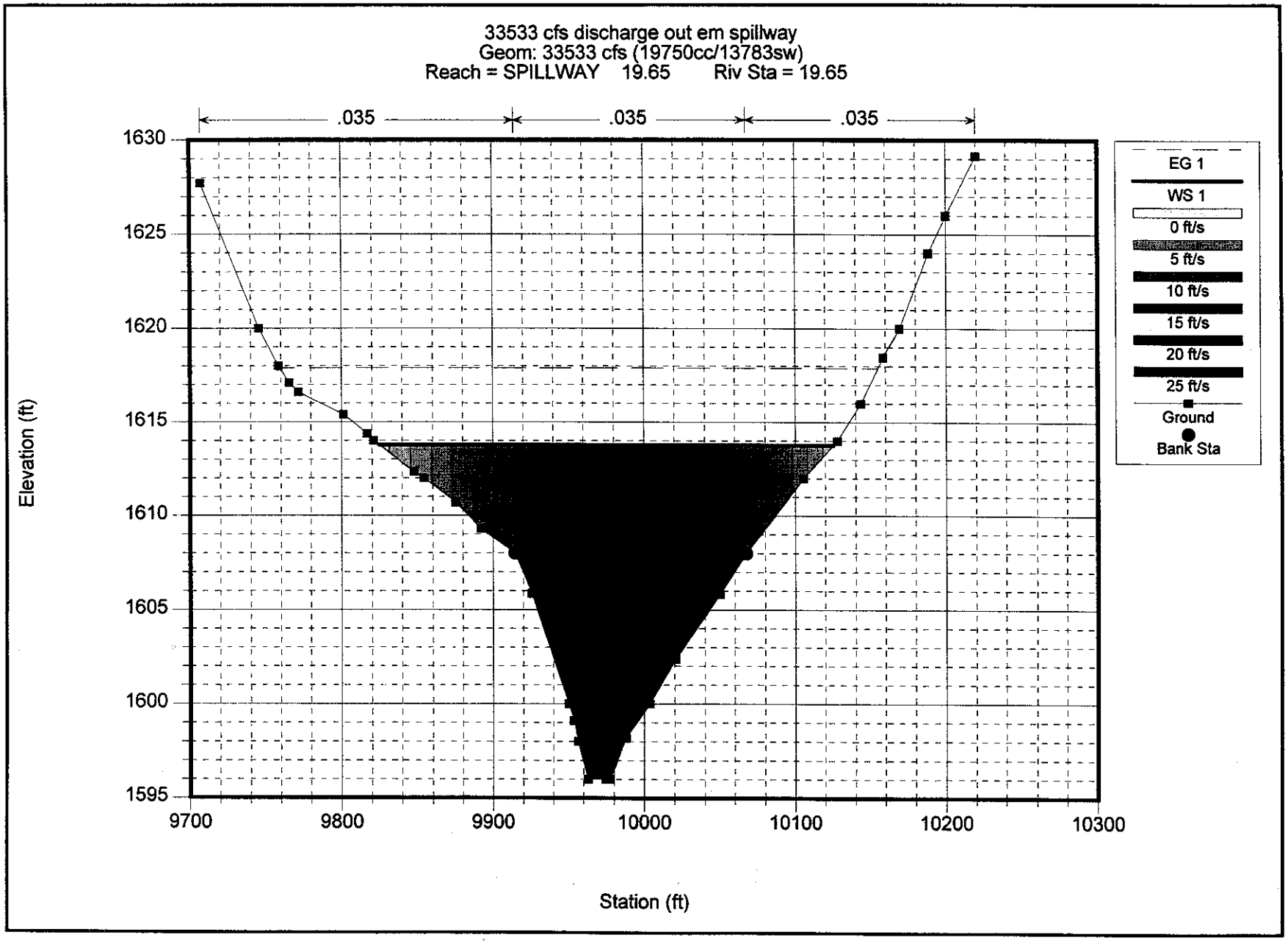
SPILLWAY	19.42	1589.47	1583.16	6.31	7.54	1.44	9812.78	17743.19	5977.04	702.74
SPILLWAY	19.37	1582.26	1578.59	3.68	6.39	0.78	6536.57	12011.20	14985.23	921.43
SPILLWAY	19.29	1574.17	1571.72	2.45	7.73	0.37	6888.57	9103.54	17540.89	1080.15
SPILLWAY	19.20	1565.56	1564.24	1.32	8.27	0.34	240.67	3039.54	30252.79	1702.01
SPILLWAY	19.05	1555.14	1554.96	0.18	0.07	0.04	1729.19	17454.19	14349.62	3328.65
SPILLWAY	18.96	1555.03	1555.00	0.03	0.00	0.00		4332.65	29200.35	4135.22

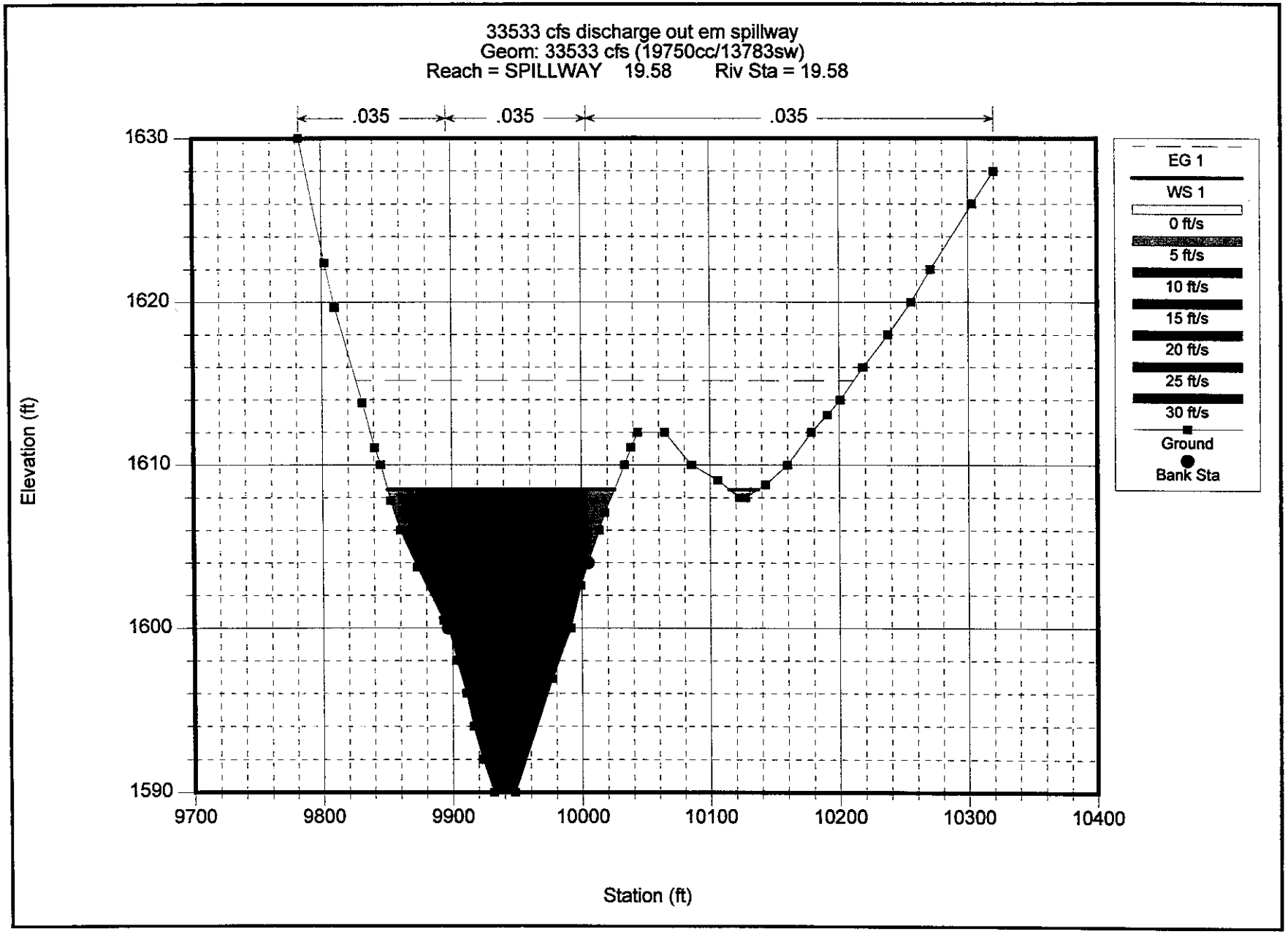

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 20 Riv Sta = 20
.025
0.35
0.35
1695
1690
1685
1680
1675
1670
1665
1660
1655
1650
Elevation (ft)
9600
9700
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Bank Sta

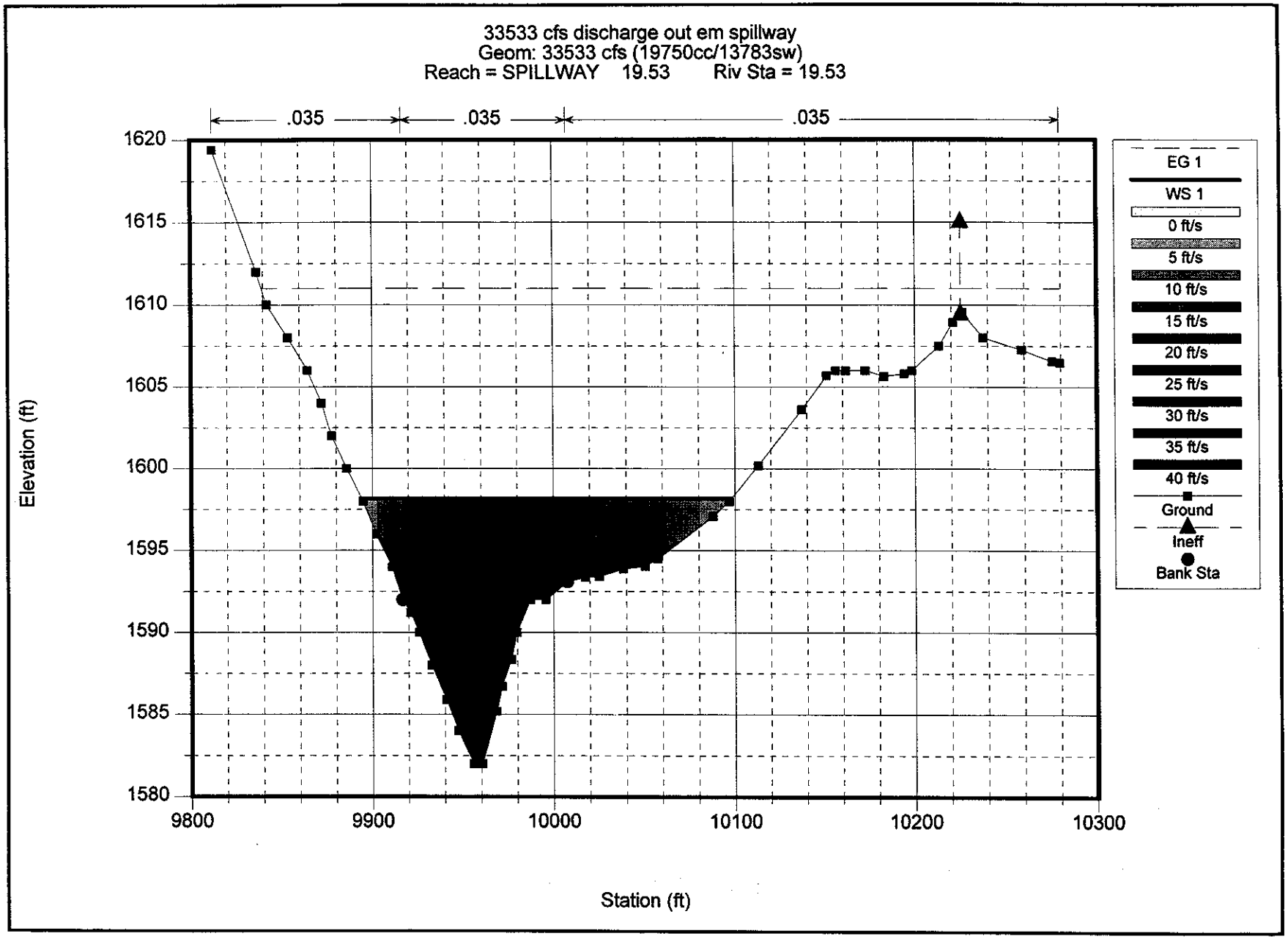

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.89 Riv Sta = 19.89
.035
.025
.035
1665
1660
1655
1650
1645
1640
Elevation (ft)
9600
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Bank Sta

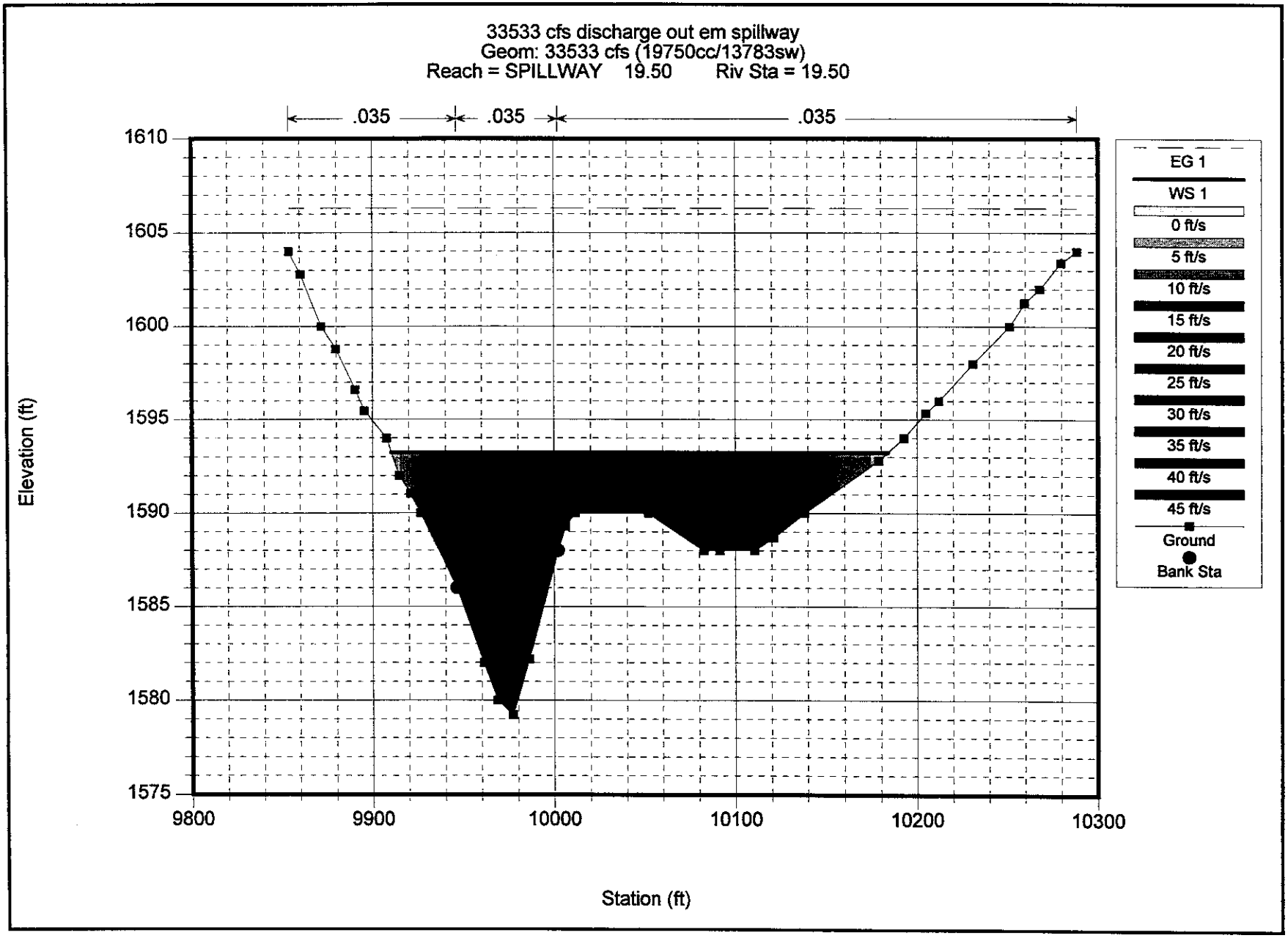

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.79 Riv Sta = 19.79
.035
.035
.035
1630
1625
1620
1615
1610
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Bank Sta

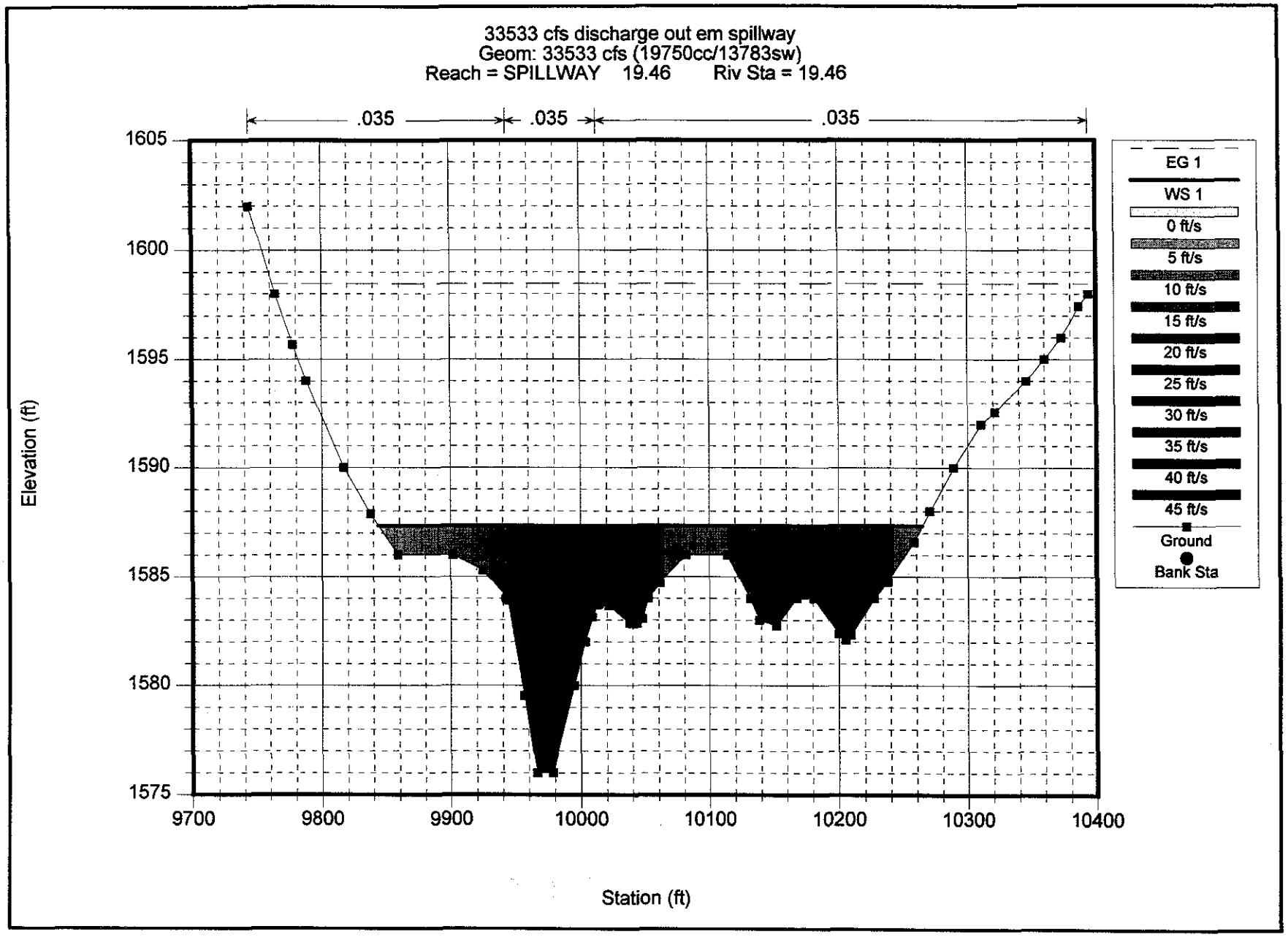

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.72 Riv Sta = 19.72
.035
.035
.035
1630
1625
1620
1615
1610
1605
1600
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Bank Sta

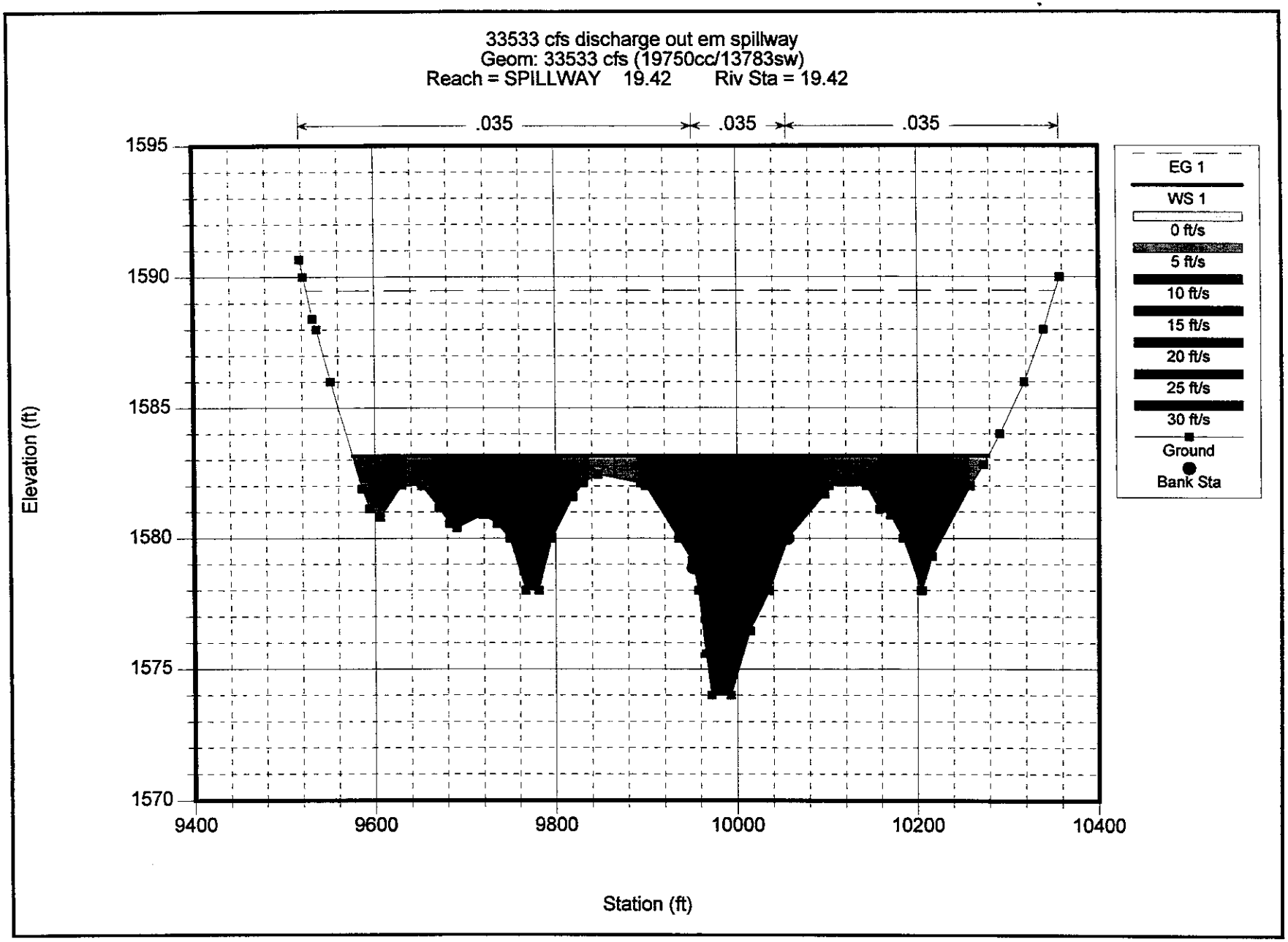

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.65 Riv Sta = 19.65
.035
.035
.035
1630
1625
1620
1615
1610
1605
1600
1595
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

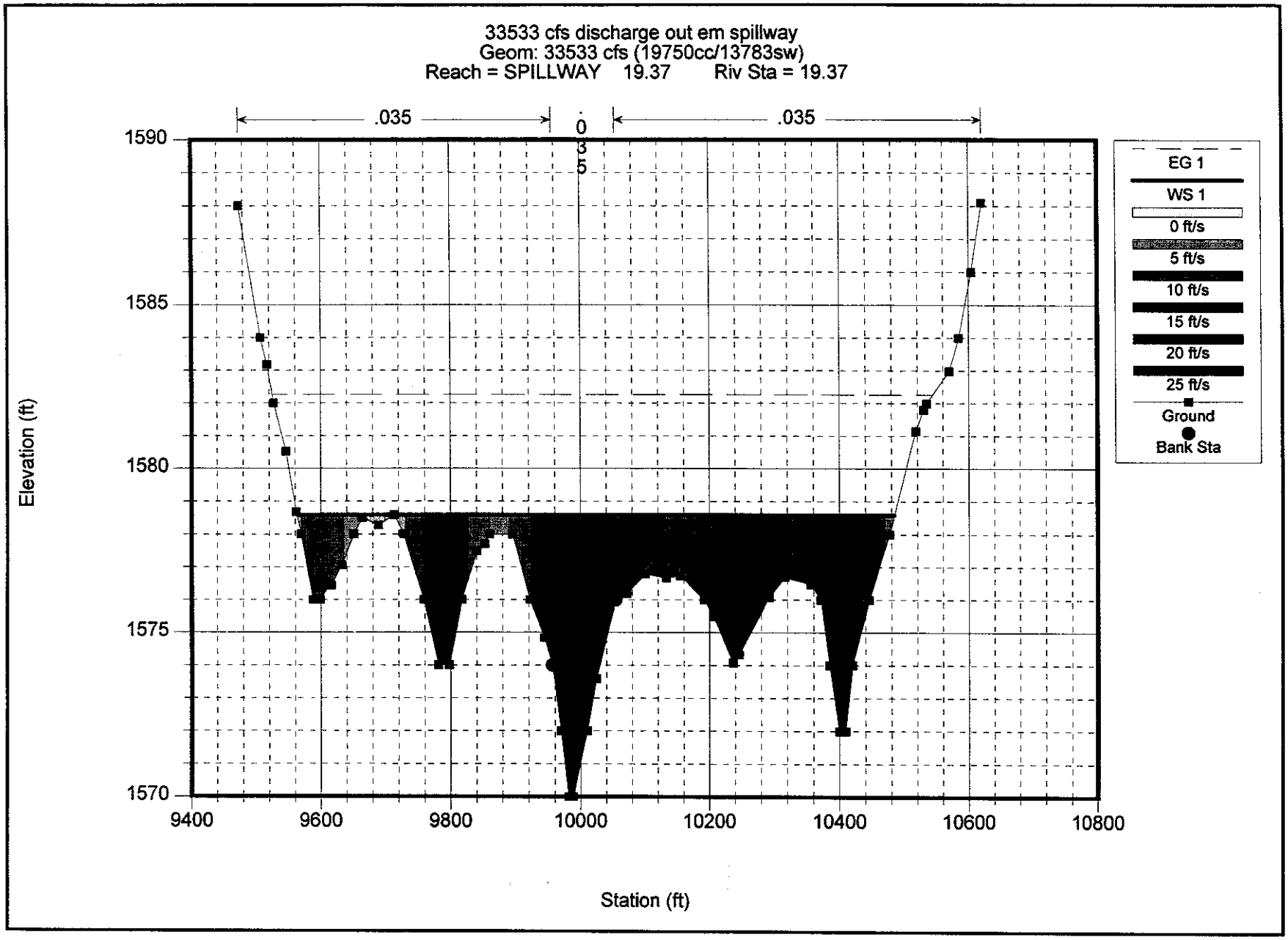

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.58 Riv Sta = 19.58
.035
.035
.035
1630
1620
1610
1600
1590
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Bank Sta

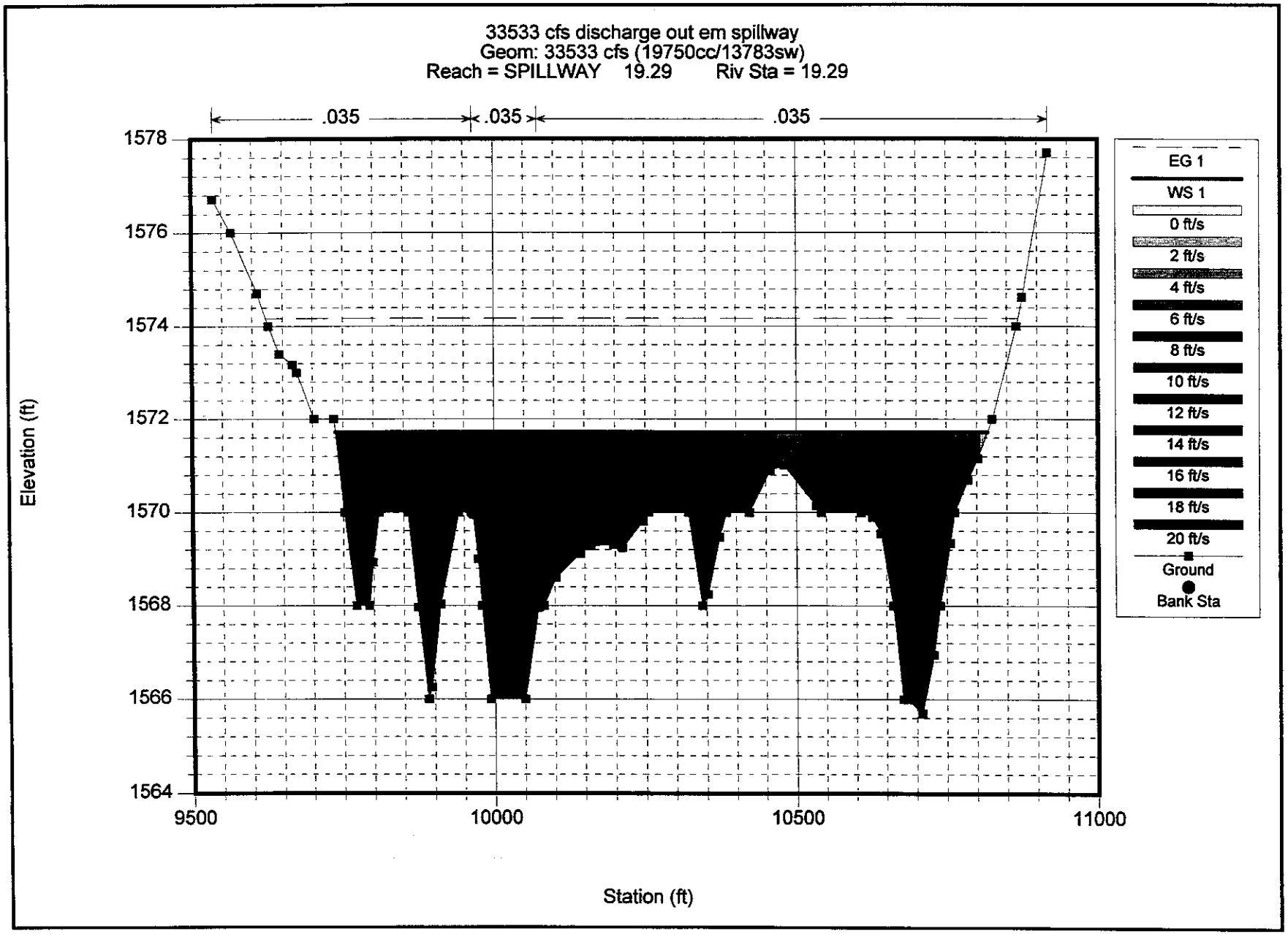

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.53 Riv Sta = 19.53
.035
.035
.035
1620
1615
1610
1605
1600
1595
1590
1585
1580
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
Ground
Ineff
Bank Sta

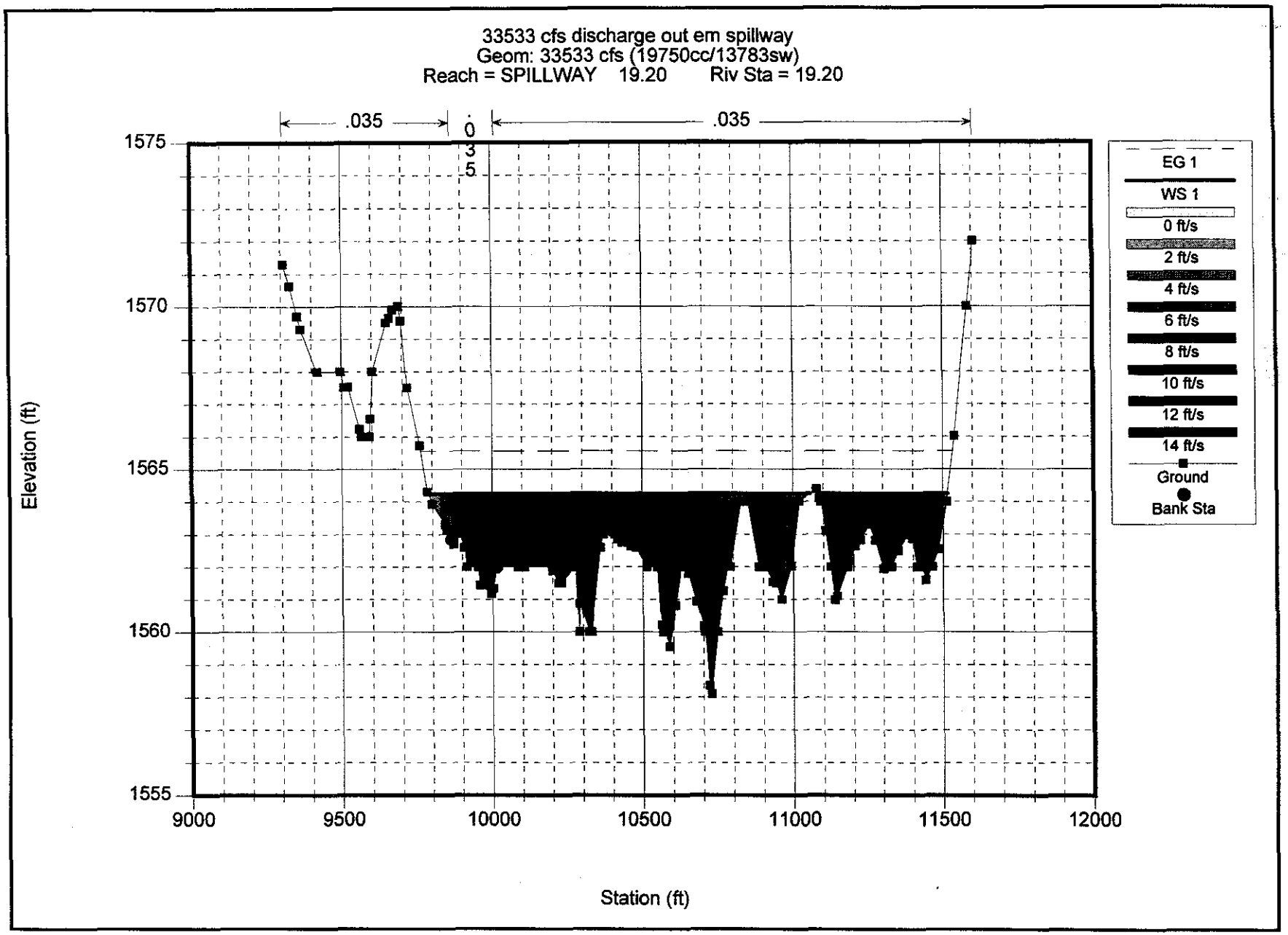

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.50 Riv Sta = 19.50
.035
.035
.035
1610
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
Ground
Bank Sta

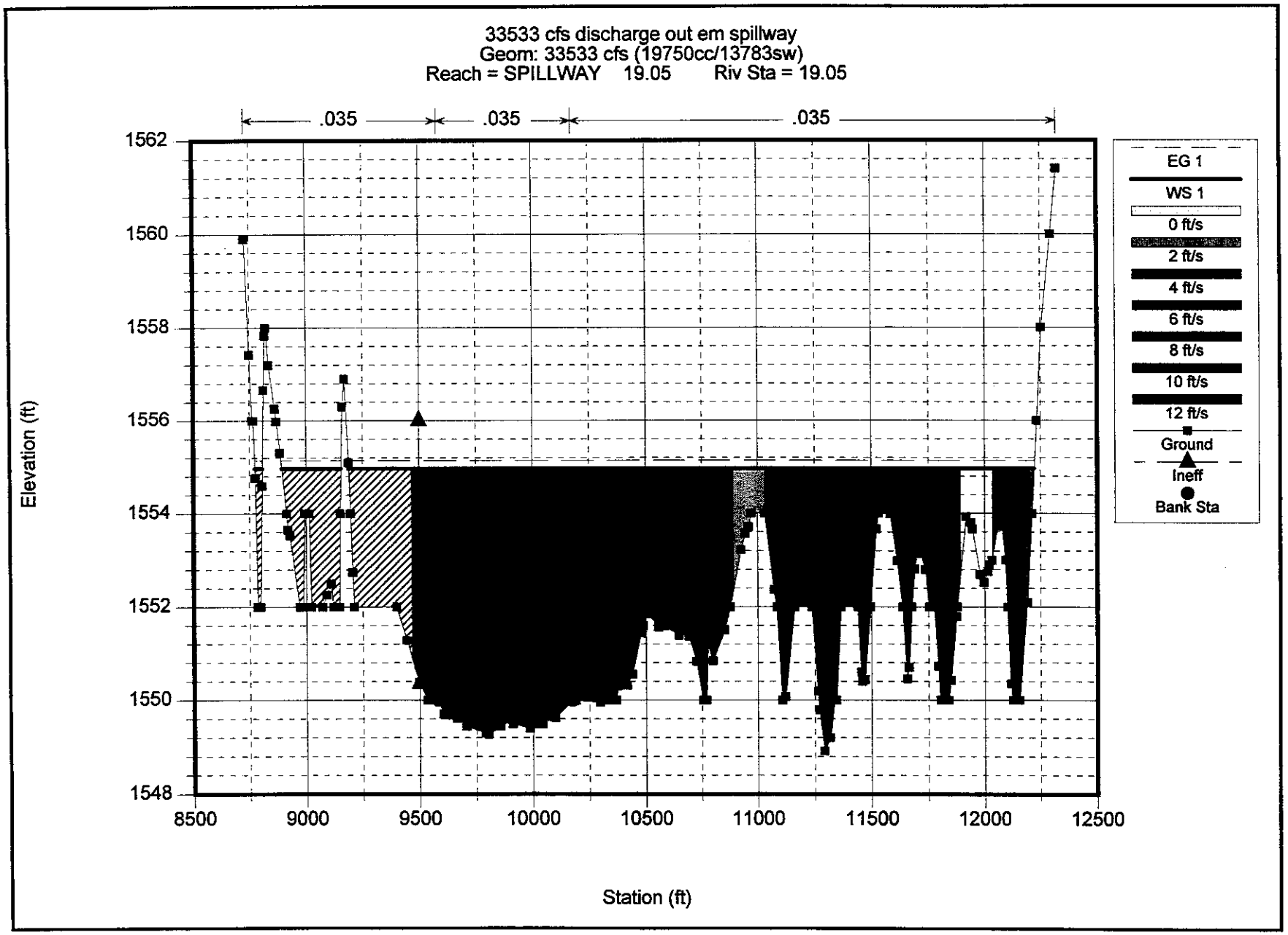

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.46 Riv Sta = 19.46
.035
.035
.035
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
Ground
Bank Sta

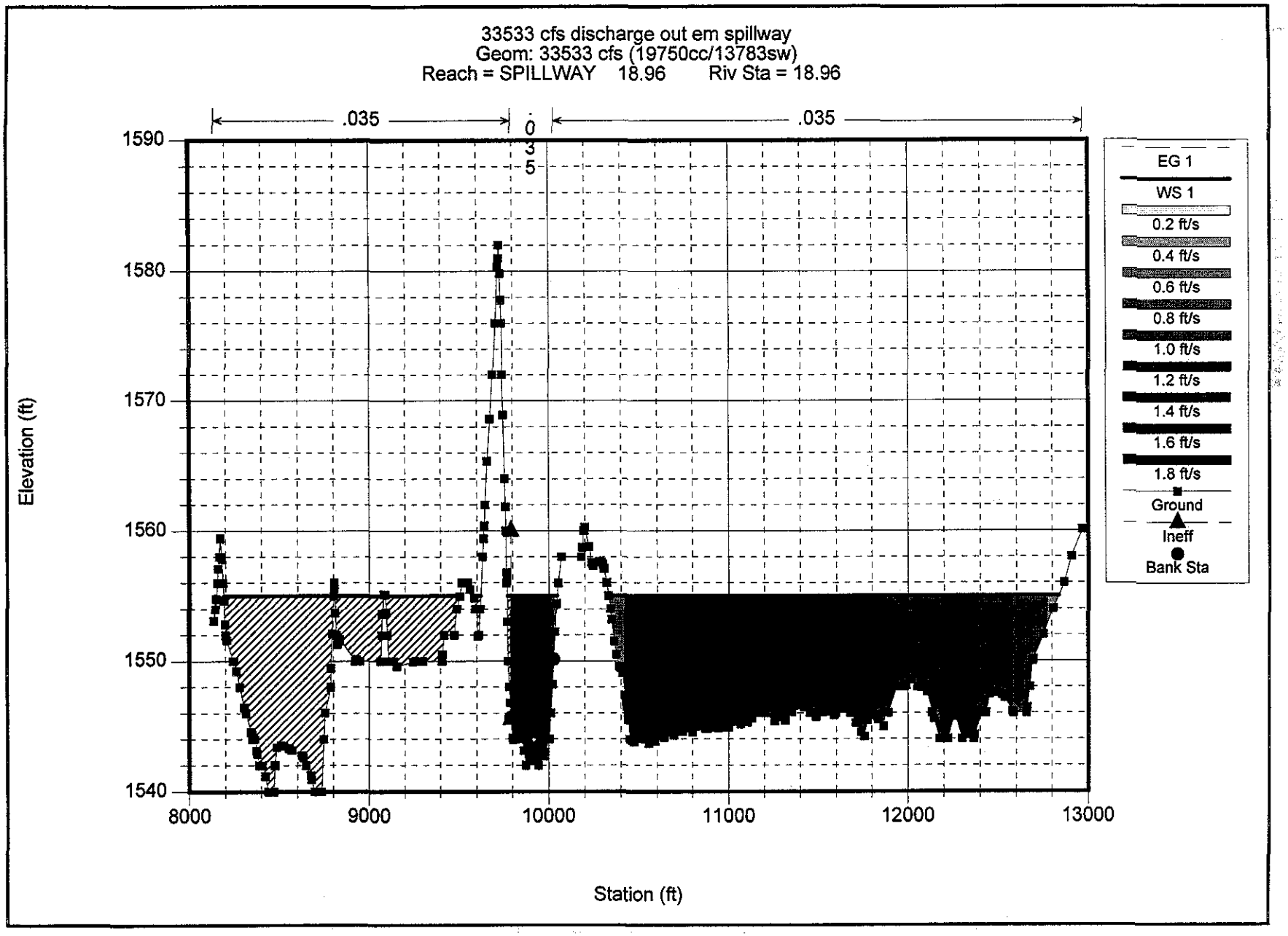

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.42 Riv Sta = 19.42
.035
.035
.035
1595
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Bank Sta

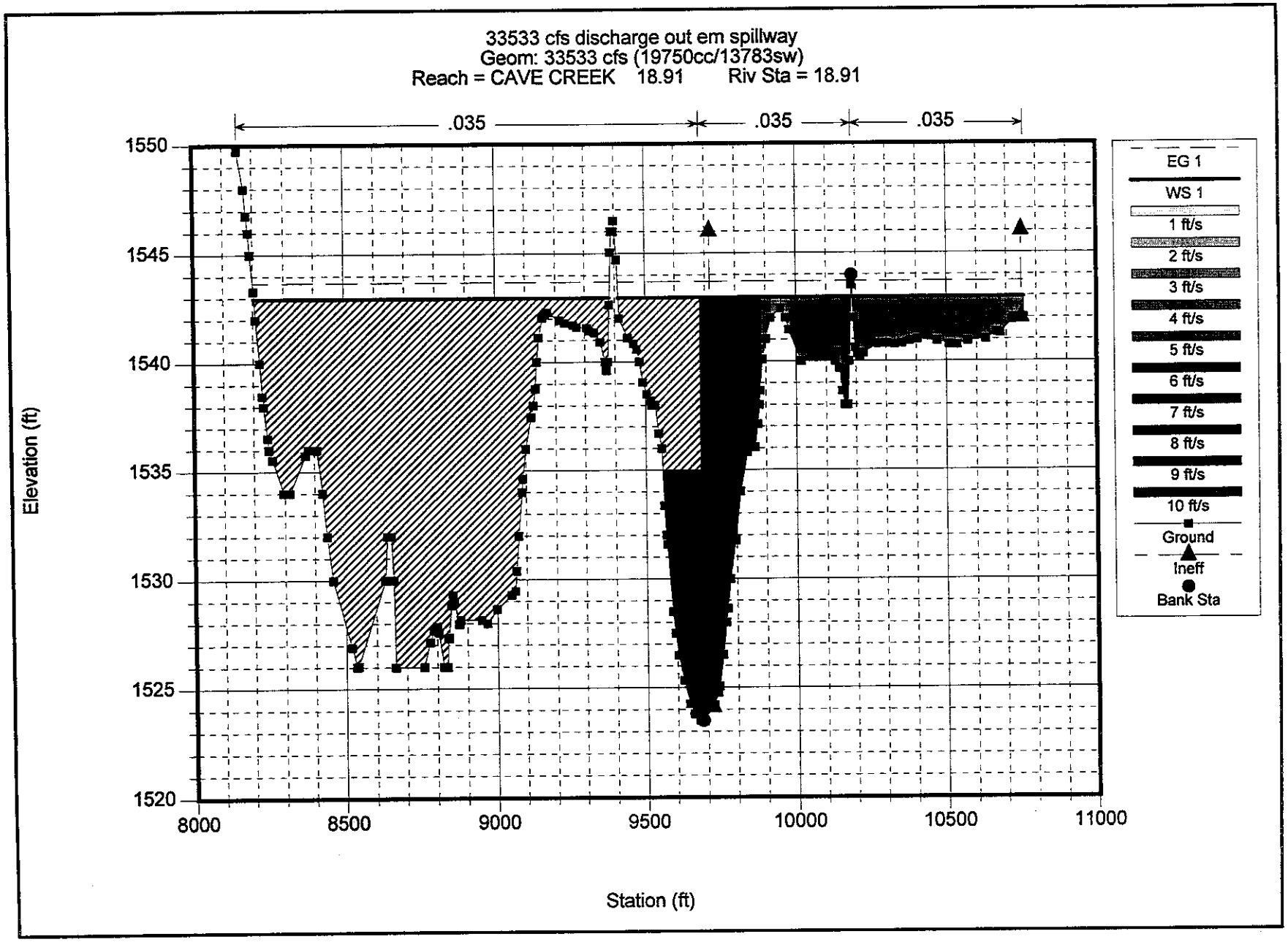

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.37 Riv Sta = 19.37
.035
.035
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
10800
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

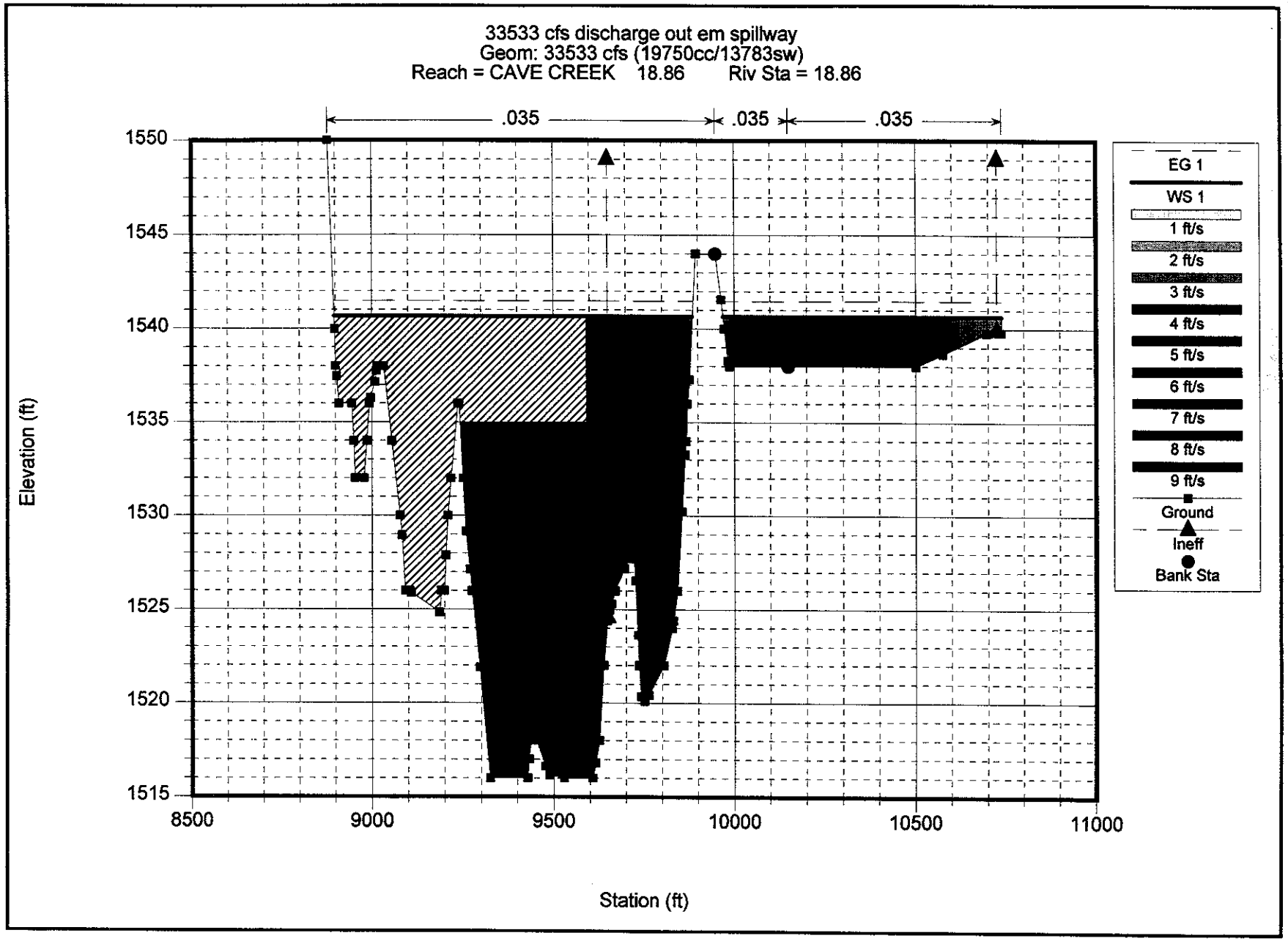

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.29 Riv Sta = 19.29
.035
.035
.035
1578
1576
1574
1572
1570
1568
1566
1564
Elevation (ft)
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Bank Sta

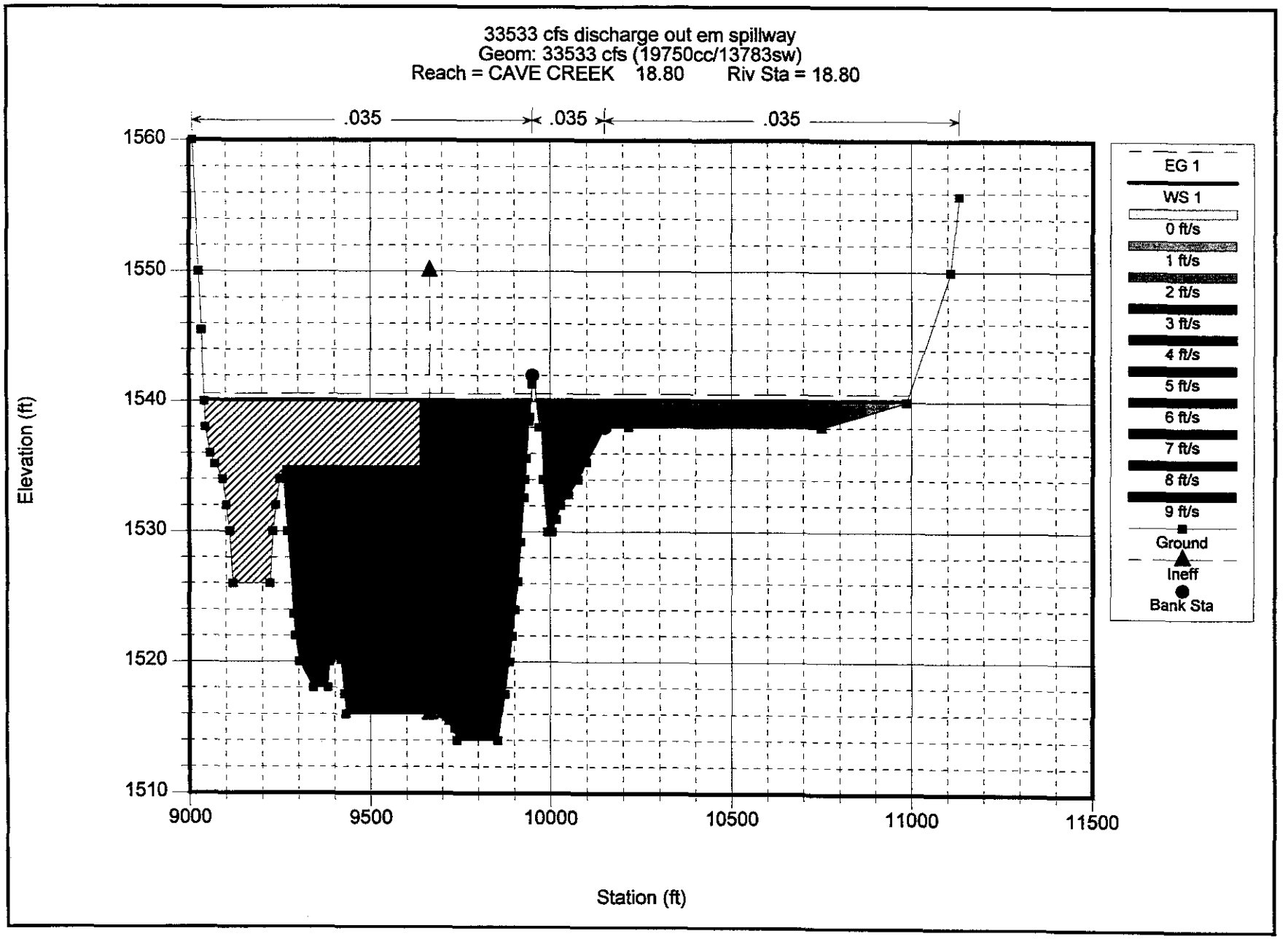

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.20 Riv Sta = 19.20
.035
.035
0
3
5
1575
1570
1565
1560
1555
Elevation (ft)
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Bank Sta

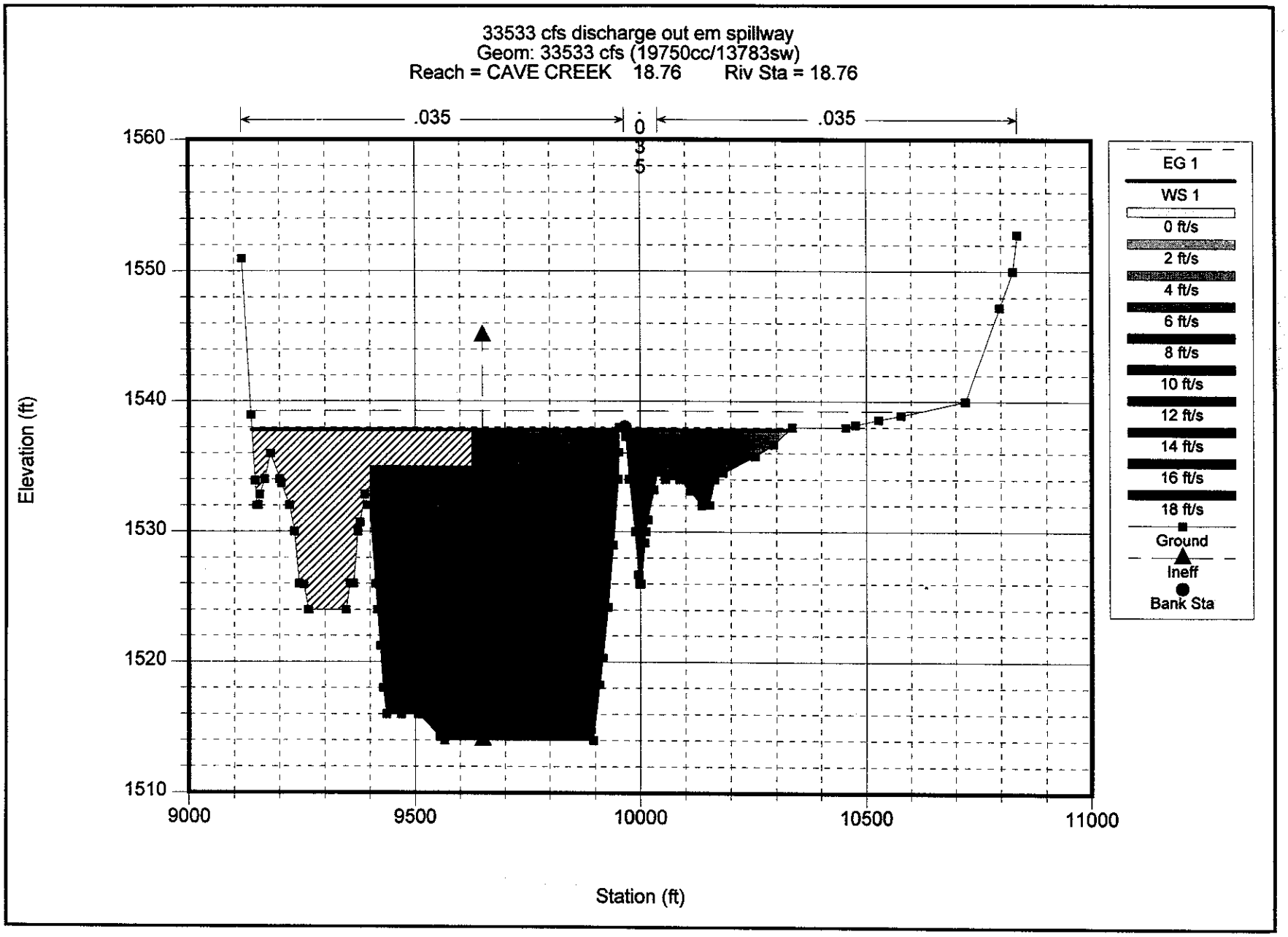

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 19.05 Riv Sta = 19.05
.035
.035
.035
1562
1560
1558
1556
1554
1552
1550
1548
Elevation (ft)
8500
9000
9500
10000
10500
11000
11500
12000
12500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta

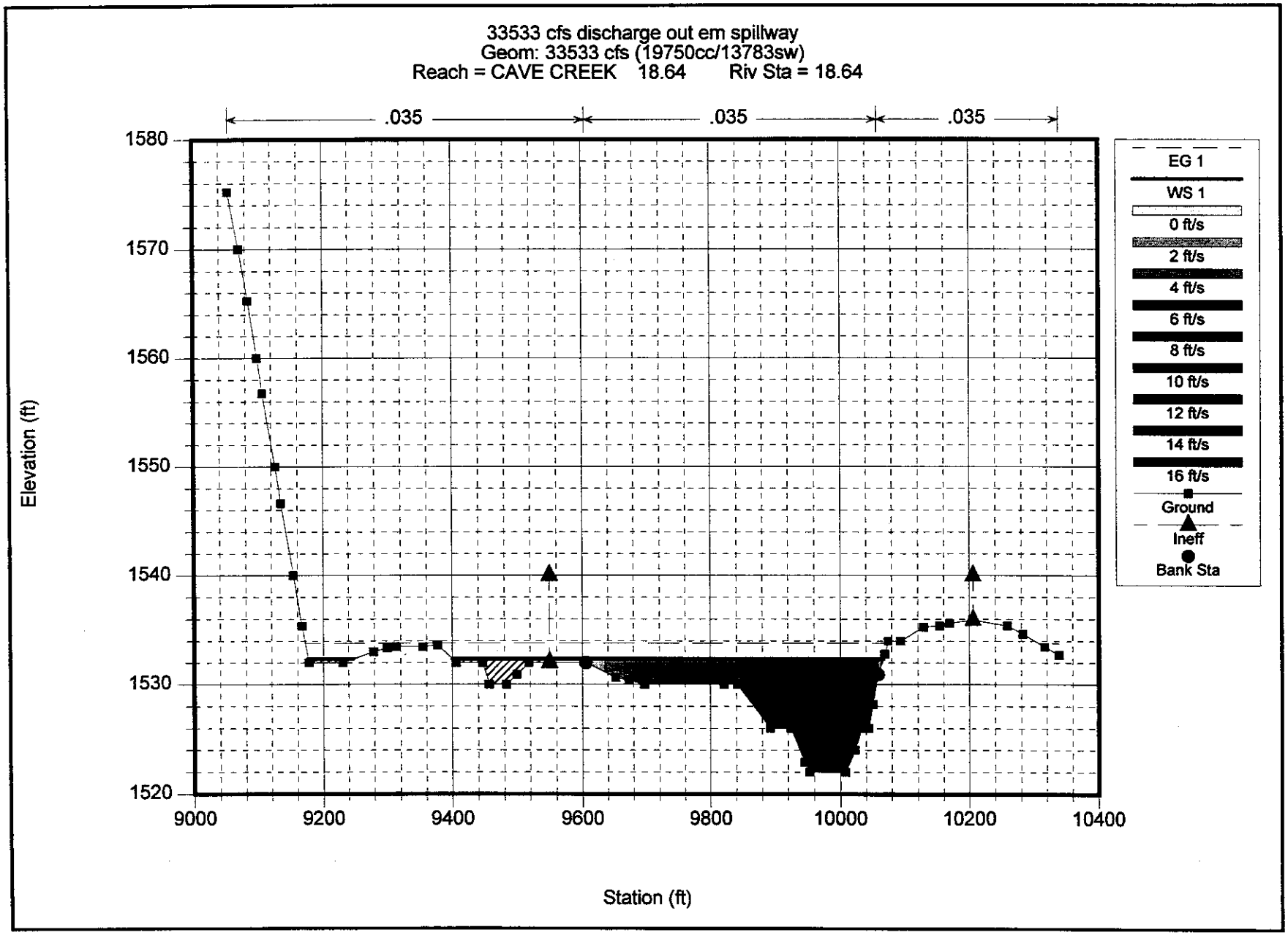

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SPILLWAY 18.96 Riv Sta = 18.96
.035
.035
0
3
5
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
9000
10000
11000
12000
13000
Station (ft)
EG 1
WS 1
0.2 ft/s
0.4 ft/s
0.6 ft/s
0.8 ft/s
1.0 ft/s
1.2 ft/s
1.4 ft/s
1.6 ft/s
1.8 ft/s
Ground
Ineff
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.91 Riv Sta = 18.91
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
10 ft/s
Ground
Ineff
Bank Sta

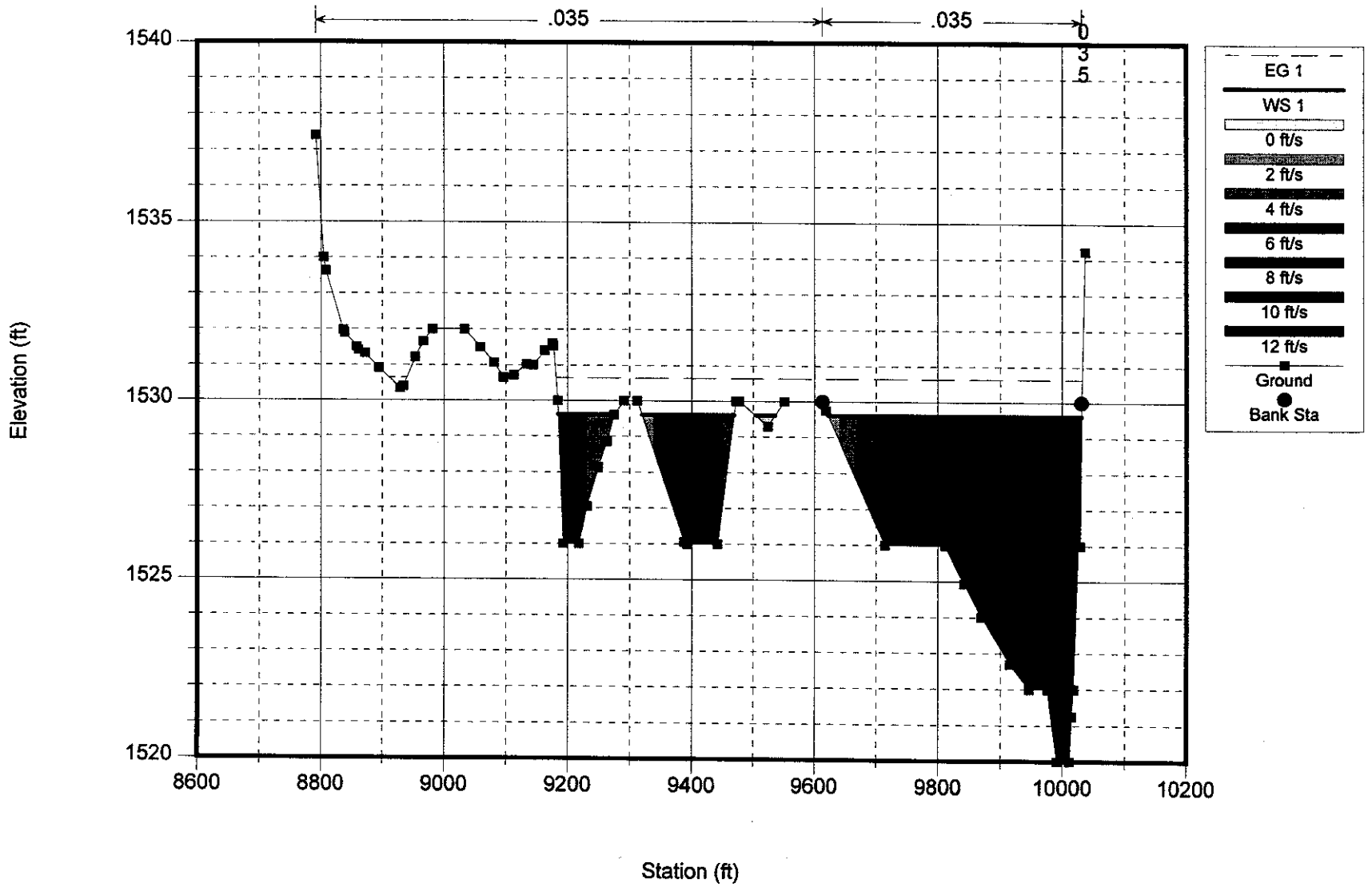

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.86 Riv Sta = 18.86
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Ineff
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.80 Riv Sta = 18.80
.035
.035
.035
1560
1550
1540
1530
1520
1510
Elevation (ft)
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Ineff
Bank Sta

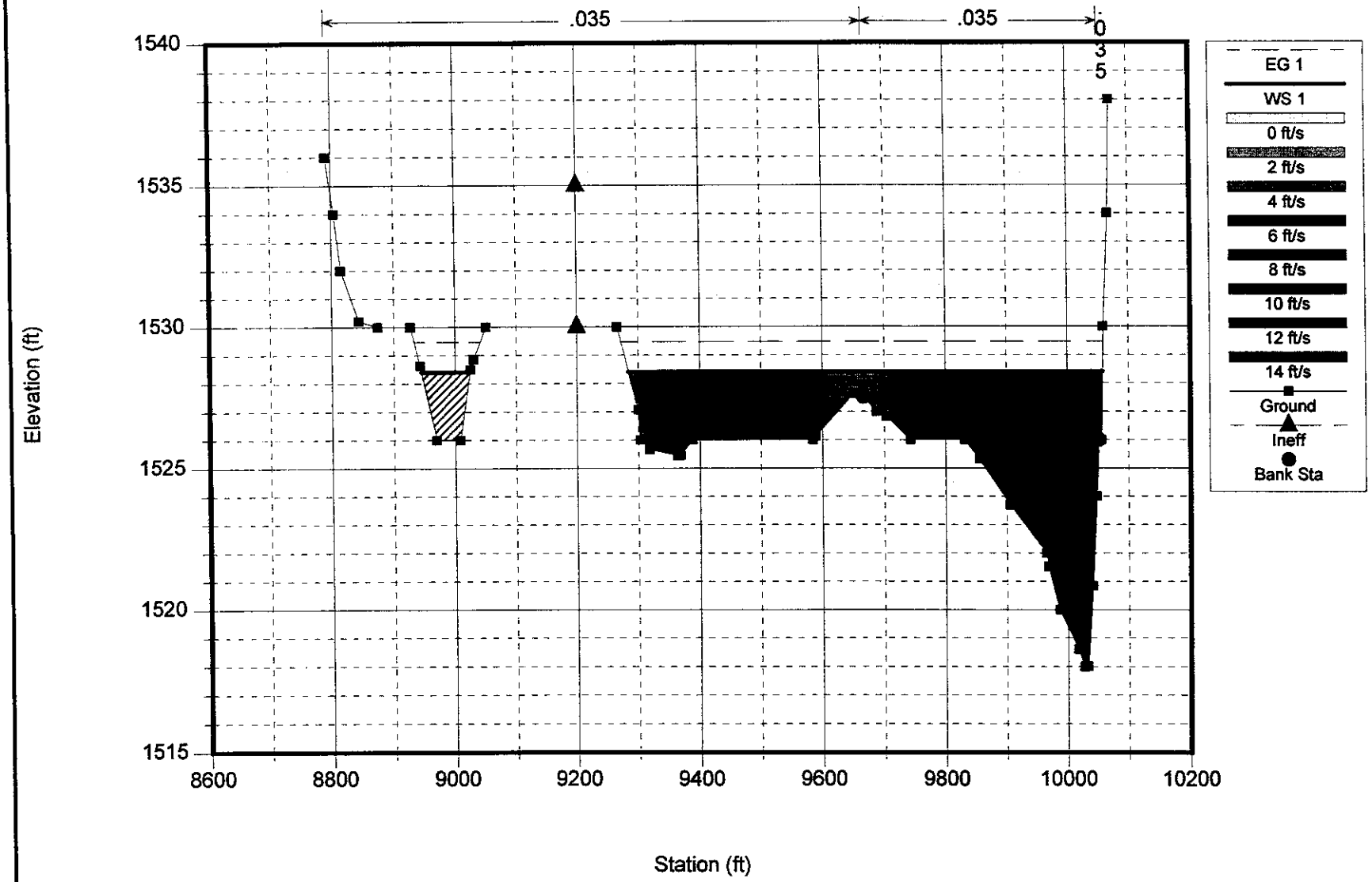

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.76 Riv Sta = 18.76
.035
.035
0.35
1560
1550
1540
1530
1520
1510
Elevation (ft)
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
Ground
Ineff
Bank Sta

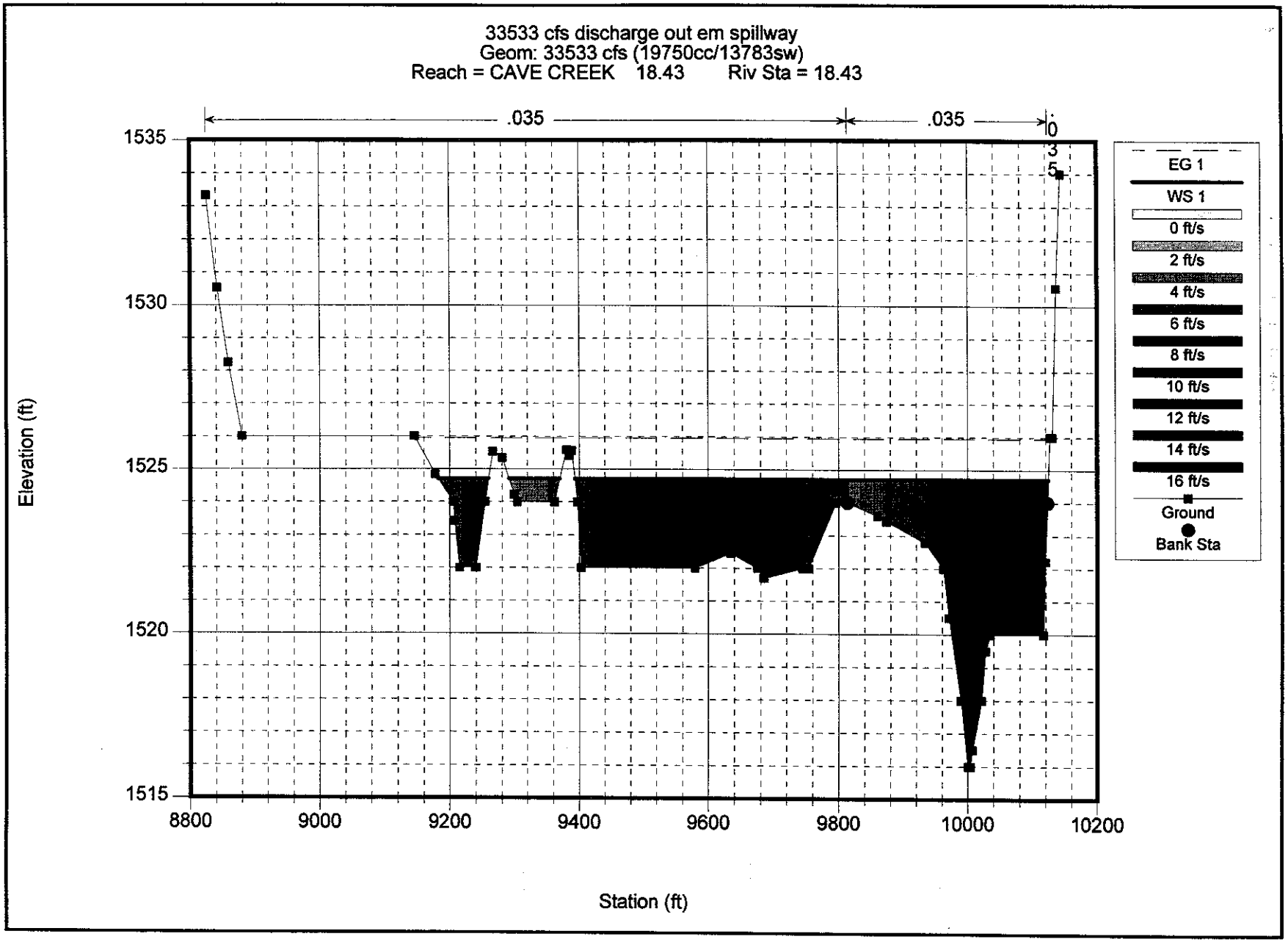

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.64 Riv Sta = 18.64
.035
.035
.035
1580
1570
1560
1550
1540
1530
1520
Elevation (ft)
9000
9200
9400
9600
9800
10000
10200
10400
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
Ground
Ineff
Bank Sta

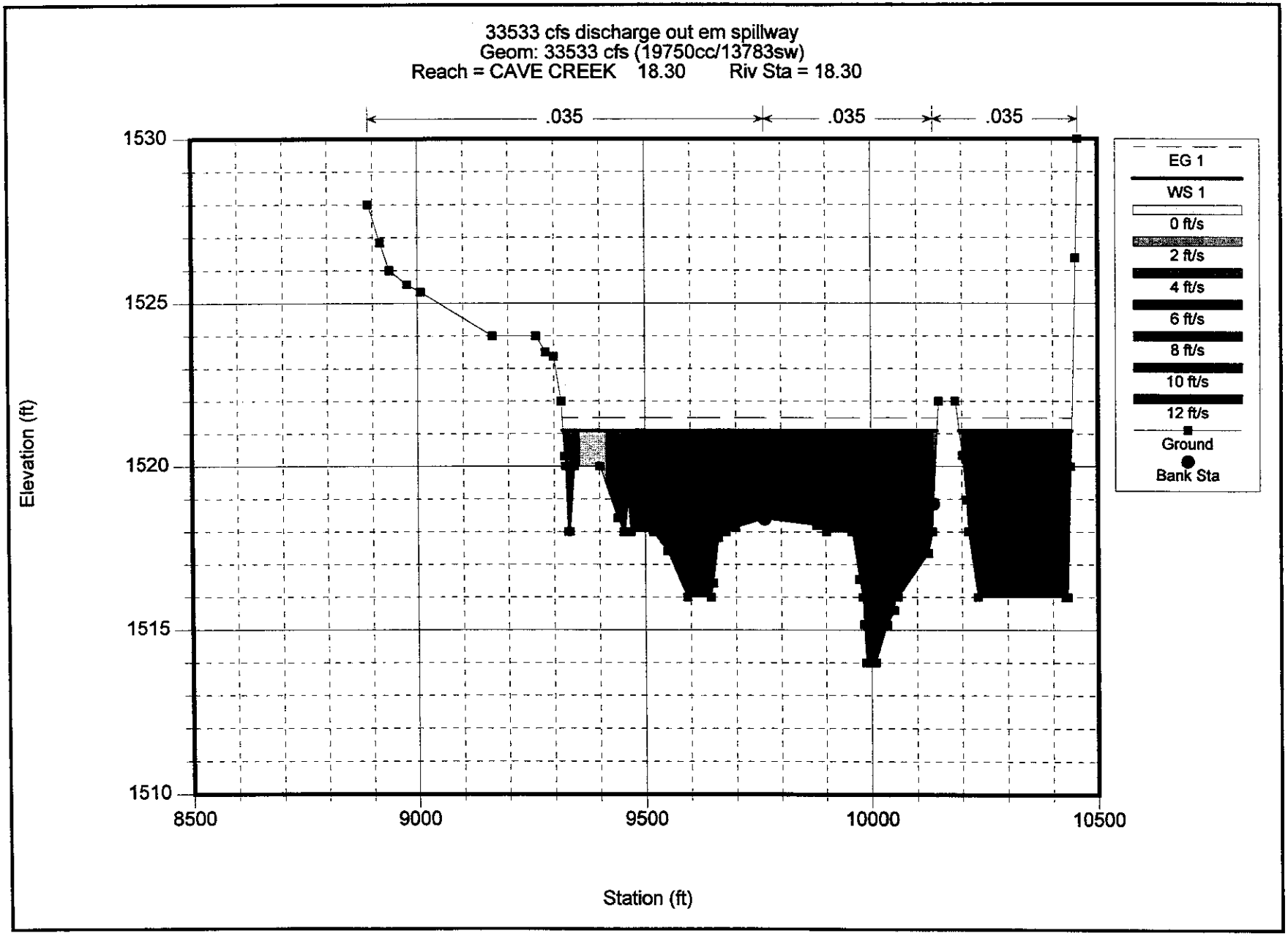
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.54 Riv Sta = 18.54

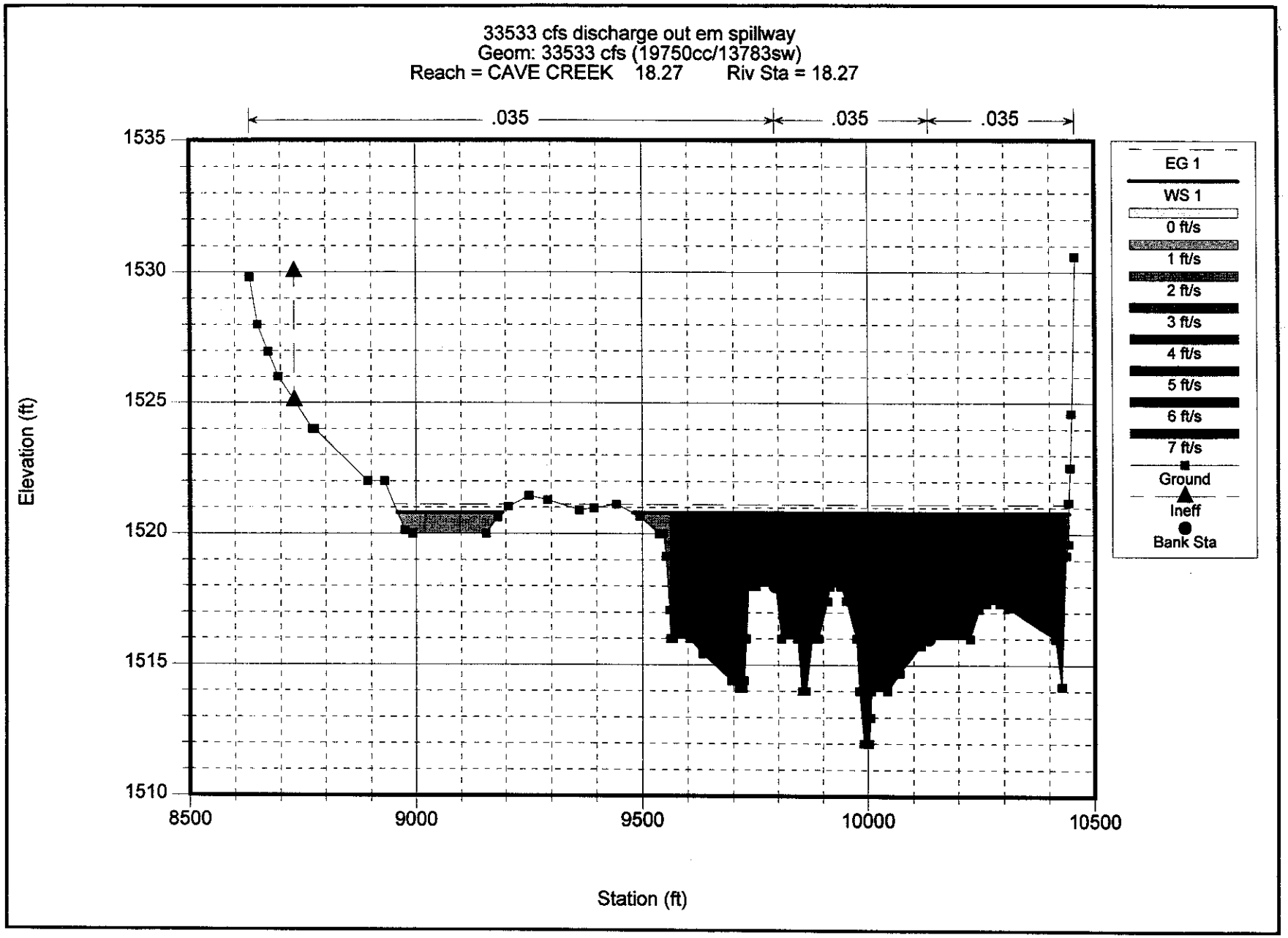


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.50 Riv Sta = 18.50

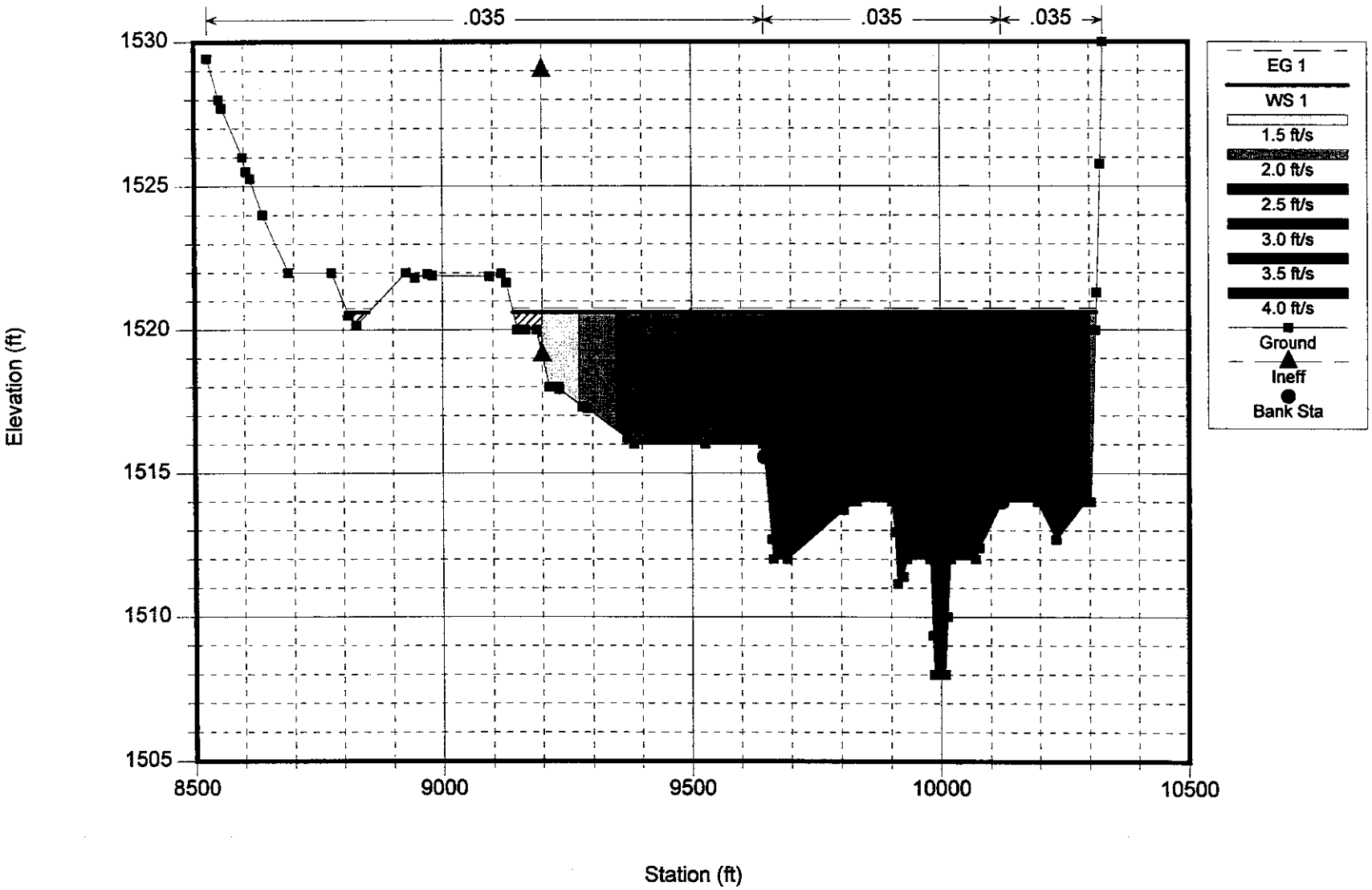



33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.43 Riv Sta = 18.43
.035
.035
.035
1535
1530
1525
1520
1515
Elevation (ft)
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
Ground
Bank Sta

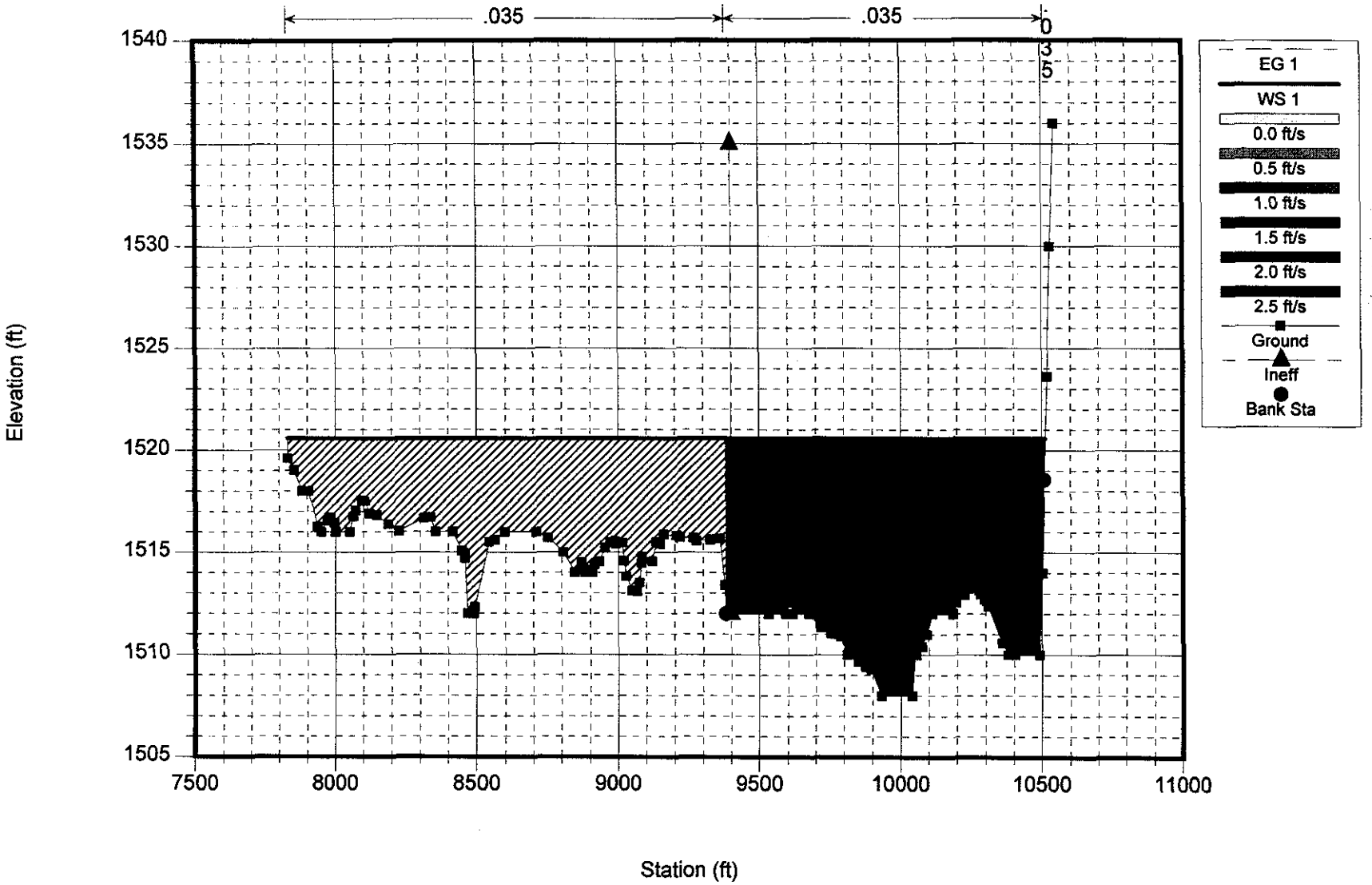

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.30 Riv Sta = 18.30
.035
.035
.035
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.27 Riv Sta = 18.27
.035
.035
.035
1535
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
Ground
Ineff
Bank Sta

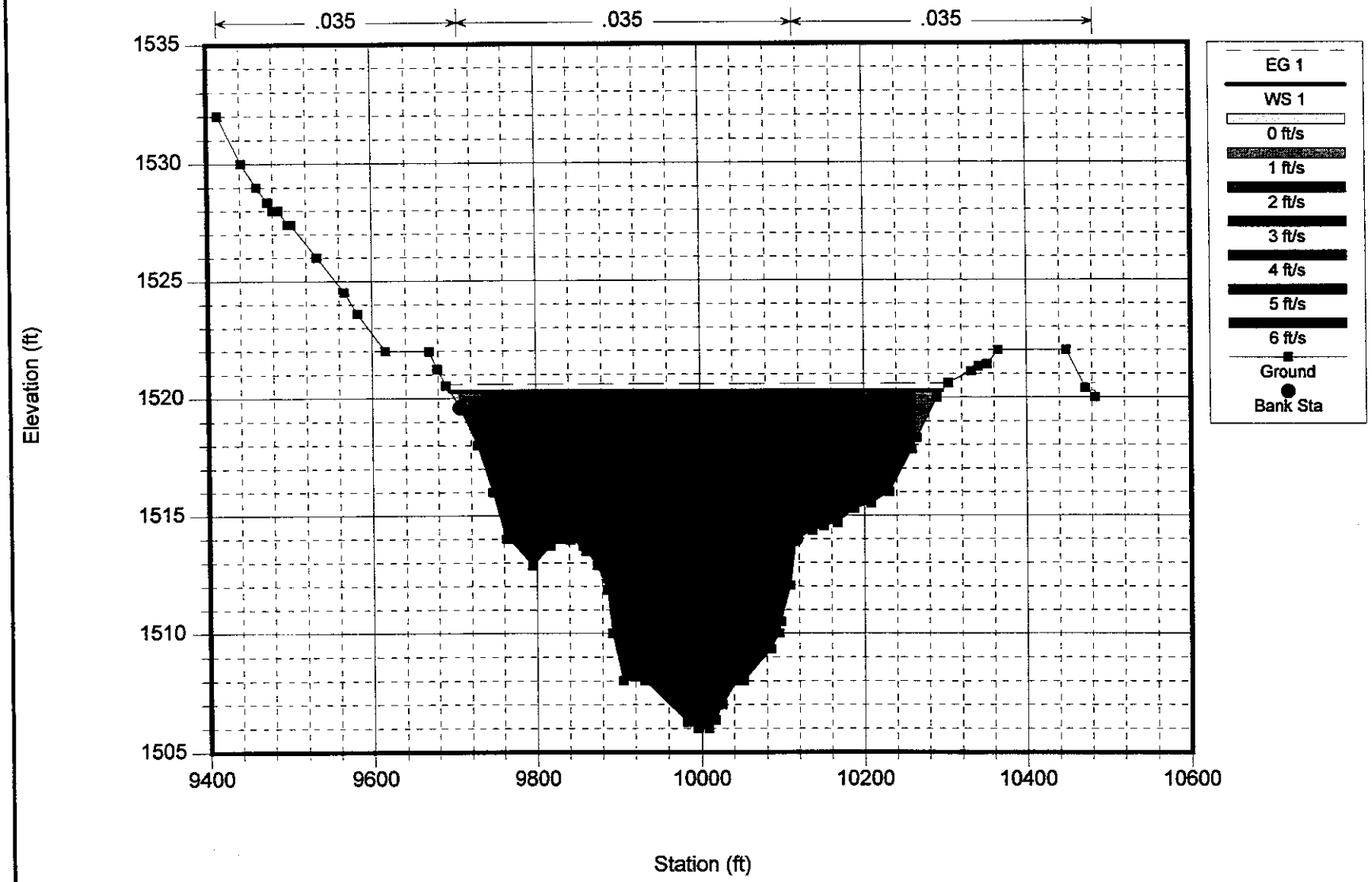
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.17 Riv Sta = 18.17

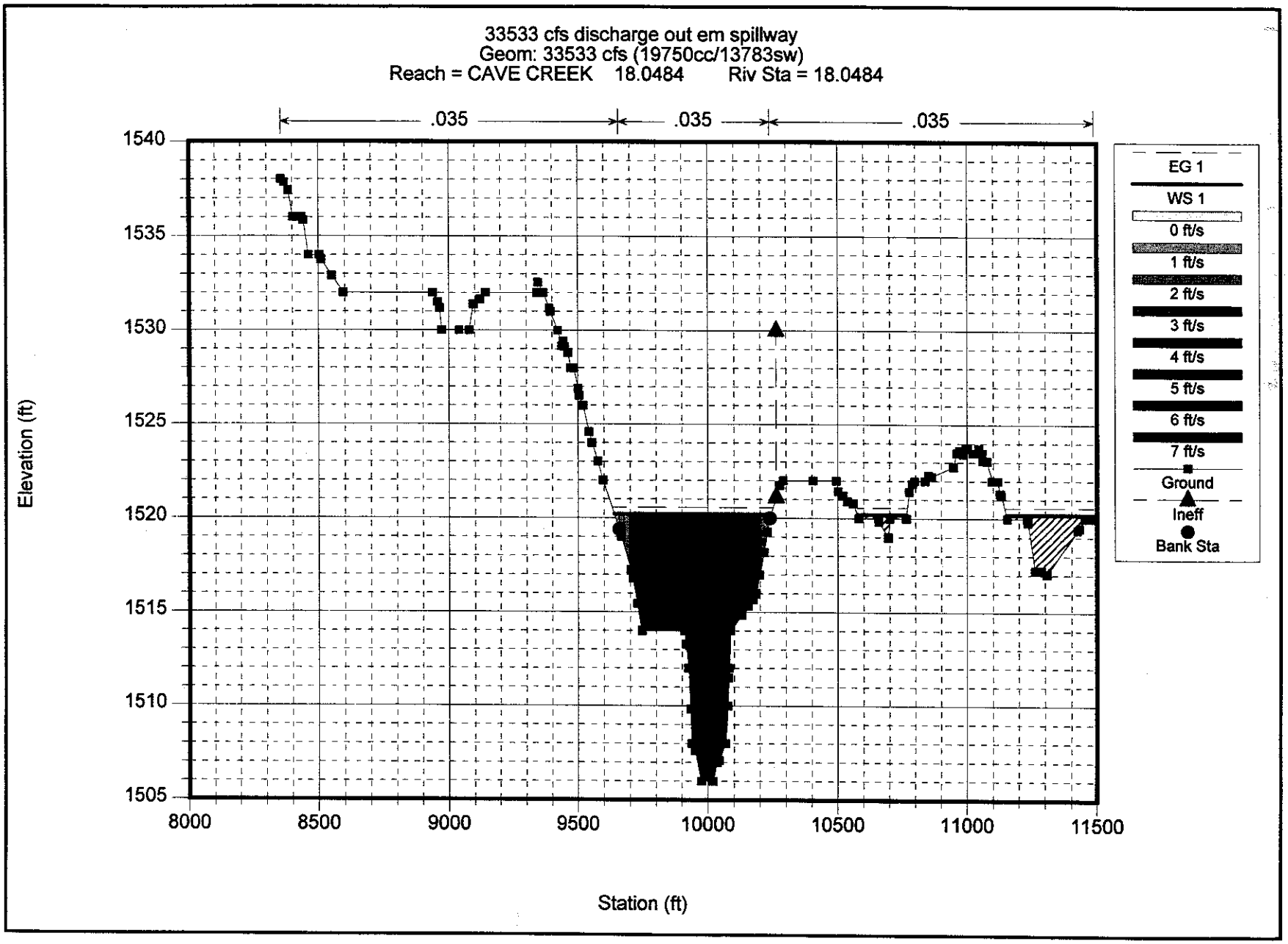


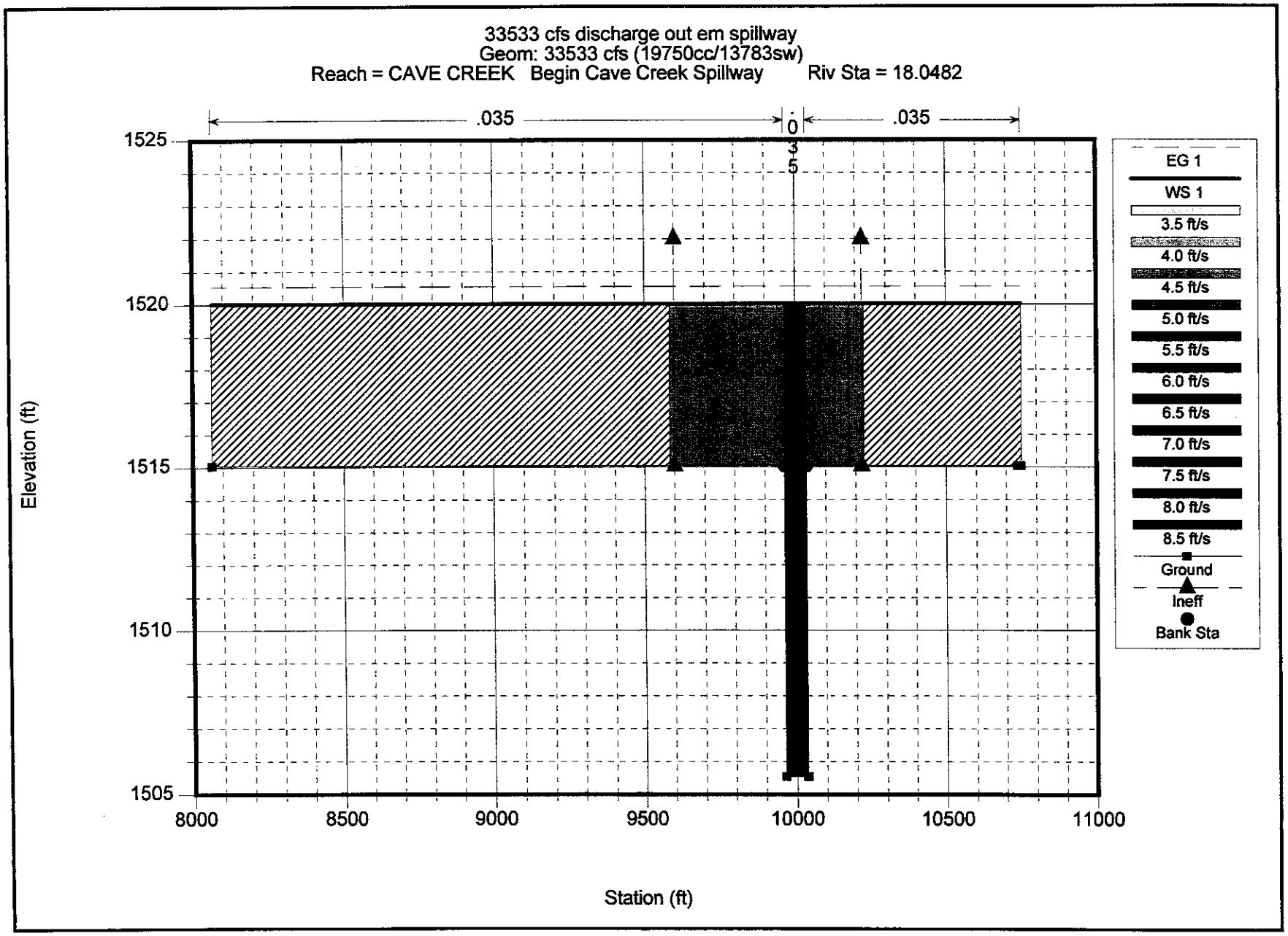
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.06 Riv Sta = 18.06



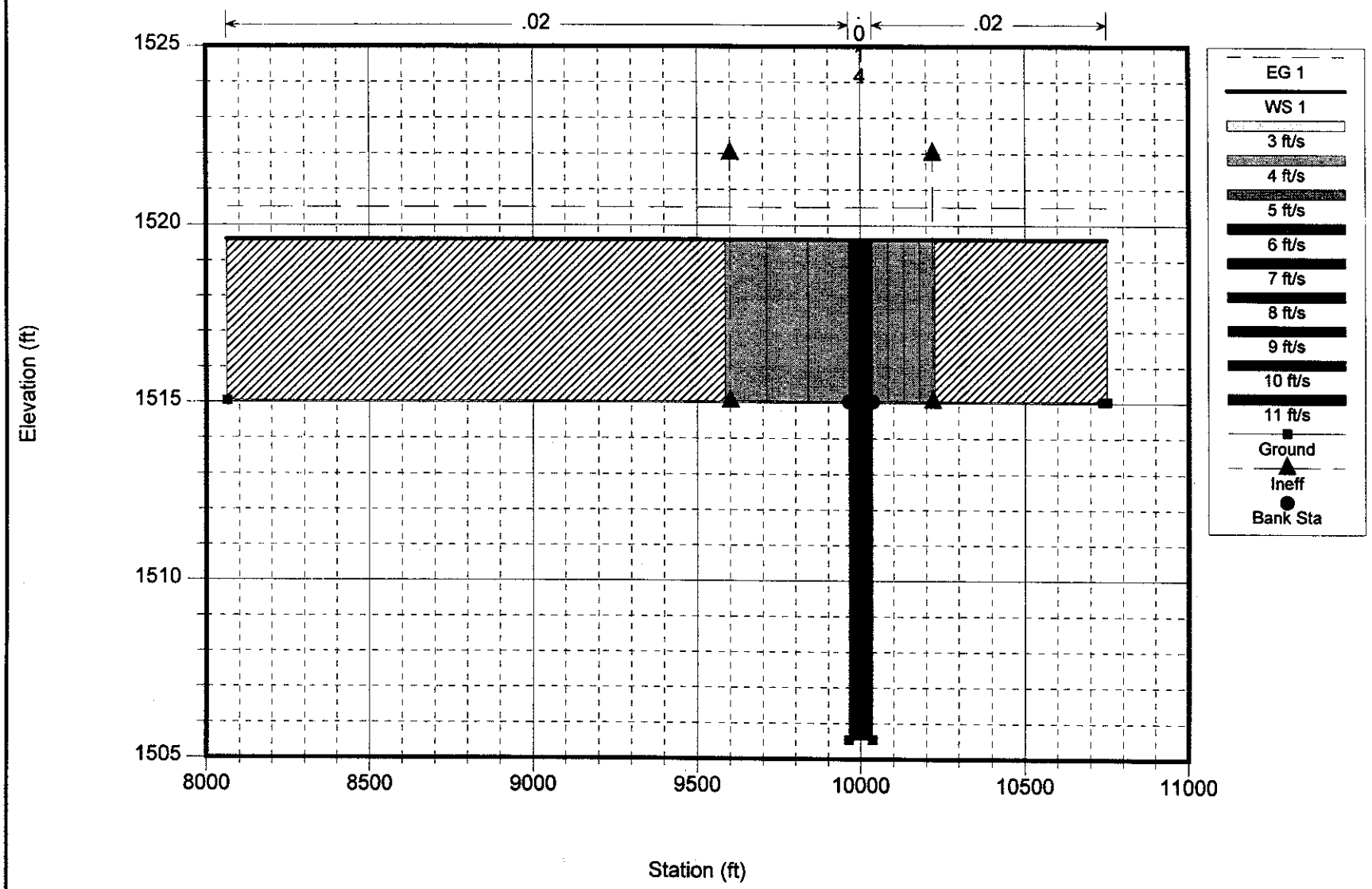
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.05 Riv Sta = 18.05



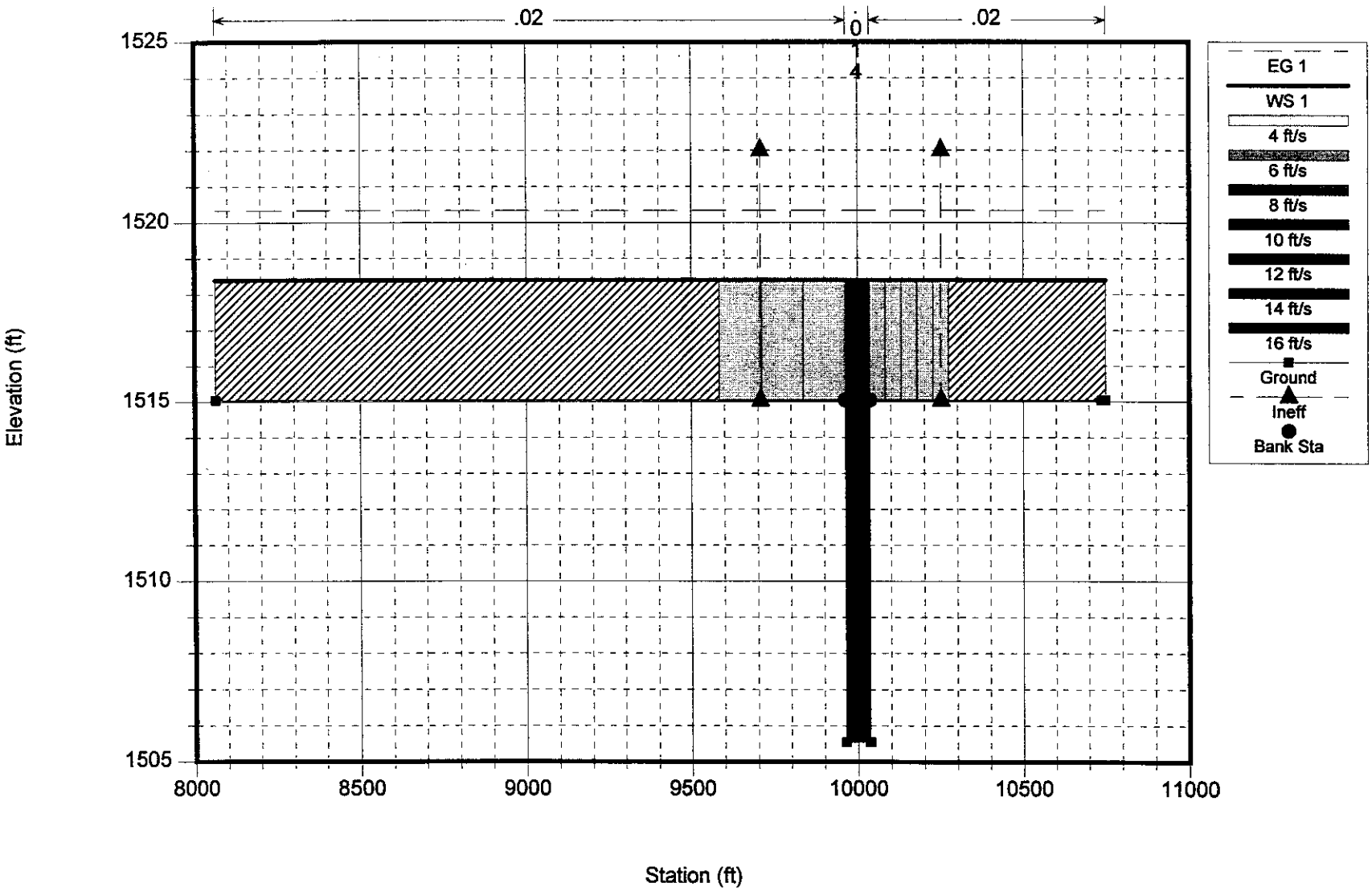

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.0484 Riv Sta = 18.0484
.035
.035
.035
1540
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
Ground
Ineff
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 18.0482
.035
.035
0.035
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
3.5 ft/s
4.0 ft/s
4.5 ft/s
5.0 ft/s
5.5 ft/s
6.0 ft/s
6.5 ft/s
7.0 ft/s
7.5 ft/s
8.0 ft/s
8.5 ft/s
Ground
Ineff
Bank Sta

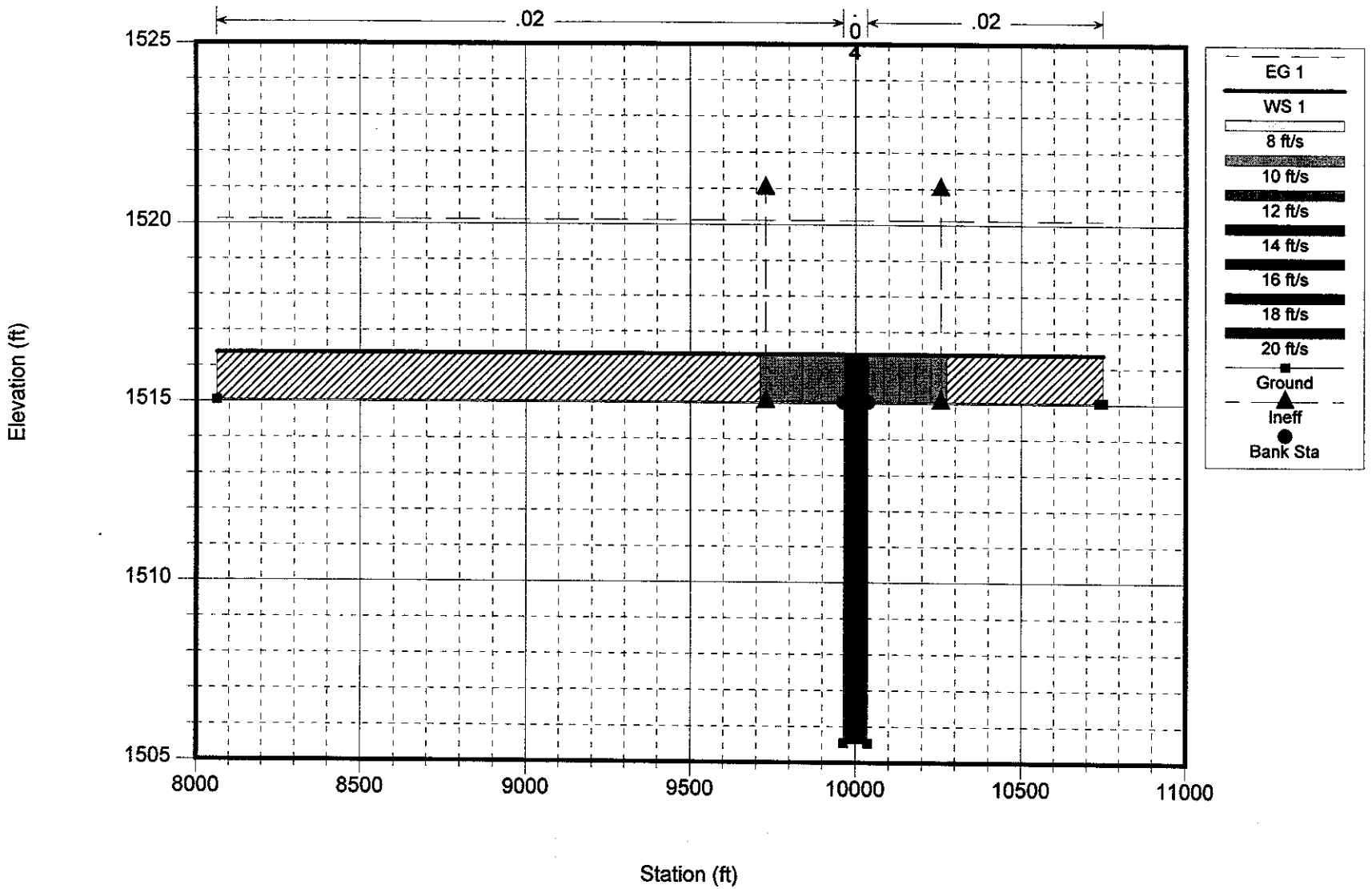
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 18.0480



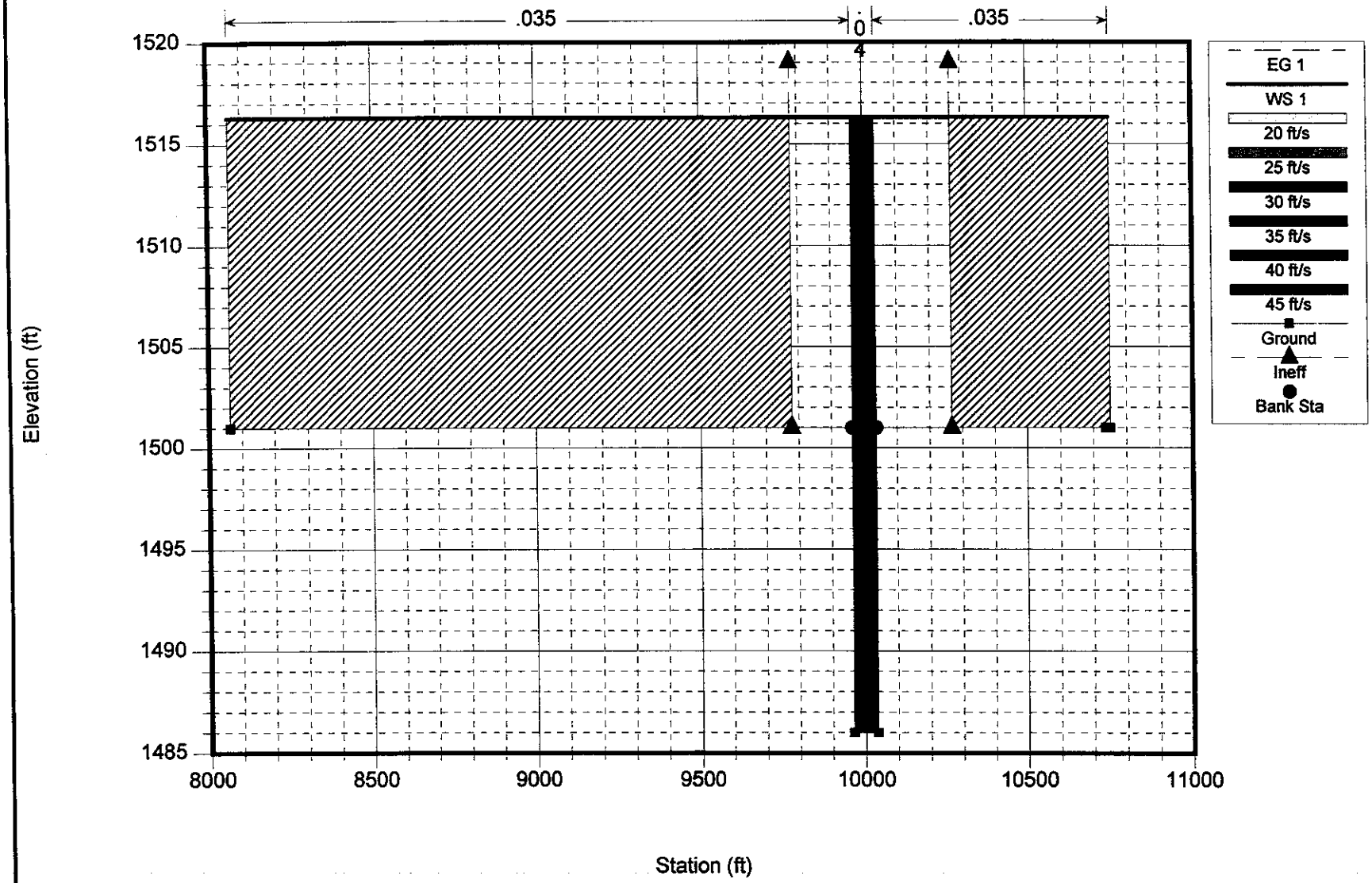
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK Downstream side of top of sply Riv Sta = 18.0237



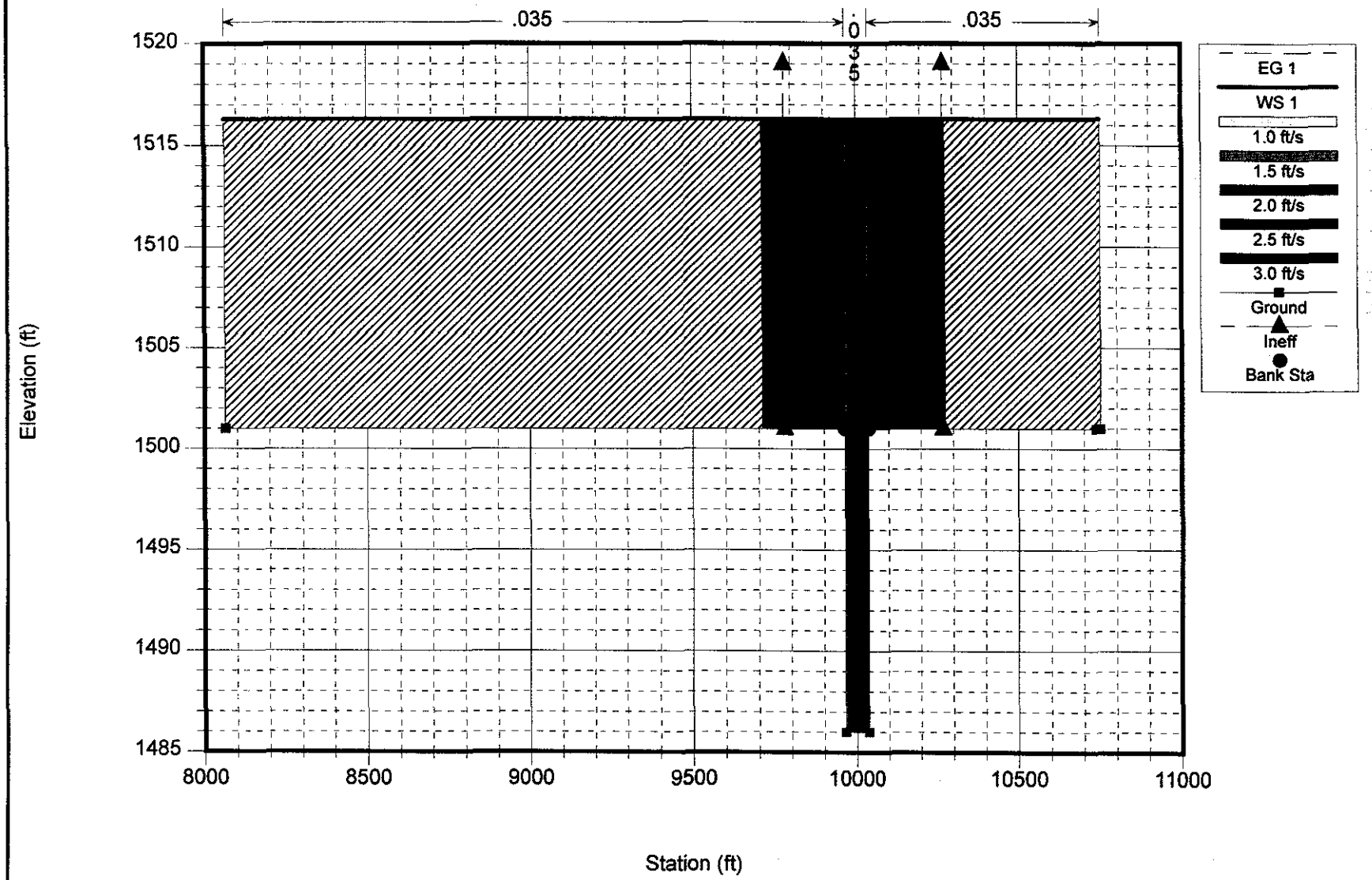
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK Begin baffled drop Riv Sta = 18.0199

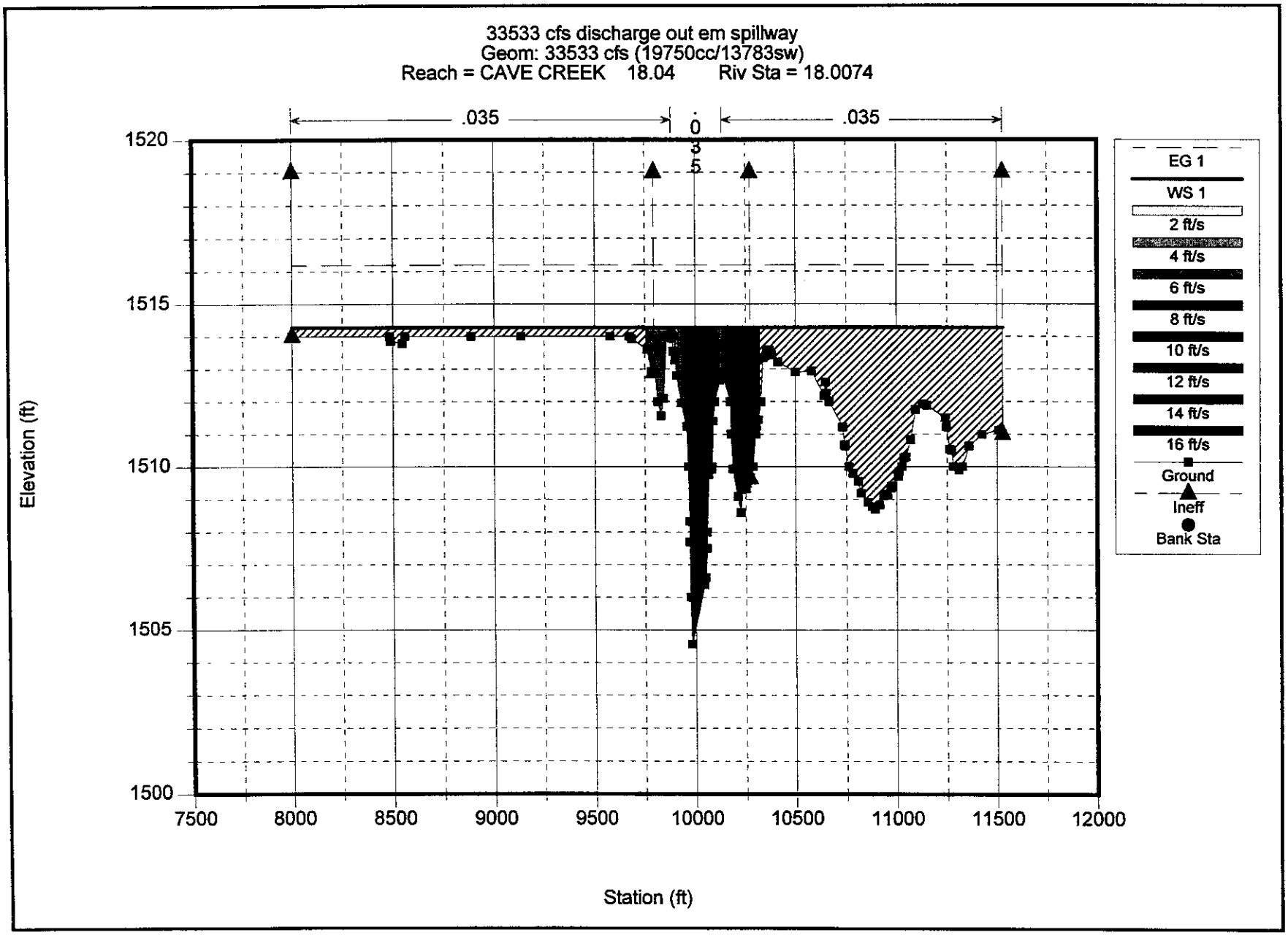


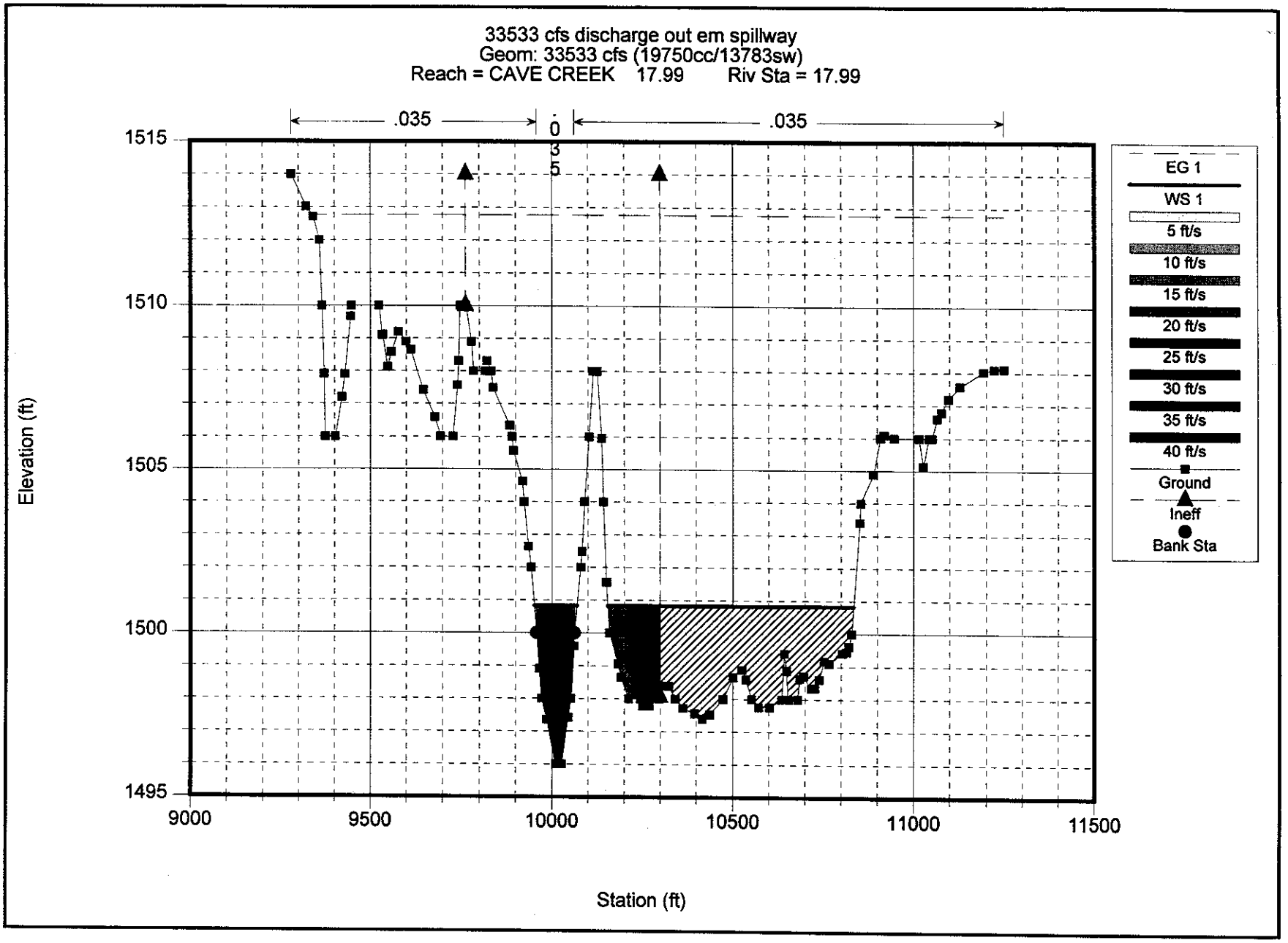
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK Bottom of Baffled Drop Riv Sta = 18.0104

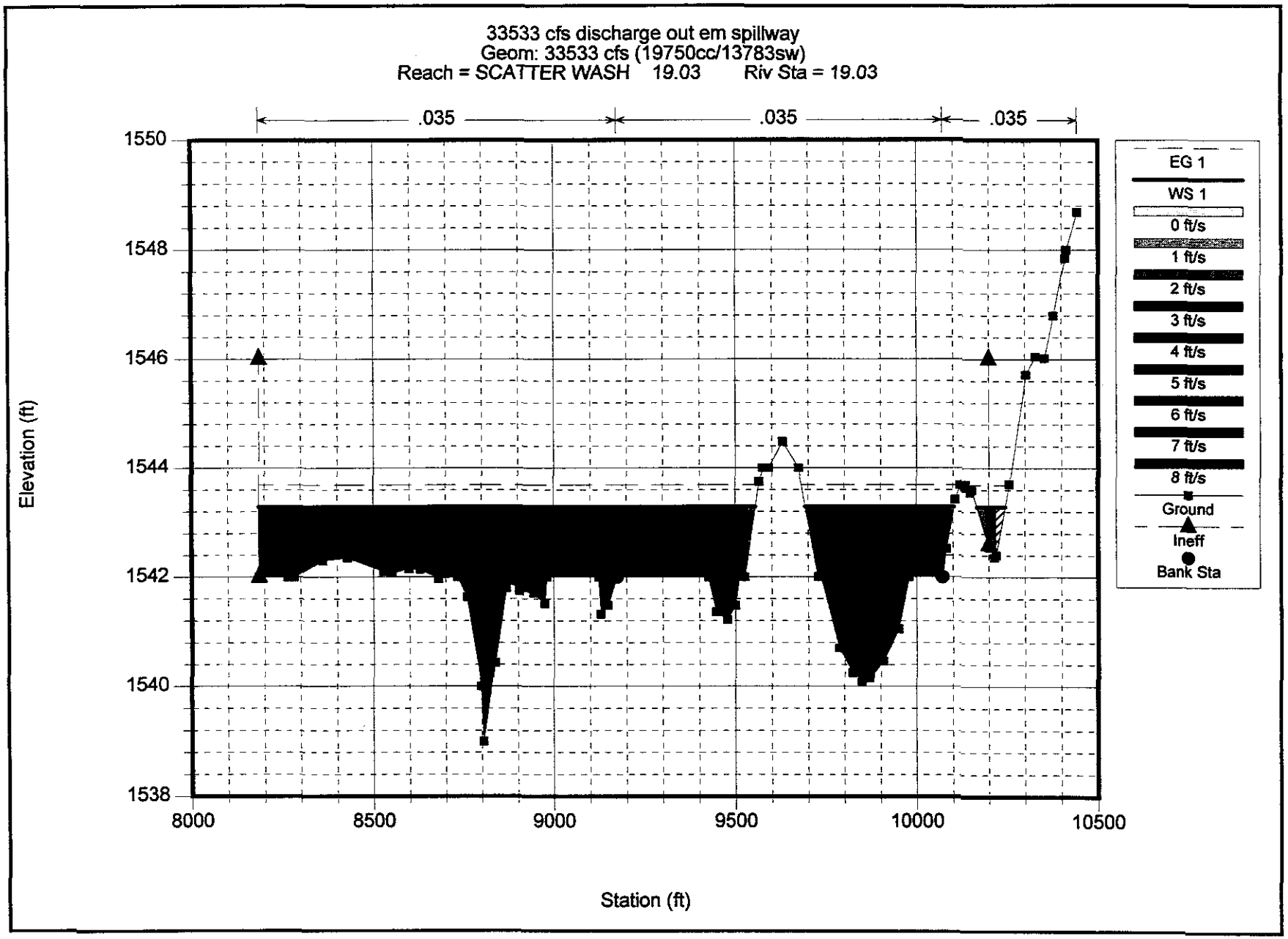


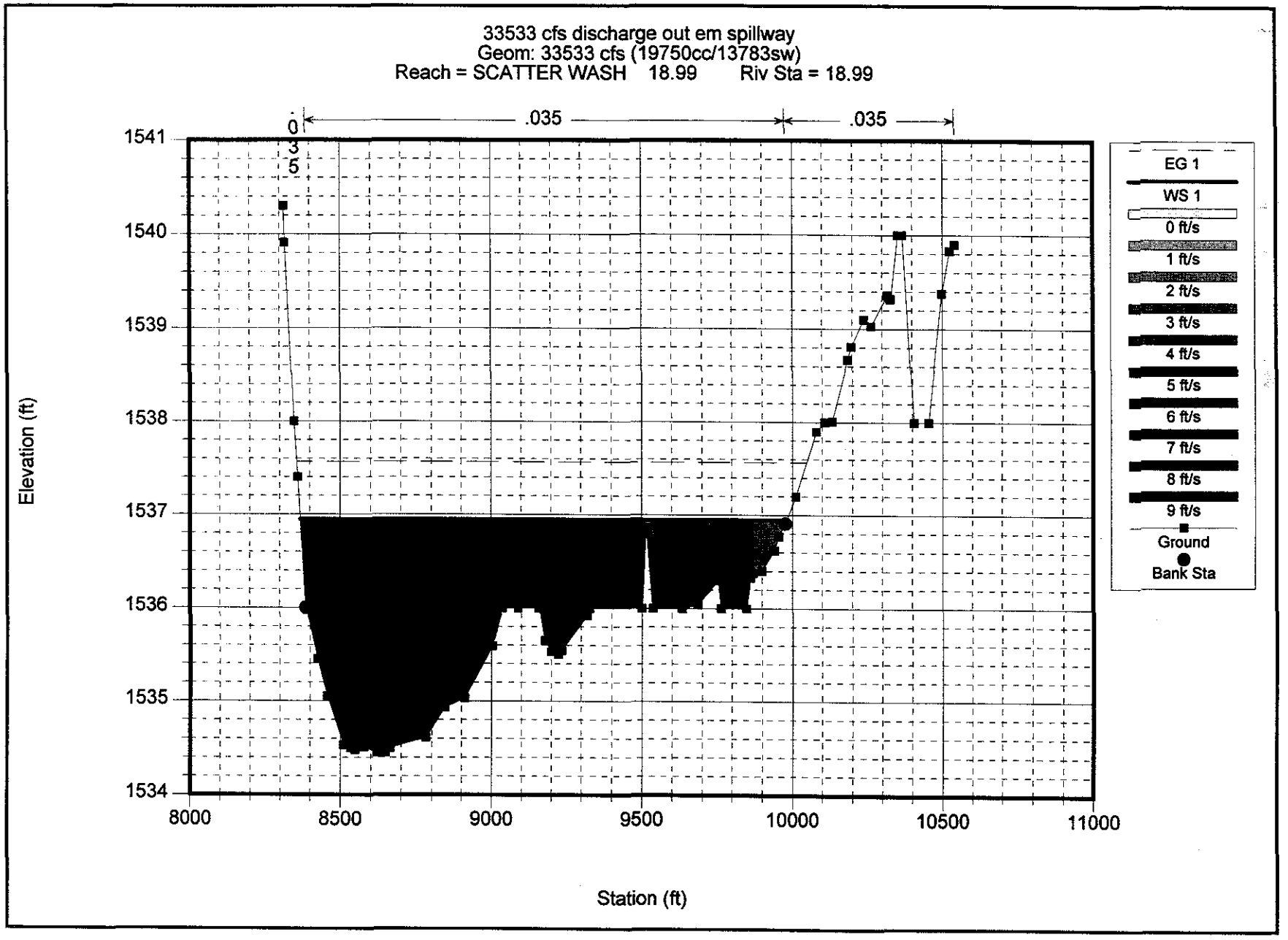
33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK Bottom of Baffled Drop Riv Sta = 18.0103

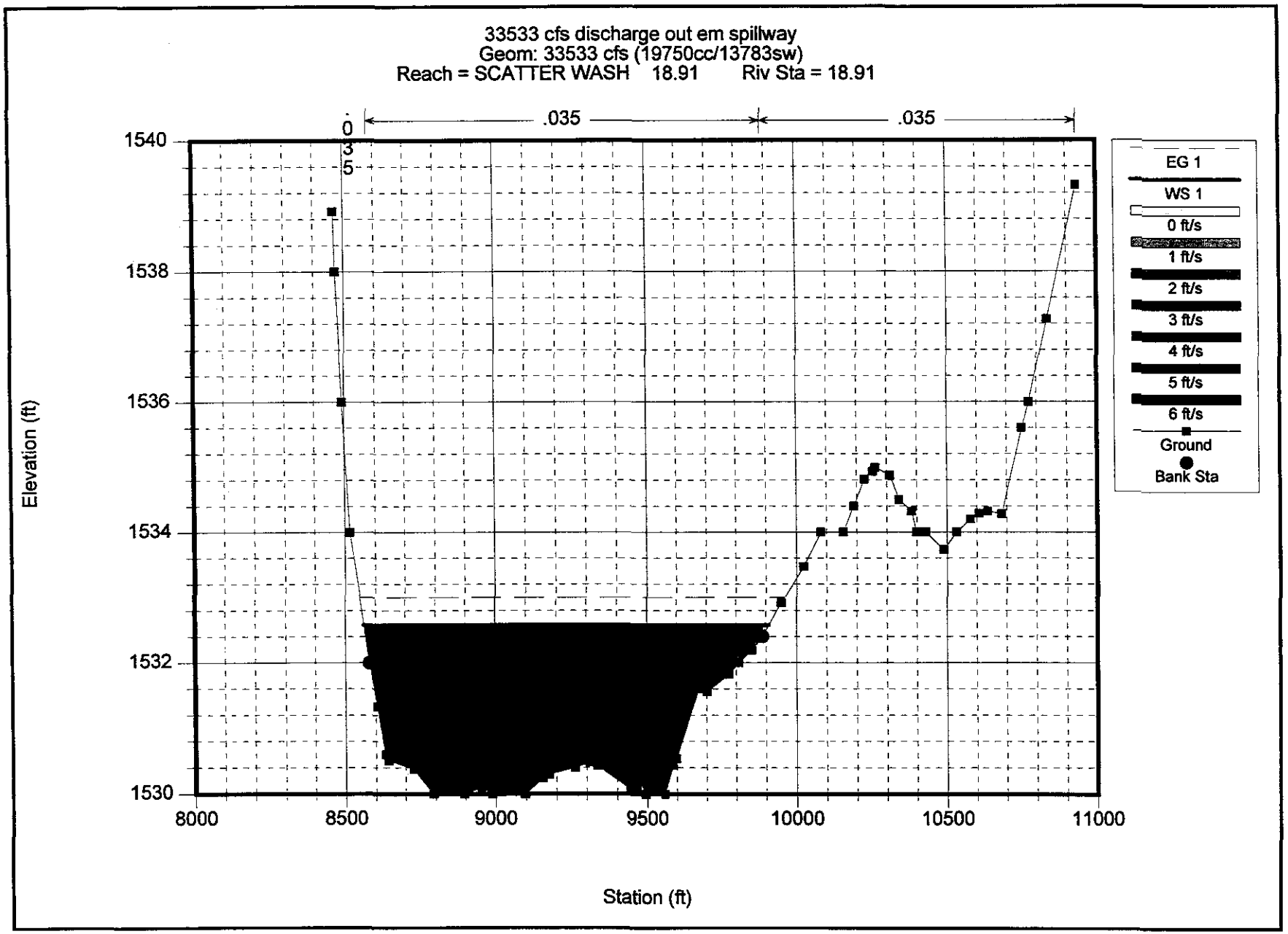


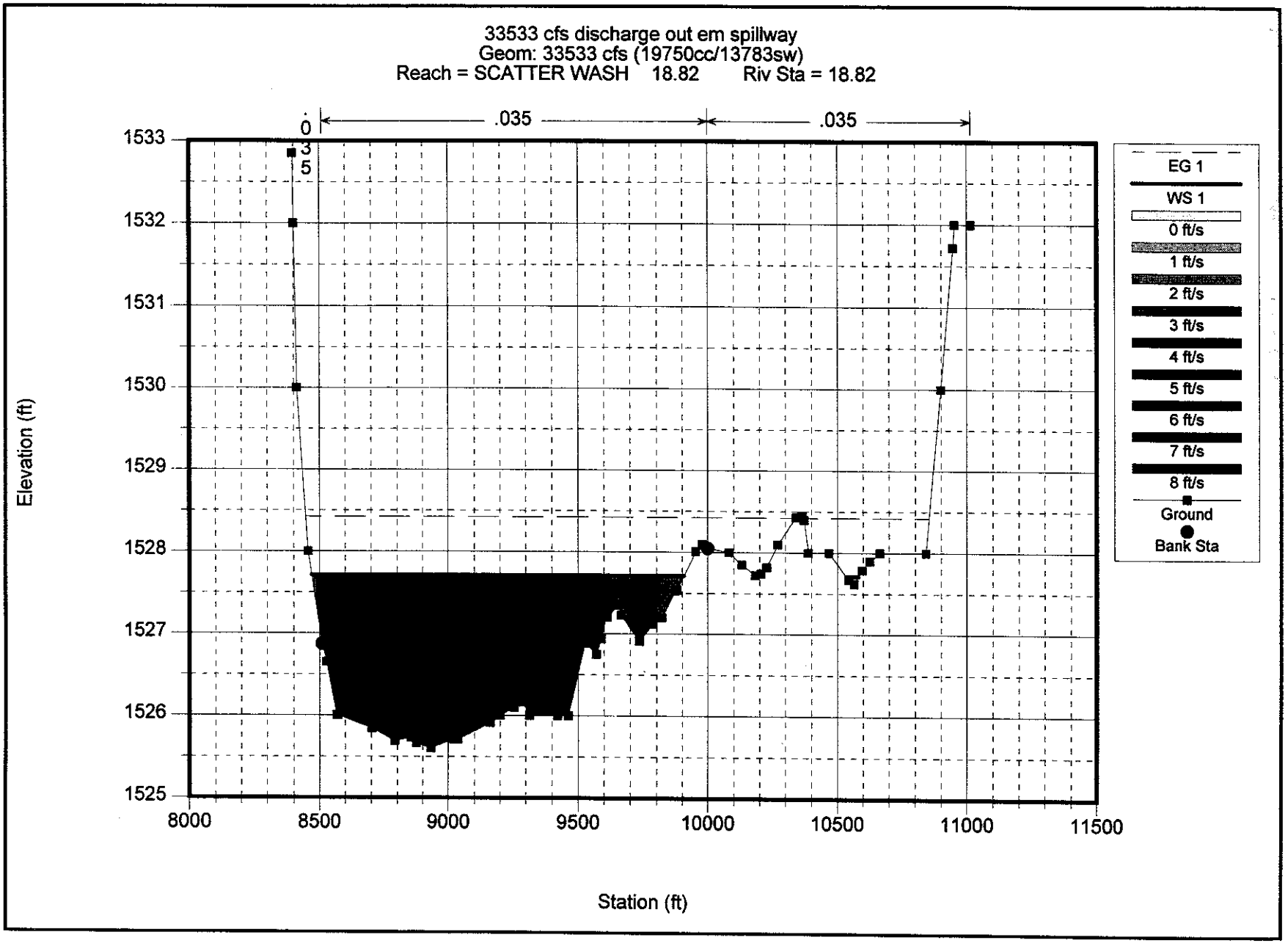

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 18.04 Riv Sta = 18.0074
.035
.035
.035
1520
1515
1510
1505
1500
Elevation (ft)
7500
8000
8500
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
Ground
Ineff
Bank Sta

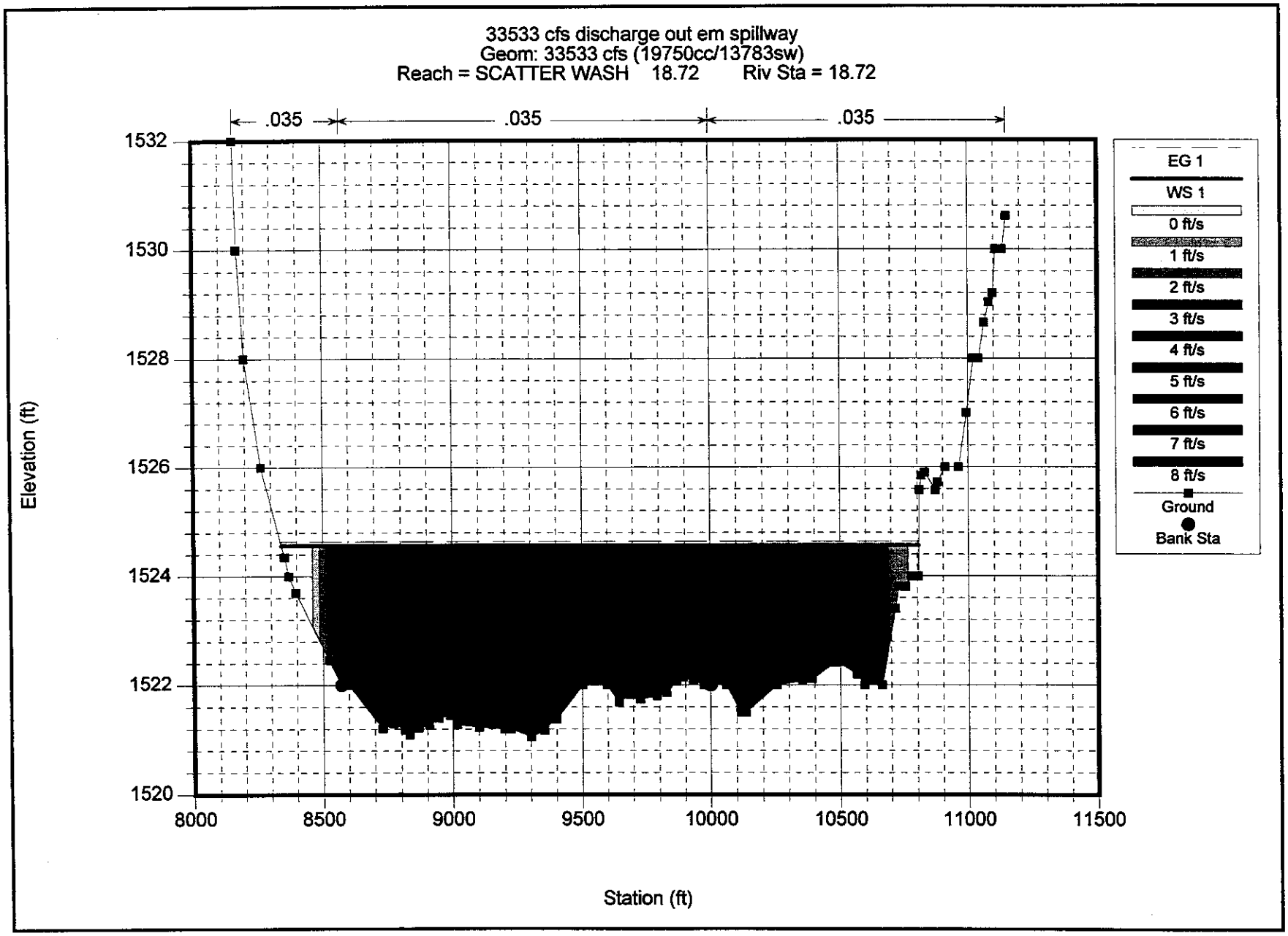

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = CAVE CREEK 17.99 Riv Sta = 17.99
.035
.035
1515
1510
1505
1500
1495
Elevation (ft)
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
Ground
Ineff
Bank Sta

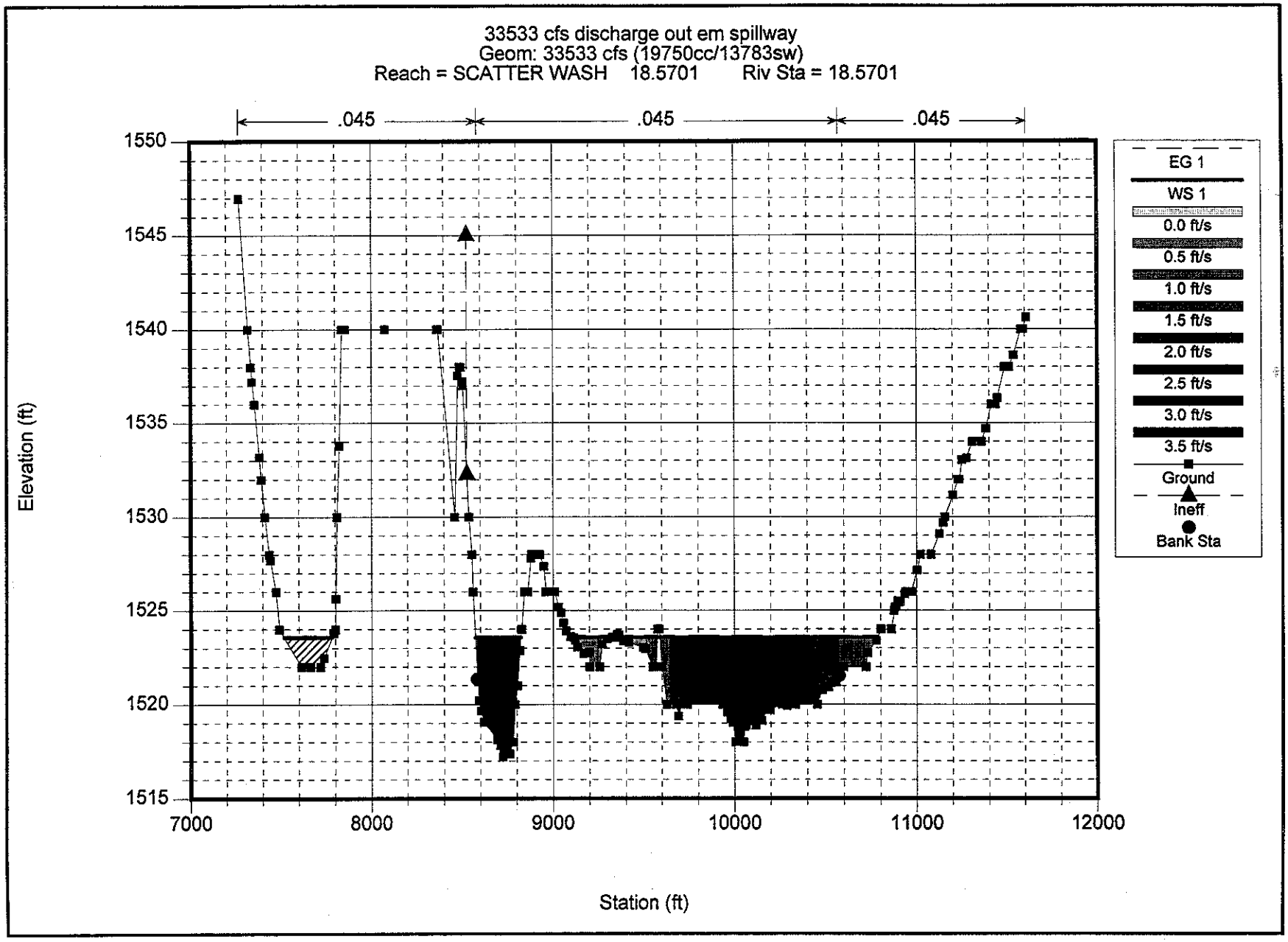

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 19.03 Riv Sta = 19.03
.035
.035
.035
1550
1548
1546
1544
1542
1540
1538
Elevation (ft)
8000
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
Ground
Ineff
Bank Sta

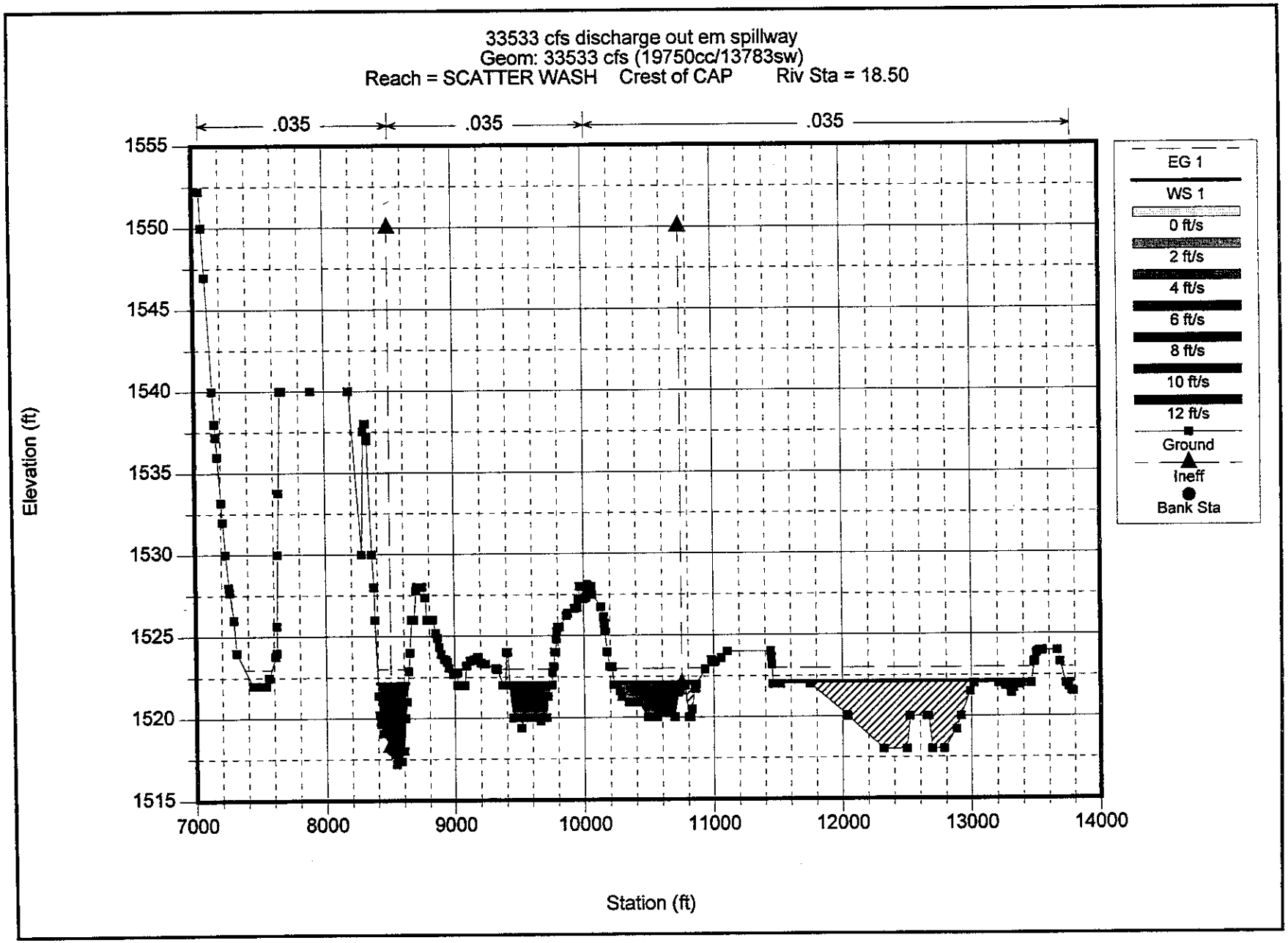

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 18.99 Riv Sta = 18.99
.035
.035
0
3
5
1541
1540
1539
1538
1537
1536
1535
1534
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Bank Sta

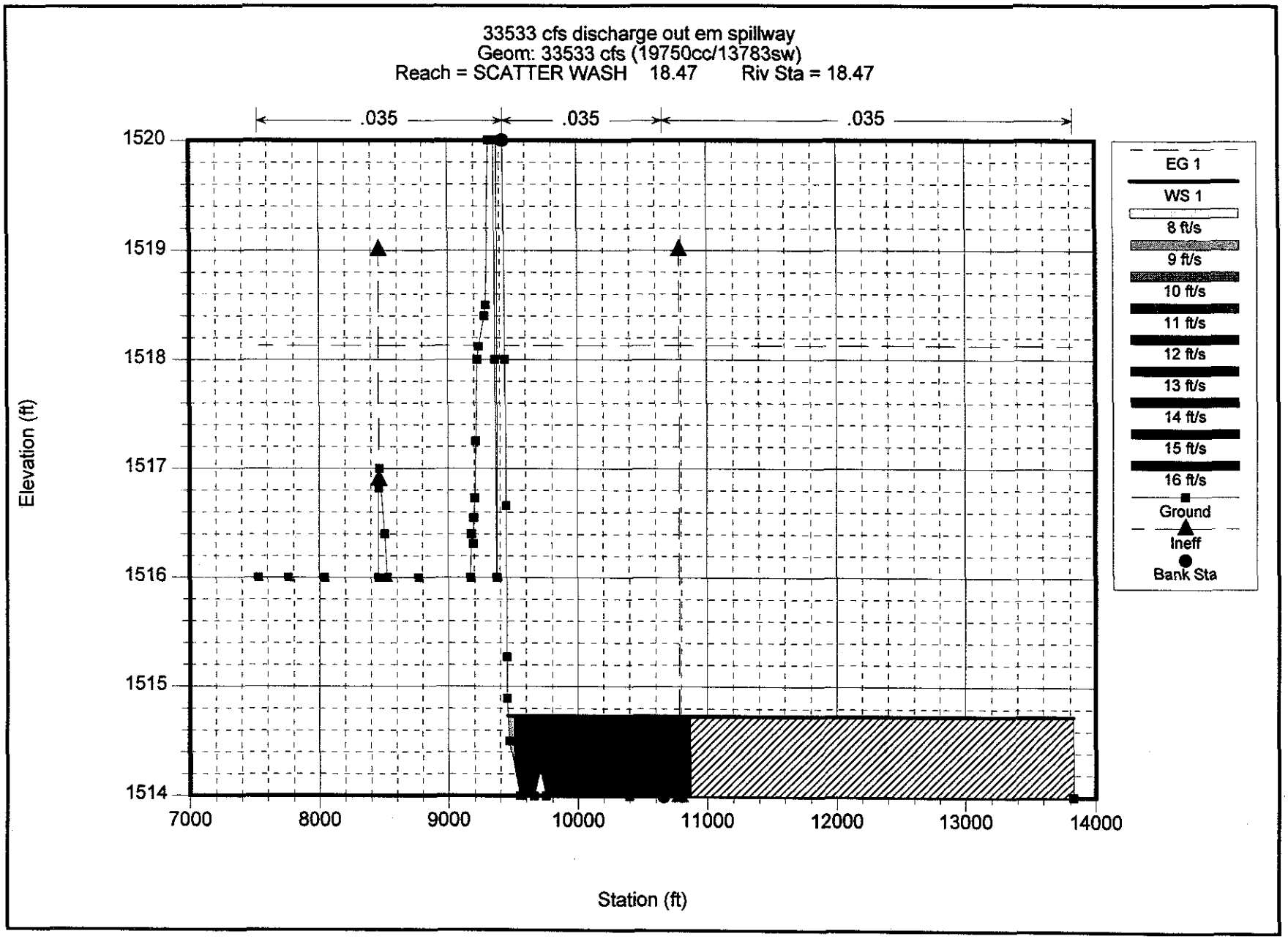

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 18.91 Riv Sta = 18.91
.035
.035
0.035
1540
1538
1536
1534
1532
1530
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
Ground
Bank Sta

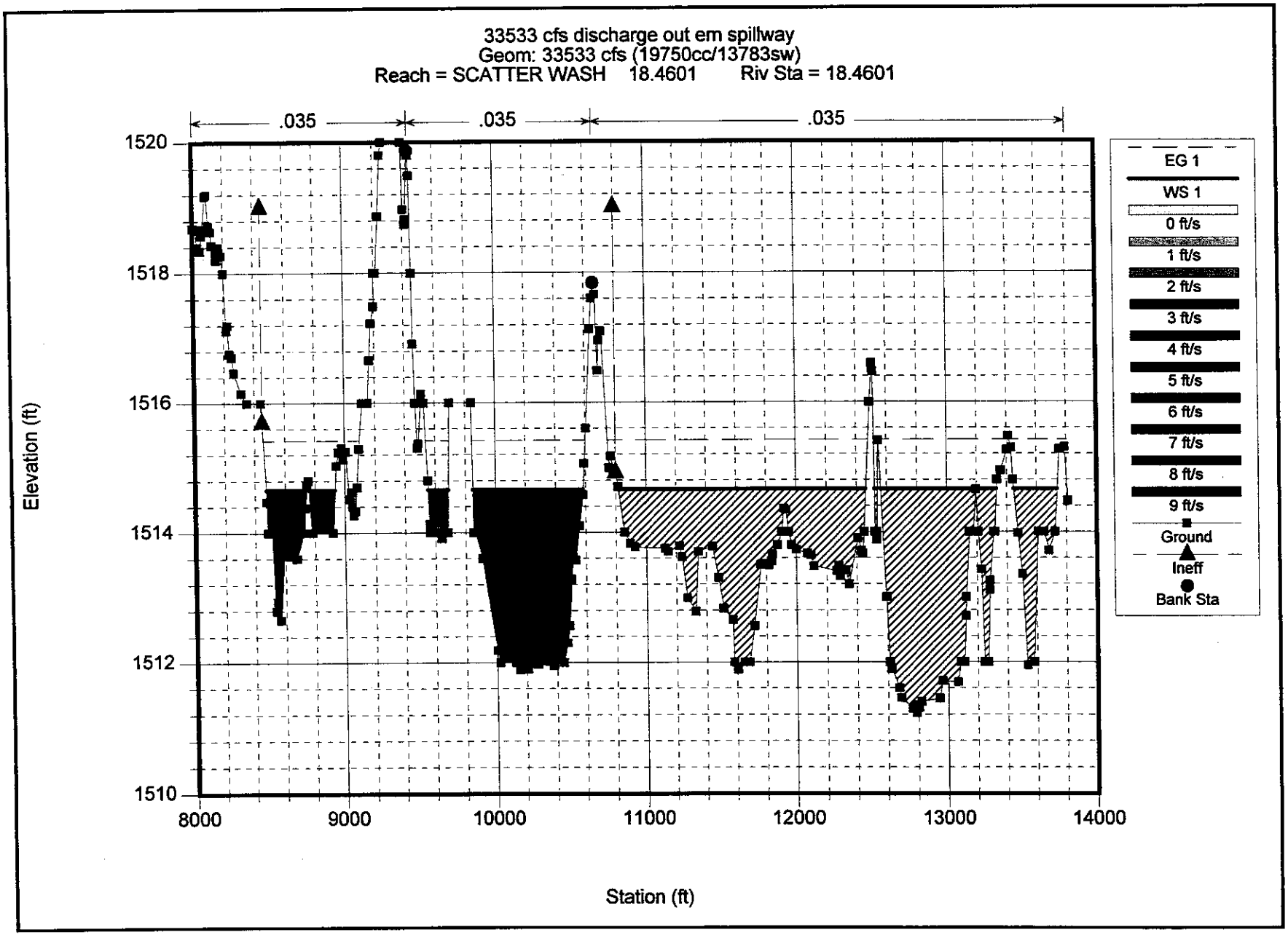

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 18.82 Riv Sta = 18.82
.035
.035
0
3
5
1533
1532
1531
1530
1529
1528
1527
1526
1525
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
Ground
Bank Sta

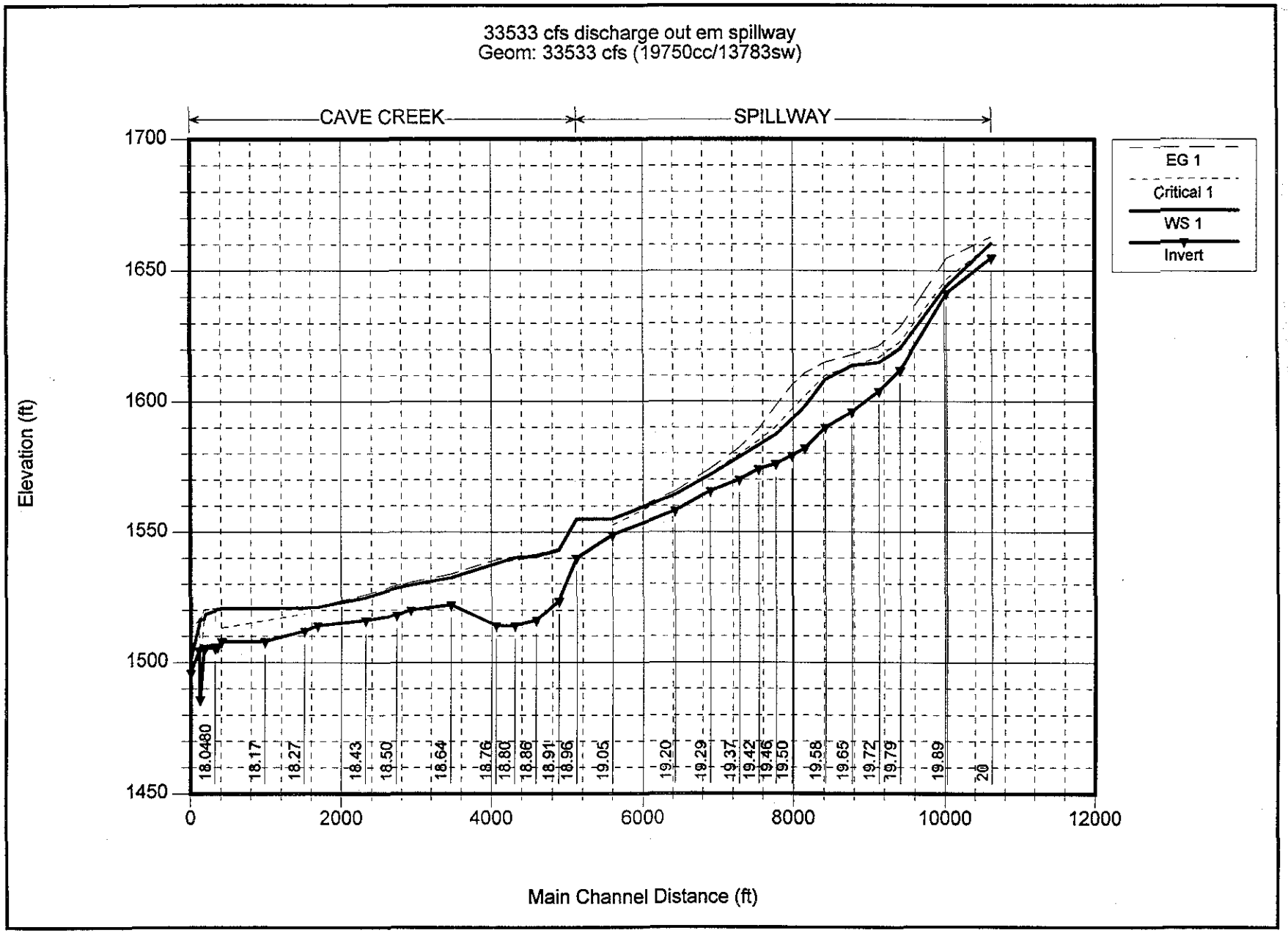

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 18.72 Riv Sta = 18.72
.035
.035
.035
1532
1530
1528
1526
1524
1522
1520
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
Ground
Bank Sta

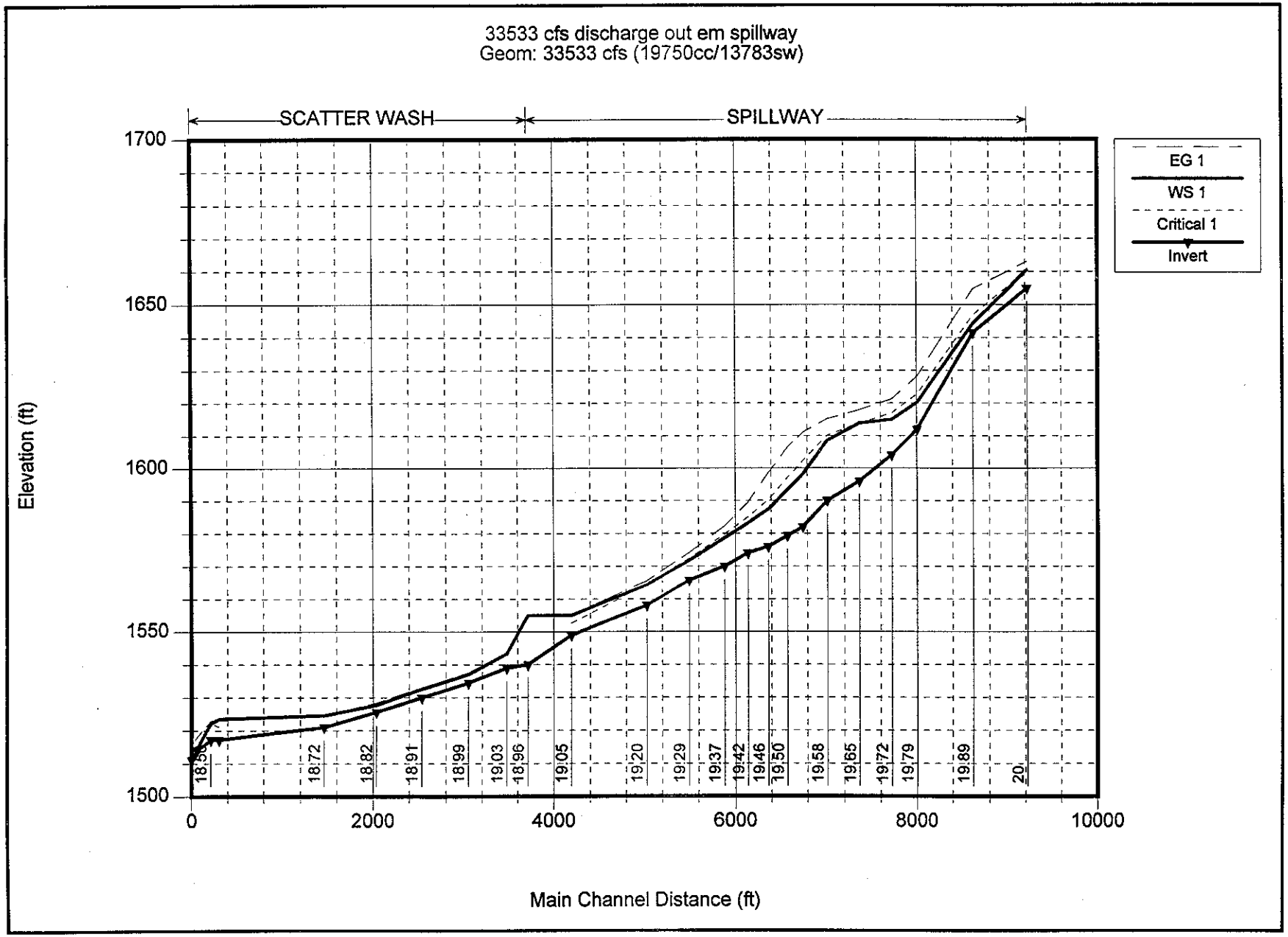

33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 18.5701 Riv Sta = 18.5701
.045
.045
.045
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
Station (ft)
EG 1
WS 1
0.0 ft/s
0.5 ft/s
1.0 ft/s
1.5 ft/s
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
Ground
Ineff
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH Crest of CAP Riv Sta = 18.50
.035
.035
.035
1555
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Ineff
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 18.47 Riv Sta = 18.47
.035
.035
.035
1520
1519
1518
1517
1516
1515
1514
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
8 ft/s
9 ft/s
10 ft/s
11 ft/s
12 ft/s
13 ft/s
14 ft/s
15 ft/s
16 ft/s
Ground
Ineff
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
Reach = SCATTER WASH 18.4601 Riv Sta = 18.4601
.035
.035
.035
1520
1518
1516
1514
1512
1510
Elevation (ft)
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Ineff
Bank Sta


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
CAVE CREEK
SPILLWAY
EG 1
Critical 1
WS 1
Invert
Elevation (ft)
1700
1650
1600
1550
1500
1450
0
2000
4000
6000
8000
10000
12000
Main Channel Distance (ft)
18.0480
18.17
18.27
18.43
18.50
18.64
18.76
18.80
18.86
18.91
18.96
19.05
19.20
19.29
19.37
19.42
19.46
19.50
19.58
19.65
19.72
19.79
19.89
20


33533 cfs discharge out em spillway
Geom: 33533 cfs (19750cc/13783sw)
SCATTER WASH
SPILLWAY
EG 1
WS 1
Critical 1
Invert
Elevation (ft)
1700
1650
1600
1550
1500
0
2000
4000
6000
8000
10000
Main Channel Distance (ft)
18.56
18.72
18.82
18.91
18.99
19.03
18.96
19.05
19.20
19.29
19.37
19.42
19.46
19.50
19.58
19.65
19.72
19.79
19.89
20

HEC-RAS Version 1.1 January 1996
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
XXXXXXX  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: No Dam
Project File : nodams2.prj
Run Date and Time: 10/3/96 9:53:02 AM

Project in English units

PLAN DATA

Plan Title: nodams3
Plan File : p:\proj\cb-dam\engfiles\submit3e\nodams2.p01

Geometry Title: nodams3
Geometry File : p:\proj\cb-dam\engfiles\submit3e\nodams2.p01

Flow Title : nodams3
Flow File : p:\proj\cb-dam\engfiles\submit3e\nodams2.p01

Plan Summary Information:

Number of:	Cross Sections	= 38	Mulitple Openings	=	0
	Culverts	= 0	Inline Weirs	=	0
	Bridges	= 0			

Computational Information

Water surface calculation tolerance	=	.01
Critical depth calculaton tolerance	=	.01
Maximum number of interations	=	20
Maximum difference tolerance	=	.3
Flow tolerance factor	=	.001

Computational Flow Regime: Mixed Flow

Encroachment Data: None

Flow Distribution Locations

Reach	RS Start	RS End	LOB	Channel	ROB
NO DAM SPILL	38	31	15	15	15
CAVE CREEK	21	1	15	15	15
SCATTER WASH	30	22	15	15	15

FLOW DATA

Flow Title: 186000 cfs (141000cc/45000sw)
Flow File : p:\proj\cb-dam\engfiles\submit3e\nodams2.f01

Flow Data (cfs)

Reach	Riv Sta	PF#1
NO DAM SPILL	38	186000
CAVE CREEK	21	144500
SCATTER WASH	30	41500

Boundary Conditions

Reach	Profile	Upstream	Downstream
NO DAM SPILL	1	Critical	
CAVE CREEK	1		Critical
SCATTER WASH	1		Critical

GEOMETRY DATA

Geometry Title: No Dam Conditions
Geometry File : p:\proj\cb-dam\engfiles\submit3e\nodams2.g01

Reach Connection Table

Reach Name	Upstream Boundary	Downstream Boundary
NO DAM SPILL		FLOW SPLIT
CAVE CREEK	FLOW SPLIT	
SCATTER WASH	FLOW SPLIT	

JUNCTION INFORMATION

Name: FLOW SPLIT
Description:
Energy computation Method

Length across Junction Reaches	Length	Tributary Angle
NO DAM SPILL to CAVE CREEK	565	7
NO DAM SPILL to SCATTER WASH	1700	70

CROSS SECTION INPUT Reach: NO DAM SPILL River Station: 38
Description: 1

Station Elevation Data, num = 81

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9072.8	1602.8	9082.07	1602.45	9090.72	1602.54	9101.48	1601.16	9106.05	1600
9111.91	1598	9116.58	1596.67	9120.87	1595.12	9125.08	1594	9137.79	1592.13
9144.24	1589.2	9147.48	1588	9148.67	1587.14	9154.22	1585.36	9167.97	1583.63
9169.23	1583.5	9176.12	1581.31	9184.54	1579.63	9196.18	1576	9210.08	1569.37
9211.81	1568	9222.97	1568	9227.22	1568	9245.93	1568.83	9253.92	1570.09
9258.99	1570.3	9270.14	1571.53	9277.86	1571.75	9279.28	1572	9292.09	1572
9321.52	1572.4	9365.1	1572.43	9377.19	1572.67	9390.22	1573.15	9411.49	1573.15
9417.31	1574	9427.75	1573.11	9436.66	1572.59	9454.8	1572	9723.46	1572
9733.59	1572.6	9745.75	1572.91	9754.8	1573.38	9765.19	1574.32	9782.5	1574.25
9788.67	1574.4	9798.87	1574	9899.39	1574	9910.66	1574.56	9922.27	1574
9966.63	1574	10006.43	1572.01	10030.96	1572.05	10036.71	1571.3	10044.3	1570
10063.7	1569.6	10076.58	1569.47	10089.62	1569.51	10104.94	1568.88	10110.83	1568.77
10174.16	1568	10182.11	1567.91	10229.33	1568	10394.9	1568.35	10523.62	1568.76
10569.77	1568.9	10616.84	1569.14	10645.74	1569.36	10693.34	1569.8	10707.05	1570
10749.71	1571.2	10758.17	1571.71	10766.5	1573.03	10779.8	1575.79	10786.28	1577.58
10787.77	1578.2	10792.25	1581.65	10800.81	1590	10818.43	1600	10836.41	1610
10840.33	1612.9								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9072.8	.03	9072.8	.03	10818.43	.03

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9072.810	818.43	500	500	500	.1	.3

CROSS SECTION OUTPUT Reach: NO DAM SPILL Riv Sta: 38 Profile # 1

W.S. Elev (ft)	1578.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.78	Wt. n-Val.		0.030	
E.G. Elev (ft)	1582.15	Reach Len. (ft)	500.00	500.00	500.00
E.G. Slope (ft/ft)	0.006826	Flow Area (sq ft)		11927.13	
Q Total (cfs)	186000.00	Flow (cfs)		186000.00	
Top Width (ft)	1599.43	Top Width (ft)		1599.43	
Vel Total (ft/s)	15.59	Avg. Vel. (ft/s)		15.59	
Max Chl Dpth (ft)	10.46	Hydr. Depth (ft)		7.46	
Crit W.S. (ft)	1578.37	Wetted Per. (ft)		1603.32	
Conv. Total (cfs)	2251234.0	Conv. (cfs)		2251234.0	

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: NO DAM SPILL Riv Sta: 38 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9072.80	9189.17	0.00	0.06	0.64	0.6	0.09	0.79
9189.17	9305.55	6.98	874.31	118.90	163754.0	7.51	14.86
9305.55	9421.93	4.41	658.58	116.47	103534.1	5.66	12.47
9421.93	9538.30	5.13	720.94	116.42	120416.9	6.19	13.25
9538.30	9654.68	5.39	741.78	116.38	126306.8	6.37	13.51
9654.68	9771.05	4.73	686.44	116.45	110948.0	5.90	12.82
9771.05	9887.43	2.81	501.85	116.38	65852.6	4.31	10.41
9887.43	10003.80	3.14	537.17	116.45	73728.3	4.62	10.89
10003.80	10120.18	8.16	952.51	116.56	191411.0	8.18	15.94
10120.18	10236.55	11.87	1191.99	116.38	278446.7	10.24	18.53
10236.55	10352.93	11.86	1191.20	116.38	278145.1	10.24	18.52
10352.93	10469.30	11.34	1159.59	116.38	265955.1	9.96	18.19
10469.30	10585.68	10.66	1117.43	116.38	250032.6	9.60	17.75
10585.68	10702.05	9.56	1046.66	116.38	224199.1	8.99	16.99
10702.05	10818.43	3.94	546.61	86.79	92335.4	6.36	13.40

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: NO DAM SPILL River Station: 37
Description: 2

Station Elevation Data, num = 78

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8926	1583.7	8933.98	1583.12	8945.93	1582	8978.75	1582	8982.51	1581.74
8988.4	1581.7	9011.35	1580	9023.17	1580	9034.15	1579.28	9039.48	1578.6
9049.26	1578	9069.35	1576.29	9087.81	1575.18	9120.84	1573.09	9137.2	1570.62
9146.44	1569.3	9160.84	1566	9165.76	1564.27	9168.23	1563.87	9182.81	1559.48
9188.5	1558	9201.08	1558.12	9216.58	1562.18	9224.42	1564	9298.73	1564

```
 9350.17  1562.8 9369.56 1562.23 9374.52    1562 9392.17    1562 9410.94 1562.82
 9415.14  1562.9 9426.93 1562.92 9457.94    1564 9546.46    1564 9569.68 1565.67
 9603.38  1564.3 9619.68 1565.33 9656.07    1566 9669.59 1566.26 9681.88    1566
 9704.56  1565.7  9721.5 1565.81 9761.31 1564.93 9794.61    1564 9833.53    1564
 9854.81  1564.6  9890.5    156610060.69    156610075.68 1568.2610089.22    1570
10101.67    157210115.76    1574 10164.7    157410182.75 1571.4210198.74 1568.77
10205.05    156810223.34 1566.8910249.33    156610373.94    156610408.51    1568
10474.45    156810511.58 1566.5310524.33 1565.9510532.35    156410548.16    1564
10562.06    156610566.95 1566.8310576.24 1569.0110582.36    157010617.75  1578.7
10623.81    158010657.01  1587.6 10671.7 1590.0610687.49 1591.4410716.28 1593.19
10721.22  1593.610742.34 1594.4610766.38 1594.63

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

    8926     .03    8926     .0310623.81     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
          892610623.81               500     500     500             .1       .3

CROSS SECTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 37        Profile # 1

  W.S. Elev (ft)        1572.71   Element              Left OB    Channel   Right OB
  Vel Head (ft)            5.23   Wt. n-Val.                        0.030
  E.G. Elev (ft)        1577.94   Reach Len. (ft)       500.00     500.00     500.00
  E.G. Slope (ft/ft)   0.009876   Flow Area (sq ft)              10135.07
  Q Total (cfs)       186000.00   Flow (cfs)                    186000.00
  Top Width (ft)        1402.94   Top Width (ft)                 1402.94
  Vel Total (ft/s)        18.35   Avg. Vel. (ft/s)                 18.35
  Max Chl Dpth (ft)       14.71   Hydr. Depth (ft)                  7.22
  Crit W.S. (ft)        1573.68   Wetted Per. (ft)               1407.82
  Conv. Total (cfs)  1871633.0    Conv. (cfs)                   1871633.0


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 37        Profile # 1

  Left Sta     Right Sta          %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)         (ft)                       (sq ft)     (ft)      (cfs)      (ft)     (ft/s)
  9039.19      9152.38          0.27       64.11     29.41     5338.1       2.21       7.97
  9152.38      9265.56         13.78     1160.16    115.30   267824.1      10.25      22.10
  9265.56      9378.75         12.06     1063.17    113.22   234391.9       9.39      21.10
  9378.75      9491.94         12.32     1076.78    113.22   239398.9       9.51      21.28
  9491.94      9605.12          9.69      932.50    113.28   188303.2       8.24      19.33
  9605.12      9718.31          7.38      791.53    113.23   143332.1       6.99      17.33
  9718.31      9831.50          9.31      909.93    113.21   180842.9       8.04      19.02
  9831.50      9944.69          7.90      824.55    113.22   153443.7       7.28      17.81
  9944.69      10057.87         6.88      759.33    113.19   133780.9       6.71      16.86
  10057.87     10171.06         1.03      174.02     49.28    19986.9       3.57      10.99
  10171.06     10284.25         4.30      568.20    110.92    83631.4       5.14      14.09
  10284.25     10397.43         6.64      743.36    113.23   129094.3       6.57      16.62
  10397.43     10510.62         4.17      562.40    113.23    81090.4       4.97      13.80
  10510.62     10623.81         4.26      505.02     83.88    82787.3       6.10      15.69


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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 INPUT    Reach: NO DAM SPILL   River Station: 36
Description:  3
```

Station Elevation Data, num = 118

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8016.31	1592	8045.87	1590	8076.79	1588	8112.98	1586.27	8152.48	1584.7
8169.56	1584	8187.29	1584	8214.93	1582.8	8237.59	1582.49	8250.14	1582.5
8269.59	1582	8325.83	1582	8394.77	1580	8429.93	1578.48	8440.57	1578
8442.61	1577.8	8467.68	1576	8471.75	1575.01	8493.32	1574	8508.1	1574
8523.58	1572.13	8533.28	1572.25	8538.62	1572.55	8557.64	1574	8566.3	1574.5
8575.02	1574.78	8589.24	1574.92	8625.89	1574.81	8637.24	1574.85	8661.55	1575.8
8668.15	1575.75	8694.25	1576.67	8721.89	1576.14	8723.89	1576	8742.57	1576
8771.8	1579.92	8786.41	1581.53	8789.44	1582	8815.6	1584	8835.26	1584
8875.46	1582	8882.17	1580.42	8891.61	1579.25	8894.24	1578	8912.78	1574.9
8924.54	1573.02	8945.86	1570	8953.55	1568.58	8961.63	1567.85	8981.52	1566.5
8997.58	1566	9019.73	1566	9052.16	1565.15	9075.74	1564.74	9111.47	1564
9199.91	1564	9217.98	1560.67	9222.8	1560	9225.64	1558	9234.67	1558.3
9239.28	1560	9424.46	1560	9435.15	1560.22	9483.72	1560.97	9518.13	1562
9535.59	1562	9567.54	1556	9579.2	1556	9581.3	1556.28	9601.29	1560
9610.94	1562	9626.6	1562	9638.24	1560	9676.12	1560	9702.55	1561
9709.58	1562	9721.82	1566	9732.34	1566	9740.36	1563.97	9750.33	1562
9783.97	1562	9828.4	1566	9846.95	1567.39	9852.79	1568	9936.66	1568
9975.06	1566.67	9994.87	1565.78	10030.06	1564	10056.56	1562	10077.23	1560
10094.5	1558	10100.44	1557.21	10111.25	1556	10137.3	1556	10158.27	1558
10170.79	1558.73	10186.25	1560	10202.69	1560.71	10229.62	1562	10330.46	1562
10356.11	1560	10372.63	1558.97	10385.59	1558	10397.31	1558	10411.14	1558.5
10436.99	1560	10477.24	1560.82	10550.24	1562	10573.98	1564.19	10596.27	1566.1
10618.72	1568	10628.46	1569.18	10636.69	1570	10659.47	1573.37	10708.88	1580
10750.23	1588	10781.4	1594	10806.99	1598.68				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8016.31	.03	9199.91	.03	10636.69	.03

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9199.91	10636.69	500	500	500	.1	.3

CROSS SECTION OUTPUT Reach: NO DAM SPILL Riv Sta: 36 Profile # 1

W.S. Elev (ft)	1569.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	4.09	Wt. n-Val.	0.030	0.030	
E.G. Elev (ft)	1573.25	Reach Len. (ft)	500.00	500.00	500.00
E.G. Slope (ft/ft)	0.007725	Flow Area (sq ft)	1007.34	10590.99	
Q Total (cfs)	186000.00	Flow (cfs)	11114.62	174885.40	
Top Width (ft)	1677.85	Top Width (ft)	249.49	1428.37	
Vel Total (ft/s)	16.04	Avg. Vel. (ft/s)	11.03	16.51	
Max Chl Dpth (ft)	13.16	Hydr. Depth (ft)	4.04	7.41	
Crit W.S. (ft)	1569.56	Wetted Per. (ft)	249.65	1433.67	
Conv. Total (cfs)	2116221.0	Conv. (cfs)	126456.9	1989764.0	

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

FLOW DISTRIBUTION OUTPUT Reach: NO DAM SPILL Riv Sta: 36 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8884.28	8963.19	0.02	10.64	12.86	464.8	0.83	3.66
8963.19	9042.10	1.05	231.14	78.96	23426.5	2.93	8.48
9042.10	9121.00	2.19	358.58	78.92	48720.7	4.54	11.37
9121.00	9199.91	2.71	406.98	78.91	60174.7	5.16	12.38
9199.91	9295.70	7.95	856.83	97.08	181252.4	8.95	17.27
9295.70	9391.48	8.35	877.17	95.79	190173.8	9.16	17.70
9391.48	9487.27	7.82	843.48	95.80	178142.6	8.81	17.24
9487.27	9583.05	8.48	887.71	96.41	193162.3	9.27	17.76
9583.05	9678.84	7.96	855.37	96.48	181490.9	8.93	17.32
9678.84	9774.62	4.68	623.15	96.96	106695.3	6.51	13.98
9774.62	9870.41	1.98	370.69	96.05	45174.8	3.87	9.95

9870.41	9966.19	0.33	126.00	95.80	7491.2	1.32	4.85
9966.19	10061.98	2.56	432.36	95.96	58420.4	4.51	11.03
10061.98	10157.76	12.14	1100.20	96.18	276645.0	11.49	20.53
10157.76	10253.55	7.43	818.52	95.91	169312.5	8.55	16.88
10253.55	10349.33	5.72	699.49	95.84	130358.4	7.30	15.21
10349.33	10445.12	9.86	969.89	95.93	224618.2	10.13	18.90
10445.12	10540.91	6.81	776.38	95.80	155151.1	8.11	16.31
10540.91	10636.69	1.95	353.74	87.70	44395.7	4.05	10.24

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: NO DAM SPILL River Station: 35
Description: 4

Station Elevation Data, num = 117

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8195.8	1602.8	8205.39	1601.79	8220.9	1600	8235.21	1598.77	8262.59	1596
8281.85	1593.8	8296.56	1592	8318.03	1590	8326.47	1589.28	8339.4	1588
8358.35	1586.3	8394.27	1584	8425.3	1582.23	8442.59	1581.5	8480.33	1580
8541.38	1578	8543.54	1577.06	8552.05	1576.78	8561.7	1576	8582.39	1573.92
8605.25	1572.9	8617.51	1572.56	8632.77	1572	8647.42	1571.37	8659.23	1571.17
8666.59	1571.3	8681.16	1572.09	8698.69	1572.88	8719.26	1574	8742.02	1574.99
8769.06	1576.5	8789.94	1577.47	8806.72	1577.9	8818.28	1577.52	8832.11	1576.83
8854.11	1575.2	8874.67	1573.04	8904.91	1569.8	8938.13	1566.64	8955.72	1565.14
8972.35	1564	8984.15	1563.53	9013.3	1562	9030.46	1561.47	9054.24	1560.73
9067.91	1560.9	9088.77	1560.94	9096.34	1560.85	9108.53	1560.55	9122.88	1560
9440.63	1560	9455.75	1558	9459.17	1557.33	9467.5	1556	9477.38	1554
9496.37	1550.7	9500.77	1550	9510.79	1547.52	9517.84	1546	9525.22	1545.53
9610.04	1544	9852.65	1544	9866.51	1544.86	9872.33	1544	9876.35	1544
10000.79	1545.8	10013.02	1546	10019.37	1548.14	10025.95	1552	10031.98	1554.66
10033.82	1556	10038.7	1556	10049.26	1550.59	10054.92	1548	10058.62	1546
10142.71	1546	10172.8	1545.05	10216.6	1545.41	10260.22	1546	10421.61	1546
10441.06	1550	10444.68	1550.48	10453.82	1552	10468.65	1554	10486.79	1556.38
10504.15	1558	10505.89	1559.25	10508.28	1560	10514.64	1560.16	10516.35	1560
10533.7	1560	10545.86	1562	10556.38	1562.63	10571.93	1562.91	10602.09	1563.3
10620.07	1563.5	10628.96	1563.31	10634.26	1563.33	10643.78	1562.99	10666.13	1562.92
10680.44	1562.7	10693.06	1562.95	10721.24	1564.2	10730.47	1564.75	10781.18	1567.54
10791.71	1568.3	10814.66	1570	10837.13	1572	10856.18	1574.01	10882.13	1577.4
10892.26	1578.9	10902.04	1580	10915.12	1582.08	10940.94	1585.7	10970.44	1590
10975.63	1590.9	10984.55	1592						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8195.8	.03	9440.63	.03	10453.82	.03

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9440.63	10453.82	500	500	500	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10450	10984.55	1570

CROSS SECTION OUTPUT Reach: NO DAM SPILL Riv Sta: 35 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1562.24	Element			
Vel Head (ft)	1.94	Wt. n-Val.	0.030	0.030	
E.G. Elev (ft)	1564.18	Reach Len. (ft)	500.00	500.00	500.00
E.G. Slope (ft/ft)	0.001276	Flow Area (sq ft)	851.88	16310.42	
Q Total (cfs)	186000.00	Flow (cfs)		186000.00	
Top Width (ft)	1541.11	Top Width (ft)	431.89	1013.19	96.03
Vel Total (ft/s)	10.84	Avg. Vel. (ft/s)	2.78	11.26	
Max Chl Dpth (ft)	18.24	Hydr. Depth (ft)	1.97	16.16	
Crit W.S. (ft)	1556.13	Wetted Per. (ft)	431.93	1016.11	
Conv. Total (cfs)	5207039.0	Conv. (cfs)	66358.4	5140681.0	

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: NO DAM SPILL Riv Sta: 35 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9440.63	9508.18	0.22	35.05	20.08	2517.3	1.78	11.85
9508.18	9575.72	6.94	448.18	67.81	78180.5	6.64	28.79
9575.72	9643.27	9.32	534.35	67.55	105075.1	7.91	32.45
9643.27	9710.81	9.63	544.98	67.55	108586.8	8.07	32.88
9710.81	9778.36	9.63	544.98	67.55	108585.2	8.07	32.88
9778.36	9845.91	9.63	544.98	67.55	108585.2	8.07	32.88
9845.91	9913.45	9.09	526.56	67.64	102442.9	7.80	32.11
9913.45	9981.00	7.68	475.72	67.55	86570.3	7.04	30.03
9981.00	10048.54	3.22	248.43	48.96	36333.1	5.25	24.14
10048.54	10116.09	5.32	384.12	68.70	59931.7	5.69	25.75
10116.09	10183.64	6.59	433.99	67.56	74279.8	6.43	28.25
10183.64	10251.18	6.90	446.12	67.55	77779.7	6.60	28.77
10251.18	10318.73	6.01	410.44	67.55	67693.7	6.08	27.22
10318.73	10386.27	5.99	409.88	67.55	67542.5	6.07	27.19
10386.27	10453.82	3.81	306.27	64.24	42971.4	4.81	23.15

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: NO DAM SPILL River Station: 34
Description: 5

Station Elevation Data, num = 138

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8233.21	1582.4	8246.2	1582	8260.18	1581.31	8311.93	1578	8343.64	1576.53
8360.6	1576	8388.98	1574.93	8405.81	1574	8435.44	1573	8461.56	1572
8507.51	1570.6	8524.77	1570.26	8531.44	1570.19	8584.22	1570.84	8607.9	1571.31
8619.31	1571.8	8627.22	1572	8655.47	1572.57	8695.18	1572.12	8712.04	1572
8744.02	1571.7	8750.58	1571.71	8790.34	1571.35	8808.06	1571.24	8824.61	1570.99
8846.72	1570.7	8880.4	1570	8911.39	1569.19	8962.52	1567.47	8996.82	1566
9037.86	1564.5	9049.92	1564	9108.67	1562	9119.52	1562	9137.73	1561.47
9190.6	1560.6	9202.38	1560.4	9223.55	1560	9232.45	1560	9251.28	1559.24
9263.31	1558	9267.7	1556.64	9272.96	1556	9281.85	1554	9284.11	1554
9285.44	1554.5	9295.81	1556.63	9297.65	1556.61	9317.62	1558	9436.31	1558
9460.89	1556	9478.8	1554	9493.09	1552	9502.02	1550	9524.48	1546
9529.7	1545.2	9534.99	1545.42	9621.77	1544	9683.28	1544	9688.93	1543.49
9703.24	1542	9725.66	1542	9752.47	1543.74	9757.76	1544	9769.17	1544.3
9805.19	1545.6	9814.61	1546	9973.98	1546	9988.77	1547.32	9994.54	1548

```
10007.72  1550.710016.15    155210036.72    155210040.43 1552.3710049.42 1551.12
10066.11  1549.310078.93    154810130.39    154810253.63 1549.7510265.41 1549.84
10279.03    155010339.79 1550.6110371.01 1550.9710421.02 1551.4510448.86    1552
10485.98    155210494.01 1553.06 10500.9 1553.0510506.37 1553.3710513.72 1554.31
10519.52    155610529.59 1558.5110538.13    156010543.05 1561.55   10558 1564.63
10566.23    156610580.45 1568.5610593.35 1570.3510601.58 1571.1910624.23    1574
 10643.8    157610662.93 1576.9710670.02 1577.2710690.58 1577.1210702.12 1576.81
10723.11    157610746.38 1574.8510760.66    157410775.37  1573.310826.89 1570.22
10830.91    157010841.27 1569.1710859.82    156810870.72  1567.210883.05 1566.48
 10900.5    156810925.42    156810933.97    156610956.91 1565.1110989.82 1564.57
11002.93    156411034.95    156411045.22 1564.8211058.19    156611083.31 1567.37
11092.98    156811106.71 1569.1111109.43 1569.2511114.57    157011137.06 1571.81
11140.93    157211175.14    157611193.71 1578.0711209.42 1580.1811230.56 1583.09
11246.29  1584.711259.24 1585.5611269.44 1585.87

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8233.21     .03 9436.31     .0310529.59     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9436.3110529.59               500     500     500             .1       .3

CROSS SECTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 34        Profile # 1

  W.S. Elev (ft)       1557.87   Element              Left OB    Channel   Right OB
  Vel Head (ft)           4.82   Wt. n-Val.             0.030      0.030
  E.G. Elev (ft)       1562.69   Reach Len. (ft)       500.00     500.00     500.00
  E.G. Slope (ft/ft)  0.006183   Flow Area (sq ft)      87.34   10519.52
  Q Total (cfs)      186000.00   Flow (cfs)            475.54  185524.50
  Top Width (ft)       1141.18   Top Width (ft)         52.04    1089.13
  Vel Total (ft/s)       17.54   Avg. Vel. (ft/s)        5.44      17.64
  Max Chl Dpth (ft)      15.87   Hydr. Depth (ft)        1.68       9.66
  Crit W.S. (ft)       1557.87   Wetted Per. (ft)       52.84    1091.69
  Conv. Total (cfs)  2365444.0   Conv. (cfs)           6047.6  2359397.0


Warning - The energy equation could not be balanced within the specified number
                of iterations.  The program used critical depth for the water surface and
                continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface
                was set equal to critical depth, the calculated water surface came back
                below critical depth.  This indicates that there is not a valid subcritical
                answer.  The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 34        Profile # 1

  Left Sta    Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)        (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9195.69     9275.90        0.04      17.07     12.47     1042.5       1.40       4.78
  9275.90     9356.10        0.21      70.27     40.37     5036.2       1.76       5.61
  9356.10     9436.31
  9436.31     9509.20        1.24     264.98     71.96    31295.0       3.72       8.71
  9509.20     9582.08        9.34     895.62     73.20   235550.6      12.29      19.40
  9582.08     9654.97       11.22     998.13     72.89   282965.6      13.69      20.92
  9654.97     9727.85       12.78    1079.47     72.99   322142.2      14.81      22.02
  9727.85     9800.74       11.41    1008.61     72.97   287731.8      13.84      21.05
  9800.74     9873.62        8.91     869.27     72.90   224726.9      11.93      19.07
  9873.62     9946.51        8.85     865.23     72.88   223016.0      11.87      19.02
  9946.51     10019.39       6.74     737.19     73.36   170038.2      10.11      17.02
  10019.39    10092.28       4.22     555.74     73.15   106373.1       7.62      14.12
  10092.28    10165.16       6.38     710.89     72.89   160730.4       9.75      16.68
  10165.16    10238.05       5.43     645.76     72.89   136942.2       8.86      15.65
  10238.05    10310.93       4.51     577.71     72.89   113747.7       7.93      14.53
  10310.93    10383.82       3.82     522.40     72.89    96184.1       7.17      13.58
```

10383.82	10456.70	3.12	462.68	72.89	78564.4	6.35	12.53
10456.70	10529.59	1.77	325.86	70.93	44602.7	4.63	10.10

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: NO DAM SPILL River Station: 33
Description: 6

Station Elevation Data, num = 336

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
6334.1	1571.2	6347.3	1571.42	6373.31	1571.41	6426.36	1571.03	6460.08	1570.66
6510.37	1570	6520.13	1570.12	6529.54	1570.39	6579.92	1572.88	6622.38	1575.2
6639.94	1575.8	6652.19	1575.94	6673.84	1575.62	6689.42	1575.17	6720.37	1573.96
6727.52	1573.9	6747.08	1573.88	6754.83	1573.76	6774.01	1573.24	6790.64	1572.56
6808.75	1571.3	6827.95	1569.89	6851.75	1568	6867.46	1566.4	6873	1566.25
6911.79	1568	6935.78	1570	6947.75	1571.21	6957.48	1572	6986.28	1574
7002.88	1574.9	7019.95	1575.53	7036.09	1575.44	7046.65	1575.46	7076.6	1574.18
7096.59	1572	7109.06	1570	7131.09	1565.8	7140.89	1564	7145.15	1564
7213.05	1562.9	7263.75	1562.03	7294.54	1560.95	7307.02	1562	7310.9	1562
7320.13	1562.8	7350.88	1566	7353.19	1566.32	7369.4	1568	7385.76	1570
7388.23	1570.5	7398.41	1572	7410.22	1574	7428.99	1574	7458.47	1573.65
7462.18	1573.7	7514.34	1573.52	7528.89	1573.56	7546.52	1573.28	7559.57	1572.87
7577.2	1572	7603.87	1570.14	7610.26	1569.47	7639.32	1566	7661.67	1563.04
7667.83	1562.9	7679.12	1564.19	7696.16	1566	7707.7	1568	7717.94	1568.58
7724.66	1568.8	7741.25	1568.89	7759.06	1568.67	7771.08	1568.23	7775.02	1568
7788.76	1566	7794.31	1565.65	7796.74	1566	7801.21	1566	7812.01	1568.03
7827.16	1570	7853.76	1570.94	7894.82	1572.04	7909.97	1572.28	7932.37	1572.42
7959.62	1572.3	8032.79	1571.7	8049.21	1571.44	8065.88	1570.94	8090.96	1570
8104.62	1569.4	8131.04	1568	8161.56	1566.25	8177.44	1565.36	8185.04	1565.07
8200.65	1565.3	8220.82	1566	8226.82	1566	8261.57	1566.94	8265.42	1566.9
8279.42	1566	8296.22	1564	8311.49	1562	8320.71	1561.09	8330.95	1560.37
8334.33	1560	8348.65	1558.89	8357.07	1558	8379.46	1556.26	8390.88	1556
8450.05	1556	8488.98	1559.65	8512.09	1562	8527.8	1563.12	8541.59	1564
8566.8	1565.1	8590.28	1566	8599.71	1566	8614.15	1565.52	8634.82	1564.78
8641.83	1564.5	8657.83	1564	8701.42	1564	8709.64	1563.53	8742.06	1562
8755.91	1560.6	8781.52	1558.6	8794.17	1558	8831.26	1558	8846.16	1557.16
8893.51	1557.8	8904.33	1558	8932.32	1558.31	8967.24	1558	8983.26	1558
9005.46	1557.5	9025.32	1557.01	9084.79	1556.28	9118.17	1555.86	9168.08	1554.97
9182.44	1554.6	9185.54	1554	9194	1553.01	9198.54	1552.91	9204.62	1552
9215.12	1552	9219.66	1551.06	9222.8	1551.03	9245.15	1548	9250.94	1547.09
9255.92	1546	9262.18	1544.95	9269.16	1544	9277.08	1541.93	9287.19	1540
9293.66	1538.4	9298.96	1538	9424.55	1538	9458.9	1539.15	9480.22	1540
9505.35	1540.8	9541.5	1541.93	9551.83	1542.03	9641.42	1542	9653.8	1541.1
9665.73	1540.6	9674.05	1540	9702.16	1540	9703.2	1540.18	9706.12	1542
9712.4	1543.6	9716.14	1544	9736.33	1544.77	9759.46	1545.57	9780.78	1546.45
9783.51	1546.6	9815.41	1548	9839.29	1549.27	9847.59	1550	9867.07	1552
9950.96	1552	9999.37	1550	10005.41	1548.79	10009.03	1547.59	10014.72	1546
10019.12	1544	10054.06	1544	10066.47	1543.53	10080.19	1543.25	10088.43	1543.48
10095.82	1544.11	10107.75	1546	10115.14	1546.97	10120.27	1548	10135.94	1550
10179.35	1551.61	10203.93	1552	10231.58	1551.95	10255.21	1551	10264.25	1550
10272.48	1550	10279.17	1551.12	10287.06	1551.26	10297.43	1550.98	10307.91	1550.88
10338.27	1550	10357.21	1549.29	10381.74	1548.91	10384.26	1548.92	10395.92	1550
10403.17	1550	10418.87	1556	10430.78	1556	10433.84	1555.17	10456.03	1554
10458.72	1552.91	10465.24	1552	10525.64	1552	10533.51	1552.44	10558.26	1553.22
10566.47	1556.81	10573.83	1560	10577.85	1560	10579.79	1560.78	10583.71	1558.85
10584.63	1558	10589.71	1555.85	10592.88	1554	10601.94	1552	10606.11	1553.55
10611.25	1554	10675.9	1554	10704.32	1555	10716.44	1555.29	10743.59	1556

```
10863.17  1557.910877.45    155810899.96    155810919.25  1558.410930.46 1558.75
10938.55  1559.210950.07 1559.5110953.28 1559.4610960.77 1559.8510970.16 1559.89
10979.26  1559.5 10996.7    155811017.57    155811025.26 1558.6711033.88 1558.99
11040.96  1558.911109.59 1559.7511119.37    156011130.55 1560.4811154.89  1561.4
11179.34    156211200.92 1564.2611213.21    156611230.46    1568 11238.8 1568.99
11244.59  1569.211248.08 1568.8811266.04 1568.7611275.99    1568   11279    1568
11321.81    1566 11388.5    156611406.36 1565.3111419.75 1565.0611443.45 1564.32
11456.84    156411484.92    156411508.97 1564.7111523.94 1565.0511532.73 1565.12
11544.14  1565.511560.14 1566.3711595.16    156811635.36    156811650.66 1567.11
11678.81    156611695.15 1565.1411708.43 1564.2311710.08  1564.3 11732.5    1566
11742.52    156611757.22 1566.74 11769.9    1568 11782.2    156811808.96    1570
 11857.1    157011873.07 1568.9711890.38    156811907.04 1566.2711912.12    1566
11919.21    156611925.42  1566.411940.18    156811954.71    156811964.47 1568.82
 11982.2    157012003.14 1571.0512012.97 1571.5812016.72 1571.5912035.13    1572
12070.42    157212085.61  1572.412115.31 1572.62   12155    157412163.72 1574.26
12226.26  1575.912236.67    157612255.08    157612263.63 1576.2512287.26 1576.49
12325.51  1576.7   12363    157612374.49 1575.6312404.48 1574.3212413.35 1574.43
12449.85    157612473.76 1576.7512490.06 1577.2212514.99 1577.1612528.27 1576.77
12537.75  1576.612551.56    157612561.17  1574.812571.06 1573.1212579.68    1572
12585.39    157212595.67    157412601.17 1574.4212615.56    157612646.79    1578
12672.15    1580

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

  6334.1     .03  9222.8     .0310558.26     .03

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
        9222.810558.26               500     500     500             .1       .3

CROSS SECTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 33        Profile # 1

  W.S. Elev (ft)       1554.21   Element              Left OB    Channel   Right OB
  Vel Head (ft)           4.93   Wt. n-Val.             0.030      0.030      0.030
  E.G. Elev (ft)       1559.14   Reach Len. (ft)       500.00     500.00     500.00
  E.G. Slope (ft/ft)  0.008125   Flow Area (sq ft)      67.83   10400.76      34.79
  Q Total (cfs)      186000.00   Flow (cfs)            441.02  185478.00      80.99
  Top Width (ft)       1427.72   Top Width (ft)         38.36    1297.66      91.70
  Vel Total (ft/s)       17.71   Avg. Vel. (ft/s)        6.50      17.83       2.33
  Max Chl Dpth (ft)      16.21   Hydr. Depth (ft)        1.77       8.02       0.38
  Crit W.S. (ft)       1554.90   Wetted Per. (ft)       38.60    1302.86      92.49
  Conv. Total (cfs)  2063498.0   Conv. (cfs)           4892.7  2057707.0      898.5


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 - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 33        Profile # 1

  Left Sta    Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)        (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9030.22     9222.80        0.24      67.83     38.60     4892.7       1.77       6.50
  9222.80     9311.83        8.59     918.12     90.23   213530.0      10.31      17.40
  9311.83     9400.86       18.42    1443.43     89.03   457972.7      16.21      23.74
  9400.86     9489.89       16.86    1369.25     89.07   419296.9      15.38      22.91
  9489.89     9578.92       12.28    1132.13     89.06   305436.4      12.72      20.18
  9578.92     9667.95       11.87    1109.22     89.08   295156.9      12.46      19.91
  9667.95     9756.98       10.51    1034.52     89.83   261307.5      11.62      18.90
  9756.98     9846.01        4.29     602.34     89.15   106628.4       6.77      13.24
  9846.01     9935.04        0.80     219.73     89.14    19860.3       2.47       6.76
  9935.04     10024.08       1.93     375.00     90.04    48080.7       4.21       9.59
  10024.08    10113.11       8.40     902.18     89.27   208882.6      10.13      17.32
  10113.11    10202.14       1.61     334.65     89.31    39987.0       3.76       8.94
  10202.14    10291.17       1.05     259.43     89.20    26181.6       2.91       7.55
  10291.17    10380.20       1.93     372.53     89.06    47900.8       4.18       9.62
  10380.20    10469.23       0.63     153.51     52.34    15579.3       3.00       7.59
  10469.23    10558.26       0.55     174.72     89.05    13562.5       1.96       5.81
  10558.26    10699.19       0.04      34.79     92.49      865.4       0.38       2.24
```

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 - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: NO DAM SPILL River Station: 32
Description: 7

Station Elevation Data, num = 184

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7115.29	1561.07	7135.06	1560.59	7146.85	1560	7180.63	1560	7189.13	1561.2
7191.04	1561.11	7196.21	1561.4	7199.54	1561.11	7205.02	1561.14	7214.03	1560.9
7247.01	1560	7270.49	1558.76	7274.99	1558.69	7293.39	1559.05	7315.24	1559.1
7334.07	1559.95	7379.23	1559.67	7454.78	1559.69	7469.64	1559.56	7470.15	1559.3
7489.96	1559.43	7496.42	1559.22	7549.79	1558	7646.63	1558	7667.5	1556.7
7672.81	1556	7699.5	1556	7704.61	1557.12	7716.59	1556.74	7721.94	1556.4
7722.78	1556	7729.28	1556	7766.54	1554	7796.81	1554	7818.66	1554.9
7840.41	1556	8013.07	1556	8028.9	1555.45	8044.99	1554	8239.33	1554
8246.71	1554.52	8263.03	1555.01	8292.54	1556	8301.96	1558	8312.8	1560.7
8317.37	1562	8368.62	1562	8375.55	1560	8383.57	1558	8390.69	1556
8392.01	1555.45	8401.01	1554	8408.34	1553.74	8444.46	1552	8466.7	1552
8475.35	1551.53	8482.76	1552	8533.41	1552	8546.1	1551	8549.63	1550.5
8583.02	1547.88	8600.77	1546	8634.15	1546	8650.8	1546.87	8656.93	1546.6
8683.28	1548	8702.98	1548	8708.07	1549.83	8709.1	1550	8764.59	1550
8767.18	1548	8768.61	1547.45	8775.95	1548	8778.4	1548	8779.94	1548.4
8789.44	1550	8798.06	1550.68	8820.96	1552	8839.14	1552.54	8861.62	1552.8
8871.01	1552.96	8911.48	1554	8963.11	1554.54	8978.87	1554.56	8995.78	1554.5
9013.36	1554.34	9029.71	1554	9068.2	1552.71	9082.44	1552	9108.09	1550
9115.74	1548.79	9121.18	1547.74	9136.12	1545.17	9143.96	1544	9155.15	1542
9168.47	1540	9178.15	1538	9190.83	1536	9204.87	1533.43	9216.04	1531.8
9231.69	1530	9268.78	1530	9274.69	1530.22	9287.8	1530.46	9299.79	1530.4
9324.95	1530.58	9373.41	1531.11	9423.39	1531.8	9437.22	1532	9555.2	1532
9567.69	1534	9570.65	1533.7	9606.16	1532	9610.86	1531.42	9642.27	1530.9
9646.21	1530.89	9660.97	1532	9664.97	1532	9699.19	1533.12	9721.84	1534
9725.7	1534	9736.12	1535.45	9744.05	1535.18	9750.54	1534	9759.18	1532.7
9762.21	1532	9770.04	1531.13	9774.52	1530.83	9806.77	1531.52	9816.32	1532
9827.57	1532.41	9866.75	1534	9895.55	1534.74	9911.88	1535.06	9941.56	1535
9958.59	1535.21	9965.35	1537.09	9971.81	1538	9983.19	1538.94	9997.73	1540
10005.05	1542	10013.02	1544.82	10017.7	1546	10026.72	1548	10034.55	1550.2
10043.13	1552	10049.48	1552	10060.4	1550	10067.25	1550	10078.54	1552
10083.39	1552	10113.96	1550	10147.42	1550	10156.59	1548.42	10181.75	1548.4
10189.3	1548.49	10268.97	1550	10571.1	1550	10595.99	1549.67	10655.07	1549.3
10692.62	1549.48	10716.97	1549.56	10727.78	1549.64	10756.53	1549.65	10844.54	1550
10941.05	1551.34	10986	1551.8	11018.67	1552	11074.62	1552	11084.42	1552.9
11105.2	1554	11147.8	1554.72	11199.13	1555.51	11214.46	1555.66	11235.42	1555.5
11271.17	1555.42	11299.85	1555.2	11334.39	1555.54	11355.33	1556	11382.25	1556
11406.77	1556.51	11437.45	1556.94	11447.33	1557.12	11491.08	1558		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7115.29	.03	9108.09	.03	10268.97	.03

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9108.09	10268.97	500	500	500	.1	.3

CROSS SECTION OUTPUT Reach: NO DAM SPILL Riv Sta: 32 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1540.90	Element			
Vel Head (ft)	11.62	Wt. n-Val.		0.030	
E.G. Elev (ft)	1552.52	Reach Len. (ft)	500.00	500.00	500.00
E.G. Slope (ft/ft)	0.018789	Flow Area (sq ft)		6799.66	
Q Total (cfs)	186000.00	Flow (cfs)		186000.00	
Top Width (ft)	838.51	Top Width (ft)		838.51	
Vel Total (ft/s)	27.35	Avg. Vel. (ft/s)		27.35	
Max Chl Dpth (ft)	10.90	Hydr. Depth (ft)		8.11	
Crit W.S. (ft)	1544.33	Wetted Per. (ft)		840.78	

Conv. Total (cfs) 1356952.0 Conv. (cfs) 1356952.0

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.

FLOW DISTRIBUTION OUTPUT Reach: NO DAM SPILL Riv Sta: 32 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9108.09	9185.48	0.26	46.51	23.34	3647.0	2.02	10.36
9185.48	9262.87	10.63	699.45	77.91	149646.0	9.04	28.27
9262.87	9340.27	13.65	810.53	77.40	192160.7	10.47	31.33
9340.27	9417.66	11.99	749.88	77.40	168801.0	9.69	29.75
9417.66	9495.05	10.47	691.26	77.39	147391.4	8.93	28.18
9495.05	9572.44	9.87	667.57	77.57	138861.0	8.63	27.49
9572.44	9649.83	10.61	696.93	77.48	149297.6	9.01	28.31
9649.83	9727.23	8.91	627.74	77.47	125430.1	8.11	26.40
9727.23	9804.62	9.20	641.01	77.83	129482.7	8.28	26.69
9804.62	9882.01	8.47	608.85	77.45	119228.1	7.87	25.88
9882.01	9959.40	5.33	460.90	77.43	74978.1	5.96	21.50
9959.40	10036.79	0.62	99.04	42.10	8676.8	2.38	11.58

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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 INPUT Reach: NO DAM SPILL River Station: 31
Description: 8

Station Elevation Data, num = 218

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8355.54	1553.11	8377.23	1552.37	8390.07	1552	8413.74	1551.51	8442.71	1551.01
8457.03	1550.7	8479.77	1550.33	8503.11	1550	8663.71	1550	8679.86	1549.87
8692.97	1549.85	8738.19	1549.66	8764.76	1549.5	8854.93	1548.24	8864.48	1548
8872.19	1548	8896.57	1547.4	8926.48	1548	8961.22	1548	8974.54	1547.08
8988.52	1546	9007.38	1544	9024	1542	9037.94	1540	9055.57	1537.16
9062.03	1536	9072.26	1534.62	9087.85	1532	9139.39	1532	9146.21	1532.74
9156.68	1532.64	9169.91	1532	9181.08	1531.9	9188.03	1531.79	9217.76	1531.36
9231.53	1530.71	9240.55	1530.47	9245.98	1530	9261.03	1527.86	9278.96	1526
9330.97	1526	9399.99	1526	9405.76	1530	9417.85	1534	9425.33	1536
9444.08	1536	9462.96	1534.34	9466.7	1534	9471.81	1532	9477.44	1530
9482.65	1526	9535.61	1527.07	9557.11	1527.4	9590.6	1527.76	9609.75	1527.95
9637.09	1527.65	9753.97	1526	9885.05	1526	9906.68	1526.8	9922.74	1526.91
9926.32	1528	9934.02	1528	9959.12	1526.3	9970.33	1526	9999.98	1526
10001.07	1526.47	10006.95		153010014.34		153210023.97	1534	10035.1	1534
10048.81	1535.22	10063.97		153610067.76	1536.51	10081.34	1537.21	10093.61	1538
10165.3		153810183.73	1538.06	10187.14		153810197.42	1537.34	10215.88	1536
10231.71	1533.15	10242.38	1531.49	10259		153010275.83	1530	10282.8	1532
10287.64	1532.51	10302.28	1533.62	10337.02		153810343.67	1538.79	10348.16	1538.86
10356.93	1539.33	10369.14	1538.94	10382.59	1539	10388.5	1539.22	10398.99	1539.34
10409.69	1539.03	10423.67	1539.12	10429.52	1538.71	10437.02	1539.12	10457.89	1540
10466.21	1540.44	10477.69	1540.91	10489.25		154110506.88	1540.43	10515.95	1540
10551.5	1538.54	10575.82	1537.65	10581.96	1537.61	10585.07		153810597.95	1538.77
10611.24	1541.58	10612.22		154210622.26	1542	10643	1540.65	10648.86	1540.86
10662.57	1541.11	10676.39	1542.07	10679.24		154210768.57		154210790.28	1542.56
10839.67		154410886.05		154410896.72		154410933.27	1544.11	10985.02	1546
11163.81		154611208.17	1546.82	11257.87	1547.1	11298.7	1547.06	11354.21	1546.94

```
11378.48 1547.0411400.04 1546.9511418.44  1547.111431.34  1547.111453.09 1546.66
11476.94 1546.94 11489.4 1546.99   11504  1547.111525.15 1547.0311550.49 1547.11
11575.72 1547.3111583.28 1547.2811589.49    154811601.98 1547.7211616.15 1547.65
11660.17     154611666.59    154611694.96 1547.911718.83    154811746.91     1548
11977.58     154812002.52 1547.7212011.11 1547.912020.27 1547.7212030.52 1547.44
 12062.8 1547.6612083.38 1548.2112128.71 1548.712136.26 1548.6212160.94     1548
12214.12     154812250.97 1547.7812260.38    154812293.52     1548 12348.3 1548.22
 12360.4     154812376.53 1547.9412394.05    154612418.89     1546 12441.1 1546.55
12451.03 1546.5312480.56     1546 12486.9 1546.212495.86 1546.74 12513.4     1548
12625.35     154812638.89 1549.21 12648.5    155012707.04     155012732.06 1548.52
12743.21     154812767.65 1547.1712789.44 1546.612813.75     154612816.67     1546
12831.88 1545.5912877.78 1545.2912888.96    154612899.32 1546.6812928.07 1546.38
 12936.4 1546.3312941.12 1546.4812965.35    154812981.14     154813001.47 1546.57
13013.04     154613025.05     1546 13052.6 1547.713060.45 1547.9513070.52 1547.75
13109.82  1546.413130.93     154613140.67 1546.113159.19 1547.1813195.36 1549.49
13207.53 1549.6613223.75 1549.6713231.03 1549.413240.39 1549.1513268.74 1548.09
13279.82     154613282.92     154613291.79 1546.5 13313.2     154813340.72     1550
13366.57     155213388.09 1552.7813410.43 1553.5

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 8355.54      .03 9037.94      .0310676.39      .03

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9037.9410676.39                 0       0       0              .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

   1200013410.43    1553

CROSS SECTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 31        Profile # 1

  W.S. Elev (ft)       1546.16   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.00   Wt. n-Val.             0.030      0.030      0.030
  E.G. Elev (ft)       1547.15   Reach Len. (ft)       565.00     565.00     565.00
  E.G. Slope (ft/ft)  0.000795   Flow Area (sq ft)     146.27   22817.08     895.84
  Q Total (cfs)      186000.00   Flow (cfs)                    186000.00
  Top Width (ft)       2371.93   Top Width (ft)         51.44    1638.45     682.04
  Vel Total (ft/s)        7.80   Avg. Vel. (ft/s)        2.79       8.05       2.07
  Max Chl Dpth (ft)      20.16   Hydr. Depth (ft)        2.84      13.93       1.76
  Crit W.S. (ft)       1539.09   Wetted Per. (ft)       51.81    1647.60     508.81
  Conv. Total (cfs)  6597508.0   Conv. (cfs)          14472.1  6517388.0    65648.4


Warning - Divided flow computed for this cross-section.
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.
Warning - A flow split was encountered.  The program first calculated the
                momentum of both channels below the junction.  An energy balance was
                performed across the junction from the stream with the highest
                momentum downstream to the section upstream.

FLOW DISTRIBUTION OUTPUT  Reach: NO DAM SPILL  Riv Sta: 31        Profile # 1

  Left Sta    Right Sta        %Q       Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)        (ft)                   (sq ft)      (ft)      (cfs)       (ft)     (ft/s)
  9037.94     9147.17        2.53     374.93     91.40    47589.0       4.12      12.55
  9147.17     9256.40        5.17     618.58    109.39    97246.1       5.66      15.54
  9256.40     9365.63       15.15    1179.47    109.37   285156.6      10.80      23.90
  9365.63     9474.86        4.99     611.29    112.04    93835.5       5.60      15.17
  9474.86     9584.09       13.13    1087.79    110.76   247093.2       9.96      22.45
  9584.09     9693.32       12.29    1039.87    109.24   231340.7       9.52      21.99
  9693.32     9802.55       15.19    1180.32    109.24   285735.7      10.81      23.93
  9802.55     9911.78       15.47    1193.47    109.25   291044.6      10.93      24.11
  9911.78     10021.01      12.38    1050.58    110.94   232919.5       9.62      21.92
  10021.01    10130.24       0.41     104.72     57.33     7751.0       1.83       7.32
  10130.24    10239.47       0.35      81.48     38.35     6669.1       2.15       8.09
  10239.47    10348.70       2.94     408.76     90.63    55267.2       4.54      13.37
```

```
Warning - Divided flow computed for this cross-section.
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.
Warning - A flow split was encountered.  The program first calculated the
                momentum of both channels below the junction.  An energy balance was
                performed across the junction from the stream with the highest
                momentum downstream to the section upstream.

CROSS SECTION INPUT    Reach: CAVE CREEK     River Station: 21
Description:  9

Station Elevation Data,  num = 173
    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.    Sta.   Elev.

 9701.54    1570 9731.64    1550 9750.87 1539.97 9752.77    1538 9756.19 1537.45
 9762.28    1536 9797.48    1536 9803.11    1534 9806.27    1532 9830.57    1532
 9838.66    1534 9845.47    1536 9848.25 1536.29 9861.36 1537.15 9864.66 1537.74
 9866.42    1538 9884.89    1538 9906.78    1534 9929.86    1530 9934.75 1528.95
 9944.25    1526 9956.25    1526 9959.97  1525.910037.88 1524.8410042.42    1526
10051.23    1526 10055.3  1527.9 10060.6    153010069.16    153210087.86    1536
 10092.2    153610102.48    153210110.64 1529.1710121.62 1527.1510126.96    1526
10148.39  1521.910177.71    151610280.47    151610283.83 1517.0110288.75    1518
10303.97    151810328.83 1516.6310340.79 1516.1710380.78    151610459.93    1516
10468.42  1516.810478.94    151810490.67    152210500.48 1524.3910507.32 1524.98
10512.99  1525.310522.24    152610548.09 1527.1910564.47 1527.8110568.23 1527.73
10574.14  1527.910578.83 1526.5410585.37 1523.6310588.18    152210594.07 1520.35
10603.61  1520.110614.66 1520.4210656.05    152210679.69    152410683.39  1524.4
10695.05    152610708.08 1530.23 10716.9 1533.2810719.88    153410723.73    1536
10729.42  1537.310747.39    154410800.65    154410816.38 1541.5610825.45    1540
10835.24  1538.410840.54    153810980.19    153810987.43 1538.7511035.73 1538.81
11105.87  1539.211130.98 1539.3311178.84 1539.5211195.89 1539.4611284.67  1539.8
11326.19  1539.811346.99 1539.8311380.15    154011444.11 1540.47 11467.4 1540.75
11491.32  1540.811522.88 1541.5411535.74    154211558.82    154211645.54    1542
11663.46    154211742.17  1542.311809.47 1542.3511909.86 1542.0611932.45 1542.07
 11979.6  1542.212010.05 1542.1412061.39 1541.97 12114.7 1541.9812141.02 1541.63
12180.38    154012186.14 1539.1912217.64 1540.4312248.93 1541.7512259.18 1541.93
12285.15  1541.712324.04 1541.6312341.26 1541.4312360.69 1541.2712369.73    1542
 12486.6    1542 12494.4 1540.8712525.32 1541.0812573.88    154212665.62    1542
12691.94  1540.912698.52    154212732.81    154212743.38  1541.312760.96 1541.39
 12784.6    154112800.55 1540.7112824.52    154012859.29    154012888.42    1542
12931.18    154212953.59  1541.312988.56 1541.2913005.18 1541.6713008.41 1541.82
13045.84  1541.5   13080 1540.0613082.41 1540.0313127.89 1540.4613154.68    1540
13178.47  1538.813180.23 1538.8713189.32 1538.37 13198.4 1538.5213219.99 1538.33
13245.67  1538.413257.59 1538.5413296.47 1538.4913324.38 1538.6113341.31 1538.74
13416.26  1539.413443.02 1539.7213480.57 1540.2413520.75  1540.613560.39 1540.83
13614.49  1541.1 13636.3 1540.9713651.33 1540.7713660.76 1540.7713682.62 1540.92
13705.81  1540.413740.19    154013766.88    154013778.21 1540.3613806.51 1541.01
13822.27    154113832.05 1541.3213848.51    154213893.35 1543.3513979.47    1546
13995.89    154614018.04  1546.714036.15 1547.09

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 9701.54     .035 9866.42    .03510747.39    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9866.4210747.39              245   281.3     300              .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

   1155014036.15    1555
Blocked Obstructions,  num = 1
   Sta L   Sta R    Elev

   10100   10900    1533

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 21        Profile # 1

  W.S. Elev (ft)       1545.22   Element              Left OB    Channel   Right OB
```

Vel Head (ft)	1.29	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1546.51	Reach Len. (ft)	245.00	281.30	300.00
E.G. Slope (ft/ft)	0.001775	Flow Area (sq ft)	1201.47	11354.23	4330.59
Q Total (cfs)	144500.00	Flow (cfs)	9488.36	111190.70	23820.92
Top Width (ft)	4213.37	Top Width (ft)	125.62	880.97	3206.78
Vel Total (ft/s)	8.56	Avg. Vel. (ft/s)	7.90	9.79	5.50
Max Chl Dpth (ft)	20.38	Hydr. Depth (ft)	9.56	12.89	5.40
Crit W.S. (ft)	1541.74	Wetted Per. (ft)	129.53	886.45	803.14
Conv. Total (cfs)	3429422.0	Conv. (cfs)	225187.5	2638892.0	565342.4

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 21 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9734.52	9745.51	0.01	5.78	5.31	259.4	1.23	1.79
9745.51	9756.50	0.20	60.57	12.57	7336.8	5.51	4.84
9756.50	9767.49	0.48	97.39	11.15	17531.1	8.86	7.19
9767.49	9778.48	0.52	101.36	10.99	18923.8	9.22	7.46
9778.48	9789.48	0.52	101.35	10.99	18922.1	9.22	7.46
9789.48	9800.47	0.53	102.95	11.18	19207.1	9.37	7.45
9800.47	9811.46	0.81	135.65	11.73	29443.5	12.34	8.67
9811.46	9822.45	0.95	145.33	10.99	34499.2	13.22	9.48
9822.45	9833.44	0.94	144.31	11.08	33918.4	13.13	9.39
9833.44	9844.44	0.69	121.80	11.39	25096.3	11.08	8.23
9844.44	9855.43	0.49	97.35	11.07	17611.1	8.86	7.23
9855.43	9866.42	0.41	87.64	11.08	14773.1	7.97	6.73
9866.42	9925.15	3.12	570.64	59.37	109519.7	9.72	7.90
9925.15	9983.88	9.08	1083.61	59.36	318931.8	18.45	12.11
9983.88	10042.61	10.44	1174.34	58.88	366656.1	20.00	12.85
10042.61	10101.34	5.37	798.01	60.81	188487.0	13.59	9.72
10101.34	10160.08	4.60	717.78	58.73	161684.4	12.22	9.27
10160.08	10218.81	4.60	717.78	58.73	161684.4	12.22	9.27
10218.81	10277.54	4.60	717.78	58.73	161684.4	12.22	9.27
10277.54	10336.27	4.60	717.78	58.73	161684.4	12.22	9.27
10336.27	10395.00	4.60	717.78	58.73	161684.4	12.22	9.27
10395.00	10453.73	4.60	717.78	58.73	161684.4	12.22	9.27
10453.73	10512.46	4.60	717.78	58.73	161684.4	12.22	9.27
10512.46	10571.20	4.60	717.77	58.73	161681.7	12.22	9.27
10571.20	10629.93	4.60	717.78	58.73	161684.4	12.22	9.27
10629.93	10688.66	4.60	717.78	58.73	161684.4	12.22	9.27
10688.66	10747.39	2.89	549.83	60.71	101423.6	9.36	7.59
10747.39	10966.64	4.26	1150.53	219.72	147292.8	5.25	5.35
10966.64	11185.89	5.65	1361.83	219.29	195336.3	6.21	6.00
11185.89	11405.14	4.55	1195.55	219.25	157245.3	5.45	5.50
11405.14	11624.39	2.02	622.68	144.88	69882.4	4.30	4.69

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 20
Description: 10

Station Elevation Data, num = 77

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9845.06	1570	9870.64	1550.94	9890.34	1538.94	9899.12	1533.88	9902.79	1532
9906.88	1532	9909.98	1532.83	9920.75	1534	9933.32	1535.95	9953.88	1534
9957.42	1533.7	9975.42	1532	9986.24	1530	9996.58	1526	10006.96	1525.94
10017.29	1524	10099.73	1524	10108.43	1526	10116.7	1526	10126.37	1530
10131.21	1530.7	10141.8	1532.83	10147.94	1532	10152.79	1532	10165.7	1526
10169.66	1524	10176.16	1521.23	10182.49	1518	10189.44	1516	10221.84	1516
10259.96	1516	10309.1	1514.28	10318.81	1514	10649.01	1514	10663.03	1518.25
10670.23	1520.3	10682.1	1524.21	10693.84	1528.98	10704.54	1534	10706.33	1536.06
10707.07	1538	10719.74	1538	10721.77	1537.26	10729.18	1534	10742.77	1530
10749.67	1526.7	10752.12	1526	10754.77	1526	10763.59	1529.14	10765.53	1530
10769.81	1530.9	10783.71	1533.21	10792.74	1534.93	10800.39	1534.54	10808.3	1534
10839.87	1534	10864.14	1533.13	10889.42	1532	10906.74	1532.04	10917.89	1534
10936.87	1534.5	11006.7	1535.76	11047.63	1536.67	11088.83	1538	11207.9	1538
11229.25	1538.21	11281.08	1538.59	11331.04	1538.92	11474.59	1540	11551.07	1547.23
11579.73	1550	11589.76	1552.8	11620.92	1560	11639.73	1566.49	11649.57	1570
11660.12	1574	11677.7	1580						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9845.06	.035	9890.34	.035	10707.07	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9890.34	10707.07	445	375	245.2	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
11600	11677.7	1575

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
10150	10700	1533

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 20 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1544.84	Element			
Vel Head (ft)	1.16	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1545.99	Reach Len. (ft)	445.00	375.00	245.20
E.G. Slope (ft/ft)	0.001583	Flow Area (sq ft)	28.54	10745.74	6543.82
Q Total (cfs)	144500.00	Flow (cfs)	89.23	100365.80	44044.96
Top Width (ft)	1645.10	Top Width (ft)	9.68	816.73	818.68
Vel Total (ft/s)	8.34	Avg. Vel. (ft/s)	3.13	9.34	6.73
Max Chl Dpth (ft)	20.84	Hydr. Depth (ft)	2.95	13.16	7.99
Crit W.S. (ft)	1540.74	Wetted Per. (ft)	11.34	826.38	822.62
Conv. Total (cfs)	3632045.0	Conv. (cfs)	2242.8	2522720.0	1107082.0

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 20 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9878.26	9881.28	0.00	0.12	0.73	1.5	0.19	0.43
9881.28	9884.30	0.00	3.92	3.53	178.7	1.30	1.54
9884.30	9887.32	0.02	9.47	3.53	776.2	3.14	2.78
9887.32	9890.34	0.04	15.02	3.53	1673.9	4.98	3.78
9890.34	9944.79	2.96	563.79	56.63	110770.4	10.35	7.60
9944.79	9999.24	4.55	723.14	55.51	169970.4	13.28	9.09
9999.24	10053.69	9.38	1109.35	54.63	350559.2	20.37	12.22
10053.69	10108.13	9.62	1126.43	54.67	359424.6	20.69	12.34
10108.13	10162.58	5.14	784.37	56.57	192194.4	14.41	9.48
10162.58	10217.03	3.80	644.50	54.45	142115.7	11.84	8.53
10217.03	10271.48	3.80	644.49	54.45	142113.2	11.84	8.53
10271.48	10325.93	3.80	644.50	54.45	142115.7	11.84	8.53
10325.93	10380.38	3.80	644.49	54.45	142113.2	11.84	8.53
10380.38	10434.83	3.80	644.50	54.45	142115.7	11.84	8.53
10434.83	10489.28	3.80	644.49	54.45	142113.2	11.84	8.53
10489.28	10543.72	3.80	644.50	54.45	142115.7	11.84	8.53
10543.72	10598.17	3.80	644.49	54.45	142113.2	11.84	8.53
10598.17	10652.62	3.80	644.50	54.45	142115.7	11.84	8.53
10652.62	10707.07	3.57	638.17	58.33	133527.0	11.72	8.09
10707.07	10771.78	4.75	823.51	67.79	184749.6	12.73	8.34
10771.78	10836.49	3.85	714.20	65.06	149764.0	11.04	7.80
10836.49	10901.20	4.40	771.46	64.75	170855.1	11.92	8.24
10901.20	10965.91	3.70	696.20	64.89	143777.0	10.76	7.68
10965.91	11030.61	2.86	596.00	64.72	111166.1	9.21	6.94
11030.61	11095.32	2.10	495.65	64.73	81744.7	7.66	6.13
11095.32	11160.03	1.74	442.40	64.71	67656.9	6.84	5.69
11160.03	11224.74	1.73	441.07	64.71	67317.3	6.82	5.68
11224.74	11289.45	1.57	415.96	64.71	61050.4	6.43	5.46
11289.45	11354.16	1.39	386.57	64.71	54032.9	5.97	5.20
11354.16	11418.87	1.21	355.85	64.71	47068.9	5.50	4.92
11418.87	11483.57	1.02	320.85	64.75	39591.0	4.96	4.59
11483.57	11548.28	0.15	84.10	42.37	5638.8	1.99	2.49

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 19
Description: 11

Station Elevation Data, num = 79

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9769.4	1580	9773.69	1577.06	9782.56	1570	9808.14	1550.94	9827.84	1538.94
9836.62	1533.88	9840.29	1532	9844.38	1532	9847.48	1532.83	9858.25	1534
9870.82	1535.95	9891.38	1534	9894.92	1533.7	9912.92	1532	9923.74	1530
9934.08	1526	9944.46	1525.94	9954.79	1524	10037.23	1524	10045.93	1526
10054.2	1526	10063.87	1530	10068.71	1530.7	10079.3	1532.83	10085.44	1532
10090.29	1532	10103.2	1526	10107.16	1524	10113.66	1521.23	10119.99	1518
10126.94	1516	10159.34	1516	10197.46	1516	10246.6	1514.28	10256.31	1514
10586.51	1514	10600.53	1518.25	10607.73	1520.3	10619.6	1524.21	10631.34	1528.98
10642.04	1534	10643.83	1536.06	10644.57	1538	10657.24	1538	10659.27	1537.26
10666.68	1534	10680.27	1530	10687.17	1526.71	10689.62	1526	10692.27	1526
10701.09	1529.14	10703.03	1530	10707.31	1530.91	10721.21	1533.21	10730.24	1534.93
10737.89	1534.54	10745.8	1534	10777.37	1534	10801.64	1533.13	10826.92	1532
10844.24	1532.04	10855.39	1534	10874.37	1534.5	10944.2	1535.76	10985.13	1536.67
11026.33	1538	11145.4	1538	11166.75	1538.21	1218.58	1538.59	11268.54	1538.92
11412.09	1540	11488.57	1547.23	11517.23	1550	11527.26	1552.81	11558.42	1560
11577.23	1566.49	11587.07	1570	11597.62	1574	11615.2	1580		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9769.4	.035	9827.84	.035	10644.57	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9827.84	10644.57	350	865	600	.1	.3

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
10090	10620	1533

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 19 Profile # 1

W.S. Elev (ft)	1544.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.35	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1545.37	Reach Len. (ft)	350.00	865.00	600.00
E.G. Slope (ft/ft)	0.002012	Flow Area (sq ft)	21.24	10174.01	5883.91
Q Total (cfs)	144500.00	Flow (cfs)	67.83	102546.90	41885.27
Top Width (ft)	1635.19	Top Width (ft)	8.35	816.73	810.11
Vel Total (ft/s)	8.99	Avg. Vel. (ft/s)	3.19	10.08	7.12
Max Chl Dpth (ft)	20.03	Hydr. Depth (ft)	2.54	12.46	7.26
Crit W.S. (ft)		Wetted Per. (ft)	9.78	835.42	814.01
Conv. Total (cfs)	3221739.0	Conv. (cfs)	1512.2	2286362.0	933864.3

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 19 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9816.15	9820.05	0.00	0.10	0.65	1.1	0.17	0.46
9820.05	9823.94	0.01	5.95	4.56	301.5	1.53	1.97
9823.94	9827.84	0.04	15.19	4.56	1438.6	3.90	3.69
9827.84	9882.29	2.91	519.67	56.63	96703.3	9.54	8.08
9882.29	9936.74	4.60	679.02	55.51	153040.6	12.47	9.79
9936.74	9991.19	9.85	1065.23	54.63	327632.1	19.56	13.36
9991.19	10045.63	10.11	1082.31	54.67	336268.8	19.88	13.49
10045.63	10100.08	5.28	742.75	56.57	175500.0	13.64	10.26
10100.08	10154.53	3.80	600.38	54.45	126274.1	11.03	9.14
10154.53	10208.98	3.80	600.37	54.45	126271.8	11.03	9.14
10208.98	10263.43	3.80	600.38	54.45	126274.1	11.03	9.14
10263.43	10317.88	3.80	600.37	54.45	126271.8	11.03	9.14

10317.88	10372.33	3.80	600.38	54.45	126274.1	11.03	9.14
10372.33	10426.78	3.80	600.37	54.45	126271.8	11.03	9.14
10426.78	10481.22	3.80	600.38	54.45	126274.1	11.03	9.14
10481.22	10535.67	3.80	600.37	54.45	126271.8	11.03	9.14
10535.67	10590.12	3.80	600.38	54.45	126274.1	11.03	9.14
10590.12	10644.57	4.07	681.62	67.37	135370.1	12.52	8.63
10644.57	10709.28	4.76	771.07	67.79	165563.2	11.92	8.92
10709.28	10773.99	3.79	661.77	65.06	131891.3	10.23	8.28
10773.99	10838.70	4.37	719.03	64.75	151942.9	11.11	8.78
10838.70	10903.41	3.63	643.76	64.89	126186.4	9.95	8.15
10903.41	10968.11	2.74	543.56	64.72	95349.1	8.40	7.29
10968.11	11032.82	1.95	443.22	64.73	67846.4	6.85	6.36
11032.82	11097.53	1.58	389.97	64.71	54827.6	6.03	5.84
11097.53	11162.24	1.57	388.63	64.71	54515.5	6.01	5.83
11162.24	11226.95	1.40	363.52	64.71	48770.9	5.62	5.58
11226.95	11291.66	1.22	334.14	64.71	42379.0	5.16	5.27
11291.66	11356.37	1.04	303.42	64.71	36087.6	4.69	4.94
11356.37	11421.07	0.85	268.41	64.75	29406.3	4.15	4.55
11421.07	11485.78	0.09	53.39	33.76	3076.8	1.59	2.40

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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 INPUT Reach: CAVE CREEK River Station: 18
Description: 12

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9068.6	1570	9082.57	1565.27	9096.67	1560	9104.9	1556.77	9124.49	1550
9133.27	1546.63	9152.28	1540	9165.04	1535.4	9175.69	1532	9229.24	1532
9277.01	1532.99	9298.11	1533.32	9312.07	1533.5	9353.07	1533.45	9375.83	1533.56
9404.48	1532	9444.97	1532	9454.91	1530	9481.26	1530	9497.41	1530.87
9516.29	1532	9603.79	1532	9650.62	1530.6	9671.07	1530.4	9695.35	1530
9819.69	1530	9840.02	1530	9890.52	1526	9922.81	1526	9944.22	1522.92
9951.37	152210006.37		1522	10020.7	152410031.05		152610041.89		1526
10048.63	1528.1710056.77		1530.9210067.21		1532.810072.65		153410091.99		1534
10130.8	1535.4210154.04		1535.510170.17		1535.710204.71		1536.0310257.41		1535.5
10281.05	1534.7110315.34		1533.4910357.38		1532.110361.29		153210393.67		1532.01
10407.36	153410410.84		1535.1510418.47		153810428.12		153810435.31		1540
10442.27	1542.210467.65		1550	10488.4	1560.210506.41		1570		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9068.6	.035	9152.28	.03510435.31		.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9152.2810435.31		180	538.2	550	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 18 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1540.25	Element			
Vel Head (ft)	2.52	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1542.78	Reach Len. (ft)	180.00	538.20	550.00
E.G. Slope (ft/ft)	0.004957	Flow Area (sq ft)	0.09	11337.89	0.10
Q Total (cfs)	144500.00	Flow (cfs)	0.07	144499.90	0.07
Top Width (ft)	1284.56	Top Width (ft)	0.73	1283.03	0.80
Vel Total (ft/s)	12.74	Avg. Vel. (ft/s)	0.73	12.74	0.73
Max Chl Dpth (ft)	18.25	Hydr. Depth (ft)	0.13	8.84	0.13
Crit W.S. (ft)		Wetted Per. (ft)	0.77	1287.77	0.84
Conv. Total (cfs)	2052372.0	Conv. (cfs)	0.9	2052370.0	1.0

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 18 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9146.70	9152.28	0.00	0.09	0.77	0.9	0.13	0.73
9152.28	9237.82	4.37	614.33	86.87	96090.2	7.18	10.27
9237.82	9323.35	4.51	622.15	85.55	99146.3	7.27	10.47
9323.35	9408.89	4.31	605.69	85.58	94792.6	7.08	10.28
9408.89	9494.42	6.70	790.23	85.75	147462.1	9.24	12.26
9494.42	9579.96	5.75	720.21	85.57	126512.7	8.42	11.54
9579.96	9665.49	6.30	760.61	85.56	138578.0	8.89	11.97
9665.49	9751.03	7.88	869.76	85.54	173306.5	10.17	13.09
9751.03	9836.56	7.99	877.00	85.54	175722.4	10.25	13.16
9836.56	9922.10	11.71	1104.31	85.69	257699.4	12.91	15.33
9922.10	10007.63	19.55	1502.36	85.83	430000.2	17.56	18.80
10007.63	10093.17	9.28	965.76	86.95	204116.9	11.29	13.88
10093.17	10178.70	2.46	432.74	85.56	54130.7	5.06	8.22
10178.70	10264.24	2.01	382.81	85.54	44135.1	4.48	7.57
10264.24	10349.77	3.69	551.94	85.59	81185.0	6.45	9.66
10349.77	10435.31	3.51	538.00	86.66	77153.8	6.29	9.42
10435.31	10440.05	0.00	0.10	0.84	1.0	0.13	0.73

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: CAVE CREEK River Station: 17
Description: 13

Station Elevation Data, num = 69

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8698.84	1570	8707.36	1567.23	8752.22	1553.19	8762.48	1550	8788.75	1542.1
8805.21	1537.4	8817.91	1534	8821.32	1533.63	8849.51	1531.97	8851.81	1531.9
8871.53	1531.5	8874.32	1531.41	8885.18	1531.32	8907.83	1530.91	8942.02	1530.34
8947.43	1530.4	8966.6	1531.21	8979.46	1531.66	8994.5	1532	9046.39	1532
9072.34	1531.5	9094.33	1531.07	9109.51	1530.65	9126.15	1530.71	9146.74	1531.02
9157.93	1531	9176.53	1531.41	9188.75	1531.61	9190.69	1531.54	9197.58	1530
9206.32	1526	9231.3	1526	9243.8	1527.04	9262.42	1528.14	9276.33	1528.85
9287.89	1529.6	9304.23	1530	9325.74	1530	9401.26	1526.06	9406.07	1526
9454.77	1526	9485.34	1530	9491.09	1530	9537.55	1529.29	9564.53	1530
9626.34	1530	9632.26	1529.74	9727.37	1526	9824.69	1526	9855.19	1524.93
9883.36	1524	9928.58	1522.69	9959.13	1522	9988.95	1522	10004.7	1520
10024.23	1520	10027.38	1521.25	10030.37	1522	10038.24	1526	10041.28	1526
10044.04	1530	10049.72	1534	10052.61	1538	10055.34	1538.16	10058.12	1540
10072.21	1550	10088.49	1560	10109.53	1568.79	10115.73	1571.19		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8698.84	.035	8788.75	.035	10058.12	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8788.75	10058.12	205	193.6	180	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 17 Profile # 1

W.S. Elev (ft)	1536.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.22	Wt. n-Val.		0.035	
E.G. Elev (ft)	1539.53	Reach Len. (ft)	205.00	193.60	180.00
E.G. Slope (ft/ft)	0.007163	Flow Area (sq ft)		10032.93	
Q Total (cfs)	144500.00	Flow (cfs)		144500.00	

Top Width (ft)	1242.08	Top Width (ft)	1242.08
Vel Total (ft/s)	14.40	Avg. Vel. (ft/s)	14.40
Max Chl Dpth (ft)	16.30	Hydr. Depth (ft)	8.08
Crit W.S. (ft)		Wetted Per. (ft)	1250.17
Conv. Total (cfs)	1707370.0	Conv. (cfs)	1707370.0

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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 17 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8788.75	8873.38	1.22	226.97	64.45	22303.7	3.54	7.76
8873.38	8958.00	3.32	462.12	84.64	60831.8	5.46	10.40
8958.00	9042.62	2.43	382.44	84.64	44375.3	4.52	9.16
9042.62	9127.25	2.92	427.15	84.64	53356.0	5.05	9.86
9127.25	9211.87	3.71	495.65	85.68	67812.9	5.86	10.80
9211.87	9296.50	7.15	732.02	84.75	130835.4	8.65	14.11
9296.50	9381.12	5.34	614.26	84.70	97704.1	7.26	12.56
9381.12	9465.75	9.21	852.19	84.75	168555.3	10.07	15.62
9465.75	9550.37	4.88	582.06	84.80	89249.0	6.88	12.11
9550.37	9635.00	4.28	537.78	84.64	78323.4	6.35	11.50
9635.00	9719.62	6.73	705.42	84.69	123061.2	8.34	13.78
9719.62	9804.25	9.56	870.83	84.63	174903.7	10.29	15.86
9804.25	9888.87	10.91	943.03	84.66	199685.8	11.14	16.72
9888.87	9973.50	15.19	1149.72	84.65	277866.8	13.59	19.09
9973.50	10058.12	13.16	1051.28	83.85	240870.6	13.50	18.09

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 INPUT Reach: CAVE CREEK River Station: 16
Description: 14

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8642.94	1570	8664.69	1563.58	8675.34	1560	8683.71	1557.5	8711.9	1550
8723.49	1546.76	8746.07	1542.1	8759.99	1540	8766.47	1539.3	8789.17	1536
8802.36	1534	8813.15	1532	8842.44	1530.21	8872.44	1530	8924.89	1530
8940.6	1528.63	8967.78	1526	9006.16	1526	9023.74	1528.5	9028.84	1528.86
9048.55	1530	9263.46	1530	9297.68	1527.07	9301.72	1526	9312.22	1526
9316.29	1525.66	9362.01	1525.45	9366.22	1525.46	9385.74	1526	9582.26	1526
9586.19	1526.13	9648.93	1527.63	9664.52	1527.52	9685.09	1527	9701.94	1526.82
9740.6	1526	9828.99	1526	9853.29	1525.32	9903.87	1523.7	9963.21	1522
9966.44	1521.53	9984.05	1520	10015	1518.61	10024.87	1518.01	10030.19	1518.01
10038.79	1520.84	10045.87	1524	10049.87	1526	10053.72	1526	10057.12	1530
10064.74	1534	10068.73	1538	10072.94	1538	10077.21	1540	10096.21	1548.24
10099.67	1550	10124.31	1560	10135.39	1563.91	10151.78	1570		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8642.94	.035	8789.17	.035	10068.73	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8789.17	10068.73	530	409.9	380	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 16 Profile # 1

W.S. Elev (ft)	1534.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.57	Wt. n-Val.		0.035	
E.G. Elev (ft)	1537.97	Reach Len. (ft)	530.00	409.90	380.00
E.G. Slope (ft/ft)	0.008686	Flow Area (sq ft)		9532.58	
Q Total (cfs)	144500.00	Flow (cfs)		144500.00	
Top Width (ft)	1265.41	Top Width (ft)		1265.41	

Vel Total (ft/s)	15.16	Avg. Vel. (ft/s)	15.16
Max Chl Dpth (ft)	16.40	Hydr. Depth (ft)	7.53
Crit W.S. (ft)	1534.18	Wetted Per. (ft)	1271.22
Conv. Total (cfs)	1550473.0	Conv. (cfs)	1550473.0

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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 16 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8789.17	8874.47	1.44	249.86	75.01	23659.2	3.34	8.30
8874.47	8959.78	3.25	430.08	85.45	53623.5	5.04	10.93
8959.78	9045.08	6.04	623.64	85.56	99534.8	7.31	14.00
9045.08	9130.39	2.60	375.59	85.31	42834.2	4.40	10.00
9130.39	9215.69	2.60	375.25	85.30	42770.5	4.40	9.99
9215.69	9300.99	3.33	436.54	85.54	54935.1	5.12	11.03
9300.99	9386.30	8.14	744.99	85.35	134083.5	8.73	15.78
9386.30	9471.60	7.63	716.47	85.30	125681.9	8.40	15.38
9471.60	9556.91	7.63	716.46	85.30	125680.5	8.40	15.38
9556.91	9642.21	6.84	671.41	85.32	112770.6	7.87	14.73
9642.21	9727.51	6.09	626.21	85.32	100406.8	7.34	14.06
9727.51	9812.82	7.59	714.64	85.31	125147.1	8.38	15.36
9812.82	9898.12	8.92	787.40	85.34	147060.2	9.23	16.38
9898.12	9983.43	13.69	1018.23	85.43	225559.3	11.94	19.42
9983.43	10068.73	14.21	1045.81	86.36	234131.3	12.80	19.63

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 INPUT Reach: CAVE CREEK River Station: 15
Description: 15

Station Elevation Data, num = 56

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8748.41	1550	8767.37	1545.54	8789.4	1540	8810.74	1536	8828.44	1533.33
8844.77	1530.53	8861.65	1528.25	8882.6	1526	9148.54	1526	9180.39	1524.84
9208.7	1524	9210.57	1523.42	9218.19	1522	9242.65	1522	9256.82	1524
9269.04	1525.53	9283.37	1525.34	9302.15	1524.22	9307.09	1524	9364.88	1524
9383.71	1525.59	9387.64	1525.41	9391.55	1525.56	9400.25	1524	9406	1522
9582.2	1522	9637.87	1522.46	9678.32	1522	9687.84	1521.7	9747.79	1522
9756.95	1522	9798.84	1524	9816.69	1524	9862.74	1523.6	9876.87	1523.44
9936.86	1522.79	9965.42	1522	9973.89	1520.51	9991.79	1518	10003.1	1516
10006.92	1516	10010.08	1516.5	10024.14	1518	10030.5	1519.5	10037.61	1520
10119.41	1520	10122.39	1522.22	10126.33	1524	10129.69	1526	10133.65	1526
10139.82	1530.55	10147.07	1534	10151.61	1538	10156.55	1538	10169.56	1543.01
10185.24	1550								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8748.41	.035	9148.54	.035	10129.69	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9148.54	10129.69	725	641.1	710	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 15 Profile # 1

W.S. Elev (ft)	1530.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.64	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1534.47	Reach Len. (ft)	725.00	641.10	710.00
E.G. Slope (ft/ft)	0.008133	Flow Area (sq ft)	1386.26	8227.34	34.96
Q Total (cfs)	144500.00	Flow (cfs)	14537.16	129693.90	268.93
Top Width (ft)	1297.38	Top Width (ft)	305.51	981.15	10.71
Vel Total (ft/s)	14.98	Avg. Vel. (ft/s)	10.49	15.76	7.69

Max Chl Dpth (ft)	14.83	Hydr. Depth (ft)	4.54	8.39	3.26
Crit W.S. (ft)	1530.83	Wetted Per. (ft)	305.81	984.77	12.27
Conv. Total (cfs)	1602332.0	Conv. (cfs)	161199.7	1438150.0	2982.1

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 15 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8828.44	8855.11	0.02	10.57	12.20	407.8	0.87	3.40
8855.11	8881.79	0.50	87.67	26.85	8192.3	3.29	8.24
8881.79	8908.46	0.95	128.77	26.68	15612.9	4.83	10.69
8908.46	8935.14	0.95	128.81	26.68	15622.4	4.83	10.70
8935.14	8961.81	0.95	128.80	26.67	15621.8	4.83	10.70
8961.81	8988.49	0.95	128.81	26.68	15622.4	4.83	10.70
8988.49	9015.16	0.95	128.80	26.67	15621.8	4.83	10.70
9015.16	9041.84	0.95	128.81	26.68	15622.4	4.83	10.70
9041.84	9068.51	0.95	128.80	26.67	15621.8	4.83	10.70
9068.51	9095.19	0.95	128.81	26.68	15622.4	4.83	10.70
9095.19	9121.86	0.95	128.80	26.67	15621.8	4.83	10.70
9121.86	9148.54	0.95	128.81	26.68	15622.4	4.83	10.70
9148.54	9213.95	3.37	393.11	65.59	55067.6	6.01	12.39
9213.95	9279.36	4.90	492.12	65.72	79968.5	7.52	14.38
9279.36	9344.77	3.86	425.99	65.45	63046.1	6.51	13.10
9344.77	9410.18	3.86	427.31	65.96	63043.3	6.53	13.05
9410.18	9475.59	6.41	577.48	65.41	104727.3	8.83	16.05
9475.59	9541.00	6.41	577.48	65.41	104727.3	8.83	16.05
9541.00	9606.41	6.37	575.06	65.41	103995.4	8.79	16.00
9606.41	9671.82	6.06	558.04	65.41	98913.2	8.53	15.68
9671.82	9737.23	6.60	587.38	65.42	107731.3	8.98	16.23
9737.23	9802.64	5.53	528.27	65.46	90235.4	8.08	15.11
9802.64	9868.05	4.36	458.16	65.41	71204.8	7.00	13.75
9868.05	9933.46	5.05	500.19	65.41	82422.5	7.65	14.58
9933.46	9998.87	7.81	651.65	65.84	127538.1	9.96	17.32
9998.87	10064.28	10.98	799.16	65.79	179290.9	12.22	19.85
10064.28	10129.69	8.20	675.94	67.08	133878.3	10.33	17.52
10129.69	10133.39	0.12	17.88	3.70	2168.7	4.83	9.33
10133.39	10137.10	0.06	13.50	4.54	1185.6	3.65	6.76
10137.10	10140.80	0.01	3.58	4.03	140.1	1.08	3.02

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 14
Description: 16

Station Elevation Data, num = 62

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8823.9	1540	8846.58	1536	8859.73	1534	8873.26	1532	8894.45	1528
8920.69	1526.84	8941.48	1526	8980.88	1525.57	9010.9	1525.34	9169.17	1524
9264.14	1524	9285.4	1523.5	9303.08	1523.37	9319.92	1522	9327.04	1520.31
9329.26	1520	9334.93	1518	9339.21	1518	9349.37	1520	9404.92	1520
9443.77	1518.42	9457	1518	9459.7	1518	9466.63	1519.03	9472.42	1518
9521.51	1518	9553.28	1517.4	9596.75	1516	9648.01	1516	9653.68	1516.43
9665.04	1517.82	9670.8	1518	9682.47	1518	9703.42	1518.13	9768.19	1518.39
9883.01	1518.19	9905.38	1518	9962.74	1518	9977.66	1516.55	9985.47	1516
9987.9	1515.17	9992.63	1514	10012.68	1514	10037.63	1515.16	10054.08	1515.6
10055.78	1516	10062.16	1516	10129.39	1517.34	10138.86	1518	10140.84	1518.85
10152.7	1522	10189.19	1522	10205.46	1520.34	10213.4	1518.97	10218.03	1518
10238.49	1516	10430.58	1516	10436.06	1516	10443.55	1520	10454.18	1526.38
10459.85	1530	10474.92	1540						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8823.9	.035	9264.14	.035	10454.18	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9264.14	10454.18	585	173.9	150	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 14 Profile # 1

W.S. Elev (ft)	1530.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.15	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1531.78	Reach Len. (ft)	585.00	173.90	150.00
E.G. Slope (ft/ft)	0.001471	Flow Area (sq ft)	2106.18	15130.28	14.08
Q Total (cfs)	144500.00	Flow (cfs)	1269.30	143230.70	
Top Width (ft)	1580.23	Top Width (ft)	383.58	1190.04	6.61
Vel Total (ft/s)	8.38	Avg. Vel. (ft/s)	5.07	8.84	2.40
Max Chl Dpth (ft)	16.62	Hydr. Depth (ft)	5.49	12.71	2.13
Crit W.S. (ft)		Wetted Per. (ft)	383.88	1195.44	7.85
Conv. Total (cfs)	3767660.0	Conv. (cfs)	278158.1	3488620.0	882.3

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 14 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8970.65	9000.00	0.00	1.99	21.78	17.2	0.09	0.71
9000.00	9029.35	0.01	8.59	29.35	160.7	0.29	1.55
9029.35	9058.69	0.03	15.83	29.35	445.4	0.54	2.32
9058.69	9088.04	0.05	23.12	29.35	837.5	0.79	2.99
9088.04	9117.39	0.08	30.42	29.35	1322.5	1.04	3.59
9117.39	9146.74	0.11	37.71	29.35	1892.0	1.28	4.14
9146.74	9176.09	0.14	44.80	29.35	2521.4	1.53	4.65
9176.09	9205.44	0.16	46.93	29.35	2724.4	1.60	4.79
9205.44	9234.79	0.16	46.93	29.35	2724.3	1.60	4.79
9234.79	9264.14	0.16	46.93	29.35	2724.4	1.60	4.79
9264.14	9343.48	1.64	270.93	80.04	25930.9	3.41	8.77
9343.48	9422.81	3.91	454.13	79.46	61628.6	5.72	12.43
9422.81	9502.15	5.80	575.81	79.53	91491.9	7.26	14.56
9502.15	9581.48	6.97	642.13	79.36	109879.4	8.09	15.68
9581.48	9660.82	9.03	750.38	79.41	142387.2	9.46	17.38
9660.82	9740.16	6.16	596.40	79.37	97135.3	7.52	14.92
9740.16	9819.49	5.81	575.80	79.34	91636.2	7.26	14.58
9819.49	9898.83	5.97	585.36	79.34	94183.9	7.38	14.74
9898.83	9978.16	6.47	614.25	79.41	101997.9	7.74	15.21
9978.16	10057.50	11.16	853.43	79.71	176003.9	10.76	18.89
10057.50	10136.84	8.13	704.59	79.37	128251.7	8.88	16.68
10136.84	10216.17	2.65	360.85	80.19	41757.8	4.55	10.60
10216.17	10295.51	8.76	737.01	79.47	138111.8	9.29	17.17
10295.51	10374.84	9.26	761.55	79.34	146029.4	9.60	17.57
10374.84	10454.18	7.41	670.64	80.59	116923.6	8.59	15.97

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 13
Description: 17

Station Elevation Data, num = 75

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8565.9	1540	8578.31	1537.75	8586.1	1536	8597.87	1534	8613.38	1532
8635.84	1529.8	8653.23	1528	8676.01	1526.96	8698.12	1526	8773.31	1524
8779.27	1524	8895.36	1522	8932.19	1522	8977.52	1520.13	8995.06	1520
9158.52	1520	9184.85	1520.63	9208.74	1521.03	9254.04	1521.44	9295.42	1521.28
9365.31	1520.9	9397.85	1520.98	9446.49	1521.12	9497.56	1520.66	9540.02	1520
9549.16	1520	9554.96	1519.14	9562.68	1517.09	9564.98	1516	9570.59	1516
9606.82	1516	9635.56	1515.42	9698.92	1514.39	9715.37	1514.11	9724.39	1514.11
9726.49	1514.4	9731.67	1516	9737.1	1518	9753.56	1518	9797.04	1518
9810.3	1516	9845.09	1516	9855.18	1514	9864.66	1514	9878.17	1516
9891.93	1516	9912.46	1517.42	9918.06	1518	9941.64	1518	9954.76	1517.44
9977.56	1516	9983.88	1514	9993.87	151	210005.65	151	210008.63	1512.99
10010.47	151	410045.48	151	410072.37	1514.68	10118.94	1515.73	10137.36	1516
10228.39	151	610247.81	1517.13	10263.97	1517.35	10293.47	1517.34	10311	1517.18
10415.1	151	610430.04	1514.17	10430.92	1514.18	10439.2	1519.19	10444.35	1519.63
10445.33	1521.2	10447.9	1522.54	10450.75	1524.6	10458.4	1530.61	0468.41	1540

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8565.9	.035	8932.19	.035	10450.75	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8932.19	10450.75	220	523.2	370	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 13 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1530.68	Element			
Vel Head (ft)	0.74	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1531.42	Reach Len. (ft)	220.00	523.20	370.00
E.G. Slope (ft/ft)	0.000930	Flow Area (sq ft)	1878.13	19350.32	23.55
Q Total (cfs)	144500.00	Flow (cfs)	8158.74	136286.70	54.56
Top Width (ft)	1831.60	Top Width (ft)	305.31	1518.56	7.73
Vel Total (ft/s)	6.80	Avg. Vel. (ft/s)	4.34	7.04	2.32
Max Chl Dpth (ft)	18.68	Hydr. Depth (ft)	6.15	12.74	3.05
Crit W.S. (ft)		Wetted Per. (ft)	305.54	1524.84	9.84
Conv. Total (cfs)	4738833.0	Conv. (cfs)	267563.4	4469480.0	1789.2

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 13 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8614.74	8639.16	0.00	7.41	12.34	224.2	0.60	0.86
8639.16	8663.58	0.08	57.59	24.51	4321.2	2.36	2.13
8663.58	8688.00	0.18	90.38	24.44	9174.3	3.70	2.88
8688.00	8712.42	0.27	114.72	24.43	13656.2	4.70	3.37
8712.42	8736.84	0.34	131.45	24.43	17136.0	5.38	3.70
8736.84	8761.25	0.41	147.30	24.43	20718.3	6.03	3.99
8761.25	8785.67	0.47	161.49	24.43	24151.6	6.61	4.24
8785.67	8810.09	0.52	170.89	24.42	26542.6	7.00	4.40
8810.09	8834.51	0.57	181.17	24.42	29254.9	7.42	4.58
8834.51	8858.93	0.63	191.45	24.42	32073.1	7.84	4.75
8858.93	8883.35	0.69	201.71	24.42	34990.9	8.26	4.92
8883.35	8907.77	0.74	210.67	24.42	37618.8	8.63	5.06
8907.77	8932.19	0.75	211.90	24.42	37989.6	8.68	5.08
8932.19	9033.43	4.26	1031.57	101.28	205787.6	10.19	5.97
9033.43	9134.67	4.61	1080.99	101.24	222535.6	10.68	6.16
9134.67	9235.90	4.20	1021.55	101.25	202502.0	10.09	5.93
9235.90	9337.14	3.73	951.41	101.24	179876.5	9.40	5.66
9337.14	9438.38	3.92	980.81	101.24	189235.5	9.69	5.78
9438.38	9539.61	4.13	1012.53	101.24	199537.6	10.00	5.90
9539.61	9640.85	7.25	1421.09	101.82	349738.0	14.04	7.37
9640.85	9742.09	8.74	1590.25	101.87	421715.2	15.71	7.94

9742.09	9843.33	6.78	1362.77	101.39	327072.1	13.46	7.19
9843.33	9944.56	7.51	1451.52	101.66	362679.8	14.34	7.48
9944.56	10045.80	9.01	1621.74	102.22	434721.4	16.02	8.03
10045.80	10147.04	8.58	1569.44	101.26	414201.2	15.50	7.90
10147.04	10248.28	7.73	1474.43	101.27	373234.3	14.56	7.58
10248.28	10349.51	6.82	1367.62	101.24	329327.3	13.51	7.21
10349.51	10450.75	7.04	1412.61	104.64	340025.6	13.95	7.21
10450.75	10451.93	0.01	6.61	1.50	756.1	5.62	2.94
10451.93	10453.10	0.01	5.52	1.50	560.1	4.69	2.61
10453.10	10454.28	0.01	4.44	1.50	389.1	3.77	2.25
10454.28	10455.46	0.00	3.35	1.50	243.4	2.85	1.87
10455.46	10456.64	0.00	2.26	1.50	126.7	1.92	1.44
10456.64	10457.81	0.00	1.18	1.50	42.6	1.00	0.93
10457.81	10458.99	0.00	0.18	0.86	2.8	0.27	0.39

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 12
Description: 18

Station Elevation Data, num = 68

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8430.33	1540	8437.73	1539	8456.1	1536	8462.11	1535.28	8476.1	1534
8504.9	1531.85	8520.67	1530	8530.92	1529.42	8553.71	1528	8559.73	1527.71
8602.21	1526	8609.38	1525.5	8617.53	1525.26	8642.47	1524	8693.38	1522
8781.8	1522	8816.22	1520.5	8830.72	1520.15	8930.71	1522	8949	1521.82
8974.67	1521.96	8984.18	1521.9	9098.47	1521.87	9121.97	1521.97	9131.78	1521.65
9154.09	1520	9169.78	1520	9193.06	1520	9218.63	1518	9236.67	1518
9238.55	1517.91	9284.57	1517.3	9293.24	1517.25	9375.22	1516.21	9388.93	1516
9532.03	1516	9648.47	1516	9651.59	1515.56	9666.02	1512.69	9668.62	1512
9696.41	1512	9809.89	1513.7	9835.4	1514	9906.46	1514	9912.78	1512.95
9917.86	1511.15	9929.06	1511.4	9936.34	1512	9983.24	1512	9988.43	1509.35
9991.51	150	10009.03	150	10013.03	150	10017.28	151	10023.27	1512
10074.32	1512	10081.1	1512.4	10128.04	1514	10200.4	151	10237.53	1512.69
10296.32	151	10307.46	151	10317.88	152	10319.69	1521.31	10327.21	1525.78
10332.55	153	10337.17	1533.2	10349.34	1540				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8430.33	.035	9121.97	.035	10327.21	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9121.97	10327.21	565	573.1	650	.1	.3

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 12 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1530.37	Element			
Vel Head (ft)	0.64	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1531.01	Reach Len. (ft)	565.00	573.10	650.00
E.G. Slope (ft/ft)	0.000647	Flow Area (sq ft)	4550.73	18734.13	13.33
Q Total (cfs)	144500.00	Flow (cfs)	18874.65	125604.10	21.22
Top Width (ft)	1815.55	Top Width (ft)	604.44	1205.24	5.87
Vel Total (ft/s)	6.20	Avg. Vel. (ft/s)	4.15	6.70	1.59
Max Chl Dpth (ft)	22.37	Hydr. Depth (ft)	7.53	15.54	2.27
Crit W.S. (ft)		Wetted Per. (ft)	604.71	1211.27	7.45
Conv. Total (cfs)	5680069.0	Conv. (cfs)	741932.9	4937302.0	834.0

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 12 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8476.44	8522.55	0.00	1.37	5.04	24.4	0.27	0.43
8522.55	8568.66	0.09	84.21	46.18	5336.1	1.83	1.53
8568.66	8614.77	0.33	183.67	46.16	19581.1	3.98	2.57
8614.77	8660.88	0.66	280.98	46.16	39771.3	6.09	3.41
8660.88	8706.99	1.03	365.10	46.13	61555.0	7.92	4.06
8706.99	8753.10	1.13	385.85	46.11	67520.1	8.37	4.22
8753.10	8799.20	1.16	392.44	46.12	69438.0	8.51	4.26
8799.20	8845.31	1.48	454.38	46.13	88638.6	9.85	4.70

8845.31	8891.42	1.40	439.04	46.12	83724.1	9.52	4.60
8891.42	8937.53	1.20	400.36	46.12	71797.0	8.68	4.32
8937.53	8983.64	1.15	390.71	46.11	68940.9	8.47	4.25
8983.64	9029.75	1.15	390.73	46.11	68949.8	8.47	4.25
9029.75	9075.86	1.15	391.29	46.11	69114.2	8.49	4.26
9075.86	9121.97	1.15	390.60	46.11	68911.6	8.47	4.25
9121.97	9202.32	2.73	800.27	80.44	157153.5	9.96	4.93
9202.32	9282.67	3.96	1000.31	80.40	228016.8	12.45	5.72
9282.67	9363.02	4.54	1084.59	80.36	261030.7	13.50	6.04
9363.02	9443.37	5.00	1149.53	80.35	287604.9	14.31	6.28
9443.37	9523.72	5.03	1154.48	80.35	289676.3	14.37	6.30
9523.72	9604.07	5.03	1154.46	80.35	289672.8	14.37	6.30
9604.07	9684.42	5.76	1254.90	80.75	331770.7	15.62	6.64
9684.42	9764.76	7.28	1440.88	80.36	419073.3	17.93	7.30
9764.76	9845.11	6.51	1347.80	80.36	374932.7	16.77	6.98
9845.11	9925.46	6.51	1349.41	80.75	374468.6	16.79	6.97
9925.46	10005.81	8.20	1554.69	81.30	472014.7	19.35	7.62
10005.81	10086.16	7.91	1519.67	81.14	455019.7	18.91	7.52
10086.16	10166.51	6.49	1345.06	80.37	373612.6	16.74	6.97
10166.51	10246.86	6.54	1350.73	80.37	376241.1	16.81	6.99
10246.86	10327.21	5.43	1227.35	83.62	312372.3	15.28	6.39
10327.21	10328.69	0.01	5.91	1.88	538.3	4.01	1.96
10328.69	10330.16	0.00	4.19	1.88	303.2	2.84	1.56
10330.16	10331.64	0.00	2.47	1.88	125.7	1.67	1.10
10331.64	10333.11	0.00	0.76	1.81	18.3	0.53	0.51

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 11
Description: 19

Station Elevation Data, num = 108

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7830.3	1519.6	7853.34	1519.01	7881.52	1518	7904.93	1518	7934.94	1516.26
7948.65	1516	7969.95	1516.55	7982.4	1516.71	7995.5	1516.45	8000.3	1516
8051.88	1516	8063.39	1516.76	8071.84	1517.04	8094.06	1517.55	8105.45	1517.5
8119.83	1516.9	8146.93	1516.83	8188.38	1516.38	8225.77	1516.04	8313.35	1516.67
8337.01	1516.7	8353.64	1516	8415.94	1516	8448.24	1515.07	8457.75	1514.95
8459.17	1514.7	8468.8	1512	8490.2	1512	8493.99	1512.31	8542.15	1515.51
8562.78	1515.6	8596.5	1516	8709.21	1516	8749.42	1515.71	8804.98	1515
8845.85	1514	8869.22	1514.49	8879.4	1514.14	8882.63	1514	8906.37	1514
8914.76	1514.4	8931.25	1514.55	8951.56	1515.21	8970.96	1515.5	8987.65	1515.55
8990.37	1515.4	9014.34	1515.46	9019.45	1514.58	9028.36	1513.82	9048.79	1513.12
9067.78	1513.1	9075.13	1513.52	9082.55	1514.47	9083.82	1514.79	9120.61	1514.55
9134.54	1515.5	9148.32	1515.4	9160.21	1515.87	9205.34	1515.82	9216.87	1515.72
9265.15	1515.7	9275.83	1515.56	9324.59	1515.61	9325.98	1515.64	9359.45	1515.67
9377.47	1513.4	9381.46	1512	9532.62	1512	9591.09	1512	9608.42	1512.56
9616.25	1512	9674.47	1512	9718.77	1511.33	9754.85	1511.07	9756.5	1511.02
9788.2	1510.9	9809.86	1510	9846.72	1510	9850.65	1509.65	9874.05	1509.48
9877.53	1509.4	9894.43	1509.28	9931.8	1508	10039.63	1508	10049.91	1510
10054.52	1510	10069.95	1510.41	10074.89	1510.4	10094.2	1510.99	10112.81	1512
10186.89	1512	10196.83	1512.57	10225.98	1512.93	10277.68	1513.15	10283.5	1512.94
10296.25	1512.7	10305.59	1512.62	10311.18	1512.36	10359.65	1510.58	10379.02	1510
10402.24	1510	10489.96	1510	10501.63	1514	10508.81	1518.57	10518.27	1523.61
10528.08	1530	10543.77	1536	10551.84	1540				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7830.3	.035	9359.45	.035	10528.08	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9359.45	10528.08	55.4	55.4	55.4	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
7830.3	9400	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 11 Profile # 1

W.S. Elev (ft)	1529.94	Element	Left OB	Channel	Right OB

Vel Head (ft)	0.73	Wt. n-Val.		0.035	
E.G. Elev (ft)	1530.67	Reach Len. (ft)	55.40	55.40	55.40
E.G. Slope (ft/ft)	0.000526	Flow Area (sq ft)		21118.73	
Q Total (cfs)	144500.00	Flow (cfs)		144500.00	
Top Width (ft)	2697.69	Top Width (ft)	1529.15	1168.54	
Vel Total (ft/s)	6.84	Avg. Vel. (ft/s)		6.84	
Max Chl Dpth (ft)	21.94	Hydr. Depth (ft)		18.72	
Crit W.S. (ft)	1519.06	Wetted Per. (ft)		1133.53	
Conv. Total (cfs)	6301135.0	Conv. (cfs)		6301135.0	

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 11 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9359.45	9437.36	3.08	670.25	37.36	195012.0	17.94	6.64
9437.36	9515.27	6.42	1397.77	77.91	406688.4	17.94	6.64
9515.27	9593.18	6.42	1397.68	77.91	406645.4	17.94	6.64
9593.18	9671.08	6.37	1390.80	77.94	403215.2	17.85	6.62
9671.08	9748.99	6.72	1436.14	77.91	425444.9	18.43	6.76
9748.99	9826.90	7.26	1505.30	77.93	460077.1	19.32	6.97
9826.90	9904.81	7.93	1586.86	77.93	502359.3	20.37	7.22
9904.81	9982.72	8.87	1696.93	77.93	561802.8	21.78	7.55
9982.72	10060.63	8.69	1677.18	78.10	550105.2	21.53	7.48
10060.63	10138.54	6.87	1456.22	77.95	435279.0	18.69	6.82
10138.54	10216.45	6.30	1381.37	77.93	398706.2	17.73	6.59
10216.45	10294.35	5.84	1320.52	77.92	369899.8	16.95	6.39
10294.35	10372.26	6.70	1433.47	77.95	423988.0	18.40	6.75
10372.26	10450.17	7.65	1552.91	77.91	484654.7	19.93	7.12
10450.17	10528.08	4.88	1215.33	82.95	308931.3	15.62	5.80

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: CAVE CREEK River Station: 10
Description: 19.1

Station Elevation Data, num = 60

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
9413.15	1532	9441.97	1530	9460.39	1528.99	9473.8	1528.35	9479.97	1528
9486.48	1528	9498.36	1527.4	9501.83	1527.4	9533.23	1526	9566.44	1524.52
9582.66	1523.6	9615.76	1522	9669.4	1521.98	9679.05	1521.23	9689.64	1520.54
9706.56	1519.6	9728.14	1518	9746.53	1516	9762.98	1514	9765.87	1514
9795.08	1512.9	9816.6	1513.71	9828.71	1514	9840.75	1513.96	9856.87	1513.71
9860.22	1513.5	9874.17	1512.89	9886.21	1511.83	9892.12	1510	9905.12	1508
9931.53	1508	9982.5	1506.27	9995.52	1506	10008.74	1506	10016.82	1506.36
10025.14	1507	10042.88	1508	10051.61	1508	10084.68	1509.33	10095.09	1510
10097.18	1510.5	10109.14	1512.04	10116.15	1514	10136.54	1514.37	10150.31	1514.56
10167.5	1514.7	10187.67	1515.3	10208.3	1515.52	10230.3	1516	10258.85	1517.83
10264.63	1518.3	10289.84	1520	10304.11	1520.62	10331.75	1521.11	10340.73	1521.32
10351.04	1521.4	10365.38	1522	10448.52	1522	10471.72	1520.39	10483.92	1520

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
9413.15	.035	9669.4	.035	10116.15	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
9669.410116.15 28 28 28 .1 .3
Ineffective Flow Areas, num = 1
Sta L Sta R Elev

1048010483.92 1530

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 10 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1525.50	Element			
Vel Head (ft)	4.70	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1530.20	Reach Len. (ft)	28.00	28.00	28.00
E.G. Slope (ft/ft)	0.005891	Flow Area (sq ft)	312.21	6143.38	2425.24
Q Total (cfs)	144500.00	Flow (cfs)	1871.67	114651.00	27977.33
Top Width (ft)	939.55	Top Width (ft)	125.03	446.75	367.77
Vel Total (ft/s)	16.27	Avg. Vel. (ft/s)	5.99	18.66	11.54
Max Chl Dpth (ft)	19.50	Hydr. Depth (ft)	2.50	13.75	6.67
Crit W.S. (ft)	1525.50	Wetted Per. (ft)	125.11	448.22	364.10
Conv. Total (cfs)	1882640.0	Conv. (cfs)	24385.3	1493748.0	364506.8

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 10 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9532.73	9549.82	0.00	0.66	5.45	6.9	0.12	0.71
9549.82	9566.90	0.02	10.65	17.10	329.6	0.62	2.10
9566.90	9583.98	0.07	25.51	17.11	1413.9	1.49	3.77
9583.98	9601.07	0.14	40.67	17.10	3075.4	2.38	5.14
9601.07	9618.15	0.24	54.63	17.10	5031.3	3.20	6.26
9618.15	9635.23	0.28	59.92	17.08	5872.5	3.51	6.66
9635.23	9652.32	0.28	60.03	17.08	5890.7	3.51	6.67
9652.32	9669.40	0.28	60.14	17.08	5908.1	3.52	6.68
9669.40	9699.18	0.80	136.43	29.85	15951.5	4.58	8.47
9699.18	9728.97	1.43	192.94	29.86	28416.5	6.48	10.67
9728.97	9758.75	2.57	275.35	29.98	51270.8	9.25	13.50
9758.75	9788.53	3.87	351.20	29.83	77163.3	11.79	15.92
9788.53	9818.32	4.12	364.42	29.80	82114.8	12.24	16.33
9818.32	9848.10	3.76	344.86	29.79	74927.0	11.58	15.75
9848.10	9877.88	4.07	361.84	29.82	81119.9	12.15	16.25
9877.88	9907.67	5.93	456.14	30.25	118209.5	15.32	18.78
9907.67	9937.45	7.50	521.90	29.79	149472.8	17.52	20.76
9937.45	9967.23	7.99	542.35	29.80	159308.7	18.21	21.29
9967.23	9997.02	8.71	571.04	29.79	173623.9	19.17	22.04
9997.02	10026.80	8.73	572.04	29.82	174037.2	19.21	22.05
10026.80	10056.58	7.64	528.10	29.81	152352.2	17.73	20.91
10056.58	10086.37	6.92	497.48	29.81	137926.7	16.70	20.09
10086.37	10116.15	5.32	427.31	30.23	106060.5	14.35	17.99
10116.15	10140.67	2.83	276.62	24.52	59070.1	11.28	14.77
10140.67	10165.19	2.68	268.06	24.52	56056.1	10.93	14.46
10165.19	10189.70	2.51	257.60	24.53	52450.5	10.51	14.08
10189.70	10214.22	2.33	246.24	24.52	48658.9	10.04	13.66
10214.22	10238.74	2.13	233.54	24.54	44526.4	9.53	13.18
10238.74	10263.26	1.65	200.30	24.57	34443.0	8.17	11.89
10263.26	10287.78	1.12	158.63	24.58	23346.9	6.47	10.18

10287.78	10312.29	0.75	124.98	24.54	15708.4	5.10	8.69
10312.29	10336.81	0.62	110.78	24.52	12851.7	4.52	8.02
10336.81	10361.33	0.51	99.30	24.53	10707.9	4.05	7.46
10361.33	10385.85	0.41	86.24	24.52	8467.1	3.52	6.79
10385.85	10410.37	0.40	85.90	24.52	8412.2	3.50	6.77
10410.37	10434.88	0.40	85.90	24.52	8411.8	3.50	6.77
10434.88	10459.40	0.43	90.01	24.54	9087.1	3.67	6.98
10459.40	10483.92	0.59	101.16	20.63	12394.4	4.91	8.47

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 9
Description: 20

Station Elevation Data, num = 120

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8338.03	1538	8375.87	1537.4	8396.22	1537.09	8411.13	1536	8436.72	1536
8445.06	1534.85	8454.39	1534	8491.55	1534	8493.18	1533.67	8564.23	1532.76
8588.19	1532.33	8605.69	1532	8636.05	1532	8666.34	1531.63	8720.26	1531.35
8762.68	1531.42	8825.05	1531.7	8835.23	1531.77	8850.3	1532	8944.77	1532
8963.35	1531.4	8973.14	1530	9039.3	1530	9078.41	1530	9094.02	1531.39
9120.49	1531.65	9142.03	1532	9340.29	1532	9345.42	1532.55	9365.58	1532
9389.34	1531.17	9393.56	1531	9422	1530	9438.15	1529.16	9443.46	1529.42
9449.7	1529.12	9461.65	1528.8	9472.6	1528	9484.27	1528	9500.83	1526.9
9505.39	1526.52	9519.4	1526	9542.68	1524.59	9553.45	1524	9577.05	1523
9595.91	1522	9657.11	1519.4	9665.99	1519.03	9702.06	1517.26	9709.77	1516.82
9727.46	1515.49	9745.24	1514	9909.51	1514	9916.05	1513.24	9925.05	1512
9932.44	1509.95	9937.29	1508	9950.87	1507.58	9974.26	1506	10017.99	1506
10033.51	1506.99	10041.58	1507.1	10066.48	1508	10067.61	1508.1	10075.95	1510
10078.35	1511.48	10080.63	1512	10085.34	1514	10127.81	1514.81	10153.87	1515.31
10172.91	1515.65	10184.56	1516	10197.74	1517.02	10214.51	1518.08	10227.54	1519.23
10238.88	1520	10275.13	1521.7	10289.84	1522	10494.06	1522	10500.96	1521.42
10520.54	1521.18	10537.03	1520.9	10559.36	1520.77	10581.27	1520	10656.9	1520
10657.67	1519.79	10693.94	1519	10700.86	1520	10764.42	1520	10776.04	1521.43
10787.43	1521.87	10795.92	1522	10837.65	1522	10850.92	1522.3	10862.85	1522.23
10947.08	1522.77	10959.62	1523.5	10969.5	1523.62	10984.25	1523.45	10994.67	1523.74
11001.14	1523.78	11022.31	1523.5	11044.12	1523.73	11057.3	1523.5	11059.71	1523.1
11075.21	1523.06	11096.27	1522	11117.42	1522	11126.51	1521.33	11131.65	1521.21
11154.4	1520	11231.22	1520	11233.98	1519.79	11261.9	1517.24	11284.47	1517.23
11306.06	1517.05	11424.93	1519.4	11434.07	1519.49	11453.86	1520	11489.68	1520

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8338.03	.035	9500.83	.035	10289.84	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9500.83	10289.84	1	1	1	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
10780	11489.68	1530

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 9 Profile # 1

W.S. Elev (ft) 1523.62 Element Left OB Channel Right OB

Vel Head (ft)	6.20	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1529.82	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.013112	Flow Area (sq ft)		6405.48	1293.33
Q Total (cfs)	144500.00	Flow (cfs)		132498.50	12001.51
Top Width (ft)	1885.48	Top Width (ft)		727.31	1158.17
Vel Total (ft/s)	18.77	Avg. Vel. (ft/s)		20.69	9.28
Max Chl Dpth (ft)	17.62	Hydr. Depth (ft)		8.81	2.64
Crit W.S. (ft)	1528.93	Wetted Per. (ft)		729.79	490.40
Conv. Total (cfs)	1261939.0	Conv. (cfs)		1157128.0	104810.9

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 9 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9553.43	9606.03	0.13	44.02	43.55	1882.6	1.01	4.21
9606.03	9658.63	1.04	166.35	52.65	15206.8	3.16	9.00
9658.63	9711.23	2.63	290.63	52.67	38531.3	5.53	13.06
9711.23	9763.83	5.61	458.44	52.71	82315.5	8.72	17.68
9763.83	9816.43	6.62	505.77	52.60	97092.2	9.62	18.91
9816.43	9869.03	6.62	505.77	52.60	97092.2	9.62	18.91
9869.03	9921.64	6.80	514.66	52.70	99829.4	9.78	19.10
9921.64	9974.24	14.41	811.30	53.35	211421.2	15.42	25.66
9974.24	10026.84	18.06	924.08	52.62	265061.4	17.57	28.25
10026.84	10079.44	14.95	829.13	53.30	219365.1	15.76	26.06
10079.44	10132.04	6.29	492.23	53.05	92277.2	9.36	18.46
10132.04	10184.64	5.09	432.14	52.61	74685.5	8.22	17.02
10184.64	10237.24	2.75	298.73	52.75	40297.2	5.68	13.28
10237.24	10289.84	0.71	132.23	52.65	10372.8	2.51	7.73
10289.84	10369.83	0.56	129.20	79.99	7551.2	1.62	6.25
10369.83	10449.82	0.56	129.20	79.99	7551.2	1.62	6.25
10449.82	10529.81	0.74	153.24	80.02	10032.4	1.92	7.00
10529.81	10609.80	1.74	255.15	80.00	23470.7	3.19	9.83
10609.80	10689.79	2.37	307.24	80.03	31981.7	3.84	11.13
10689.79	10769.78	2.21	294.84	80.10	29840.8	3.69	10.82
10769.78	10849.76	0.14	24.45	10.27	1850.8	2.39	8.09

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 8
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10786	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9590	1535	10786	10786	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 8 Profile # 1

W.S. Elev (ft)	1526.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.58	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1528.18	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.002013	Flow Area (sq ft)	4323.33	1516.30	8669.77
Q Total (cfs)	144500.00	Flow (cfs)	36007.36	36591.71	71900.93
Top Width (ft)	2723.00	Top Width (ft)	1901.00	72.00	750.00
Vel Total (ft/s)	9.96	Avg. Vel. (ft/s)	9.74	12.43	9.64
Max Chl Dpth (ft)	21.06	Hydr. Depth (ft)	11.56	21.06	11.56
Crit W.S. (ft)	1522.60	Wetted Per. (ft)	374.00	91.00	761.56
Conv. Total (cfs)	3221008.0	Conv. (cfs)	938373.9	419959.2	1862675.0

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 8 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.80	9710.53	8.03	578.34	120.53	69850.1	4.80	20.07
9710.53	9837.27	8.44	608.09	126.73	73443.2	4.80	20.07
9837.27	9964.00	8.44	608.09	126.73	73443.2	4.80	20.07
9964.00	9968.80	0.88	68.63	14.30	8289.9	14.30	18.44
9968.80	9973.60	1.81	68.63	4.80	17164.1	14.30	38.18
9973.60	9978.40	1.81	68.64	4.80	17167.6	14.30	38.18
9978.40	9983.20	1.81	68.63	4.80	17164.1	14.30	38.18
9983.20	9988.00	1.81	68.63	4.80	17164.1	14.30	38.18
9988.00	9992.80	1.81	68.63	4.80	17164.1	14.30	38.18
9992.80	9997.60	1.81	68.63	4.80	17164.1	14.30	38.18
9997.60	10002.40	1.81	68.64	4.80	17167.6	14.30	38.18
10002.40	10007.20	1.81	68.63	4.80	17164.1	14.30	38.18
10007.20	10012.00	1.81	68.63	4.80	17164.1	14.30	38.18
10012.00	10016.80	1.81	68.63	4.80	17164.1	14.30	38.18
10016.80	10021.60	1.81	68.63	4.80	17164.1	14.30	38.18
10021.60	10026.40	1.81	68.64	4.80	17167.6	14.30	38.18
10026.40	10031.20	1.81	68.63	4.80	17164.1	14.30	38.18
10031.20	10036.00	0.88	68.63	14.30	8289.9	14.30	18.44
10036.00	10086.00	3.33	239.91	50.00	28975.5	4.80	20.06
10086.00	10136.00	3.33	239.91	50.00	28975.5	4.80	20.06
10136.00	10186.00	3.33	239.91	50.00	28975.5	4.80	20.06
10186.00	10236.00	3.33	239.91	50.00	28975.5	4.80	20.06
10236.00	10286.00	3.33	239.91	50.00	28975.5	4.80	20.06
10286.00	10336.00	3.33	239.91	50.00	28975.5	4.80	20.06

10336.00	10386.00	3.33	239.91	50.00	28975.5	4.80	20.06
10386.00	10436.00	3.33	239.91	50.00	28975.5	4.80	20.06
10436.00	10486.00	3.33	239.91	50.00	28975.5	4.80	20.06
10486.00	10536.00	3.33	239.91	50.00	28975.5	4.80	20.06
10536.00	10586.00	3.33	239.91	50.00	28975.5	4.80	20.06
10586.00	10636.00	3.33	239.91	50.00	28975.5	4.80	20.06
10636.00	10686.00	3.33	239.91	50.00	28975.5	4.80	20.06
10686.00	10736.00	3.33	239.91	50.00	28975.5	4.80	20.06
10736.00	10786.00	3.13	239.91	54.80	27258.3	4.80	18.87

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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 7
Description: Begin Cave Creek Spillway

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10786	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	128.2	128.2	128.2	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9590	1535	10786	10786	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 7 Profile # 1

W.S. Elev (ft)	1526.09	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.04	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1528.13	Reach Len. (ft)	128.20	128.20	128.20
E.G. Slope (ft/ft)	0.000677	Flow Area (sq ft)	4132.22	1479.51	8286.53
Q Total (cfs)	144500.00	Flow (cfs)	39614.89	26214.23	78670.88
Top Width (ft)	2723.00	Top Width (ft)	1901.00	72.00	750.00
Vel Total (ft/s)	10.40	Avg. Vel. (ft/s)	9.59	17.72	9.49
Max Chl Dpth (ft)	20.55	Hydr. Depth (ft)	11.05	20.55	11.05
Crit W.S. (ft)	1523.48	Wetted Per. (ft)	374.00	91.00	761.05
Conv. Total (cfs)	5555185.0	Conv. (cfs)	1522962.0	1007785.0	3024438.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 7 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9583.80	9710.53	8.84	1331.74	120.53	490822.3	11.05	9.59
9710.53	9837.27	9.29	1400.24	126.73	516070.0	11.05	9.59
9837.27	9964.00	9.29	1400.24	126.73	516070.0	11.05	9.59
9964.00	9968.80	0.63	98.63	14.30	37931.0	20.55	9.19
9968.80	9973.60	1.30	98.63	4.80	78535.3	20.55	19.03
9973.60	9978.40	1.30	98.65	4.80	78551.3	20.55	19.03
9978.40	9983.20	1.30	98.63	4.80	78535.3	20.55	19.03
9983.20	9988.00	1.30	98.63	4.80	78535.3	20.55	19.03
9988.00	9992.80	1.30	98.63	4.80	78535.3	20.55	19.03
9992.80	9997.60	1.30	98.63	4.80	78535.3	20.55	19.03
9997.60	10002.40	1.30	98.65	4.80	78551.3	20.55	19.03
10002.40	10007.20	1.30	98.63	4.80	78535.3	20.55	19.03
10007.20	10012.00	1.30	98.63	4.80	78535.3	20.55	19.03
10012.00	10016.80	1.30	98.63	4.80	78535.3	20.55	19.03
10016.80	10021.60	1.30	98.63	4.80	78535.3	20.55	19.03
10021.60	10026.40	1.30	98.65	4.80	78551.3	20.55	19.03
10026.40	10031.20	1.30	98.63	4.80	78535.3	20.55	19.03
10031.20	10036.00	0.63	98.63	14.30	37931.0	20.55	9.19
10036.00	10086.00	3.66	552.44	50.00	203604.6	11.05	9.57
10086.00	10136.00	3.66	552.44	50.00	203604.6	11.05	9.57
10136.00	10186.00	3.66	552.44	50.00	203604.6	11.05	9.57
10186.00	10236.00	3.66	552.44	50.00	203604.6	11.05	9.57
10236.00	10286.00	3.66	552.44	50.00	203604.6	11.05	9.57
10286.00	10336.00	3.66	552.44	50.00	203604.6	11.05	9.57
10336.00	10386.00	3.66	552.44	50.00	203604.6	11.05	9.57
10386.00	10436.00	3.66	552.44	50.00	203604.6	11.05	9.57
10436.00	10486.00	3.66	552.44	50.00	203604.6	11.05	9.57
10486.00	10536.00	3.66	552.44	50.00	203604.6	11.05	9.57
10536.00	10586.00	3.66	552.44	50.00	203604.6	11.05	9.57
10586.00	10636.00	3.66	552.44	50.00	203604.6	11.05	9.57
10636.00	10686.00	3.66	552.44	50.00	203604.6	11.05	9.57
10686.00	10736.00	3.66	552.44	50.00	203604.6	11.05	9.57
10736.00	10786.00	3.20	552.44	61.05	178231.0	11.05	8.38

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 6
Description: Downstream side of top of sply

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10817	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.014	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	20	20	20	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9715	1535	10817	10817	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 6 Profile # 1

W.S. Elev (ft)	1523.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	3.91	Wt. n-Val.	0.020	0.014	0.020
E.G. Elev (ft)	1527.81	Reach Len. (ft)	20.00	20.00	20.00
E.G. Slope (ft/ft)	0.001507	Flow Area (sq ft)	2206.47	1322.02	6920.70
Q Total (cfs)	144500.00	Flow (cfs)	27248.16	32427.13	84824.70
Top Width (ft)	2754.00	Top Width (ft)	1901.00	72.00	781.00
Vel Total (ft/s)	13.83	Avg. Vel. (ft/s)	12.35	24.53	12.26
Max Chl Dpth (ft)	18.36	Hydr. Depth (ft)	8.86	18.36	8.86
Crit W.S. (ft)	1523.90	Wetted Per. (ft)	249.00	91.00	789.86
Conv. Total (cfs)	3722716.0	Conv. (cfs)	701987.3	835411.6	2185317.0

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

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

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 6 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	9.26	1083.44	122.27	344697.1	8.86	12.35
9837.27	9964.00	9.60	1123.03	126.73	357290.1	8.86	12.35
9964.00	9968.80	0.78	88.13	14.30	31443.2	18.36	12.72
9968.80	9973.60	1.61	88.13	4.80	65102.5	18.36	26.34
9973.60	9978.40	1.61	88.15	4.80	65115.7	18.36	26.34
9978.40	9983.20	1.61	88.13	4.80	65102.5	18.36	26.34
9983.20	9988.00	1.61	88.13	4.80	65102.5	18.36	26.34
9988.00	9992.80	1.61	88.13	4.80	65102.5	18.36	26.34
9992.80	9997.60	1.61	88.13	4.80	65102.5	18.36	26.34
9997.60	10002.40	1.61	88.15	4.80	65115.7	18.36	26.34
10002.40	10007.20	1.61	88.13	4.80	65102.5	18.36	26.34
10007.20	10012.00	1.61	88.13	4.80	65102.5	18.36	26.34
10012.00	10016.80	1.61	88.13	4.80	65102.5	18.36	26.34
10016.80	10021.60	1.61	88.13	4.80	65102.5	18.36	26.34
10021.60	10026.40	1.61	88.15	4.80	65115.7	18.36	26.34
10026.40	10031.20	1.61	88.13	4.80	65102.5	18.36	26.34
10031.20	10036.00	0.78	88.13	14.30	31443.2	18.36	12.72
10036.00	10088.07	3.94	461.38	52.07	146786.9	8.86	12.34
10088.07	10140.13	3.94	461.39	52.07	146789.7	8.86	12.34
10140.13	10192.20	3.94	461.38	52.07	146786.9	8.86	12.34
10192.20	10244.27	3.94	461.38	52.07	146786.9	8.86	12.34
10244.27	10296.33	3.94	461.38	52.07	146786.9	8.86	12.34
10296.33	10348.40	3.94	461.39	52.07	146789.7	8.86	12.34
10348.40	10400.47	3.94	461.38	52.07	146786.9	8.86	12.34
10400.47	10452.53	3.94	461.38	52.07	146786.9	8.86	12.34
10452.53	10504.60	3.94	461.38	52.07	146786.9	8.86	12.34
10504.60	10556.67	3.94	461.39	52.07	146789.7	8.86	12.34
10556.67	10608.73	3.94	461.38	52.07	146786.9	8.86	12.34
10608.73	10660.80	3.94	461.38	52.07	146786.9	8.86	12.34
10660.80	10712.87	3.94	461.38	52.07	146786.9	8.86	12.34
10712.87	10764.93	3.94	461.39	52.07	146789.7	8.86	12.34
10764.93	10817.00	3.55	461.38	60.93	132185.1	8.86	11.11

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 5
Description: Begin baffled drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1515.04	9964	1515.04	9964	1505.54	10036	1505.54	10036	1515.04
10737	1515.04	10834	1515.04						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.02	9964	.04	10036	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	50	50	50	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9735	1535	10822	10834	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 5 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1523.46	Element			
Vel Head (ft)	3.45	Wt. n-Val.	0.020	0.040	0.020
E.G. Elev (ft)	1526.91	Reach Len. (ft)	50.00	50.00	50.00
E.G. Slope (ft/ft)	0.002466	Flow Area (sq ft)	1928.55	1290.36	6619.40
Q Total (cfs)	144500.00	Flow (cfs)	28330.73	18929.29	97239.98
Top Width (ft)	2771.00	Top Width (ft)	1901.00	72.00	798.00
Vel Total (ft/s)	14.69	Avg. Vel. (ft/s)	15.27	10.81	15.27
Max Chl Dpth (ft)	17.92	Hydr. Depth (ft)	8.42	17.92	8.42
Crit W.S. (ft)	1522.62	Wetted Per. (ft)	229.00	91.00	786.00
Conv. Total (cfs)	2909622.0	Conv. (cfs)	593099.7	280817.6	2035705.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 5 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	8.76	600.99	102.27	145408.3	5.88	21.05
9837.27	9964.00	10.85	744.78	126.73	180196.6	5.88	21.05
9964.00	9968.80	0.45	73.81	14.30	8188.3	15.38	8.87
9968.80	9973.60	0.94	73.81	4.80	16953.7	15.38	18.36
9973.60	9978.40	0.94	73.82	4.80	16957.1	15.38	18.36
9978.40	9983.20	0.94	73.81	4.80	16953.7	15.38	18.36
9983.20	9988.00	0.94	73.81	4.80	16953.7	15.38	18.36

9988.00	9992.80	0.94	73.81	4.80	16953.7	15.38	18.36
9992.80	9997.60	0.94	73.81	4.80	16953.7	15.38	18.36
9997.60	10002.40	0.94	73.82	4.80	16957.1	15.38	18.36
10002.40	10007.20	0.94	73.81	4.80	16953.7	15.38	18.36
10007.20	10012.00	0.94	73.81	4.80	16953.7	15.38	18.36
10012.00	10016.80	0.94	73.81	4.80	16953.7	15.38	18.36
10016.80	10021.60	0.94	73.81	4.80	16953.7	15.38	18.36
10021.60	10026.40	0.94	73.82	4.80	16957.1	15.38	18.36
10026.40	10031.20	0.94	73.81	4.80	16953.7	15.38	18.36
10031.20	10036.00	0.45	73.81	14.30	8188.3	15.38	8.87
10036.00	10089.20	4.55	312.64	53.20	75643.0	5.88	21.05
10089.20	10142.40	4.55	312.64	53.20	75643.0	5.88	21.05
10142.40	10195.60	4.55	312.64	53.20	75641.6	5.88	21.05
10195.60	10248.80	4.55	312.64	53.20	75643.0	5.88	21.05
10248.80	10302.00	4.55	312.64	53.20	75643.0	5.88	21.05
10302.00	10355.20	4.55	312.64	53.20	75643.0	5.88	21.05
10355.20	10408.40	4.55	312.64	53.20	75643.0	5.88	21.05
10408.40	10461.60	4.55	312.64	53.20	75641.6	5.88	21.05
10461.60	10514.80	4.55	312.64	53.20	75643.0	5.88	21.05
10514.80	10568.00	4.55	312.64	53.20	75643.0	5.88	21.05
10568.00	10621.20	4.55	312.64	53.20	75643.0	5.88	21.05
10621.20	10674.40	4.55	312.64	53.20	75643.0	5.88	21.05
10674.40	10727.60	4.55	312.64	53.20	75641.6	5.88	21.05
10727.60	10780.80	4.55	312.64	53.20	75643.0	5.88	21.05
10780.80	10834.00	3.53	242.12	41.20	58580.7	5.88	21.05

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 4
Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10737	1501	10834	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.04	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	1	1	1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9785	1535	10834	10834	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 4 Profile # 1

W.S. Elev (ft)	1525.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.035	0.040	0.035
E.G. Elev (ft)	1525.98	Reach Len. (ft)	1.00	1.00	1.00
E.G. Slope (ft/ft)	0.000235	Flow Area (sq ft)	4390.85	2846.15	19574.87
Q Total (cfs)	144500.00	Flow (cfs)	24135.34	14916.91	105447.80
Top Width (ft)	2771.00	Top Width (ft)	1901.00	72.00	798.00
Vel Total (ft/s)	5.39	Avg. Vel. (ft/s)	5.50	5.24	5.39
Max Chl Dpth (ft)	39.53	Hydr. Depth (ft)	24.53	39.53	24.53

Crit W.S. (ft)	1508.90	Wetted Per. (ft)	179.00	102.00	822.53
Conv. Total (cfs)	9422247.0	Conv. (cfs)	1573765.0	972670.1	6875812.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 4 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	4.88	1282.09	52.27	459527.2	24.53	5.50
9837.27	9964.00	11.83	3108.76	126.73	1114238.0	24.53	5.50
9964.00	9968.80	0.29	189.74	19.80	31798.8	39.53	2.22
9968.80	9973.60	0.75	189.74	4.80	81790.3	39.53	5.71
9973.60	9978.40	0.75	189.77	4.80	81806.9	39.53	5.71
9978.40	9983.20	0.75	189.74	4.80	81790.3	39.53	5.71
9983.20	9988.00	0.75	189.74	4.80	81790.3	39.53	5.71
9988.00	9992.80	0.75	189.74	4.80	81790.3	39.53	5.71
9992.80	9997.60	0.75	189.74	4.80	81790.3	39.53	5.71
9997.60	10002.40	0.75	189.77	4.80	81806.9	39.53	5.71
10002.40	10007.20	0.75	189.74	4.80	81790.3	39.53	5.71
10007.20	10012.00	0.75	189.74	4.80	81790.3	39.53	5.71
10012.00	10016.80	0.75	189.74	4.80	81790.3	39.53	5.71
10016.80	10021.60	0.75	189.74	4.80	81790.3	39.53	5.71
10021.60	10026.40	0.75	189.77	4.80	81806.9	39.53	5.71
10026.40	10031.20	0.75	189.74	4.80	81790.3	39.53	5.71
10031.20	10036.00	0.29	189.74	19.80	31798.8	39.53	2.22
10036.00	10089.20	4.94	1305.00	53.20	467735.3	24.53	5.47
10089.20	10142.40	4.94	1305.00	53.20	467735.3	24.53	5.47
10142.40	10195.60	4.94	1304.97	53.20	467726.8	24.53	5.47
10195.60	10248.80	4.94	1305.00	53.20	467735.3	24.53	5.47
10248.80	10302.00	4.94	1305.00	53.20	467735.3	24.53	5.47
10302.00	10355.20	4.94	1305.00	53.20	467735.3	24.53	5.47
10355.20	10408.40	4.94	1305.00	53.20	467735.3	24.53	5.47
10408.40	10461.60	4.94	1304.97	53.20	467726.8	24.53	5.47
10461.60	10514.80	4.94	1305.00	53.20	467735.3	24.53	5.47
10514.80	10568.00	4.94	1305.00	53.20	467735.3	24.53	5.47
10568.00	10621.20	4.94	1305.00	53.20	467735.3	24.53	5.47
10621.20	10674.40	4.94	1305.00	53.20	467735.3	24.53	5.47
10674.40	10727.60	4.94	1304.97	53.20	467726.8	24.53	5.47
10727.60	10780.80	4.94	1305.00	53.20	467735.3	24.53	5.47
10780.80	10834.00	3.84	1305.00	77.73	363258.8	24.53	4.25

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 3
Description: Bottom of Baffled Drop

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8063	1501	9964	1501	9964	1486	10036	1486	10036	1501
10750	1501	10834	1501						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8063	.035	9964	.035	10036	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9964	10036	15	15	15	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8063	9785	1535	10834	10834	1535

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 3 Profile # 1

W.S. Elev (ft)	1525.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1525.98	Reach Len. (ft)	15.00	15.00	15.00
E.G. Slope (ft/ft)	0.000228	Flow Area (sq ft)	4390.55	2846.03	19573.50
Q Total (cfs)	144500.00	Flow (cfs)	23784.43	16800.78	103914.80
Top Width (ft)	2771.00	Top Width (ft)	1901.00	72.00	798.00
Vel Total (ft/s)	5.39	Avg. Vel. (ft/s)	5.42	5.90	5.31
Max Chl Dpth (ft)	39.53	Hydr. Depth (ft)	24.53	39.53	24.53
Crit W.S. (ft)	1509.21	Wetted Per. (ft)	179.00	102.00	822.53
Conv. Total (cfs)	9560148.0	Conv. (cfs)	1573583.0	1111543.0	6875023.0

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 3 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9710.53	9837.27	4.81	1282.01	52.27	459473.9	24.53	5.42
9837.27	9964.00	11.65	3108.54	126.73	1114109.0	24.53	5.42
9964.00	9968.80	0.33	189.73	19.80	36338.8	39.53	2.50
9968.80	9973.60	0.84	189.73	4.80	93467.9	39.53	6.43
9973.60	9978.40	0.84	189.77	4.80	93486.9	39.53	6.43
9978.40	9983.20	0.84	189.73	4.80	93467.9	39.53	6.43
9983.20	9988.00	0.84	189.73	4.80	93467.9	39.53	6.43
9988.00	9992.80	0.84	189.73	4.80	93467.9	39.53	6.43
9992.80	9997.60	0.84	189.73	4.80	93467.9	39.53	6.43
9997.60	10002.40	0.84	189.77	4.80	93486.9	39.53	6.43
10002.40	10007.20	0.84	189.73	4.80	93467.9	39.53	6.43
10007.20	10012.00	0.84	189.73	4.80	93467.9	39.53	6.43
10012.00	10016.80	0.84	189.73	4.80	93467.9	39.53	6.43
10016.80	10021.60	0.84	189.73	4.80	93467.9	39.53	6.43
10021.60	10026.40	0.84	189.77	4.80	93486.9	39.53	6.43
10026.40	10031.20	0.84	189.73	4.80	93467.9	39.53	6.43
10031.20	10036.00	0.33	189.73	19.80	36338.8	39.53	2.50
10036.00	10089.20	4.87	1304.90	53.20	467681.0	24.53	5.39
10089.20	10142.40	4.87	1304.90	53.20	467681.0	24.53	5.39
10142.40	10195.60	4.87	1304.88	53.20	467672.4	24.53	5.39
10195.60	10248.80	4.87	1304.90	53.20	467681.0	24.53	5.39
10248.80	10302.00	4.87	1304.90	53.20	467681.0	24.53	5.39
10302.00	10355.20	4.87	1304.90	53.20	467681.0	24.53	5.39
10355.20	10408.40	4.87	1304.90	53.20	467681.0	24.53	5.39
10408.40	10461.60	4.87	1304.88	53.20	467672.4	24.53	5.39
10461.60	10514.80	4.87	1304.90	53.20	467681.0	24.53	5.39
10514.80	10568.00	4.87	1304.90	53.20	467681.0	24.53	5.39
10568.00	10621.20	4.87	1304.90	53.20	467681.0	24.53	5.39
10621.20	10674.40	4.87	1304.90	53.20	467681.0	24.53	5.39
10674.40	10727.60	4.87	1304.88	53.20	467672.4	24.53	5.39
10727.60	10780.80	4.87	1304.90	53.20	467681.0	24.53	5.39
10780.80	10834.00	3.78	1304.90	77.73	363221.9	24.53	4.19

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 2
Description: 21

Station Elevation Data, num = 74

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7999.8	1514	8485.42	1514	8489.99	1513.86	8546.9	1513.78	8559.16	1514
8887.36	1514	9135.42	1514	9578.74	1514	9816.55	1514	9826.66	1512.42
9839.04	1512.4	9848.87	1512.64	9858.41	1514	9910.78	1514	9948.3	1513.07
9965.92	1512.5	9969.28	1512	9974.39	1510	9976.64	1507.44	10008.7	1509.13
10015.34	1507.1	10049.8	1510.99	10053.21	1511.61	10057.16	1512	10069.28	1512.68
10074.2	1512.71	10079.44	1513.09	10097.38	1512.86	10118.78	1513.49	10126.18	1513.53
10144.25	1513.11	10196.79	1513.05	10208.39	1512.73	10225.13	1512.88	10271.36	1512.9
10302.76	1514	10357.38	1514.06	10397.93	1514	10413.61	1513.88	10462.94	1513.69
10604.63	1513.61	10627.38	1513.33	10635.45	1513.41	10641.13	1514	10664.06	1514.43
10685.28	1514	10687.17	1513.71	10713.35	1513.23	10742.82	1512.49	10752.71	1512.43
10768.16	1512	10777.88	1511.68	10868.8	1510	10880.66	1509.89	10902.47	1510
10933.72	1510.41	10947.48	1510.35	10973.49	1510.67	11011.91	1510.98	11069.73	1512
11094.6	1512.71	11128.79	1513.29	11146.52	1513.02	11179.89	1512	11244.94	1511.69
11258.96	1511	11276.53	1510.95	11283.28	1510.57	11306.41	1510.14	11309.41	1510.14
11353.75	1510.91	11437.76	1511.22	11511.69	1511.17	11528.63	1511		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7999.8	.035	9578.74	.035	10357.38	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9578.74	10357.38	106.4	106.4	106.4	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7999.8	9800	1524	10838	11528.63	1524

CROSS SECTION OUTPUT Reach: CAVE CREEK Riv Sta: 2 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1521.37	Element			
Vel Head (ft)	4.23	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1525.59	Reach Len. (ft)	106.40	106.40	106.40
E.G. Slope (ft/ft)	0.008780	Flow Area (sq ft)		4871.27	3895.78
Q Total (cfs)	144500.00	Flow (cfs)		81972.29	62527.71
Top Width (ft)	3528.83	Top Width (ft)	1578.94	778.64	1171.25
Vel Total (ft/s)	16.48	Avg. Vel. (ft/s)		16.83	16.05
Max Chl Dpth (ft)	14.27	Hydr. Depth (ft)		8.74	8.11
Crit W.S. (ft)	1521.37	Wetted Per. (ft)		559.91	480.72
Conv. Total (cfs)	1542123.0	Conv. (cfs)		874819.2	667304.1

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: CAVE CREEK Riv Sta: 2 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9786.38	9838.29	3.36	308.57	38.41	52548.4	8.06	15.72
9838.29	9890.20	4.31	404.72	52.01	67472.4	7.80	15.39
9890.20	9942.11	4.14	394.64	51.92	64770.0	7.60	15.15
9942.11	9994.01	7.02	548.28	53.52	109800.9	10.56	18.49
9994.01	10045.92	9.61	656.99	52.43	150481.8	12.66	21.15
10045.92	10097.83	5.41	464.12	52.04	84736.5	8.94	16.86
10097.83	10149.74	4.60	420.58	51.92	72016.3	8.10	15.81
10149.74	10201.65	4.79	431.07	51.91	75046.0	8.30	16.07
10201.65	10253.56	5.00	442.08	51.91	78266.9	8.52	16.35
10253.56	10305.47	4.58	419.39	51.93	71671.9	8.08	15.78
10305.47	10357.38	3.90	380.84	51.91	61047.7	7.34	14.80
10357.38	10435.46	6.01	578.59	78.08	93363.5	7.41	15.02
10435.46	10513.55	6.37	598.90	78.08	98888.9	7.67	15.37
10513.55	10591.63	6.46	603.98	78.08	100290.7	7.74	15.46
10591.63	10669.71	6.25	592.37	78.12	97066.6	7.59	15.25
10669.71	10747.80	6.90	628.22	78.12	107050.9	8.05	15.86
10747.80	10825.88	9.56	764.19	78.10	148416.3	9.79	18.08
10825.88	10903.96	1.72	129.53	12.12	26677.7	10.69	19.17

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: CAVE CREEK River Station: 1
Description: 22

Station Elevation Data, num = 143

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8090.8	1520	8094.33	1519.94	8125.42	1518.57	8131.88	1518.53	8146.93	1518.13
8150.73	1518.2	8158.48	1520	8167.28	1521.14	8172.27	1521.33	8181.28	1521.38
8187.16	1521.1	8194.06	1521.38	8212.65	1520	8385.68	1520	8393.5	1519.6
8413.23	1519.4	8436.01	1518.83	8464.51	1518	8790.25	1518	8853.63	1517.22
8895.46	1516.6	8922.41	1516.26	8945.08	1516	8972.85	1516	9126.46	1516
9149.66	1514	9192.66	1514	9281.91	1514	9324.71	1513.02	9344.02	1512.71
9361.51	1512	9368.75	1510	9374.5	1507.92	9377.31	1506	9405.62	1506
9423.56	1507.2	9431.58	1507.9	9448.09	1509.67	9449.82	1510	9526.56	1510
9535.29	1509.1	9537.19	1509.11	9550.67	1508.12	9561.2	1508.58	9581.11	1509.2
9601.76	1508.9	9615.5	1508.64	9649.43	1507.44	9679.45	1506.65	9695.56	1506
9727.88	1506	9741.76	1507.9	9746.16	1508.8	9748.3	1510	9763.71	1510
9782.74	1508.4	9785.42	1508	9828.1	1508	9885.45	1506.58	9896.51	1506
9904.19	1505	9920.55	1504.3	9927.82	1503.37	9944.47	1502	9960.81	1500

```
 9972.21    1498 9997.34 1496.8110011.97    149610035.61    149610042.36 1496.58
10063.04    149810067.55  1498.810071.02    150010087.48    150210098.43 1504.24
10110.18    150610121.75    150810132.88    150810139.76 1507.0410149.44    1506
10153.71    1504 10166.3 1501.7410182.43    1500 10201.2 1499.36 10224.6 1498.76
10249.61  1498.310256.84 1498.2310267.23 1498.3810276.51 1498.6210298.02 1499.38
 10314.6  1499.510333.21 1499.2810356.68 1498.6910391.37    149810415.37 1497.88
10441.48  1498.110472.53 1498.7810477.39  1498.810496.21 1499.2210502.05 1499.16
10528.31  1499.510534.98 1499.3410568.56    149810573.55 1497.94 10607.2 1497.93
10621.63    149810629.06 1498.1810640.36    150010652.48    150010666.85 1498.09
10672.97  1498.110686.95 1499.6110697.84 1499.64 10702.3 1499.5510728.66 1499.33
10749.08  1499.610756.82 1499.7510796.44    150010811.63 1500.4110833.75    1504
10855.19  1504.410887.84 1505.2110901.93    150610922.96 1506.2210970.29    1506
11022.86    150611028.14  1505.711034.08    150611053.05    150611071.67 1506.78
11086.36    150711115.51 1507.5211130.79 1507.6711196.56 1508.1111224.51 1508.21
 11250.4  1508.211273.14    150811323.45 1507.8111382.25 1507.6211425.68 1507.42
11486.39  1507.311533.37 1507.07 11543.1 1506.97

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

  8090.8    .035 9763.71    .03510922.96    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       9763.7110922.96                 0       0       0             .1       .3
Ineffective Flow Areas,  num = 1
   Sta L   Sta R    Elev

   10863 11543.1    1515

CROSS SECTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 1         Profile # 1

  W.S. Elev (ft)       1504.05   Element              Left OB    Channel   Right OB
  Vel Head (ft)          18.07   Wt. n-Val.                        0.035
  E.G. Elev (ft)       1522.12   Reach Len. (ft)
  E.G. Slope (ft/ft)  0.077007   Flow Area (sq ft)               4235.95
  Q Total (cfs)      144500.00   Flow (cfs)                    144500.00
  Top Width (ft)        857.55   Top Width (ft)                  857.55
  Vel Total (ft/s)       34.11   Avg. Vel. (ft/s)                 34.11
  Max Chl Dpth (ft)       8.05   Hydr. Depth (ft)                  4.94
  Crit W.S. (ft)       1509.02   Wetted Per. (ft)                859.74
  Conv. Total (cfs)   520717.8   Conv. (cfs)                   520717.8


Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m).  This may
                indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT  Reach: CAVE CREEK    Riv Sta: 1         Profile # 1

  Left Sta    Right Sta        %Q      Area       W.P.      Conv.    Hydr D.   Velocity
  (ft)        (ft)                   (sq ft)     (ft)      (cfs)      (ft)     (ft/s)
  9918.28     9995.56        5.59     285.82     73.45    30022.6      3.91      28.27
  9995.56     10072.84      16.31     555.63     77.67    87582.0      7.19      42.43
  10072.84    10150.13       0.70      53.19     24.95     3740.6      2.16      18.93
  10150.13    10227.41       5.36     279.59     74.12    28762.4      3.79      27.69
  10227.41    10304.69      10.08     415.46     77.31    54116.7      5.38      35.06
  10304.69    10381.98       9.18     392.68     77.30    49265.5      5.08      33.77
  10381.98    10459.26      12.07     462.84     77.29    64798.1      5.99      37.68
  10459.26    10536.54       8.79     382.59     77.30    47175.1      4.95      33.19
```

10536.54	10613.83	11.49	449.50	77.31	61704.9	5.82	36.95
10613.83	10691.11	9.28	395.91	77.64	49796.6	5.12	33.86
10691.11	10768.39	7.49	347.65	77.29	40218.8	4.50	31.14
10768.39	10845.68	3.66	215.08	68.12	19652.8	3.17	24.59

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 30
Description: Weir Section

Station Elevation Data, num = 7

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
0	1550	125	1540	450	1539	680	1540	940	1542
1150	1544	1330	1546						

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
0	.035	125	.035	680	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
125	680	630	880	1030	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 30 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1544.70	Element			
Vel Head (ft)	1.58	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1546.28	Reach Len. (ft)	630.00	880.00	1030.00
E.G. Slope (ft/ft)	0.007372	Flow Area (sq ft)	138.04	2885.77	1340.83
Q Total (cfs)	41500.00	Flow (cfs)	887.47	31571.75	9040.78
Top Width (ft)	1146.71	Top Width (ft)	58.74	555.00	532.96
Vel Total (ft/s)	9.51	Avg. Vel. (ft/s)	6.43	10.94	6.74
Max Chl Dpth (ft)	5.70	Hydr. Depth (ft)	2.35	5.20	2.52
Crit W.S. (ft)		Wetted Per. (ft)	58.93	555.00	532.98
Conv. Total (cfs)	483335.6	Conv. (cfs)	10336.1	367704.8	105294.7

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 30 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
58.33	66.67	0.00	0.01	0.41	0.0	0.02	0.20
66.67	75.00	0.01	3.05	8.36	66.2	0.37	1.57
75.00	83.33	0.06	8.61	8.36	372.6	1.03	3.13
83.33	91.67	0.15	14.16	8.36	854.5	1.70	4.37
91.67	100.00	0.26	19.72	8.36	1483.4	2.37	5.44
100.00	108.33	0.39	25.27	8.36	2243.5	3.03	6.42
108.33	116.67	0.54	30.83	8.36	3124.2	3.70	7.33
116.67	125.00	0.72	36.39	8.36	4117.9	4.37	8.19

125.00	162.00	4.36	175.99	37.00	21132.2	4.76	10.29
162.00	199.00	4.54	180.20	37.00	21981.8	4.87	10.46
199.00	236.00	4.72	184.42	37.00	22844.7	4.98	10.62
236.00	273.00	4.90	188.63	37.00	23721.3	5.10	10.78
273.00	310.00	5.08	192.84	37.00	24610.6	5.21	10.94
310.00	347.00	5.27	197.05	37.00	25513.0	5.33	11.10
347.00	384.00	5.46	201.26	37.00	26428.3	5.44	11.26
384.00	421.00	5.65	205.48	37.00	27356.5	5.55	11.41
421.00	458.00	5.83	209.45	37.00	28244.3	5.66	11.56
458.00	495.00	5.70	206.62	37.00	27610.9	5.58	11.45
495.00	532.00	5.43	200.67	37.00	26297.9	5.42	11.23
532.00	569.00	5.17	194.72	37.00	25011.0	5.26	11.01
569.00	606.00	4.91	188.77	37.00	23750.1	5.10	10.78
606.00	643.00	4.65	182.81	37.00	22515.0	4.94	10.56
643.00	680.00	4.40	176.86	37.00	21306.4	4.78	10.33
680.00	723.33	4.07	196.43	43.33	22840.2	4.53	8.59
723.33	766.67	3.58	181.98	43.33	20110.3	4.20	8.16
766.67	810.00	3.12	167.54	43.33	17521.1	3.87	7.72
810.00	853.33	2.68	153.09	43.33	15076.2	3.53	7.27
853.33	896.67	2.27	138.65	43.33	12781.0	3.20	6.81
896.67	940.00	1.89	124.21	43.33	10639.9	2.87	6.33
940.00	983.33	1.50	108.04	43.34	8433.4	2.49	5.77
983.33	1026.67	1.11	90.16	43.34	6237.6	2.08	5.11
1026.67	1070.00	0.77	72.27	43.34	4315.2	1.67	4.41
1070.00	1113.33	0.48	54.39	43.34	2686.9	1.26	3.65
1113.33	1156.67	0.25	36.47	43.34	1380.2	0.84	2.80
1156.67	1200.00	0.07	16.67	43.34	374.4	0.38	1.66
1200.00	1243.33	0.00	0.93	12.96	6.9	0.07	0.54

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SCATTER WASH River Station: 29
Description: 25

Station Elevation Data, num = 59

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8314.12	1540.3	8317.26	1539.91	8347.52	1538	8359.78	1537.4	8387.4	1536
8425.18	1535.45	8457.57	1535.05	8510.44	1534.53	8533.6	1534.5	8547.8	1534.48
8577.1	1534.51	8620.3	1534.45	8648.18	1534.45	8662.93	1534.5	8780.58	1534.61
8843.96	1534.93	8910.73	1535.03	9003.51	1535.59	9037.55	1536	9090.41	1536
9160.08	1536	9179.03	1535.65	9198.99	1535.53	9223.53	1535.5	9235.25	1535.54
9319.03	1535.92	9329.62	1536	9502.15	1536	9513.65	1536.8	9516.44	1536.85
9538.55	1536	9634.11	1536	9686.27	1536.04	9754.87	1536.3	9764.93	1536
9848.76	1536	9862.37	1536.33	9870.79	1536.38	9899.51	1536.4	9939.67	1536.62
9954.62	1536.77	9975.7	1536.91	10010.76	1537.21	10080.15	1537.91	10107.95	1538
10133.04	1538.01	10185.43	1538.67	10197.91	1538.81	10238.94	1539.11	10263.58	1539.03
10317.03	1539.36	10327.5	1539.32	10351.32	1540	10366.36	1540	10405.55	1538
10453.4	1538	10497.78	1539.38	10524.06	1539.83	10540.38	1539.9		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8314.12	.035	8347.52	.035	9754.87	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8347.52	9754.87	470	570	480	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 29 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1538.89	Element			
Vel Head (ft)	0.88	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1539.78	Reach Len. (ft)	470.00	570.00	480.00
E.G. Slope (ft/ft)	0.006624	Flow Area (sq ft)	6.32	4771.63	873.30
Q Total (cfs)	41500.00	Flow (cfs)	1.90	37931.77	3566.32
Top Width (ft)	1970.38	Top Width (ft)	14.15	1407.35	548.88

Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)	2.02	7.80	4.90
Max Chl Dpth (ft)	4.44	Hydr. Depth (ft)	0.45	3.39	1.59
Crit W.S. (ft)		Wetted Per. (ft)	14.18	1407.47	548.94
Conv. Total (cfs)	509912.7	Conv. (cfs)	156.5	457172.6	52583.6

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 29 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8340.84	8343.07	0.00	0.10	1.78	0.6	0.06	0.58
8343.07	8345.29	0.00	0.41	2.23	5.5	0.18	1.26
8345.29	8347.52	0.00	0.72	2.23	14.4	0.32	1.85
8347.52	8441.34	3.73	205.26	93.88	14680.4	2.19	7.54
8441.34	8535.17	8.61	339.05	93.83	33896.2	3.61	10.54
8535.17	8628.99	9.82	366.87	93.82	38658.0	3.91	11.11
8628.99	8722.81	9.74	364.94	93.82	38319.2	3.89	11.07
8722.81	8816.64	9.22	353.24	93.82	36293.8	3.76	10.83
8816.64	8910.46	7.96	323.51	93.82	31346.6	3.45	10.22
8910.46	9004.28	6.60	289.14	93.82	25995.6	3.08	9.48
9004.28	9098.11	4.55	231.21	93.83	17908.9	2.46	8.17
9098.11	9191.93	4.60	232.88	93.83	18124.2	2.48	8.21
9191.93	9285.75	5.63	262.69	93.82	22153.8	2.80	8.89
9285.75	9379.58	4.51	230.14	93.82	17771.1	2.45	8.14
9379.58	9473.40	4.33	224.55	93.82	17057.2	2.39	8.01
9473.40	9567.22	3.82	208.25	93.87	15039.2	2.22	7.61
9567.22	9661.05	4.32	224.27	93.82	17021.8	2.39	8.00
9661.05	9754.87	3.94	212.12	93.82	15512.5	2.26	7.71
9754.87	9807.24	2.10	123.82	52.37	9329.5	2.36	7.05
9807.24	9859.60	2.10	123.91	52.37	9340.1	2.37	7.05
9859.60	9911.97	1.59	104.91	52.37	7078.1	2.00	6.31
9911.97	9964.34	1.28	92.07	52.37	5694.2	1.76	5.78
9964.34	10016.71	0.83	71.12	52.37	3702.7	1.36	4.87
10016.71	10069.07	0.40	45.51	52.37	1759.8	0.87	3.62
10069.07	10121.44	0.13	23.68	52.37	592.1	0.45	2.34
10121.44	10173.81	0.04	10.30	42.02	171.4	0.25	1.56
10173.81	10383.28						
10383.28	10435.65	0.06	13.35	37.81	283.2	0.35	1.98
10435.65	10488.01	0.04	9.47	30.41	184.7	0.31	1.82

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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 INPUT Reach: SCATTER WASH River Station: 28
Description: 26

Station Elevation Data, num = 55

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8466.74	1538.92	8471.19	1538	8492.23	1536	8515.18	1534	8579.9	1532
8605.71	1531.33	8633.81	1530.6	8642.79	1530.51	8726.06	1530.38	8792.52	1530
8895.33	1530	8953.25	1530.1	8988.82	1530	9095.83	1530	9153.61	1530.24
9175.39	1530.3	9260.84	1530.4	9308.87	1530.48	9334.59	1530.43	9443.27	1530.07
9464.29	1530.09	9473.5	1530.2	9494.24	1530	9559	1530	9585.51	1530.44
9596.92	1530.54	9673.14	1531.6	9701.28	1531.56	9774.96	1531.82	9808.53	1532
9852.35	1532.19	9888.04	1532.4	9950.52	1532.92	10023.32	1533.47	10080.59	1534
10156.22	1534	10190.71	1534.41	10225.81	1534.81	10253.24	1534.93	10262.01	1534.99
10310.44	1534.87	10340.12	1534.51	10382.69	1534.32	10398.36	1534	10428.9	1534
10488.81	1533.73	10532.72	1534	10577.89	1534.21	10607.68	1534.29	10635.42	1534.32

10682.21 1534.2810751.19 1535.610774.78 153610834.38 1537.2710933.49 1539.32

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8466.74	.035	8579.9	.035	9701.28	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8579.9	9701.28	520	515	480	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 28 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1533.89	Element			
Vel Head (ft)	1.39	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1535.28	Reach Len. (ft)	520.00	515.00	480.00
E.G. Slope (ft/ft)	0.009616	Flow Area (sq ft)	57.87	3988.86	506.58
Q Total (cfs)	41500.00	Flow (cfs)	232.04	38695.11	2572.85
Top Width (ft)	1612.14	Top Width (ft)	61.20	1121.38	429.56
Vel Total (ft/s)	9.11	Avg. Vel. (ft/s)	4.01	9.70	5.08
Max Chl Dpth (ft)	3.89	Hydr. Depth (ft)	0.95	3.56	1.18
Crit W.S. (ft)	1533.81	Wetted Per. (ft)	61.23	1121.41	429.57
Conv. Total (cfs)	423211.2	Conv. (cfs)	2366.3	394607.3	26237.6

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 28 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8512.00	8519.55	0.00	0.01	0.85	0.0	0.01	0.19
8519.55	8527.09	0.00	1.08	7.55	12.5	0.14	0.96
8527.09	8534.64	0.01	2.84	7.55	62.7	0.38	1.83
8534.64	8542.18	0.03	4.59	7.55	140.1	0.61	2.52
8542.18	8549.72	0.05	6.35	7.55	240.5	0.84	3.13
8549.72	8557.27	0.07	8.11	7.55	361.4	1.08	3.68
8557.27	8564.81	0.10	9.87	7.55	501.2	1.31	4.19
8564.81	8572.36	0.13	11.63	7.55	658.7	1.54	4.68
8572.36	8579.90	0.17	13.39	7.55	832.9	1.77	5.14
8579.90	8654.66	4.16	209.89	74.78	17730.9	2.81	8.23
8654.66	8729.42	5.89	258.55	74.76	25102.8	3.46	9.46
8729.42	8804.18	6.71	279.52	74.76	28587.0	3.74	9.96
8804.18	8878.93	7.17	290.90	74.76	30553.6	3.89	10.23
8878.93	8953.69	7.05	287.96	74.76	30041.2	3.85	10.16
8953.69	9028.45	7.10	289.17	74.76	30251.0	3.87	10.19
9028.45	9103.21	7.17	290.79	74.76	30534.2	3.89	10.23
9103.21	9177.97	6.62	277.43	74.76	28231.1	3.71	9.91
9177.97	9252.73	6.14	264.98	74.76	26151.7	3.54	9.61
9252.73	9327.49	5.87	257.96	74.76	25008.4	3.45	9.44
9327.49	9402.25	6.19	266.29	74.76	26367.3	3.56	9.64
9402.25	9477.00	6.79	281.58	74.76	28940.1	3.77	10.01
9477.00	9551.76	7.11	289.47	74.76	30303.6	3.87	10.19
9551.76	9626.52	5.85	257.40	74.77	24916.3	3.44	9.43
9626.52	9701.28	3.43	186.97	74.76	14624.1	2.50	7.62
9701.28	9783.43	2.66	179.53	82.15	12836.2	2.19	6.15
9783.43	9865.58	1.97	149.86	82.15	9499.0	1.82	5.45
9865.58	9947.72	1.16	109.16	82.15	5601.5	1.33	4.41
9947.72	10029.87	0.38	55.99	82.15	1841.2	0.68	2.83
10029.87	10112.02	0.02	7.03	38.97	95.2	0.18	1.17
10112.02	10440.61						
10440.61	10522.75	0.01	5.00	62.00	39.6	0.08	0.68

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 INPUT Reach: SCATTER WASH River Station: 27
Description: 27

Station Elevation Data, num = 58

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8396.74	1532.85	8400.48	1532	8413.04	1530	8456.22	1528	8509.84	1526.87
8527.04	1526.65	8566.48	1526	8572.32	1526	8702	1525.84	8790.68	1525.69
8852.66	1525.73	8875.23	1525.66	8932.93	1525.6	9018.74	1525.71	9037.54	1525.71
9161.52	1525.91	9200.84	1526	9252.84	1526.1	9287.96	1526.16	9313.9	1526
9420.93	1526	9461.77	1526	9527.81	1526.9	9531.62	1526.88	9569.85	1526.75
9589.19	1526.94	9607.34	1527.22	9612.21	1527.2	9653.51	1527.35	9665.79	1527.23
9735.03	1526.91	9785.81	1527.12	9820.19	1527.2	9873.95	1527.53	9880.47	1527.54
9952.89	1528.01	9978.44	1528.11	10081.46	1528	10130.99	1527.85	10183.27	1527.72
10204.25	1527.74	10226.54	1527.82	10270.55	1528.11	10341.26	1528.43	10364.49	1528.45
10372.2	1528.41	10388.53	1528	10466.88	1528	10543.96	1527.67	10564.58	1527.62
10596.25	1527.79	10625.6	1527.91	10664.58	1528	10841.82	1528	10898.64	1530
10946.56	1531.72	10953.2	1532	11014.4	1532				

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8396.74	.035	8456.22	.035	9653.51	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8456.22	9653.51	530	560	550	.1	.3

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 27 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1529.20	Element			
Vel Head (ft)	1.05	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1530.25	Reach Len. (ft)	530.00	560.00	550.00
E.G. Slope (ft/ft)	0.009671	Flow Area (sq ft)	15.63	3702.34	1677.12
Q Total (cfs)	41500.00	Flow (cfs)	46.48	32808.48	8645.04
Top Width (ft)	2445.77	Top Width (ft)	25.98	1197.29	1222.50
Vel Total (ft/s)	7.69	Avg. Vel. (ft/s)	2.97	8.86	5.15
Max Chl Dpth (ft)	3.60	Hydr. Depth (ft)	0.60	3.09	1.37
Crit W.S. (ft)	1529.20	Wetted Per. (ft)	26.01	1197.32	1222.53
Conv. Total (cfs)	421997.3	Conv. (cfs)	472.7	333616.7	87908.0

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 27 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8428.46	8432.43	0.00	0.11	2.19	0.6	0.05	0.48
8432.43	8436.39	0.00	0.77	3.97	10.9	0.19	1.18
8436.39	8440.36	0.01	1.49	3.97	33.1	0.38	1.84
8440.36	8444.32	0.01	2.22	3.97	64.1	0.56	2.39
8444.32	8448.29	0.02	2.95	3.97	102.8	0.74	2.89
8448.29	8452.25	0.03	3.68	3.97	148.5	0.93	3.35
8452.25	8456.22	0.04	4.41	3.97	200.6	1.11	3.77
8456.22	8536.04	2.54	160.49	79.83	10853.1	2.01	6.56
8536.04	8615.86	5.28	249.22	79.82	22602.4	3.12	8.79
8615.86	8695.68	5.81	263.91	79.82	24866.4	3.31	9.13

8695.68	8775.50	6.15	273.01	79.82	26312.1	3.42	9.34
8775.50	8855.32	6.37	278.91	79.82	27266.2	3.49	9.48
8855.32	8935.14	6.57	284.07	79.82	28112.9	3.56	9.59
8935.14	9014.96	6.54	283.31	79.82	27987.7	3.55	9.58
9014.96	9094.77	6.27	276.21	79.82	26827.3	3.46	9.42
9094.77	9174.59	5.90	266.27	79.82	25238.1	3.34	9.19
9174.59	9254.41	5.44	253.72	79.82	23287.0	3.18	8.90
9254.41	9334.23	5.28	249.21	79.82	22600.9	3.12	8.79
9334.23	9414.05	5.51	255.69	79.82	23589.2	3.20	8.94
9414.05	9493.87	5.26	248.67	79.82	22518.8	3.12	8.78
9493.87	9573.69	3.52	195.49	79.82	15079.7	2.45	7.48
9573.69	9653.51	2.63	164.15	79.82	11270.0	2.06	6.66
9653.51	9744.24	3.07	192.15	90.73	13453.1	2.12	6.63
9744.24	9834.96	3.00	189.36	90.73	13130.1	2.09	6.57
9834.96	9925.69	2.02	149.36	90.73	8840.9	1.65	5.61
9925.69	10016.41	1.15	106.80	90.73	5055.3	1.18	4.48
10016.41	10107.14	1.18	108.12	90.73	5159.8	1.19	4.52
10107.14	10197.87	1.54	127.12	90.73	6757.7	1.40	5.03
10197.87	10288.59	1.30	114.96	90.73	5714.9	1.27	4.71
10288.59	10379.32	0.67	77.28	90.73	2947.9	0.85	3.61
10379.32	10470.04	1.18	108.16	90.73	5162.5	1.19	4.52
10470.04	10560.77	1.55	127.76	90.73	6814.6	1.41	5.05
10560.77	10651.50	1.52	126.23	90.73	6678.6	1.39	5.01
10651.50	10742.22	1.20	109.40	90.73	5261.6	1.21	4.55
10742.22	10832.95	1.20	109.18	90.73	5243.9	1.20	4.55
10832.95	10923.67	0.24	31.25	43.08	1070.9	0.73	3.25

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

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.

Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 26
Description: 28

Station Elevation Data, num = 70

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
8156.89	1532	8169.35	1530	8197.34	1528	8261.35	1526	8352.01	1524.35
8368.36	1524	8395.5	1523.7	8522.7	1522.46	8570.82	1522	8598.31	1522
8728.5	1521.21	8768.57	1521.3	8814.43	1521.18	8831.01	1521.09	8866.04	1521.22
8907.33	1521.27	8942.87	1521.4	8989.35	1521.45	9015.04	1521.28	9099.42	1521.23
9197.41	1521.2	9221.42	1521.2	9300.75	1521.05	9352.7	1521.17	9388.91	1521.38
9400.18	1521.38	9500.8	1522	9596.88	1522	9644.11	1521.69	9689.84	1521.82
9725.99	1521.74	9789.59	1521.8	9827.05	1521.86	9866.22	1522.07	9891.69	1522.14
9930.99	1522.08	9972.63	1522	9999.62	152210060.22		152210115.98		1521.5
10133.14	1521.510252.54		152210352.18		1522.0810389.78		1522.1110477.63		1522.41
10489.69	1522.4210563.87		1522.210594.15		152210662.84		152210714.35		1523.4
10727.92	1523.8110755.08		1523.810781.44		152410803.58		152410808.24		1525.58
10816.05	1525.8410829.68		1525.910871.34		1525.5710878.89		1525.7210909.45		1526
10961.24	152610993.07		1527 11019.7		152811040.28		152811061.89		1528.66
11080.07	1529.0311096.28		1529.211106.79		153011132.62		153011147.68		1530.61

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8156.89	.035	8570.82	.035	9500.8	.035

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

8570.82 9500.8 540 1400 750 .1 .3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
1017	11147.68	1530

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 26 Profile # 1

W.S. Elev (ft)	1527.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.24	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1527.76	Reach Len. (ft)	540.00	1400.00	750.00
E.G. Slope (ft/ft)	0.000826	Flow Area (sq ft)	1224.08	5732.77	3773.93
Q Total (cfs)	41500.00	Flow (cfs)	1478.05	26331.27	13690.69
Top Width (ft)	2794.36	Top Width (ft)	358.20	929.98	1506.18
Vel Total (ft/s)	3.87	Avg. Vel. (ft/s)	2.77	4.10	3.87
Max Chl Dpth (ft)	6.47	Hydr. Depth (ft)	3.42	6.16	5.64
Crit W.S. (ft)	1524.32	Wetted Per. (ft)	358.25	929.99	669.20
Conv. Total (cfs)	*1443764.0*	*Conv. (cfs)*	*117892.5*	*818245.8*	*507625.4*

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.

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.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 26 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8350.06	8377.65	0.02	5.88	24.31	96.8	0.24	1.58
8377.65	8405.25	0.11	15.85	27.60	465.0	0.57	2.81
8405.25	8432.84	0.21	23.48	27.60	895.2	0.85	3.65
8432.84	8460.44	0.33	30.91	27.60	1415.0	1.12	4.38
8460.44	8488.03	0.47	38.33	27.60	2025.9	1.39	5.06
8488.03	8515.63	0.63	45.75	27.60	2721.1	1.66	5.69
8515.63	8543.22	0.81	53.14	27.60	3491.4	1.93	6.29
8543.22	8570.82	1.00	60.42	27.60	4325.2	2.19	6.85
8570.82	8632.82	2.92	147.54	62.00	11164.7	2.38	8.22
8632.82	8694.82	3.65	168.57	62.00	13941.6	2.72	8.99
8694.82	8756.82	4.40	188.56	62.00	16804.6	3.04	9.69
8756.82	8818.81	4.49	190.80	62.00	17138.9	3.08	9.76
8818.81	8880.81	4.68	195.61	62.00	17864.7	3.16	9.93
8880.81	8942.81	4.35	187.31	62.00	16618.5	3.02	9.64
8942.81	9004.81	4.07	179.98	62.00	15549.2	2.90	9.39
9004.81	9066.81	4.42	189.01	62.00	16871.6	3.05	9.70
9066.81	9128.81	4.52	191.48	62.00	17240.5	3.09	9.79
9128.81	9190.81	4.57	192.81	62.00	17440.6	3.11	9.83
9190.81	9252.81	4.63	194.45	62.00	17688.4	3.14	9.89
9252.81	9314.80	4.87	200.42	62.00	18602.5	3.23	10.09
9314.80	9376.80	4.67	195.36	62.00	17825.6	3.15	9.92
9376.80	9438.80	4.01	178.19	62.00	15292.7	2.87	9.33
9438.80	9500.80	3.20	155.77	62.00	12221.8	2.51	8.53
9500.80	*9610.59*	*5.00*	*255.49*	*109.79*	*19047.3*	*2.33*	*8.12*
9610.59	9720.38	5.80	279.31	109.79	22098.5	2.54	8.61
9720.38	9830.18	5.74	277.70	109.79	21886.4	2.53	8.58
9830.18	9939.97	4.76	248.20	109.79	18149.8	2.26	7.96
9939.97	10049.76	4.94	253.85	109.79	18843.8	2.31	8.08
10049.76	10159.55	6.14	289.14	109.79	23408.9	2.63	8.81
10159.55	10269.34	0.61	28.09	10.45	2306.4	2.69	8.94

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.

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 INPUT Reach: SCATTER WASH River Station: 25

Description: 29

Station Elevation Data, num = 151

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7243.87	1546.97	7293.08	1540	7309.35	1538	7316.63	1537.21	7328.99	1536
7355.51	1533.19	7366.1	1532	7386.23	1530	7409.94	1528	7415.95	1527.7
7446.49	1526	7465.27	1524	7587.35	1522	7637.27	1522	7691.41	1522
7711.88	1522.48	7764.92	1523.8	7773.97	1524	7776.6	1525.64	7784.65	1530
7796.02	1533.79	7810.74	1540	7827.89	1540	8049.73	1540	8335.98	1540
8340.04	1540	8432.21	1530	8449.71	1537.53	8458.95	1538	8467.44	1538
8476.55	1537.22	8478	1537	8510.59	1530	8526.3	1528	8531.78	1526
8556.29	1521.36	8564.31	1520.2	8574.89	1519.66	8592.05	1519.06	8663.52	1518.13
8683.2	1517.81	8696.25	1517.2	8702.05	1517.38	8732.93	1517.37	8753.12	1518
8764.7	1520	8777.04	1521	8790.7	1522.87	8800.45	1524	8815.35	1526
8833.59	1526	8852.69	1527.8	8855.64	1528	8877.89	1528	8899.7	1528
8922.14	1527.36	8934.25	1526	8981.4	1526	9002.81	1525.18	9016.27	1524.88
9029.97	1524.33	9044.97	1523.9	9069.46	1523.61	9087.11	1523.55	9094.94	1523.41
9107.56	1523.05	9141.73	1522.7	9160.29	1522.72	9173.48	1522.78	9175.21	1522
9228.97	1522	9243.15	1523.2	9270.65	1523.48	9299.68	1523.57	9311.65	1523.55
9326.5	1523.71	9334.49	1523.7	9358.16	1523.37	9388.43	1523.3	9469	1523.03
9481.74	1522.96	9522.14	1522	9540.47	1522	9550.82	1524	9559.31	1524
9573.46	1522	9600.37	1520	9650.03	1520	9665.26	1519.37	9685.41	1520
9714.77	1520	9907.4	1520	9933.02	1519.59	9951.06	1519.23	9964.28	1519.03
9980.14	1518	10024.28	1518	10031.24	1518.81	10037.94	1518.88	10091.75	1518.88
10123.43	1519.15	10158.71	1519.8	10169.05	1519.71	10235.24	1520	10261.49	1519.93
10309.61	1520	10428.3	1520	10455.8	1520.75	10470.8	1520.91	10488.96	1520.92
10505.74	1521.15	10531.78	1521.2	10547.13	1521.54	10573.08	1522	10693.76	1522
10701.9	1522.76	10749.84	1523.4	10776.06	1524	10831.54	1524	10847.29	1524.98
10852.22	1525.18	10858.85	1525.2	10867.79	1525.51	10872.32	1525.42	10884.04	1525.46
10906.51	1525.87	10912.77	1526	10943.91	1526	10975.75	1527.16	10994.59	1528
11053.66	1528	11099.04	1529.1	11121.35	1529.71	11130.72	1530	11175.2	1531.17
11201.45	1532	11208.86	1532	11223.42	1533.04	11249.97	1533.12	11282.15	1534
11332.19	1534	11356.14	1534.7	11385.34	1534	11410.53	1536	11419.58	1536.34
11460.45	1538	11486.11	1538	11510.6	1538.62	11551.45	1540	11565.07	1540
11582.57	1540.63								

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7243.87	.045	8510.59	.045	10547.13	.045

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
8510.59	10547.13	1	50	670	.1	.3

Ineffective Flow Areas, num = 1

Sta L	Sta R	Elev
7243.87	8500	1545

Blocked Obstructions, num = 1

Sta L	Sta R	Elev
7243.87	11000	1518

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 25 Profile # 1

			Left OB	Channel	Right OB
W.S. Elev (ft)	1526.08	Element			
Vel Head (ft)	0.25	Wt. n-Val.		0.045	0.045
E.G. Elev (ft)	1526.32	Reach Len. (ft)	1.00	50.00	670.00
E.G. Slope (ft/ft)	0.001783	Flow Area (sq ft)		9553.61	1019.59
Q Total (cfs)	41500.00	Flow (cfs)		38842.89	2657.11
Top Width (ft)	2647.49	Top Width (ft)	332.27	1916.37	398.85
Vel Total (ft/s)	3.93	Avg. Vel. (ft/s)		4.07	2.61
Max Chl Dpth (ft)	8.08	Hydr. Depth (ft)		4.99	2.56
Crit W.S. (ft)	1523.08	Wetted Per. (ft)		1918.30	398.95
Conv. Total (cfs)	982924.3	Conv. (cfs)		919990.8	62933.5

Warning - Divided flow computed for this cross-section.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 25 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8510.59	8646.36	6.85	681.64	115.35	73570.1	5.94	4.17
8646.36	8782.13	12.26	1032.26	136.03	131625.7	7.60	4.93
8782.13	8917.90	0.30	75.68	52.54	3187.0	1.45	1.63
8917.90	9053.67	0.26	96.97	120.13	2775.8	0.81	1.11
9053.67	9189.44	2.72	417.78	135.95	29159.1	3.08	2.70
9189.44	9325.21	2.77	423.02	135.82	29789.8	3.12	2.72
9325.21	9460.98	2.27	375.26	135.77	24403.8	2.76	2.51
9460.98	9596.74	3.56	491.54	136.18	38193.0	3.62	3.00
9596.74	9732.51	8.63	835.52	135.80	92633.6	6.15	4.29
9732.51	9868.28	8.45	824.86	135.77	90687.6	6.08	4.25
9868.28	10004.05	10.20	923.64	135.81	109477.8	6.80	4.58
10004.05	10139.82	11.39	987.08	135.82	122290.9	7.27	4.79
10139.82	10275.59	8.81	846.19	135.77	94628.4	6.23	4.32
10275.59	10411.36	8.46	825.70	135.77	90841.7	6.08	4.25
10411.36	10547.13	6.68	716.49	135.79	71706.5	5.28	3.87
10547.13	10616.16	2.10	287.29	69.03	24544.3	4.16	3.03
10616.16	10685.19	2.03	281.32	69.03	23701.4	4.08	2.99
10685.19	10754.22	1.35	220.11	69.07	15739.1	3.19	2.54
10754.22	10823.25	0.70	148.72	69.04	8191.6	2.15	1.96
10823.25	10892.28	0.22	74.06	69.07	2562.1	1.07	1.23
10892.28	10961.31	0.01	8.08	53.71	75.5	0.15	0.33

Warning - Divided flow computed for this cross-section.

Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.

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.

Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.

Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 24
Description: Crest of CAP

Station Elevation Data, num = 203

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7053.81	1552.23	7068.38	1550	7090.99	1546.97	7140.2	1540	7156.47	1538
7163.75	1537.21	7176.11	1536	7202.62	1533.19	7213.22	1532	7233.35	1530
7257.06	1528	7263.07	1527.7	7293.61	1526	7312.39	1524	7434.47	1522
7484.39	1522	7538.53	1522	7559	1522.48	7612.04	1523.8	7621.09	1524
7623.72	1525.64	7631.77	1530	7643.14	1533.79	7657.86	1540	7675.01	1540
7896.85	1540	8183.1	1540	8187.16	1540	8279.33	1530	8296.83	1537.53
8306.07	1538	8314.56	1538	8323.67	1537.22	8325.12	1537	8357.71	1530
8373.42	1528	8378.9	1526	8403.41	1521.36	8411.43	1520.2	8422.01	1519.66
8439.17	1519.06	8510.64	1518.13	8530.32	1517.81	8543.37	1517.2	8549.17	1517.38
8580.05	1517.37	8600.24	1518	8611.82	1520	8624.16	1521	8637.82	1522.87
8647.57	1524	8662.47	1526	8680.71	1526	8699.81	1527.8	8702.76	1528
8725.01	1528	8746.82	1528	8769.26	1527.36	8781.37	1526	8828.52	1526
8849.93	1525.18	8863.39	1524.88	8877.09	1524.33	8892.09	1523.9	8916.58	1523.61
8934.23	1523.55	8942.06	1523.41	8954.68	1523.05	8988.85	1522.7	9007.41	1522.72
9020.6	1522.78	9022.33	1522	9076.09	1522	9090.27	1523.2	9117.77	1523.48
9146.8	1523.57	9158.77	1523.55	9173.62	1523.71	9181.61	1523.7	9205.28	1523.37
9235.55	1523.3	9316.12	1523.03	9328.86	1522.96	9369.26	1522	9387.59	1522
9397.94	1524	9406.43	1524	9420.58	1522	9447.49	1520	9497.15	1520

```
 9512.38 1519.37 9532.53    1520 9561.89    1520 9616.59    1520 9654.28    1520
 9662.06  1519.8 9678.56    1520 9710.04    1520 9721.92  1521.3 9742.04    1522
 9751.04    1522 9755.92 1522.78 9766.69 1523.13 9774.65    1524 9783.45    1524
 9787.06 1524.79 9792.09 1525.25 9798.16 1525.51 9803.11  1525.5 9814.08 1525.53
  9868.8 1526.23 9876.59 1526.36 9928.78 1526.65 9950.57  1526.7 9959.75 1527.23
 9969.81    1528 9981.19    1528 9997.07 1527.2310011.27 1527.310018.48 1527.31
10028.07 1527.6510032.56    152810058.36    1528100C5.73 1527.510132.74 1526.73
 10153.6 1526.1210159.79 1525.7310162.23 1525.2610177.64    152410197.45 1523.11
10213.53 1523.09 10227.2    152210248.61    152210274.55 1521.610286.77 1521.25
10342.47 1520.9310407.61 1520.9310418.16 1520.9110490.28    1520 10561.8    1520
10698.19    152010724.33 1521.51 10732.5 1521.8210738.26 1521.610745.18    1522
10754.56    152210772.03    152210774.19  1521.910805.31    152010820.48    1520
10827.48 1520.46 10852.6 1521.7310858.09 1521.7610862.04    152210933.57 1522.92
10983.23 1523.4810995.09 1523.3311003.08 1523.3411011.46 1523.411058.28 1523.59
11107.52    152411442.14    152411449.11 1523.6511452.72 1523.211457.87    1522
11517.44    152211750.63    152212036.62 1520.0812042.97    152012317.89    1518
12498.84    151812522.33    152012653.01    152012666.58    152012693.33    1518
12784.88    151812881.31 1519.1912916.13    152012988.54 1521.513019.71    1522
13210.68    1522 13262.8 1521.8313266.35 1521.8613307.14 1521.413324.28 1521.71
13335.32    152213350.98    152213368.11  1521.913384.13    152213458.54    1522
13480.35 1523.2813486.98 1523.3413500.56 1523.83 13505.5 1523.913519.95 1523.99
13544.59 1523.9613548.47    152413662.24 1523.9913682.57 1523.313728.48 1521.99
13750.54 1521.7613775.87 1521.5313788.84 1521.48

Manning's n Values,  num = 3
    Sta.   Value    Sta.   Value    Sta.   Value

 7053.81    .035 8314.56    .03510032.56    .035

Bank Sta: Left   Right    Lengths: Left Channel   Right    Coeff Contr.   Expan.
       8314.5610032.56            151.3   151.3   151.3             .1       .3
Ineffective Flow Areas,  num = 2
   Sta L   Sta R    Elev   Sta L   Sta R    Elev

 7053.81    8500    1540   1075013788.84    1540

CROSS SECTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 24        Profile # 1

  W.S. Elev (ft)       1524.08   Element              Left OB    Channel   Right OB
  Vel Head (ft)           1.35   Wt. n-Val.                       0.035      0.035
  E.G. Elev (ft)       1525.44   Reach Len. (ft)       151.30     151.30     151.30
  E.G. Slope (ft/ft)  0.012021   Flow Area (sq ft)              2642.49    1844.50
  Q Total (cfs)       41500.00   Flow (cfs)                    22793.06   18706.94
  Top Width (ft)       5078.93   Top Width (ft)        309.59   1157.16    3612.19
  Vel Total (ft/s)        9.25   Avg. Vel. (ft/s)                  8.63      10.14
  Max Chl Dpth (ft)       6.88   Hydr. Depth (ft)                  2.53       3.22
  Crit W.S. (ft)       1524.08   Wetted Per. (ft)               1047.53     573.49
  Conv. Total (cfs)   378517.3   Conv. (cfs)                   207893.2   170624.1


Warning - The energy equation could not be balanced within the specified number
                of iterations.  The program used critical depth for the water surface and
                continued on with the calculations.
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 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.
Warning - During the standard step iterations, when the assumed water surface
                was set equal to critical depth, the calculated water surface came back
                below critical depth.  This indicates that there is not a valid subcritical
                answer.  The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth.  The
                program will try the cross section slice/secant method to find critical
                depth.
Note - Multiple critical depths were found at this location.  The critical depth with
                the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT  Reach: SCATTER WASH  Riv Sta: 24        Profile # 1
```

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8429.09	8543.63	8.22	270.40	43.64	38725.8	6.20	12.62
8543.63	8658.16	13.30	512.47	104.97	62613.1	4.90	10.77
8658.16	8772.69						
8772.69	8887.23	0.00	0.03	1.44	0.1	0.02	0.28
8887.23	9001.76	0.71	91.71	114.55	3357.2	0.80	3.23
9001.76	9116.29	2.20	180.49	114.75	10363.8	1.58	5.06
9116.29	9230.83	0.40	64.77	114.54	1880.5	0.57	2.56
9230.83	9345.36	1.01	112.98	114.54	4752.9	0.99	3.71
9345.36	9459.89	3.58	241.74	114.95	16846.9	2.11	6.14
9459.89	9574.43	11.19	478.51	114.56	52689.7	4.18	9.70
9574.43	9688.96	10.85	469.79	114.54	51105.7	4.10	9.59
9688.96	9803.49	3.46	219.60	95.07	16291.8	2.32	6.54
9803.49	10032.56						
10032.56	10282.98	2.59	172.84	106.40	10140.1	1.63	6.22
10282.98	10533.40	20.95	853.08	250.43	81995.8	3.41	10.19
10533.40	10783.82	21.54	818.58	216.67	84301.0	3.78	10.92

Warning - The energy equation could not be balanced within the specified number of iterations. The program used critical depth for the water surface and continued on with the calculations.
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 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.
Warning - During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The program defaulted to critical depth.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 23
Description: 31

Station Elevation Data, num = 39

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.
7530.1	1516	7759.54	1516	8042.21	1516	8458.63	1516	8460.54	1516.82
8465.45	1517	8506.91	1516.4	8527.11	1516	8771.85	1516	9171.77	1516
9179.4	1516.4	9193.22	1516.31	9196.12	1516.55	9203.71	1516.73	9211.33	1517.25
9226.67	1518	9237.12	1518.12	9280.33	1518.4	9290.31	1518.5	9315.32	1520
9354.36	1520	9362.22	1518	9372.08	1516	9376.91	1516	9380.77	1520
9427.27	1520	9441.17	1518	9447.45	1516.66	9451.46	1515.27	9453.61	1514.89
9470.65	1514.5	9550.9	1514	9567.29	1514	9659.47	1514	9704.68	1514.24
9750.29	1514	10396.4	1514	10660	1514	13824.67	1514		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
7530.1	.035	9427.27	.035	10660	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9427.27	10660	60.1	60.1	60.1	.1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
7530.1	8462.5	1525	10787	13824.67	1525

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 23 Profile # 1

W.S. Elev (ft)	1515.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	5.35	Wt. n-Val.		0.035	0.035
E.G. Elev (ft)	1521.06	Reach Len. (ft)	60.10	60.10	60.10

E.G. Slope (ft/ft)	0.096341	Flow Area (sq ft)	2018.61	216.84
Q Total (cfs)	41500.00	Flow (cfs)	37418.12	4081.88
Top Width (ft)	4374.47	Top Width (ft)	1209.80	3164.67
Vel Total (ft/s)	18.56	Avg. Vel. (ft/s)	18.54	18.82
Max Chl Dpth (ft)	1.71	Hydr. Depth (ft)	1.67	1.71
Crit W.S. (ft)	1517.18	Wetted Per. (ft)	1209.92	127.00
Conv. Total (cfs)	133703.6	Conv. (cfs)	120552.7	13150.9

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 23 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
9427.27	9509.45	2.50	70.41	59.37	3349.6	1.19	14.73
9509.45	9591.63	5.95	134.97	82.18	7975.8	1.64	18.29
9591.63	9673.82	6.31	139.77	82.18	8454.8	1.70	18.72
9673.82	9756.00	5.59	129.97	82.18	7489.5	1.58	17.84
9756.00	9838.18	6.35	140.32	82.18	8509.9	1.71	18.77
9838.18	9920.36	6.35	140.32	82.18	8509.9	1.71	18.77
9920.36	10002.54	6.35	140.32	82.18	8510.0	1.71	18.77
10002.54	10084.73	6.35	140.32	82.18	8509.9	1.71	18.77
10084.73	10166.91	6.35	140.32	82.18	8510.0	1.71	18.77
10166.91	10249.09	6.35	140.32	82.18	8509.9	1.71	18.77
10249.09	10331.27	6.35	140.32	82.18	8509.9	1.71	18.77
10331.27	10413.45	6.35	140.32	82.18	8510.0	1.71	18.77
10413.45	10495.64	6.35	140.32	82.18	8509.9	1.71	18.77
10495.64	10577.82	6.35	140.32	82.18	8510.0	1.71	18.77
10577.82	10660.00	6.35	140.32	82.18	8509.9	1.71	18.77
10660.00	10870.98	9.84	216.84	127.00	13150.9	1.71	18.82

Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.
Note - Program found supercritical flow starting at this cross section.

CROSS SECTION INPUT Reach: SCATTER WASH River Station: 22
Description: 32

Station Elevation Data, num = 214

Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.	Sta.	Elev.

8003.67	1518.69	8015.7	1518.67	8030.71	1518.4	8048.01	1518.34	8055.69	1518.58
8064.29	1518.68	8081.89	1519.18	8089.99	1519.2	8104.96	1518.73	8117.57	1518.64
8125.52	1518.43	8151.87	1518.32	8155.09	1518.2	8169.67	1518.4	8186.69	1518.27
8198.56	1518	8217.73	1517.12	8225.03	1517.2	8236.25	1516.76	8251.07	1516.71
8264.95	1516.47	8312.38	1516.15	8351.07	1516	8442.79	1516	8478.61	1514.48
8484.46	1514	8514.47	1514	8534.64	1512.8	8546.66	1512.94	8564.15	1512.66
8588.67	1513.7	8623.47	1513.64	8672.9	1513.6	8719.52	1514	8723.6	1514
8732.94	1514.38	8744.8	1514.74	8754.68	1514.8	8780.73	1514	8919.7	1514
8942.89	1515.03	8957.11	1515.24	8979.4	1515.3	8988.95	1515.13	9003.4	1515.25
9028.9	1514.52	9042.38	1514.63	9048.03	1514.4	9057.21	1514.27	9068.41	1514.33
9080.92	1514.7	9093.5	1515.29	9116.44	1516	9152.85	1516	9166.26	1516.66
9179.29	1517.23	9197.9	1517.49	9200.46	1518	9212.4	1518	9233.85	1518.87
9248.77	1519.8	9260.6	1520	9391.09	1520	9404.11	1518.97	9414.41	1518.75
9416.94	1518.82	9434.1	1519.87	9438.99	1519.8	9443.24	1519.49	9452.68	1518
9458.37	1516.91	9469.61	1516	9482.89	1515.3	9489.45	1515.37	9511.67	1516.14
9519.44	1516	9527.32	1516	9550.25	1514.8	9563.25	1514.13	9566.03	1514
9611.25	1514	9641.53	1513.91	9681.12	1514	9695.84	1516	9840.15	1516
9852.77	1514	9867.16	1514	9909.45	1513.61	0003.91	1512.19	10020.26	1512
10124.97	1512	10151.86	1511.89	10206.24	1511.91	0272.54	1511.97	10376.29	1511.95
10379.27	1511.97	10441.87	1512	10467.73	1512.3	10483.1	1512.57	10500.81	1513.28
10510.87	1513.62	10527.29	1513.57	10554.87	1514.11	0580.53	1514.58	10590.23	1515.06
10604.13	1515.61	0635.09	1517.13	10647.69	1517.61	0660.68	1517.84	10671.25	1517.66
10685.22	1516.49	10694.43	1516.96	10710.17	1517.11	0756.04	1514.99	10768.38	1515.17
10784.56	1514.96	10800.62	1514.91	10814.36	1514.71	0855.66	1514	10891.15	1513.83
10922.9	1513.77	11123.75	1513.75	11143.88	1513.71	1220.69	1513.79	11238.06	1513.62
11272.66	1512.99	11326.26	1512.78	11347.24	1513.71	1442.21	1513.78	11480.48	1513.3
11511.5	1512.83	11572.14	1512.65	11580.17	1512	11604.59	1511.89	11648.63	1512
11682.46	1512	11715.71	1512.56	11762.82	1513.51	1775.89	1513.51	11815.74	1513.49
11834.5	1513.55	11838.98	1513.66	11874.91	1513.81	1903.01	1514	11919.52	1514.36
11933.34	1514.34	11949.84	1514	11969.74	1513.81	2000.02	1513.73	12072.93	1513.67
12095.41	1513.64	12115.64	1513.47	12267.05	1513.41	2277.83	1513.48	12288.62	1513.32
12325.31	1513.41	12346.02	1513.21	2407.36	1513.91	2432.37	1513.71	12439.91	1513.67
12448.94	1514	12490.71	1516	12507.37	1516.61	2512.19	1516.47	12522.45	1514
12531.37	1513.88	12533.83	1514	12543.64	1515.41	2545.67	1515.41	12593.47	1513
12612.21	1512	12621.72	1511.91	2672.69	1511.61	2683.61	1511.45	12760.69	1511.29
12779.08	1511.34	12785.33	1511.22	12801.86	1511.31	2818.84	1511.39	12941.08	1511.44
12961.78	1511.71	13065.64	1511.69	13084.47	1512	13110.45	1512	13121.38	1512.71
13124.34	1513	13150.89	1514	13176.01	1514	13193.92	1514.65	13208.61	1514
13227.43	1513.42	13244.47	1512	13269.31	1512	13281.66	1513.11	13284.25	1513.25
13311.01	1514	13319.3	1514	13334.84	1514.81	3359.49	1514.94	13399.71	1515.26
13411.48	1515.47	13430.1	1515.29	13440.74	1514.81	3472.82	1513.98	13501.72	1513.35
13533	1511.95	13576.22	1512	13608.85	1514	13650.04	1514	13681.55	1513.71
13722.5	1514	13754.13	1515.27	13787.7	1515.31	3807.13	1514.48		

Manning's n Values, num = 3

Sta.	Value	Sta.	Value	Sta.	Value
8003.67	.035	9434.1	.035	10660.68	.035

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
9434.1	10660.68		0	0	0 .1	.3

Ineffective Flow Areas, num = 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
8003.67	8450	1523	10799	13807.13	1525

CROSS SECTION OUTPUT Reach: SCATTER WASH Riv Sta: 22 Profile # 1

W.S. Elev (ft)	1515.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.98	Wt. n-Val.	0.035	0.035	0.035
E.G. Elev (ft)	1517.78	Reach Len. (ft)			
E.G. Slope (ft/ft)	0.020093	Flow Area (sq ft)	1067.43	2703.47	40.48
Q Total (cfs)	41500.00	Flow (cfs)	8848.62	32465.27	186.12
Top Width (ft)	4661.59	Top Width (ft)	662.59	958.65	3040.35
Vel Total (ft/s)	10.89	Avg. Vel. (ft/s)	8.29	12.01	4.60
Max Chl Dpth (ft)	4.58	Hydr. Depth (ft)	1.62	2.82	0.67
Crit W.S. (ft)	1516.35	Wetted Per. (ft)	660.25	959.05	60.63
Conv. Total (cfs)	292771.7	Conv. (cfs)	62424.7	229034.0	1313.0

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 velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

FLOW DISTRIBUTION OUTPUT Reach: SCATTER WASH Riv Sta: 22 Profile # 1

Left Sta (ft)	Right Sta (ft)	%Q	Area (sq ft)	W.P. (ft)	Conv. (cfs)	Hydr D. (ft)	Velocity (ft/s)
8385.12	8480.48	0.26	23.07	30.51	812.9	0.76	4.69
8480.48	8575.84	5.65	230.63	95.42	17634.2	2.42	10.17
8575.84	8671.20	4.79	208.77	95.37	14942.8	2.19	9.52
8671.20	8766.57	3.02	158.48	95.38	9438.5	1.66	7.92
8766.57	8861.93	3.36	168.76	95.37	10482.0	1.77	8.26
8861.93	8957.29	2.56	143.54	95.39	8002.1	1.51	7.41
8957.29	9052.65	0.97	80.03	95.38	3022.6	0.84	5.02
9052.65	9148.01	0.71	54.15	57.42	2210.6	0.94	5.43
9148.01	9434.10						
9434.10	9515.87	0.05	8.15	28.57	149.8	0.29	2.39
9515.87	9597.64	1.43	88.77	66.59	4565.0	1.33	6.67
9597.64	9679.42	3.00	150.49	81.77	9595.2	1.84	8.27
9679.42	9761.19	0.20	15.02	15.09	636.0	1.00	5.49
9761.19	9842.96	0.00	0.19	1.58	2.0	0.12	1.36
9842.96	9924.73	3.18	156.04	81.90	10181.5	1.91	8.47
9924.73	10006.50	6.92	248.62	81.78	22149.9	3.04	11.56
10006.50	10088.28	9.99	309.80	81.77	31963.2	3.79	13.39
10088.28	10170.05	10.24	314.35	81.77	32749.6	3.84	13.52
10170.05	10251.82	10.44	318.10	81.77	33403.3	3.89	13.62
10251.82	10333.59	10.22	313.94	81.77	32679.3	3.84	13.51
10333.59	10415.36	10.21	313.75	81.77	32645.8	3.84	13.50
10415.36	10497.14	8.88	288.55	81.79	28390.8	3.53	12.77
10497.14	10578.91	3.29	159.20	81.79	10536.3	1.95	8.59
10578.91	10660.68	0.18	18.51	29.34	577.9	0.63	4.05
10660.68	10870.44	0.45	40.48	60.63	1313.0	0.67	4.60

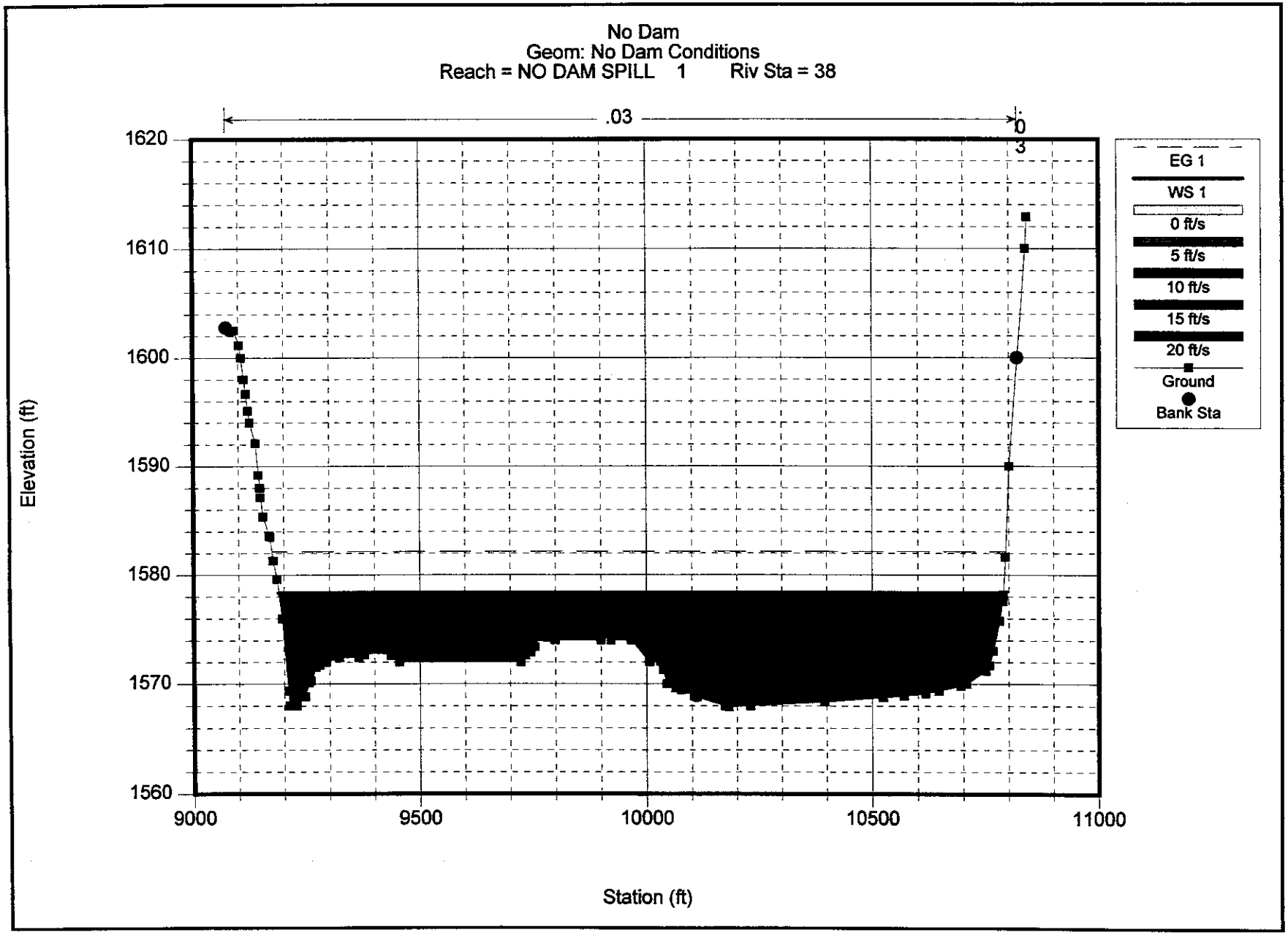
Warning - Divided flow computed for this cross-section.
Warning - The cross-section end points had to be extended vertically for the computed water surface.
Warning - The velocity head has changed by more than 0.5 ft (0.15 m). This may indicate the need for additional cross sections.
Warning - The conveyance 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.
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.
Warning - The parabolic search method failed to converge on critical depth. The program will try the cross section slice/secant method to find critical depth.
Note - Multiple critical depths were found at this location. The critical depth with the lowest, valid, water surface was used.

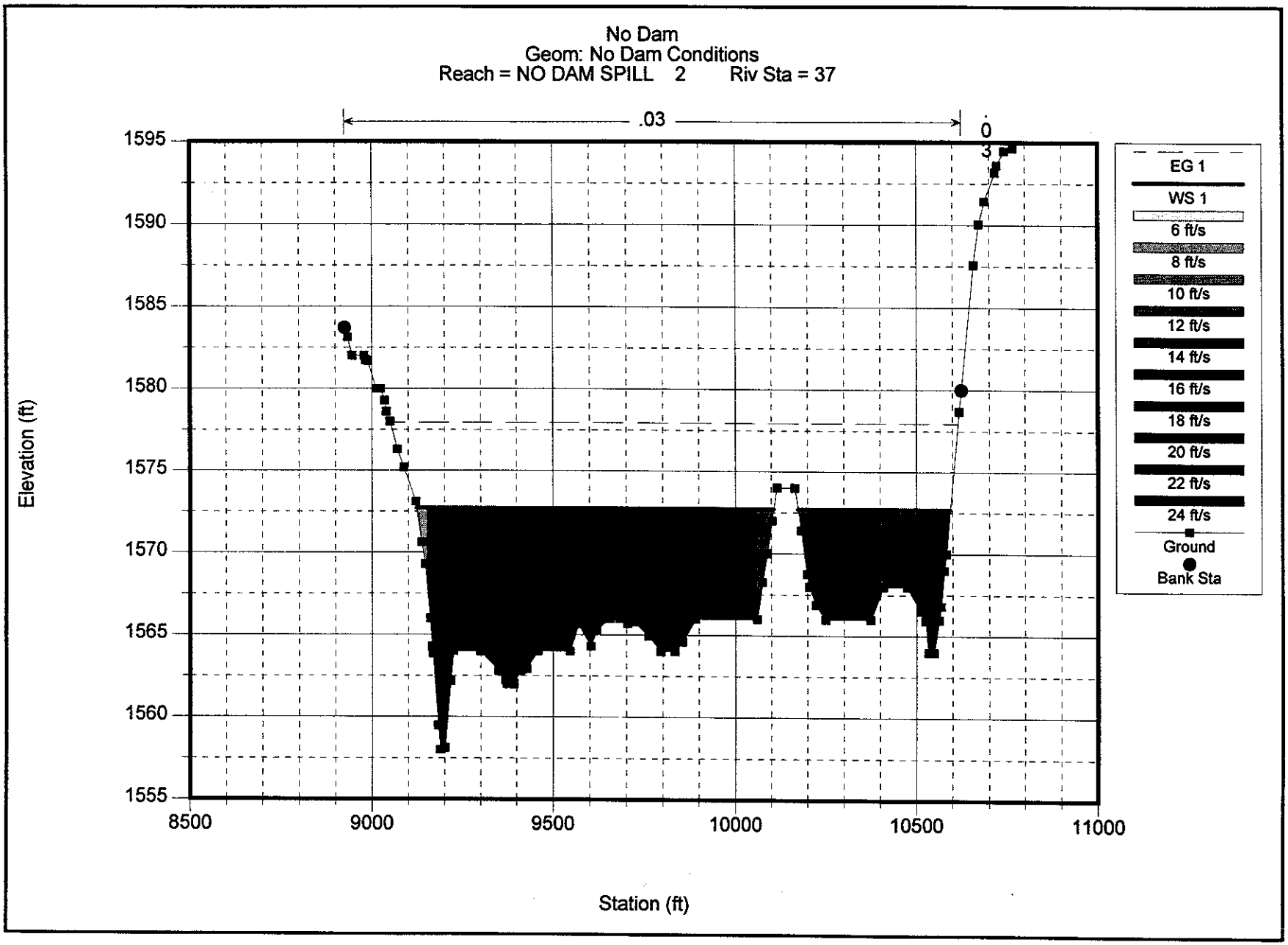
Profile Output Table - Standard Table 1

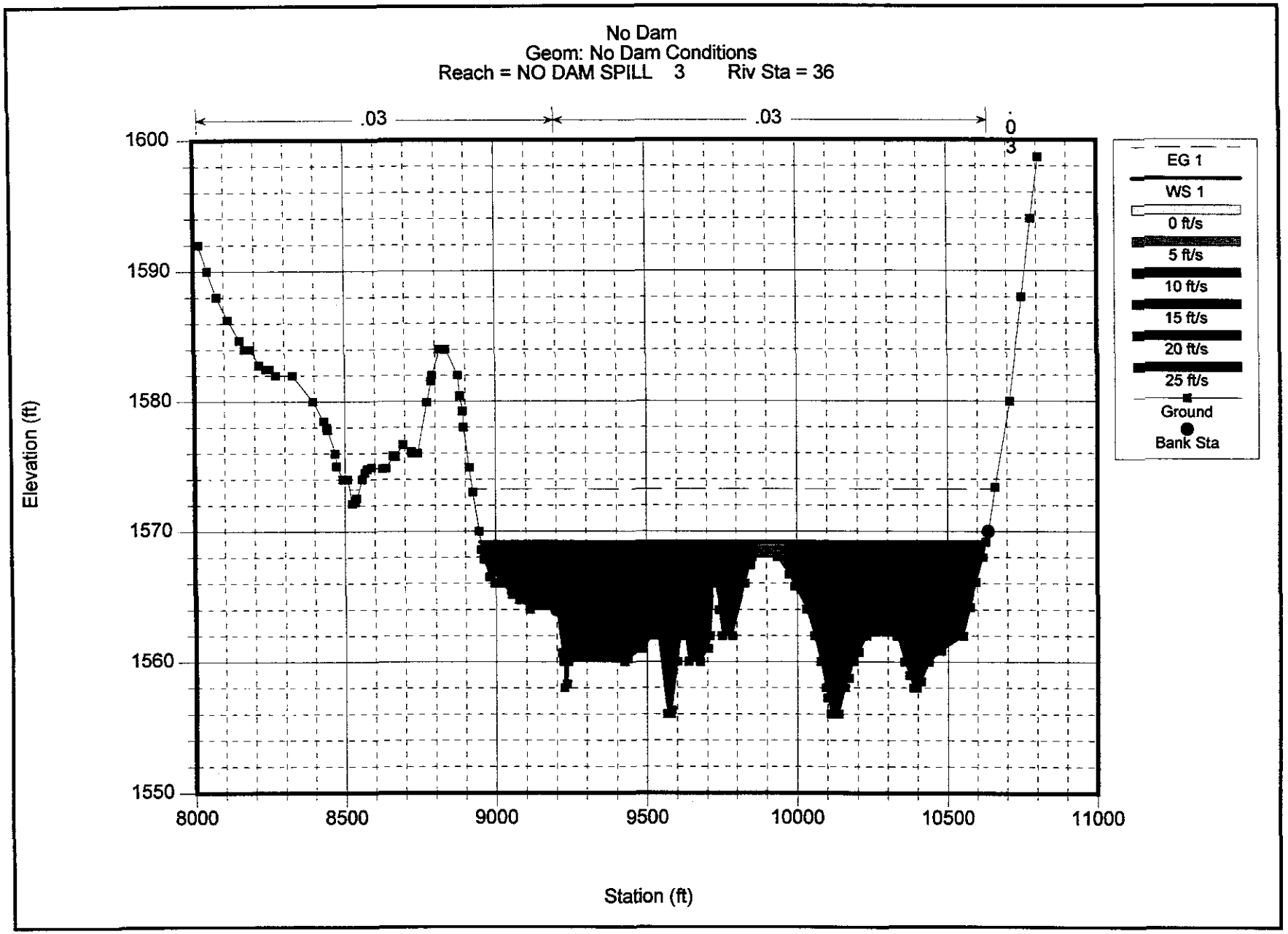
Reach	River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
SCATTER WASH	30	41500.00	1539.00	1544.70		1546.28	0.007372	10.94	4364.64	1146.71	0.85
SCATTER WASH	29	41500.00	1534.45	1538.89		1539.78	0.006624	7.80	5651.25	1970.38	0.75
SCATTER WASH	28	41500.00	1530.00	1533.89	1533.81	1535.28	0.009616	9.70	4553.31	1612.14	0.91
SCATTER WASH	27	41500.00	1525.60	1529.20	1529.20	1530.25	0.009671	8.86	5395.10	2445.77	0.89
SCATTER WASH	26	41500.00	1521.05	1527.52	1524.32	1527.76	0.000826	4.10	10730.78	2794.36	0.29
SCATTER WASH	25	41500.00	1517.20	1526.08	1523.08	1526.32	0.001783	4.07	10573.20	2647.49	0.32
SCATTER WASH	24	41500.00	1517.20	1524.08	1524.08	1525.44	0.012021	8.63	4486.99	5078.93	0.98
SCATTER WASH	23	41500.00	1514.00	1515.71	1517.18	1521.06	0.096341	18.54	2235.45	4374.47	2.53
SCATTER WASH	22	41500.00	1511.89	1515.80	1516.35	1517.78	0.020093	12.01	3811.38	4661.59	1.26
CAVE CREEK	21	144500.00	1516.00	1545.22	1541.74	1546.51	0.001775	9.79	16886.29	4213.37	0.48
CAVE CREEK	20	144500.00	1514.00	1544.84	1540.74	1545.99	0.001583	9.34	17318.10	1645.10	0.45
CAVE CREEK	19	144500.00	1514.00	1544.03		1545.37	0.002012	10.08	16079.16	1635.19	0.50
CAVE CREEK	18	144500.00	1522.00	1540.25		1542.78	0.004957	12.74	11338.08	1284.56	0.76
CAVE CREEK	17	144500.00	1520.00	1536.30		1539.53	0.007163	14.40	10032.93	1242.08	0.89
CAVE CREEK	16	144500.00	1518.00	1534.40	1534.18	1537.97	0.008686	15.16	9532.58	1265.41	0.97
CAVE CREEK	15	144500.00	1516.00	1530.83	1530.83	1534.47	0.008133	15.76	9648.55	1297.38	0.98
CAVE CREEK	14	144500.00	1514.00	1530.62		1531.78	0.001471	8.84	17250.53	1580.23	0.44
CAVE CREEK	13	144500.00	1512.00	1530.68		1531.42	0.000930	7.04	21252.00	1831.60	0.35
CAVE CREEK	12	144500.00	1508.00	1530.37		1531.01	0.000647	6.70	23298.19	1815.55	0.30
CAVE CREEK	11	144500.00	1508.00	1529.94	1519.06	1530.67	0.000526	6.84	21118.73	2697.69	0.28
CAVE CREEK	10	144500.00	1506.00	1525.50	1525.50	1530.20	0.005891	18.66	8880.83	939.55	0.89
CAVE CREEK	9	144500.00	1506.00	1523.62	1528.93	1529.82	0.013112	20.69	7698.81	1885.48	1.23
CAVE CREEK	8	144500.00	1505.54	1526.60	1522.60	1528.18	0.002013	12.43	14509.39	2723.00	0.48
CAVE CREEK	7	144500.00	1505.54	1526.09	1523.48	1528.13	0.000677	17.72	13898.25	2723.00	0.69
CAVE CREEK	6	144500.00	1505.54	1523.90	1523.90	1527.81	0.001507	24.53	10449.18	2754.00	1.01
CAVE CREEK	5	144500.00	1505.54	1523.46	1522.62	1526.91	0.002466	10.81	9838.31	2771.00	0.45
CAVE CREEK	4	144500.00	1486.00	1525.53	1508.90	1525.98	0.000235	5.24	26811.87	2771.00	0.15
CAVE CREEK	3	144500.00	1486.00	1525.53	1509.21	1525.98	0.000228	5.90	26810.08	2771.00	0.17
CAVE CREEK	2	144500.00	1507.10	1521.37	1521.37	1525.59	0.008780	16.83	8767.05	3528.83	1.00
CAVE CREEK	1	144500.00	1496.00	1504.05	1509.02	1522.12	0.077007	34.11	4235.95	857.55	2.70
NO DAM SPILL	38	186000.00	1567.91	1578.37	1578.37	1582.15	0.006826	15.59	11927.13	1599.43	1.01
NO DAM SPILL	37	186000.00	1558.00	1572.71	1573.68	1577.94	0.009876	18.35	10135.07	1402.94	1.20
NO DAM SPILL	36	186000.00	1556.00	1569.16	1569.56	1573.25	0.007725	16.51	11598.32	1677.85	1.07
NO DAM SPILL	35	186000.00	1544.00	1562.24	1556.13	1564.18	0.001276	11.26	17162.29	1541.11	0.49
NO DAM SPILL	34	186000.00	1542.00	1557.87	1557.87	1562.69	0.006183	17.64	10606.86	1141.18	1.00
NO DAM SPILL	33	186000.00	1538.00	1554.21	1554.90	1559.14	0.008125	17.83	10503.38	1427.72	1.11
NO DAM SPILL	32	186000.00	1530.00	1540.90	1544.33	1552.52	0.018789	27.35	6799.66	838.51	1.69
NO DAM SPILL	31	186000.00	1526.00	1546.16	1539.09	1547.15	0.000795	8.05	23859.19	2371.93	0.38

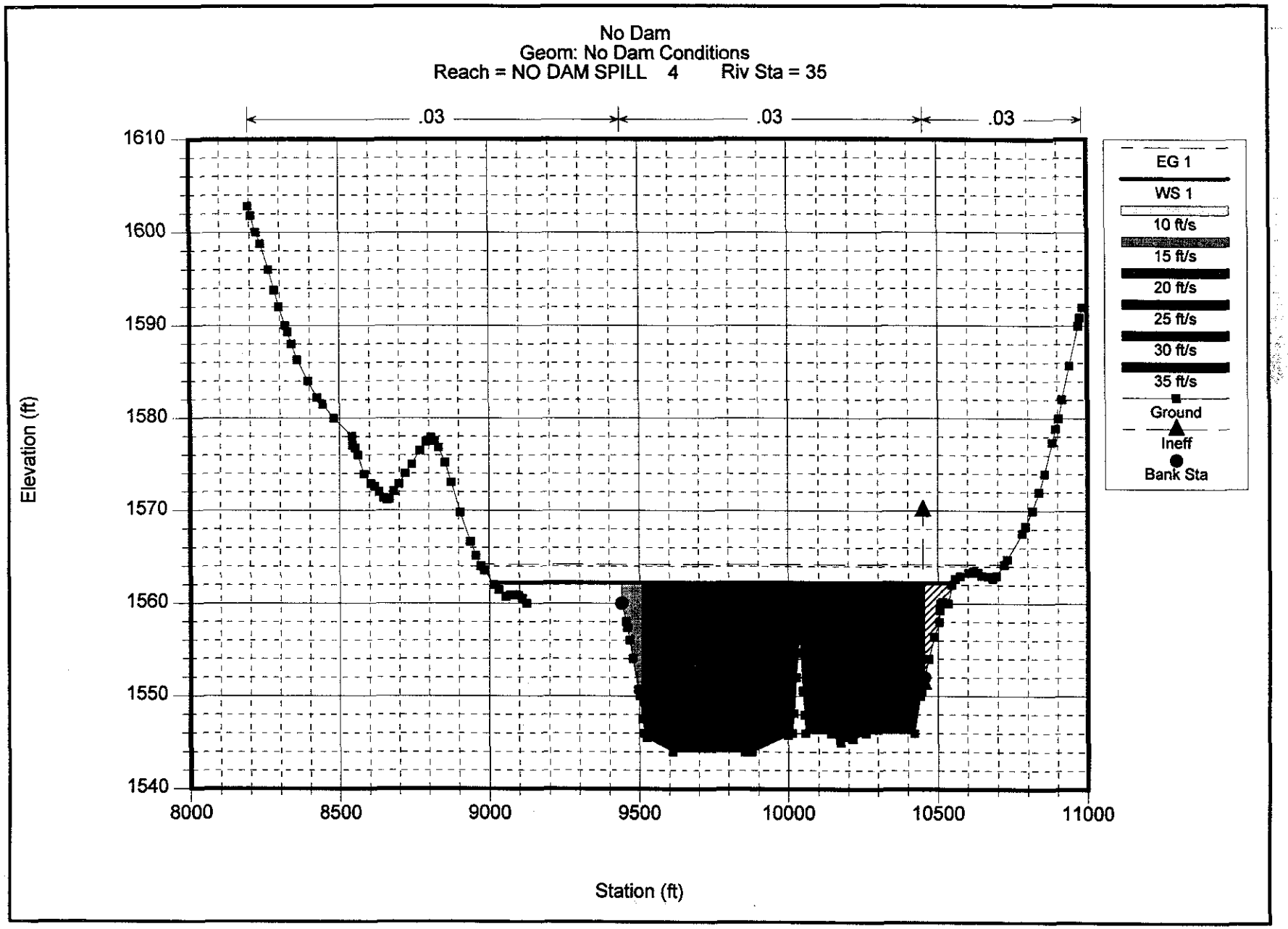
Profile Output Table - Standard Table 2

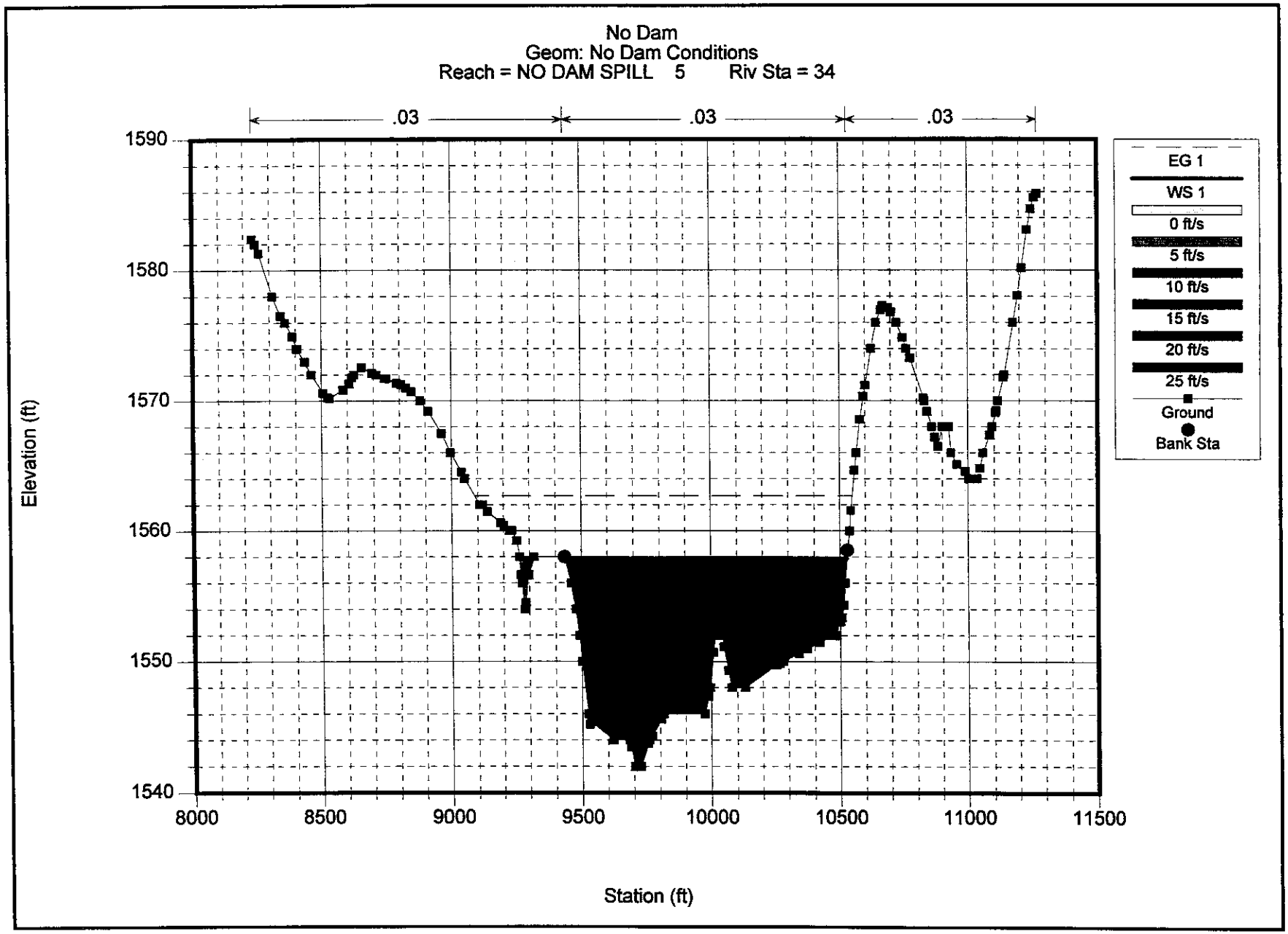
Reach	River Sta.	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
SCATTER WASH	30	1546.28	1544.70	1.58	6.29	0.21	887.47	31571.75	9040.78	1146.71
SCATTER WASH	29	1539.78	1538.89	0.88	4.45	0.05	1.90	37931.77	3566.32	1970.38
SCATTER WASH	28	1535.28	1533.89	1.39	4.93	0.10	232.04	38695.11	2572.85	1612.14
SCATTER WASH	27	1530.25	1529.20	1.05	1.10	0.24	46.48	32808.48	8645.04	2445.77
SCATTER WASH	26	1527.76	1527.52	0.24	1.44	0.00	1478.05	26331.27	13690.69	2794.36
SCATTER WASH	25	1526.32	1526.08	0.25	0.78	0.11		38842.89	2657.11	2647.49
SCATTER WASH	24	1525.44	1524.08	1.35				22793.06	18706.94	5078.93
SCATTER WASH	23	1521.06	1515.71	5.35	3.97	0.40		37418.12	4081.88	4374.47
SCATTER WASH	22	1517.78	1515.80	1.98	2.27	1.01	8848.62	32465.27	186.12	4661.59
CAVE CREEK	21	1546.51	1545.22	1.29	0.48	0.04	9488.36	111190.70	23820.92	4213.37
CAVE CREEK	20	1545.99	1544.84	1.16	0.60	0.02	89.23	100365.80	44044.96	1645.10
CAVE CREEK	19	1545.37	1544.03	1.35	2.48	0.12	67.83	102546.90	41885.27	1635.19
CAVE CREEK	18	1542.78	1540.25	2.52	3.18	0.07	0.07	144499.90	0.07	1284.56
CAVE CREEK	17	1539.53	1536.30	3.22	1.52	0.03		144500.00		1242.08
CAVE CREEK	16	1537.97	1534.40	3.57	3.49	0.01		144500.00		1265.41
CAVE CREEK	15	1534.47	1530.83	3.64			14537.16	129693.90	268.93	1297.38
CAVE CREEK	14	1531.78	1530.62	1.15	0.23	0.12	1269.30	143230.70		1580.23
CAVE CREEK	13	1531.42	1530.68	0.74	0.38	0.03	8158.74	136286.70	54.56	1831.60
CAVE CREEK	12	1531.01	1530.37	0.64	0.33	0.01	18874.65	125604.10	21.22	1815.55
CAVE CREEK	11	1530.67	1529.94	0.73	0.07	0.40		144500.00		2697.69
CAVE CREEK	10	1530.20	1525.50	4.70			1871.67	114651.00	27977.33	939.55
CAVE CREEK	9	1529.82	1523.62	6.20	0.23	0.16		132498.50	12001.51	1885.48
CAVE CREEK	8	1528.18	1526.60	1.58	0.00	0.05	36007.36	36591.71	71900.93	2723.00
CAVE CREEK	7	1528.13	1526.09	2.04	0.12	0.19	39614.89	26214.23	78670.88	2723.00
CAVE CREEK	6	1527.81	1523.90	3.91			27248.16	32427.13	84824.70	2754.00
CAVE CREEK	5	1526.91	1523.46	3.45	0.03	0.90	28330.73	18929.29	97239.98	2771.00
CAVE CREEK	4	1525.98	1525.53	0.45	0.00	0.00	24135.34	14916.91	105447.80	2771.00
CAVE CREEK	3	1525.98	1525.53	0.45	0.01	0.38	23784.43	16800.78	103914.80	2771.00
CAVE CREEK	2	1525.59	1521.37	4.23				81972.29	62527.71	3528.83
CAVE CREEK	1	1522.12	1504.05	18.07	2.09	1.38		144500.00		857.55
NO DAM SPILL	38	1582.15	1578.37	3.78	3.37	0.03		186000.00		1599.43
NO DAM SPILL	37	1577.94	1572.71	5.23	4.07	0.15		186000.00		1402.94
NO DAM SPILL	36	1573.25	1569.16	4.09	4.35	0.34	11114.62	174885.40		1677.85
NO DAM SPILL	35	1564.18	1562.24	1.94	1.21	0.29		186000.00		1541.11
NO DAM SPILL	34	1562.69	1557.87	4.82	3.10	0.20	475.54	185524.50		1141.18
NO DAM SPILL	33	1559.14	1554.21	4.93	3.54	0.01	441.02	185478.00	80.99	1427.72
NO DAM SPILL	32	1552.52	1540.90	11.62	5.92	0.67		186000.00		838.51
NO DAM SPILL	31	1547.15	1546.16	1.00	0.61	0.03		186000.00		2371.93

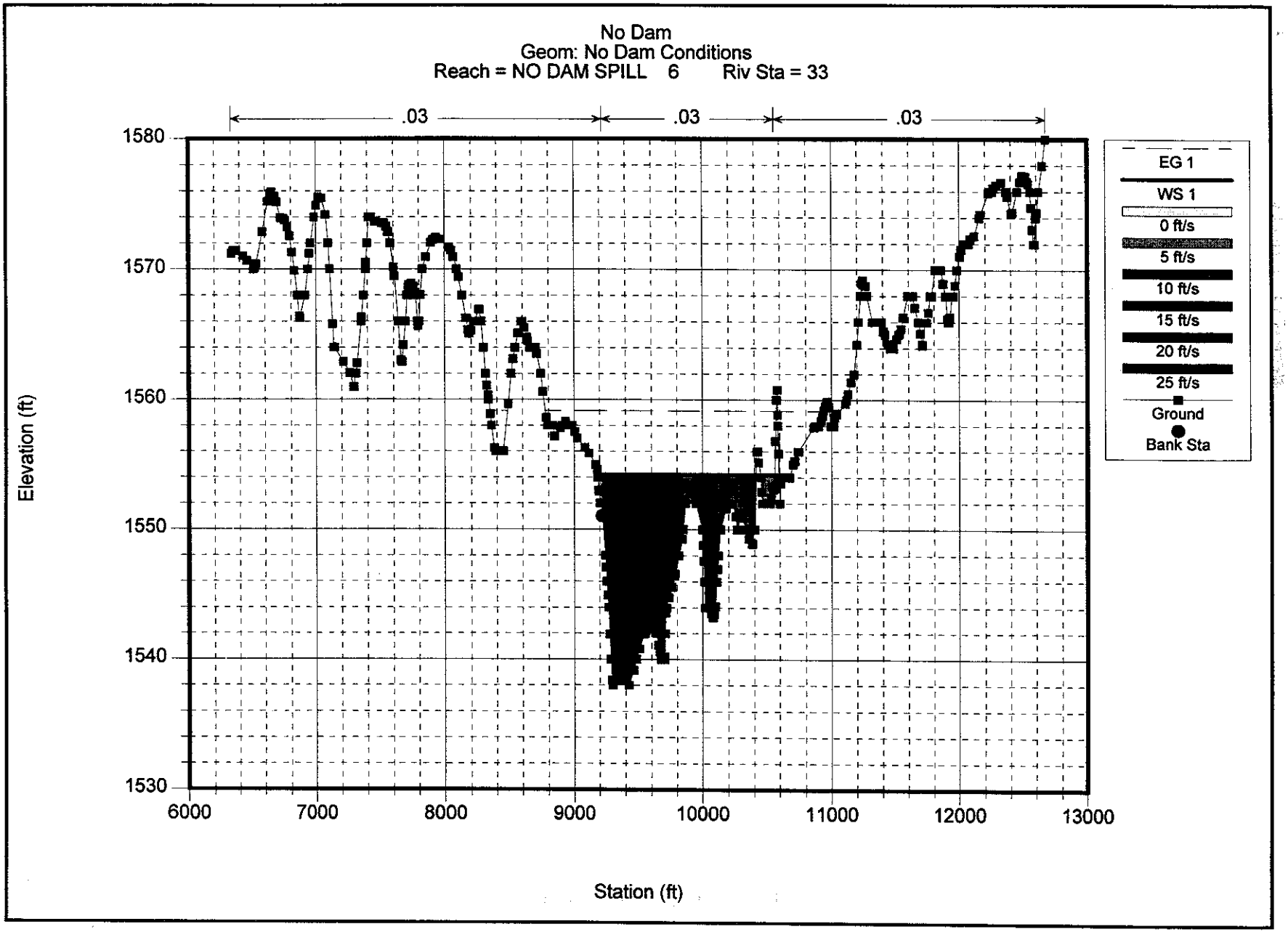

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 1 Riv Sta = 38
.03
.03
1620
1610
1600
1590
1580
1570
1560
Elevation (ft)
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta

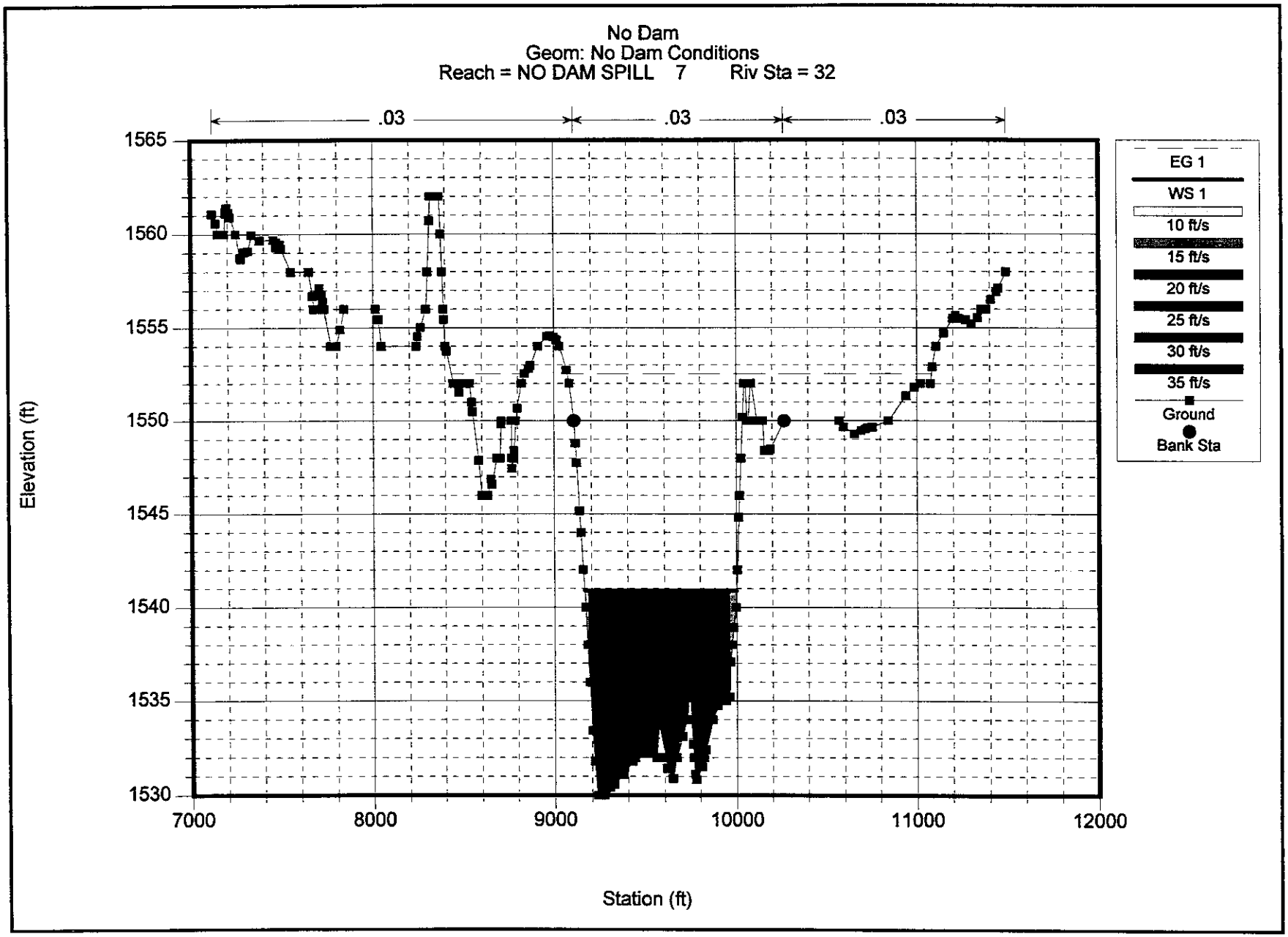

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 2 Riv Sta = 37
.03
0
3
1595
1590
1585
1580
1575
1570
1565
1560
1555
Elevation (ft)
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
22 ft/s
24 ft/s
Ground
Bank Sta

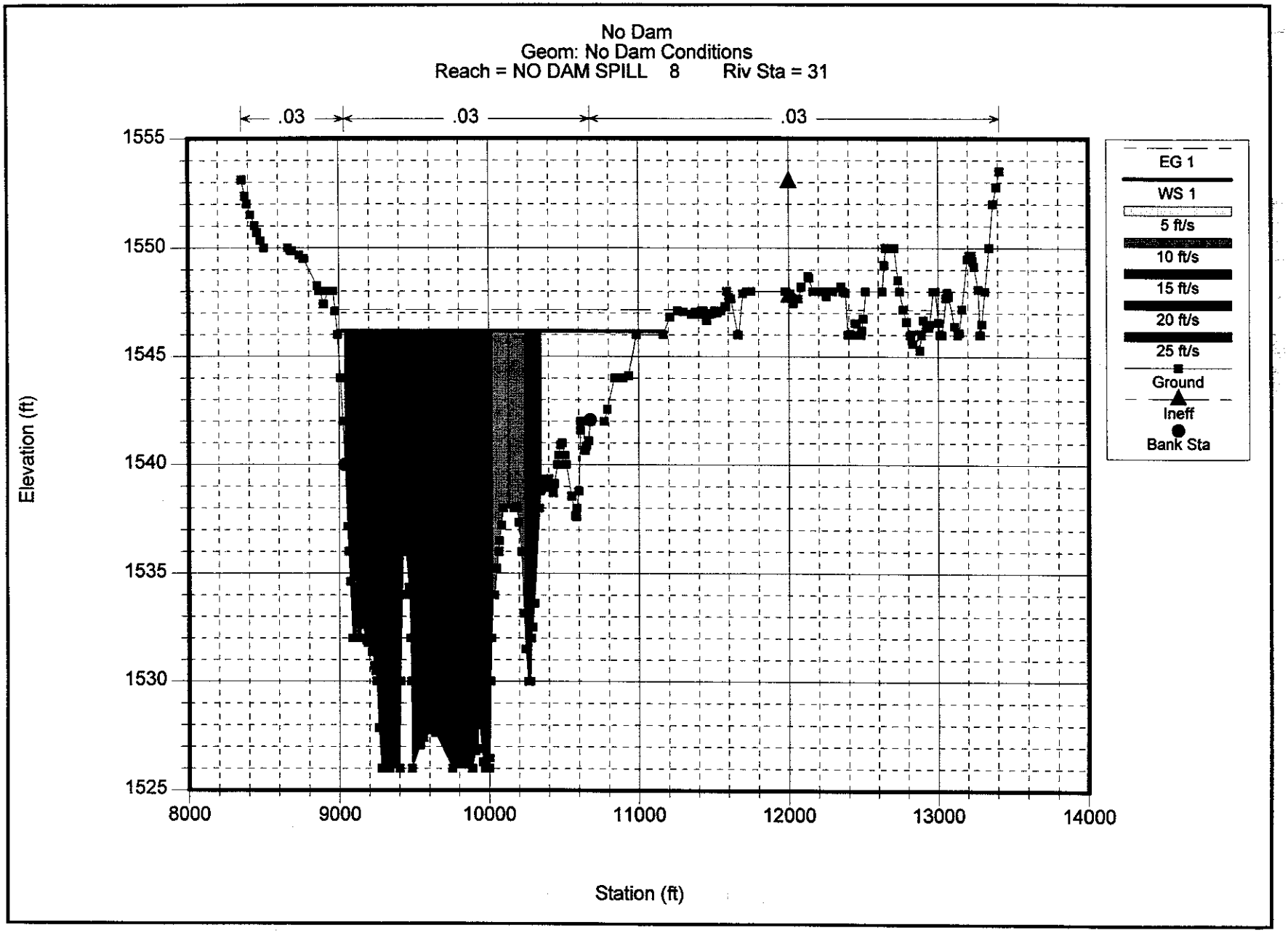

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 3 Riv Sta = 36
.03
.03
0.3
1600
1590
1580
1570
1560
1550
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

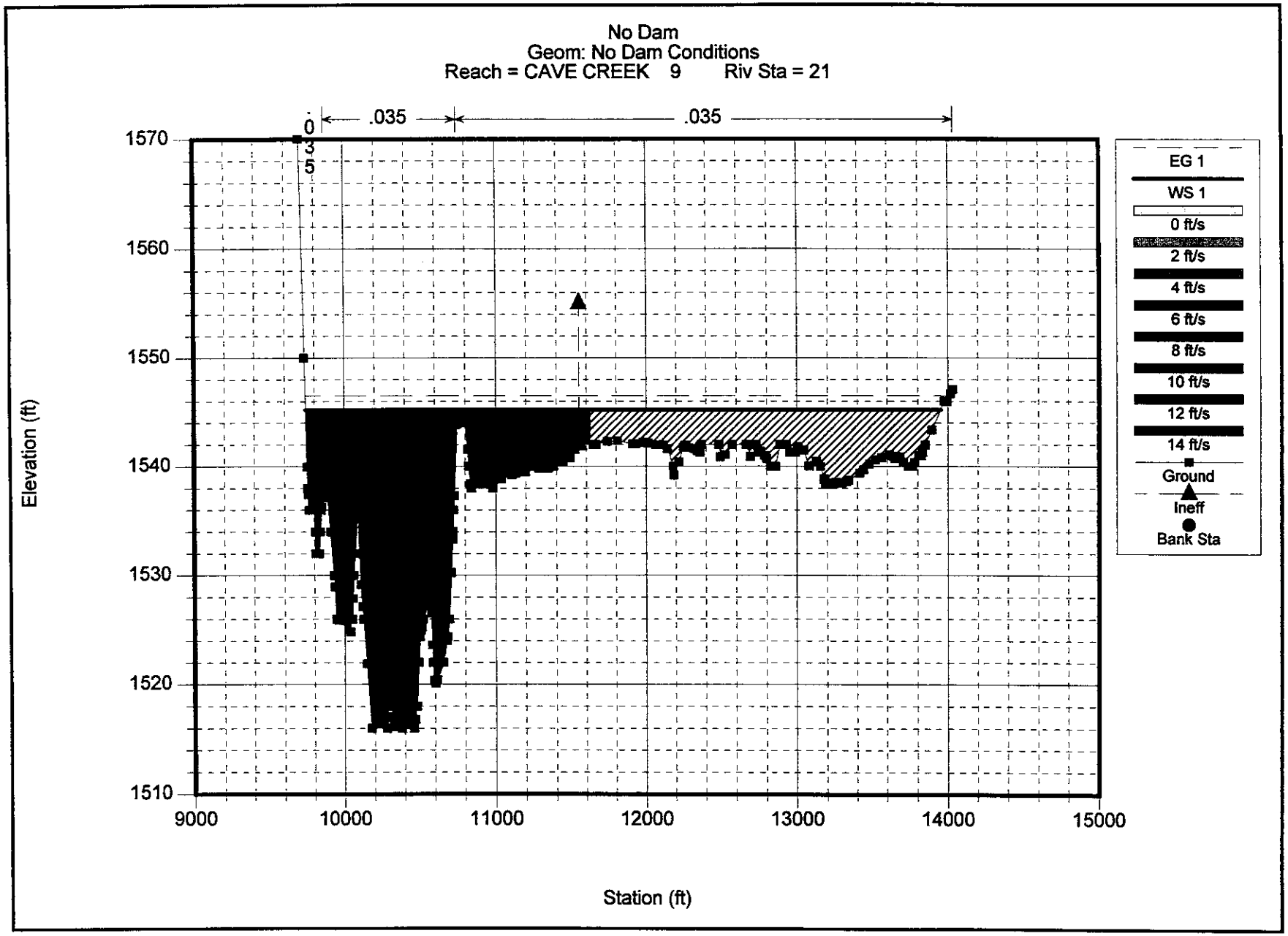

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 4 Riv Sta = 35
.03
.03
.03
1610
1600
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
Ground
Ineff
Bank Sta

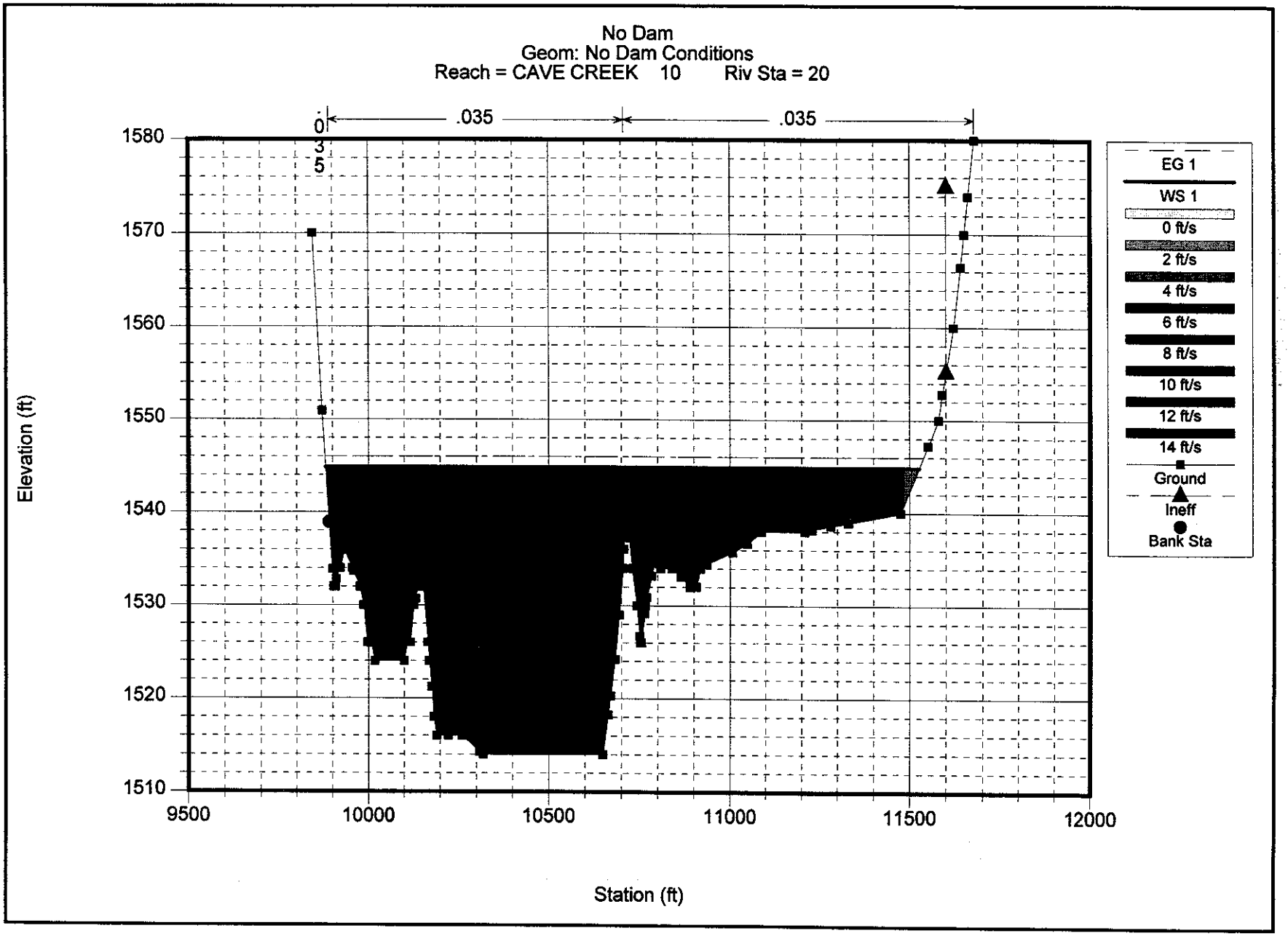

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 5 Riv Sta = 34
.03
.03
.03
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

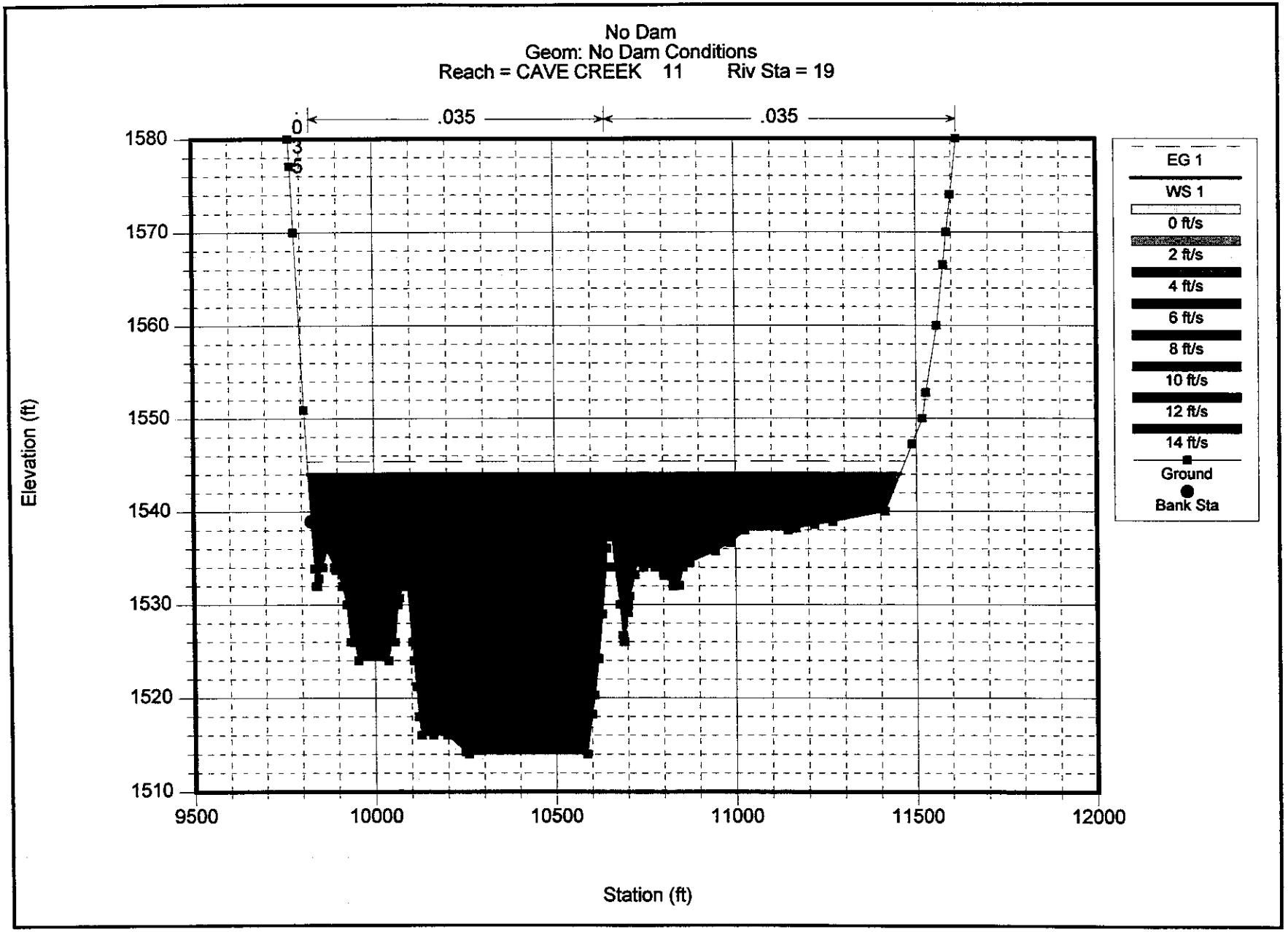

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 6 Riv Sta = 33
.03
.03
.03
1580
1570
1560
1550
1540
1530
Elevation (ft)
6000
7000
8000
9000
10000
11000
12000
13000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Bank Sta

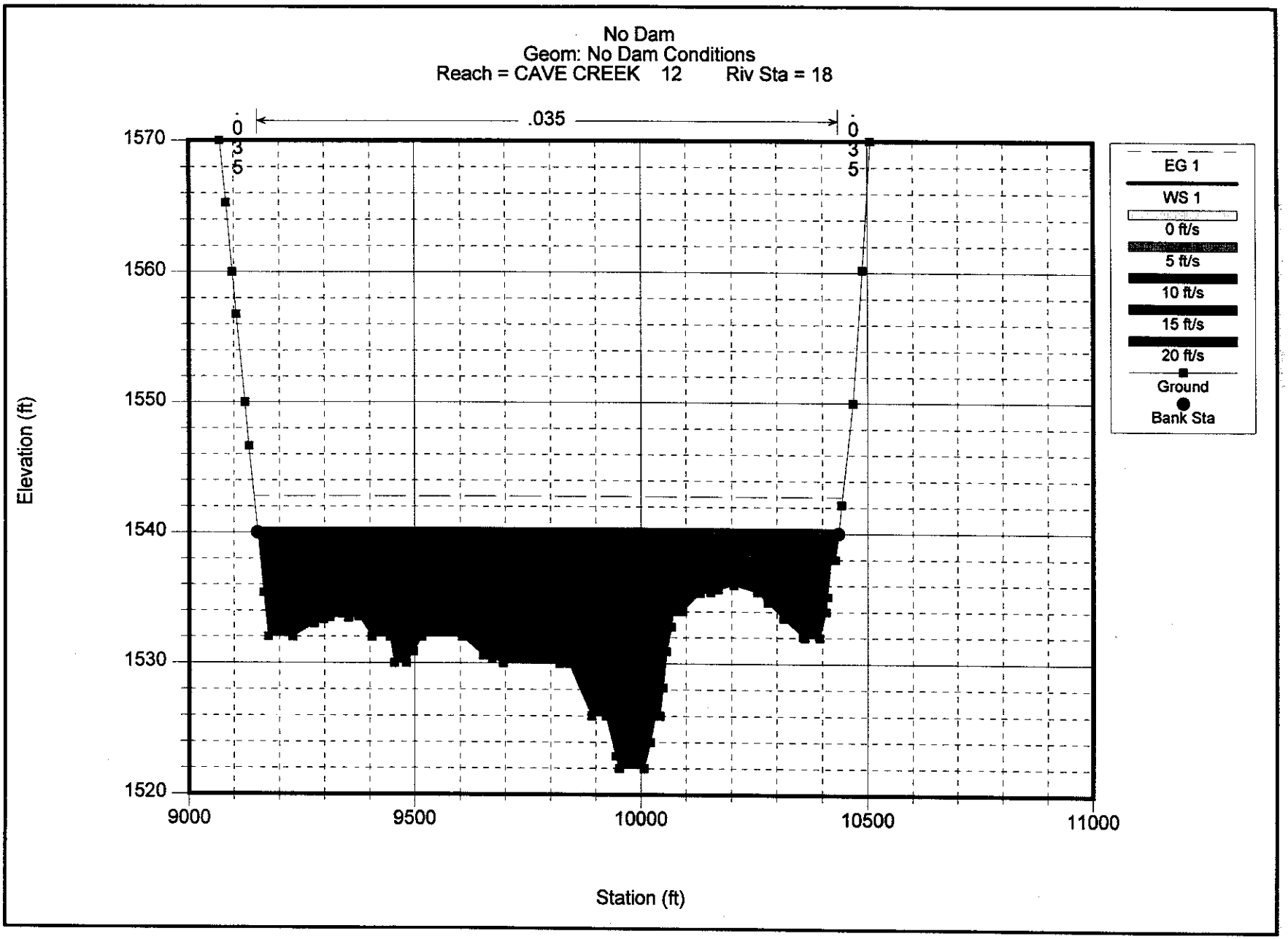

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 7 Riv Sta = 32
.03
.03
.03
1565
1560
1555
1550
1545
1540
1535
1530
Elevation (ft)
7000
8000
9000
10000
11000
12000
Station (ft)
EG 1
WS 1
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
Ground
Bank Sta

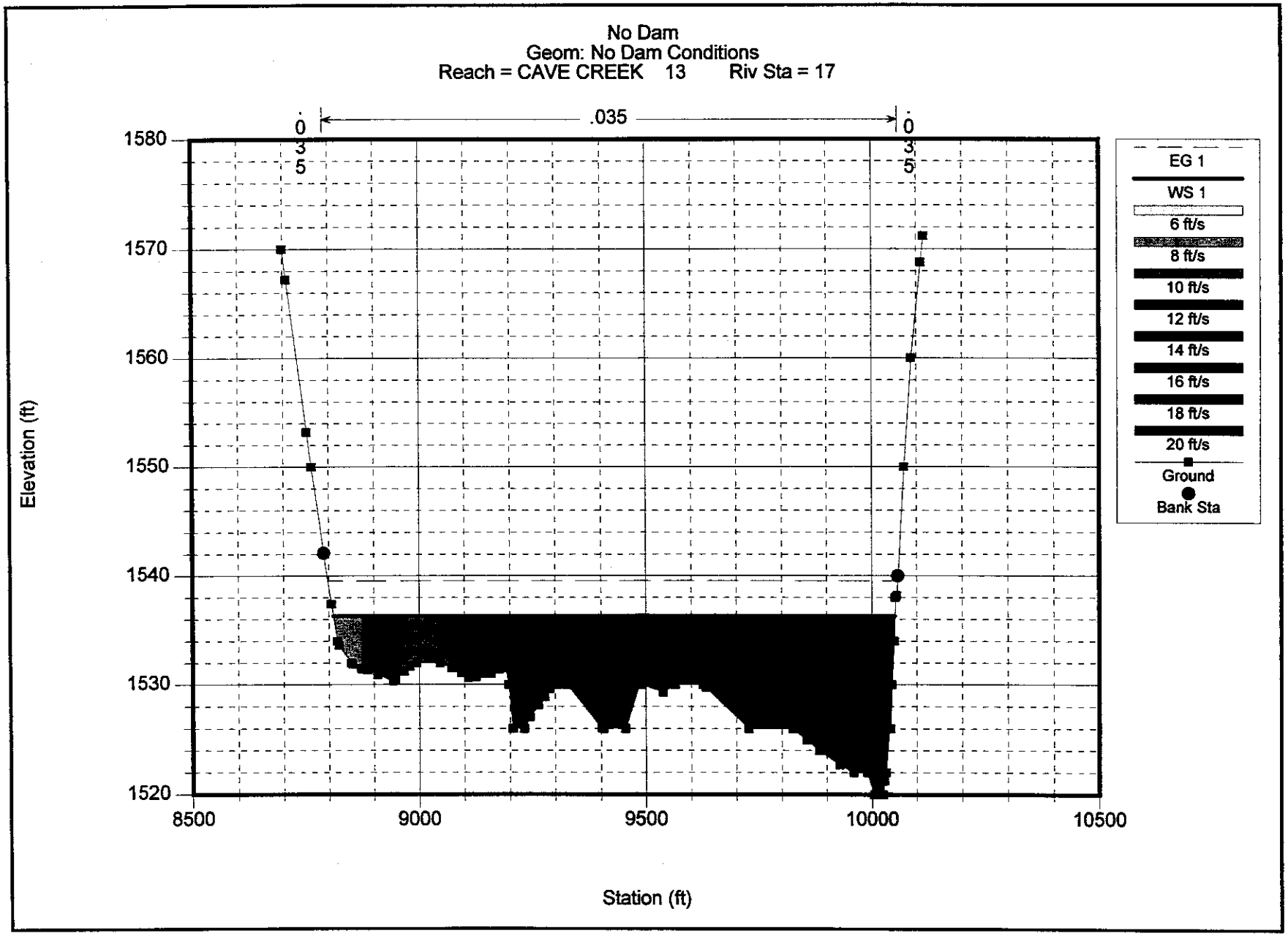

No Dam
Geom: No Dam Conditions
Reach = NO DAM SPILL 8 Riv Sta = 31
.03
.03
.03
1555
1550
1545
1540
1535
1530
1525
Elevation (ft)
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Ineff
Bank Sta

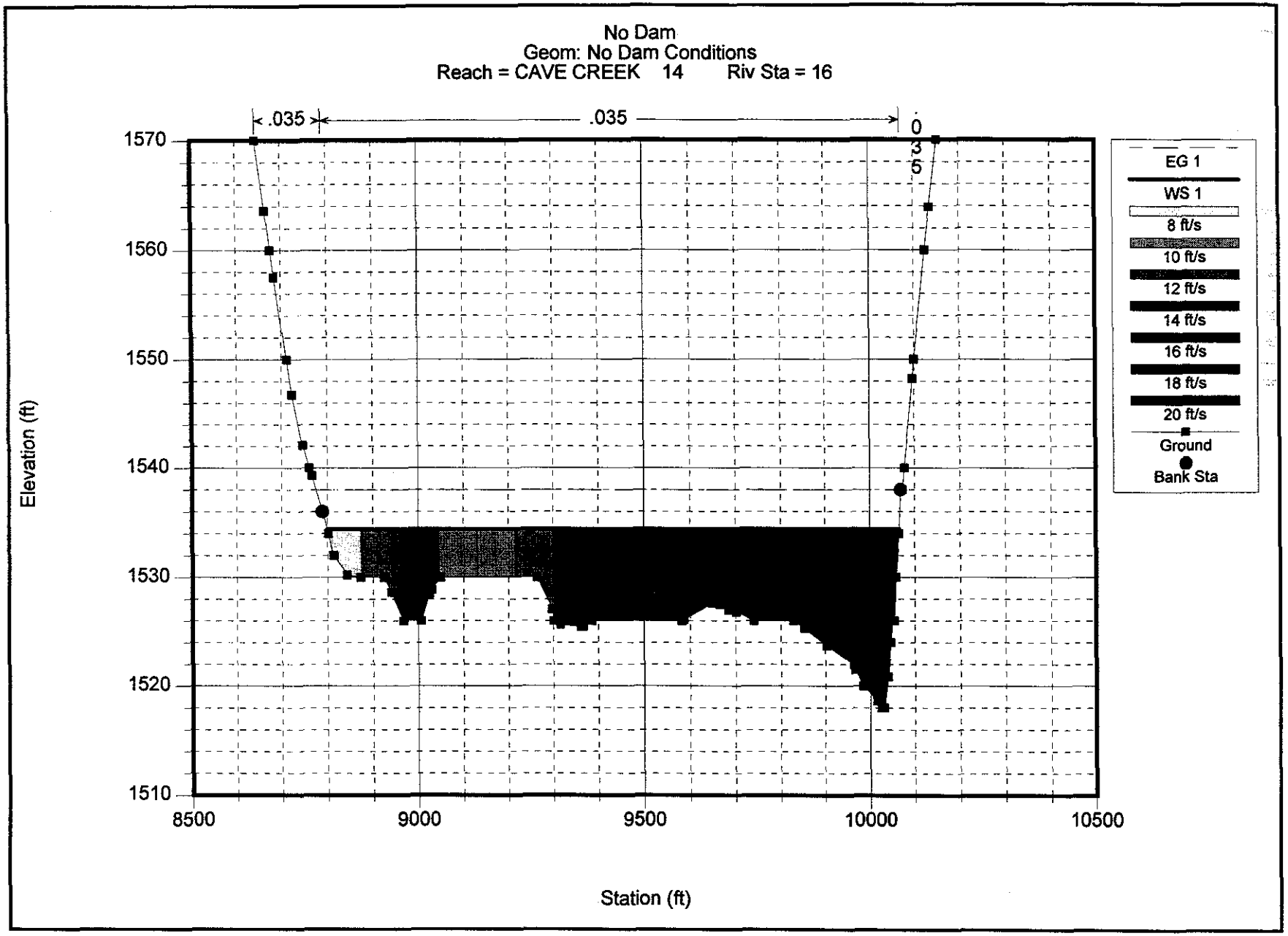

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 9 Riv Sta = 21
.035
.035
0
3
5
1570
1560
1550
1540
1530
1520
1510
Elevation (ft)
9000
10000
11000
12000
13000
14000
15000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta

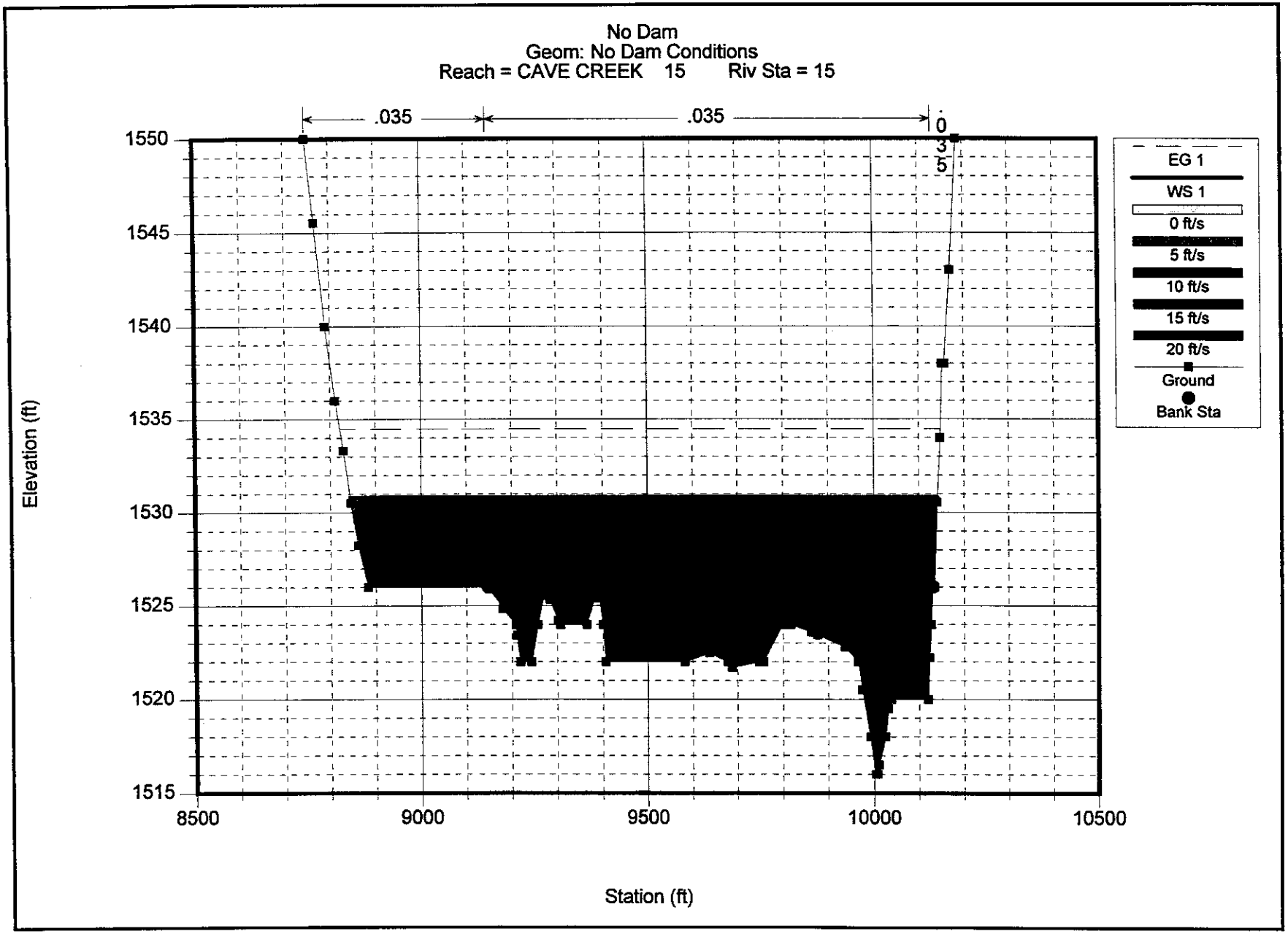

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 10 Riv Sta = 20
.035
.035
0
3
5
1580
1570
1560
1550
1540
1530
1520
1510
Elevation (ft)
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta

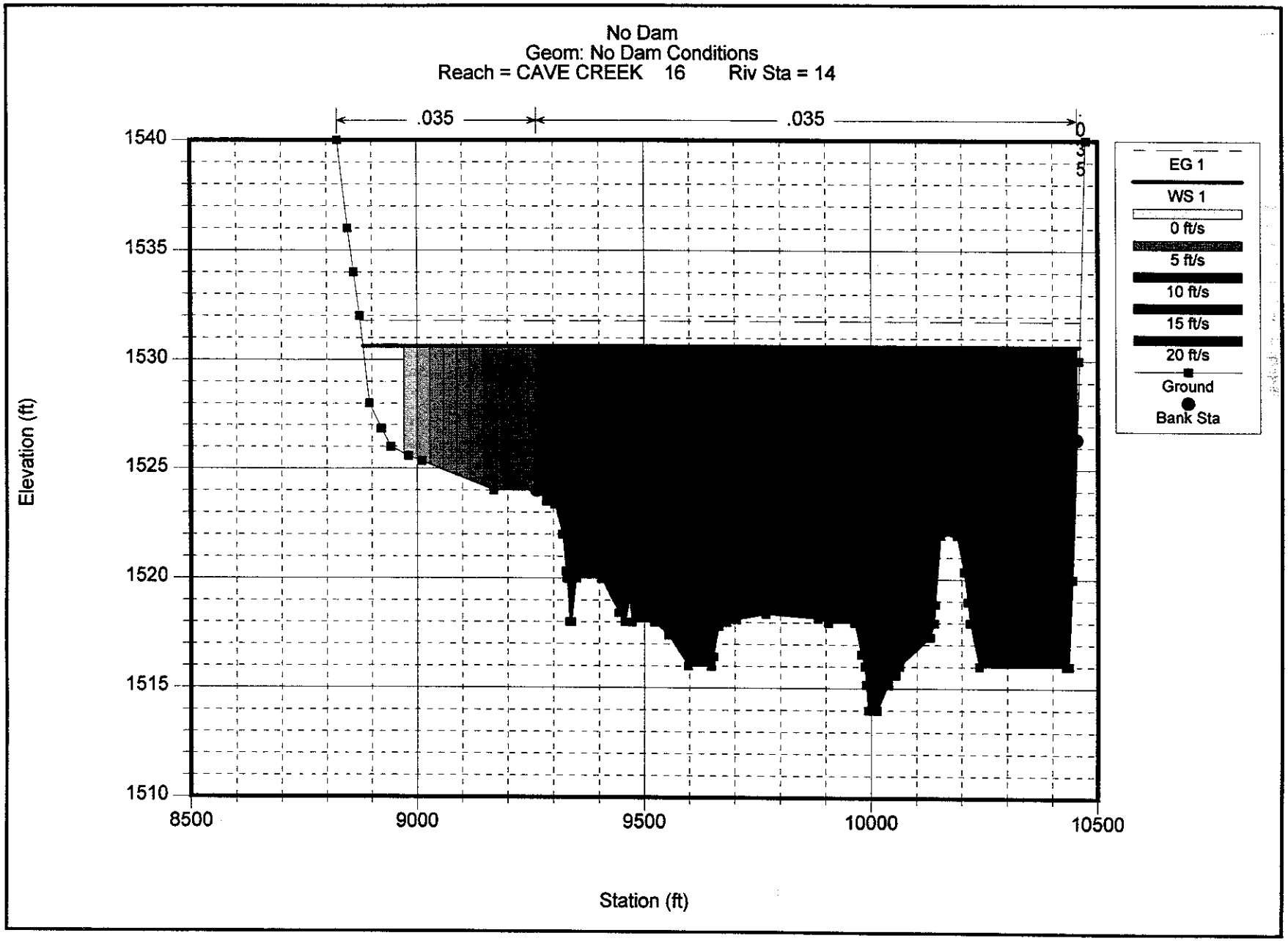

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 11 Riv Sta = 19
.035
.035
0
3
5
1580
1570
1560
1550
1540
1530
1520
1510
Elevation (ft)
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Bank Sta

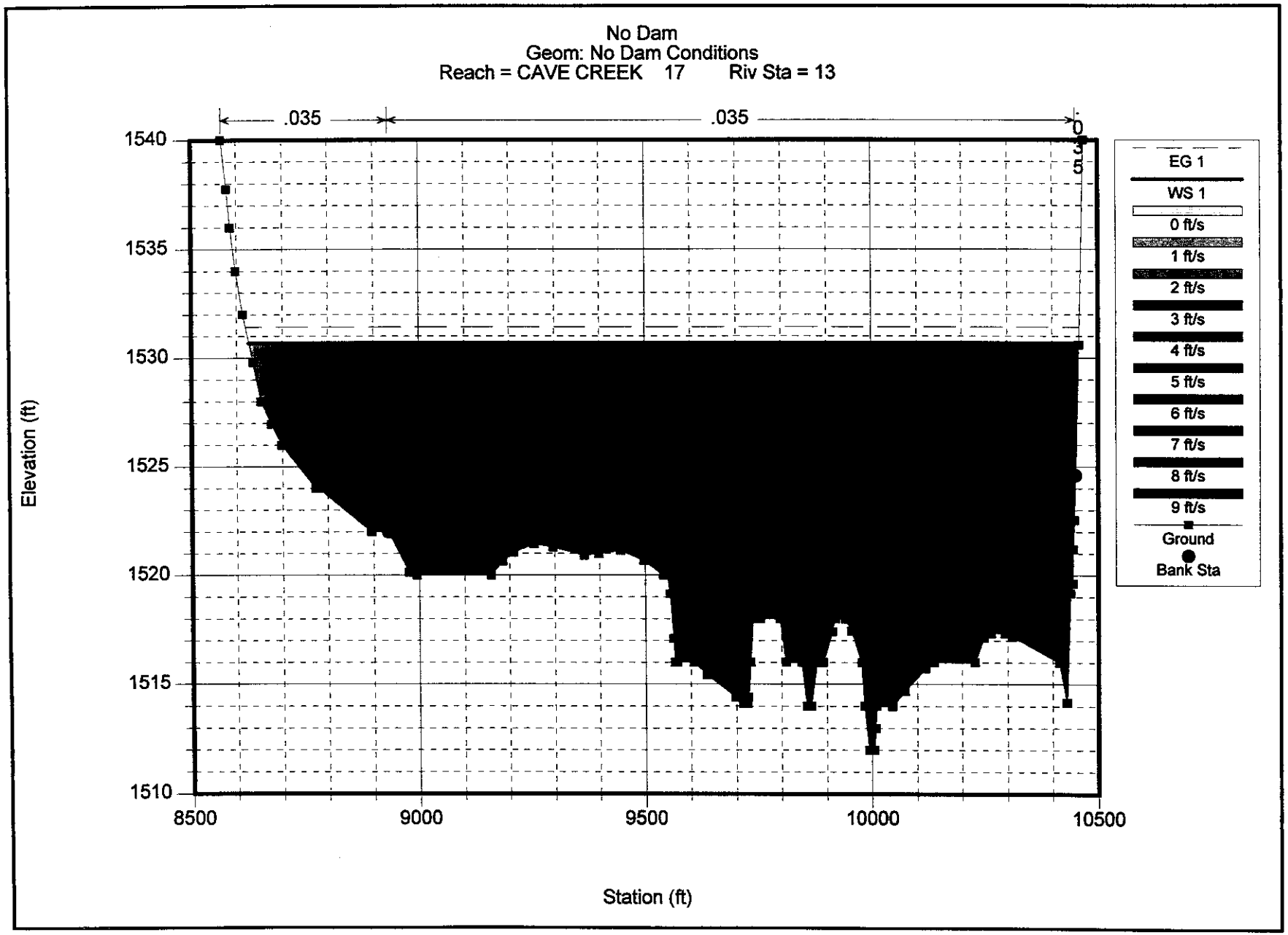

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 12 Riv Sta = 18
.035
.035
1570
1560
1550
1540
1530
1520
Elevation (ft)
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta

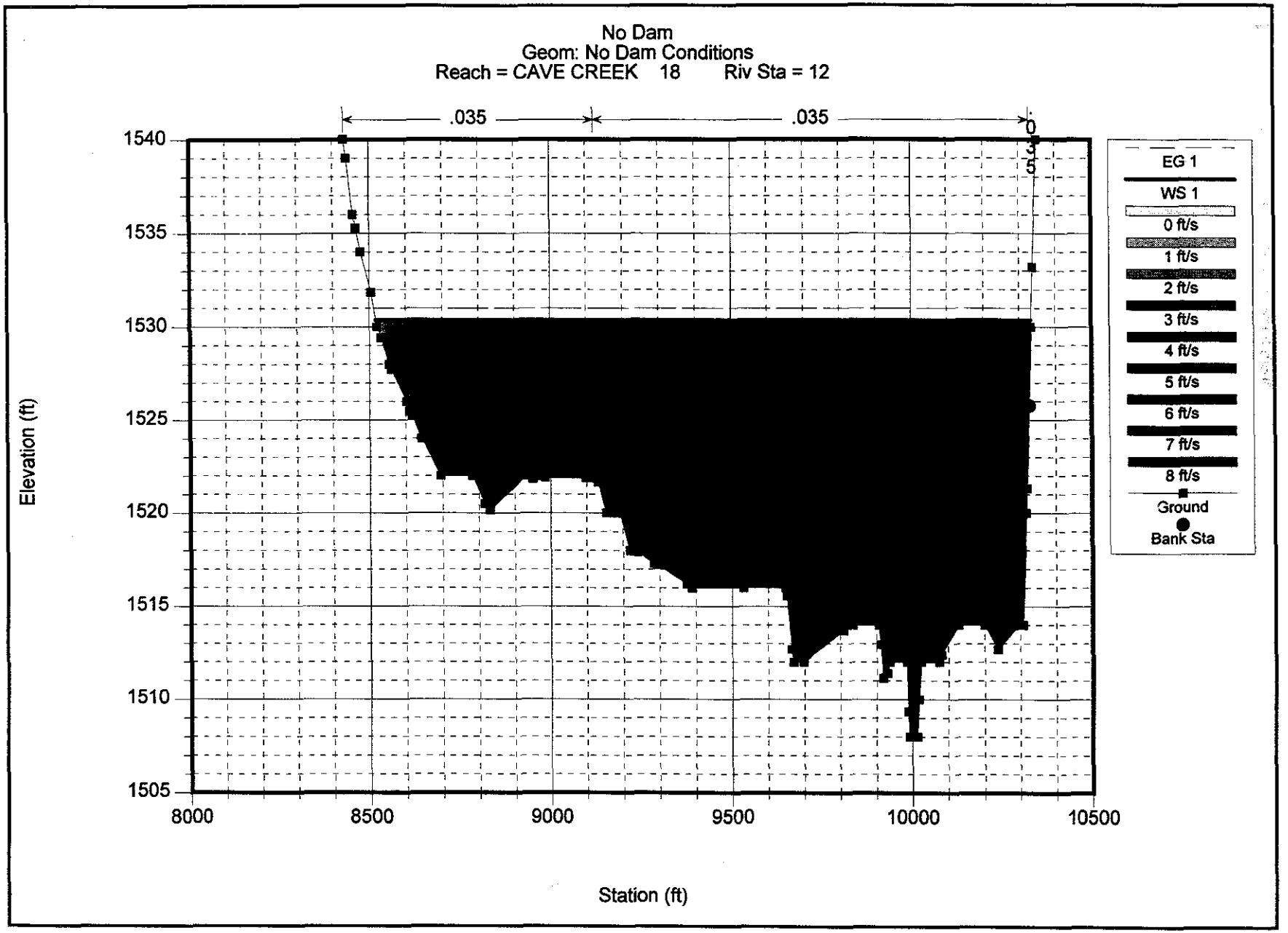

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 13 Riv Sta = 17
.035
0.035
0.035
1580
1570
1560
1550
1540
1530
1520
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Bank Sta

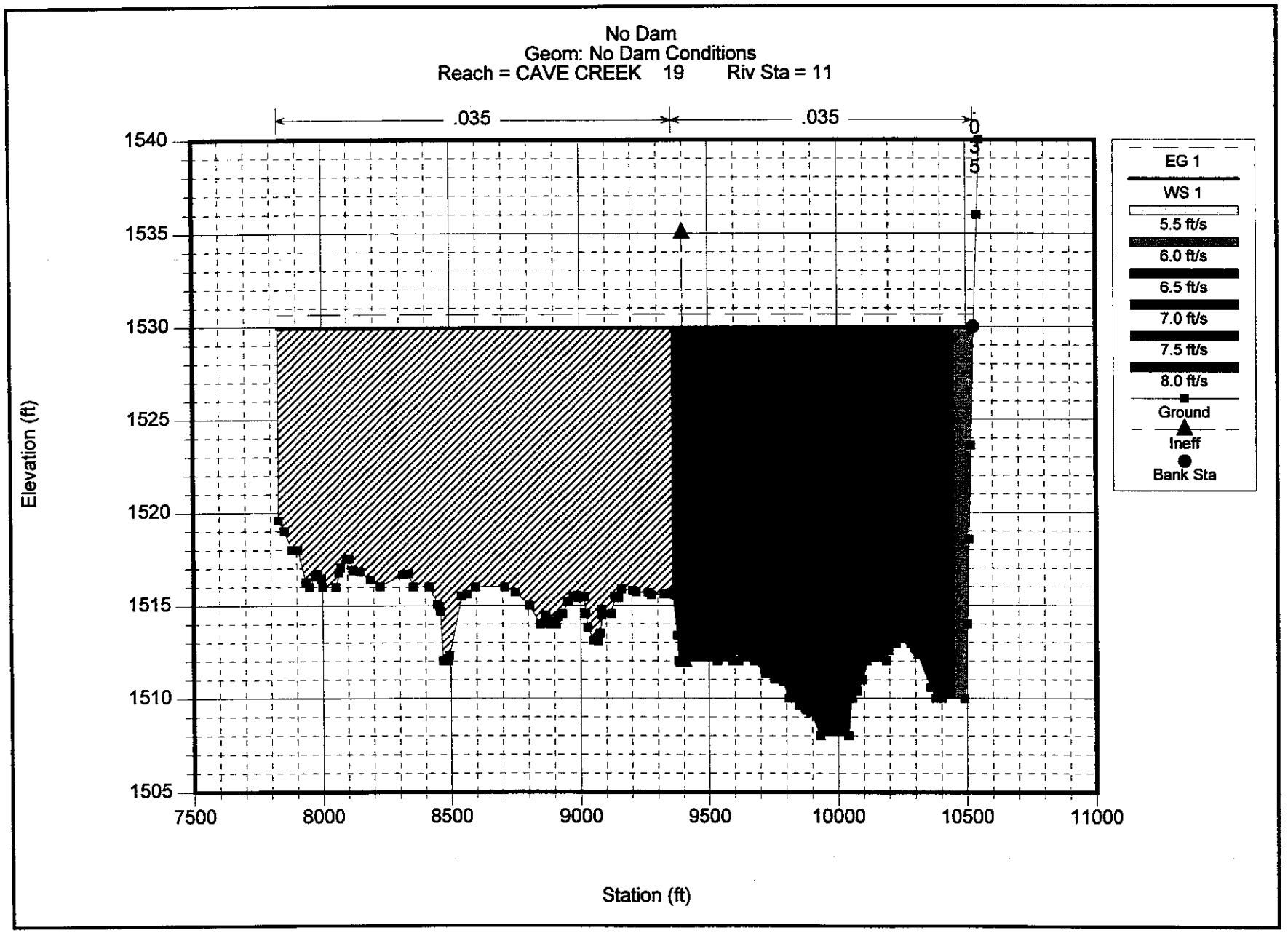

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 14 Riv Sta = 16
.035
.035
0.035
1570
1560
1550
1540
1530
1520
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Bank Sta

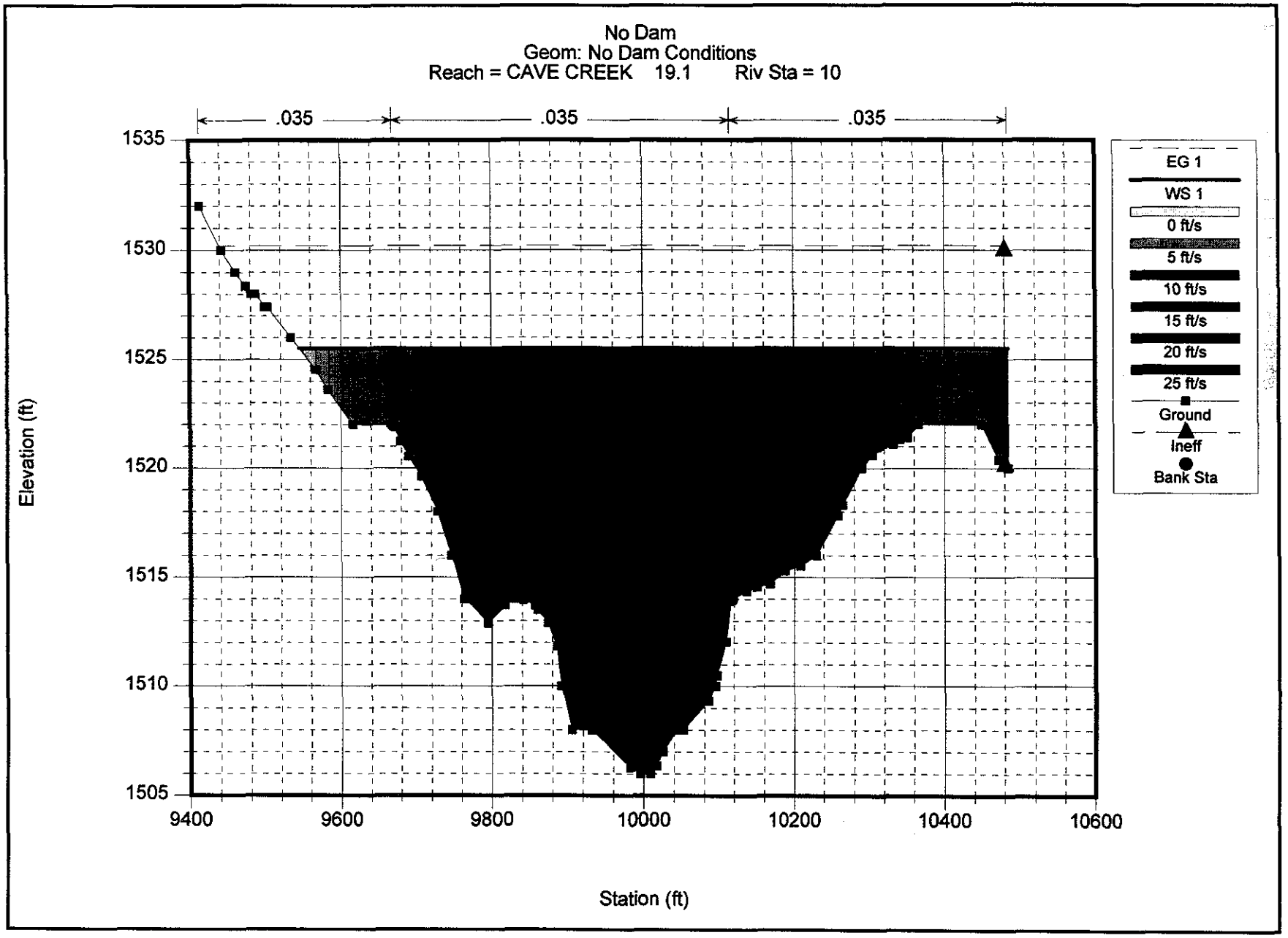

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 15 Riv Sta = 15
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta

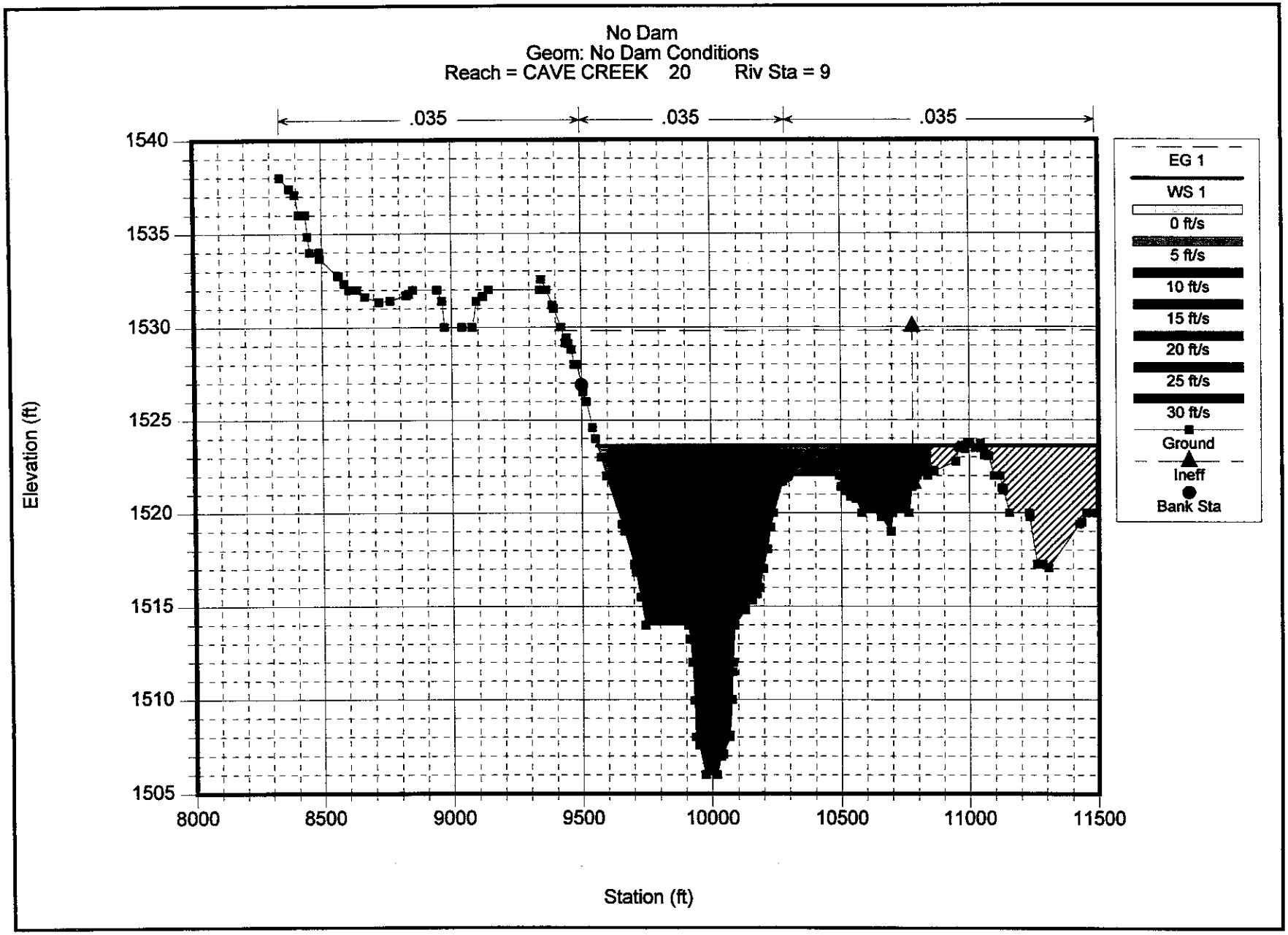

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 16 Riv Sta = 14
.035
.035
0
3
5
1540
1535
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
Ground
Bank Sta


No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 17 Riv Sta = 13
.035
.035
.035
1540
1535
1530
1525
1520
1515
1510
Elevation (ft)
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
Ground
Bank Sta

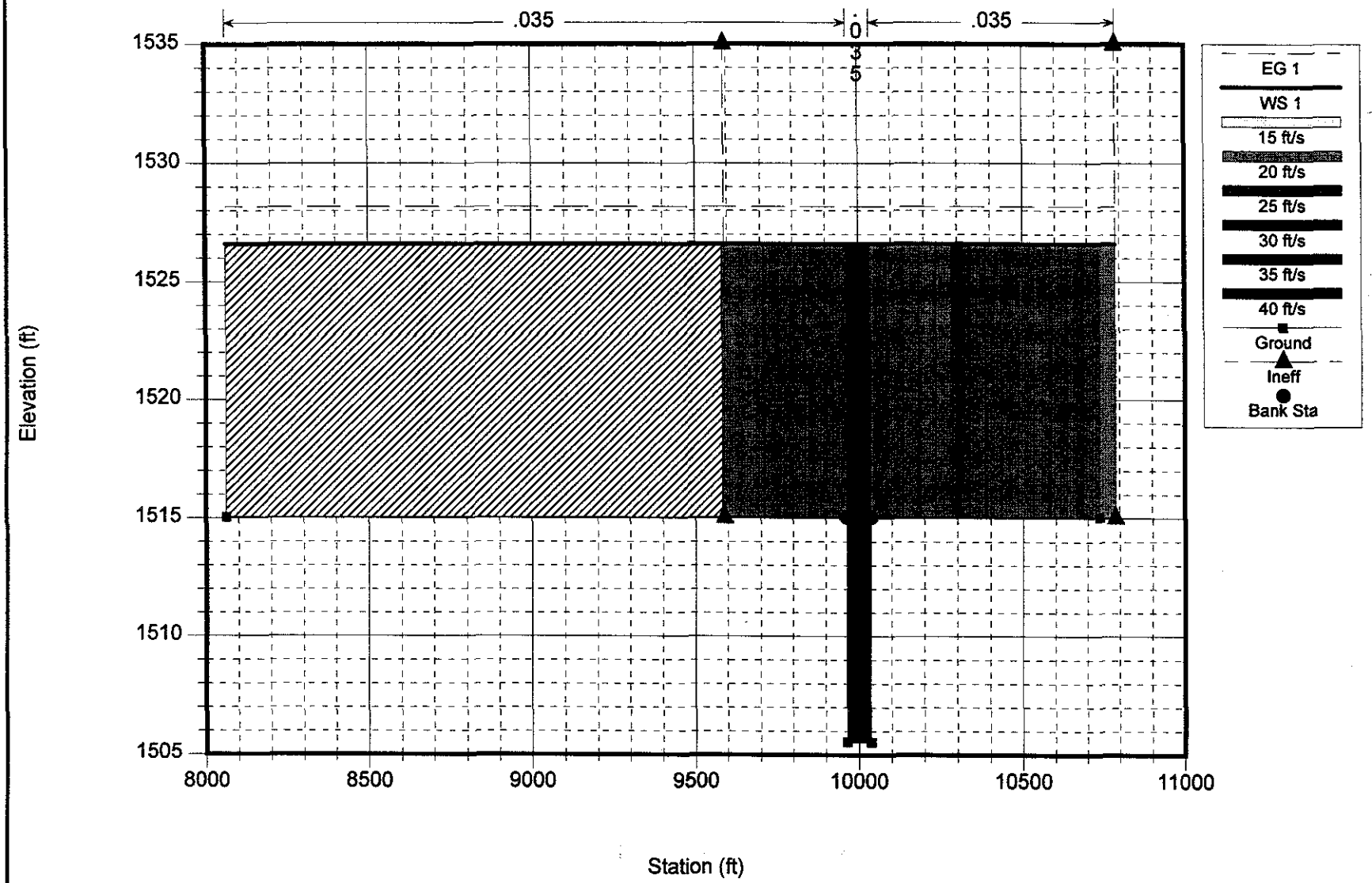

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 18 Riv Sta = 12
.035
.035
0.035
1540
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
Ground
Bank Sta

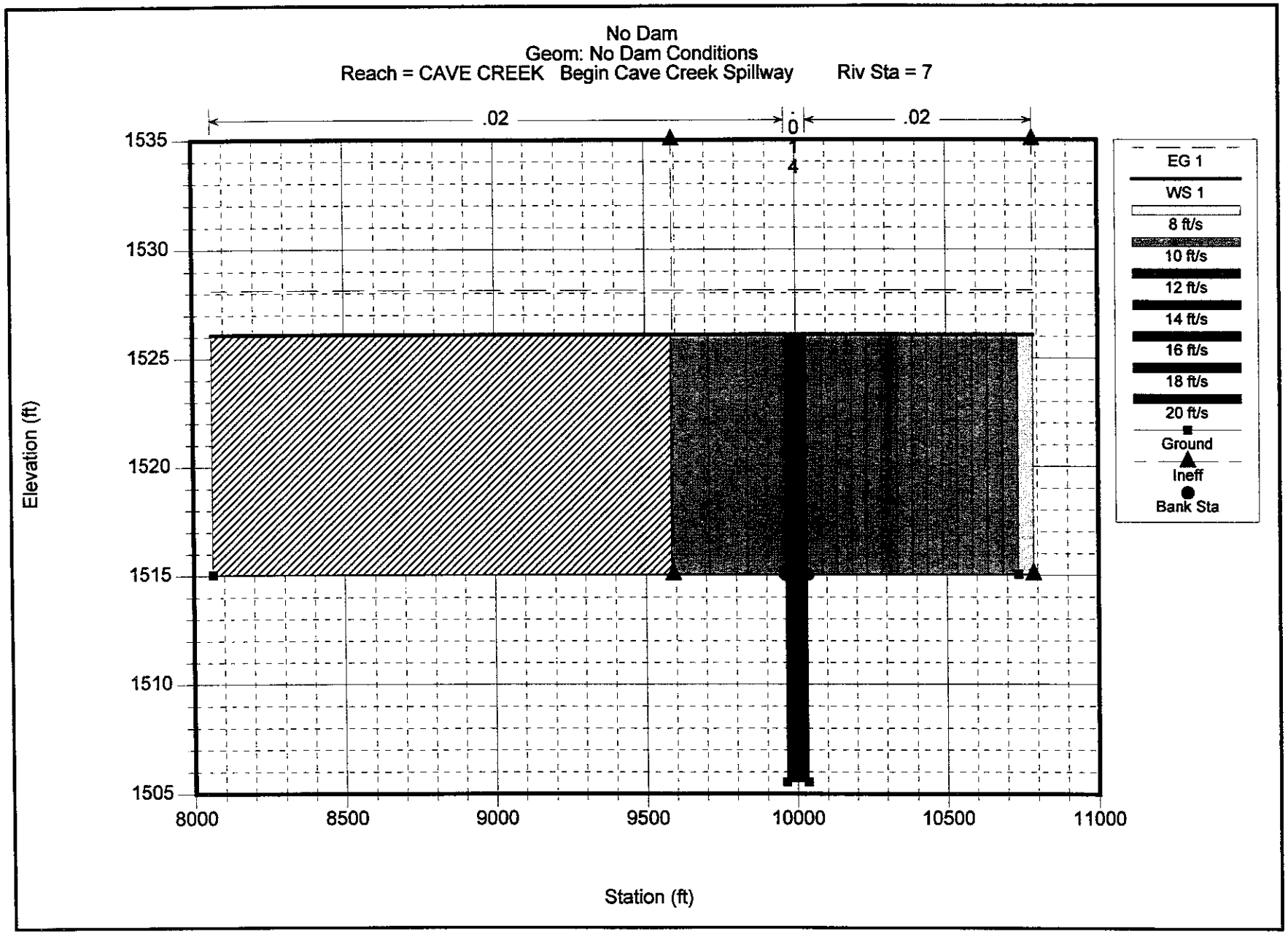

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 19 Riv Sta = 11
.035
.035
0.035
1540
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
7500
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
5.5 ft/s
6.0 ft/s
6.5 ft/s
7.0 ft/s
7.5 ft/s
8.0 ft/s
Ground
Ineff
Bank Sta


No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 19.1 Riv Sta = 10
.035
.035
.035
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
Ground
Ineff
Bank Sta

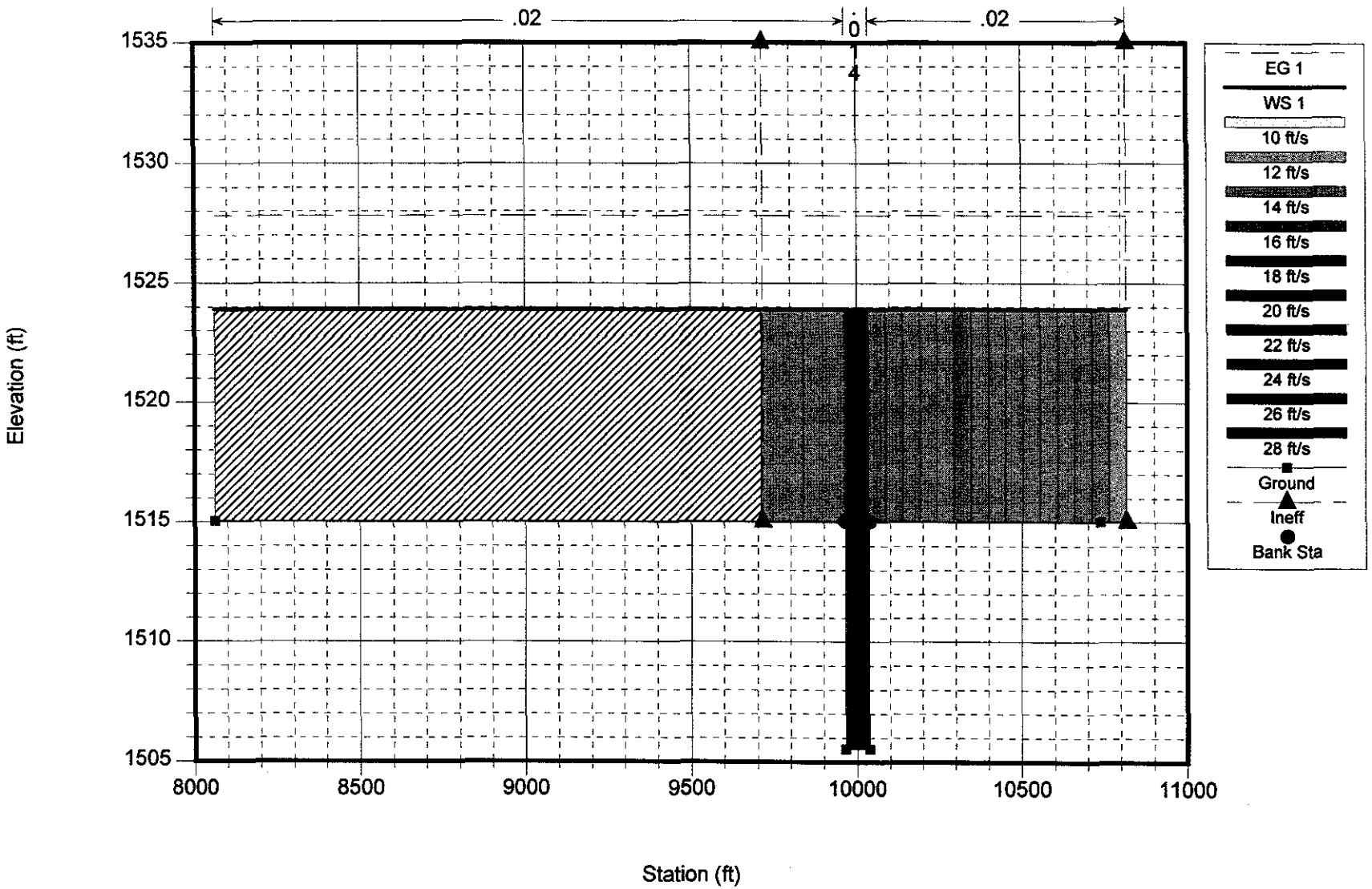

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 20 Riv Sta = 9
.035
.035
.035
1540
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
5 ft/s
10 ft/s
15 ft/s
20 ft/s
25 ft/s
30 ft/s
Ground
Ineff
Bank Sta

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 8

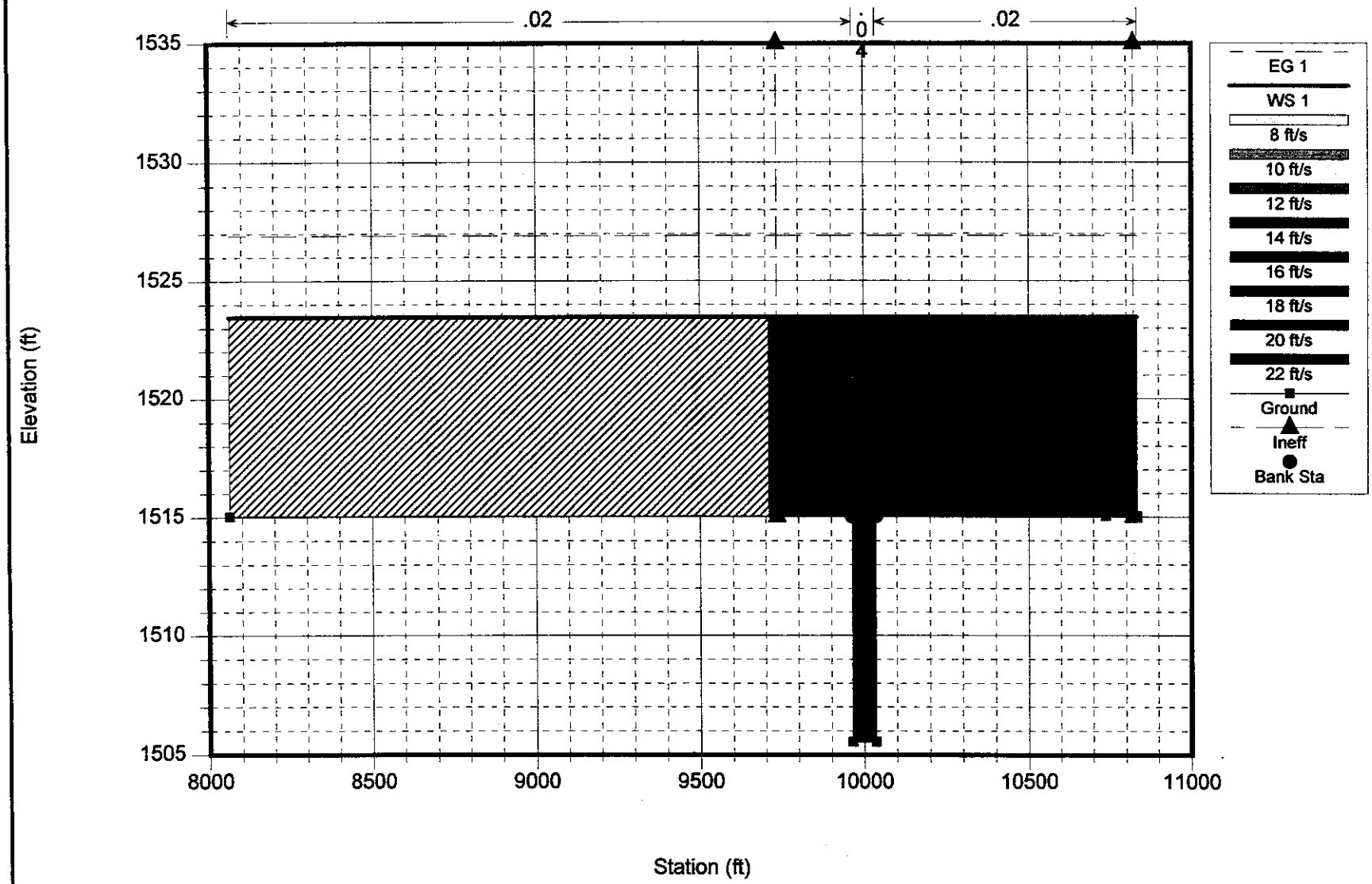


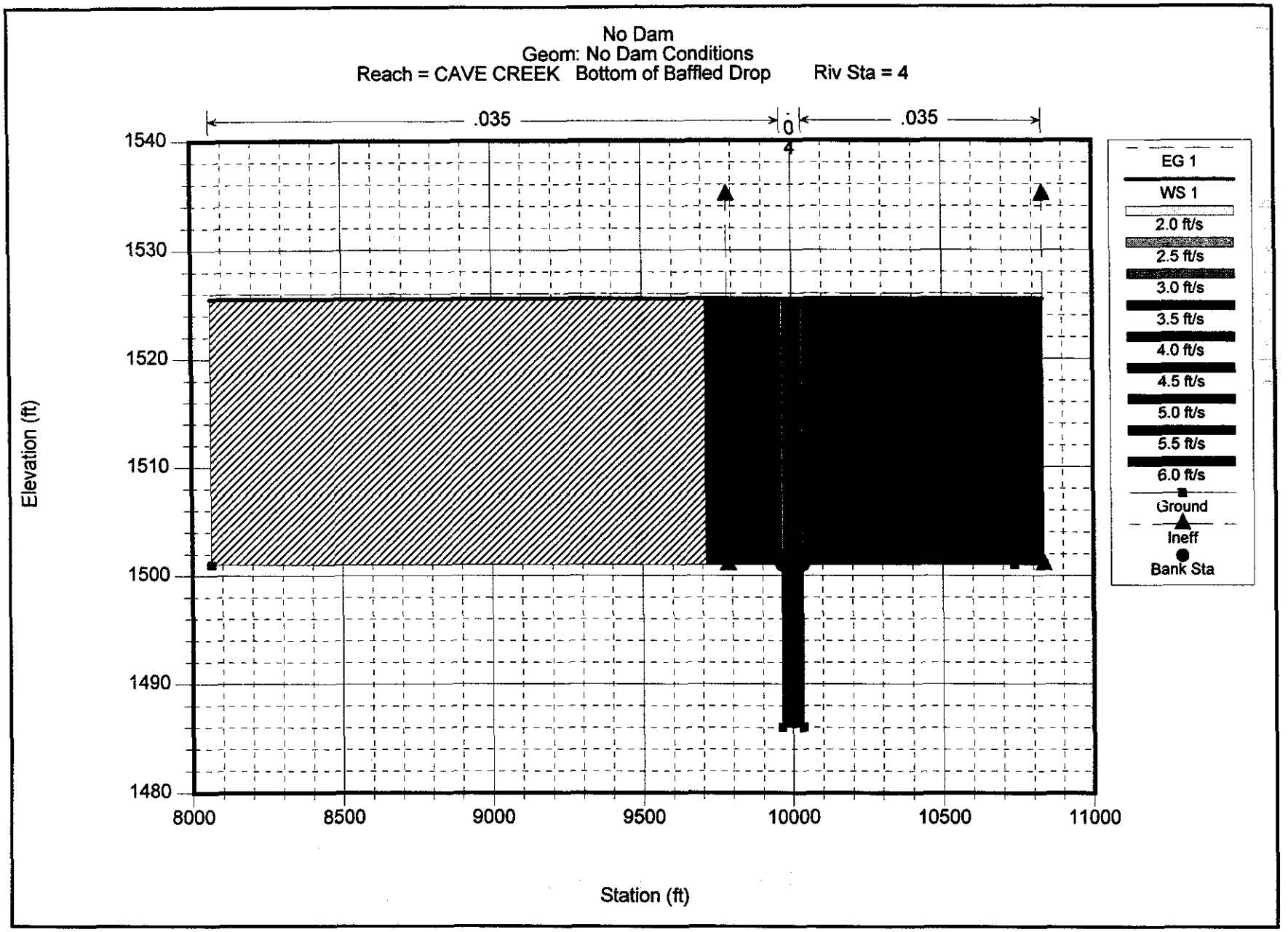

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK Begin Cave Creek Spillway Riv Sta = 7
.02
0
.02
1
4
1535
1530
1525
1520
1515
1510
1505
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
8 ft/s
10 ft/s
12 ft/s
14 ft/s
16 ft/s
18 ft/s
20 ft/s
Ground
Ineff
Bank Sta

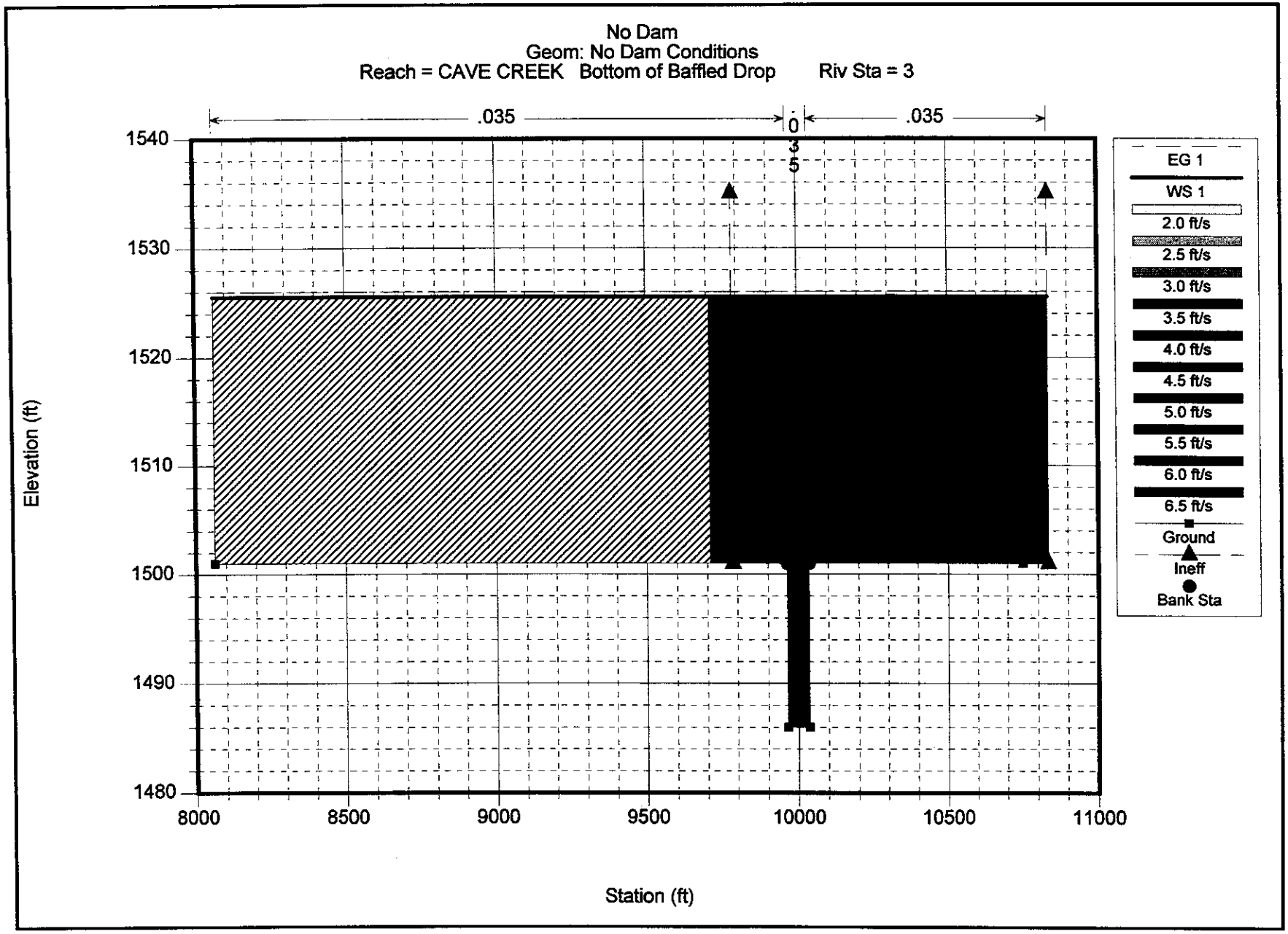
No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK Downstream side of top of sply Riv Sta = 6

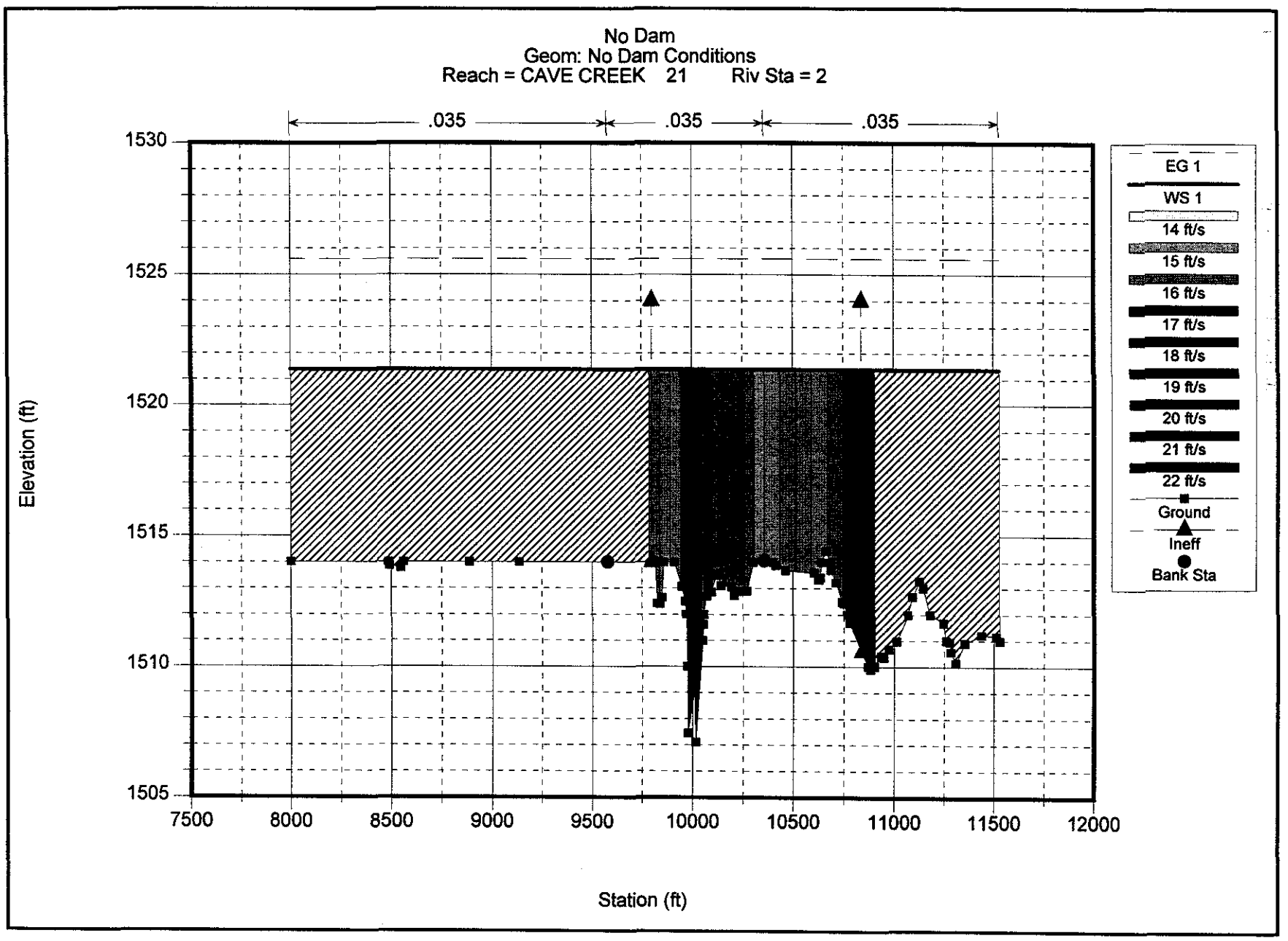


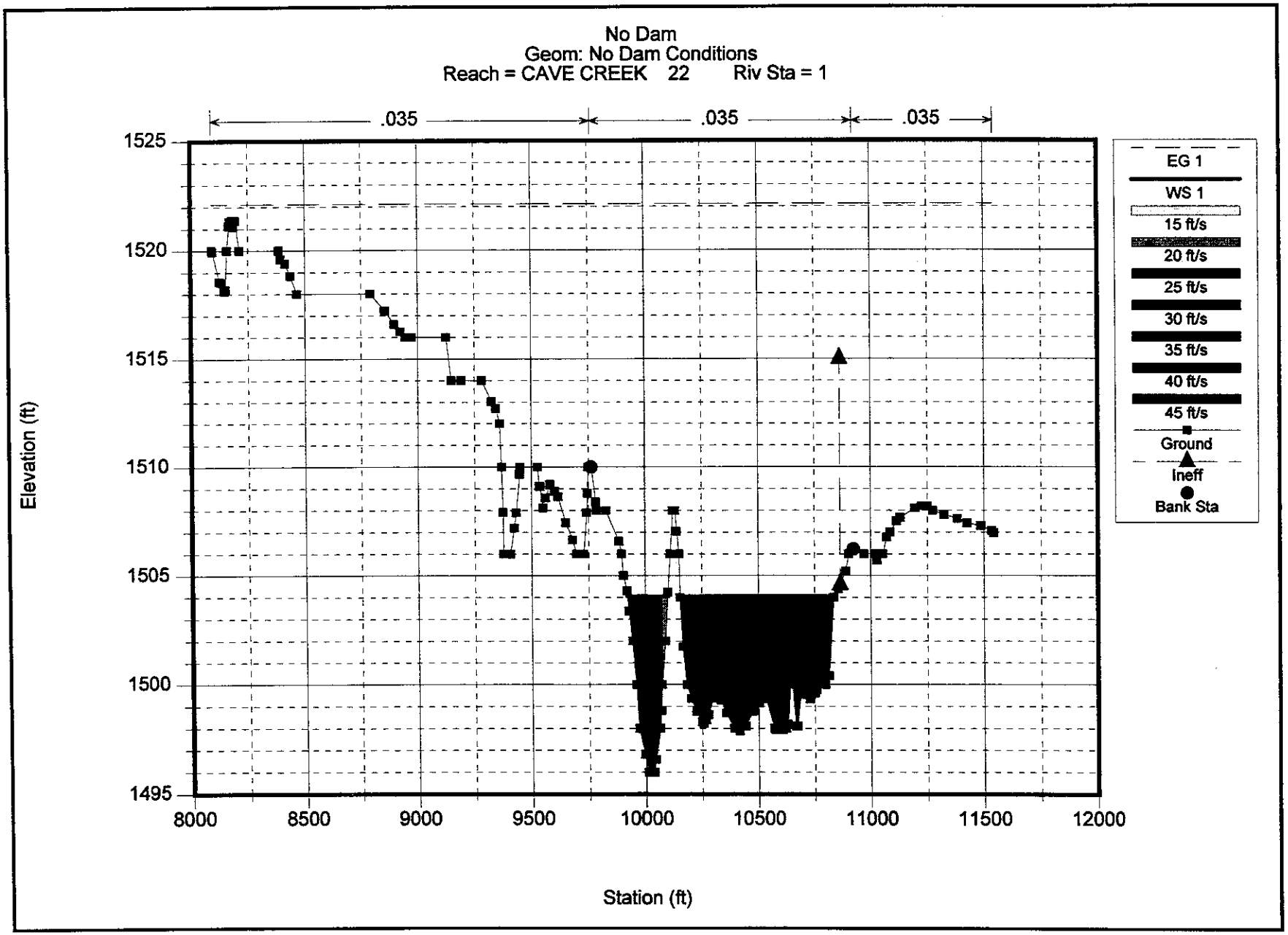
No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK Begin baffled drop Riv Sta = 5



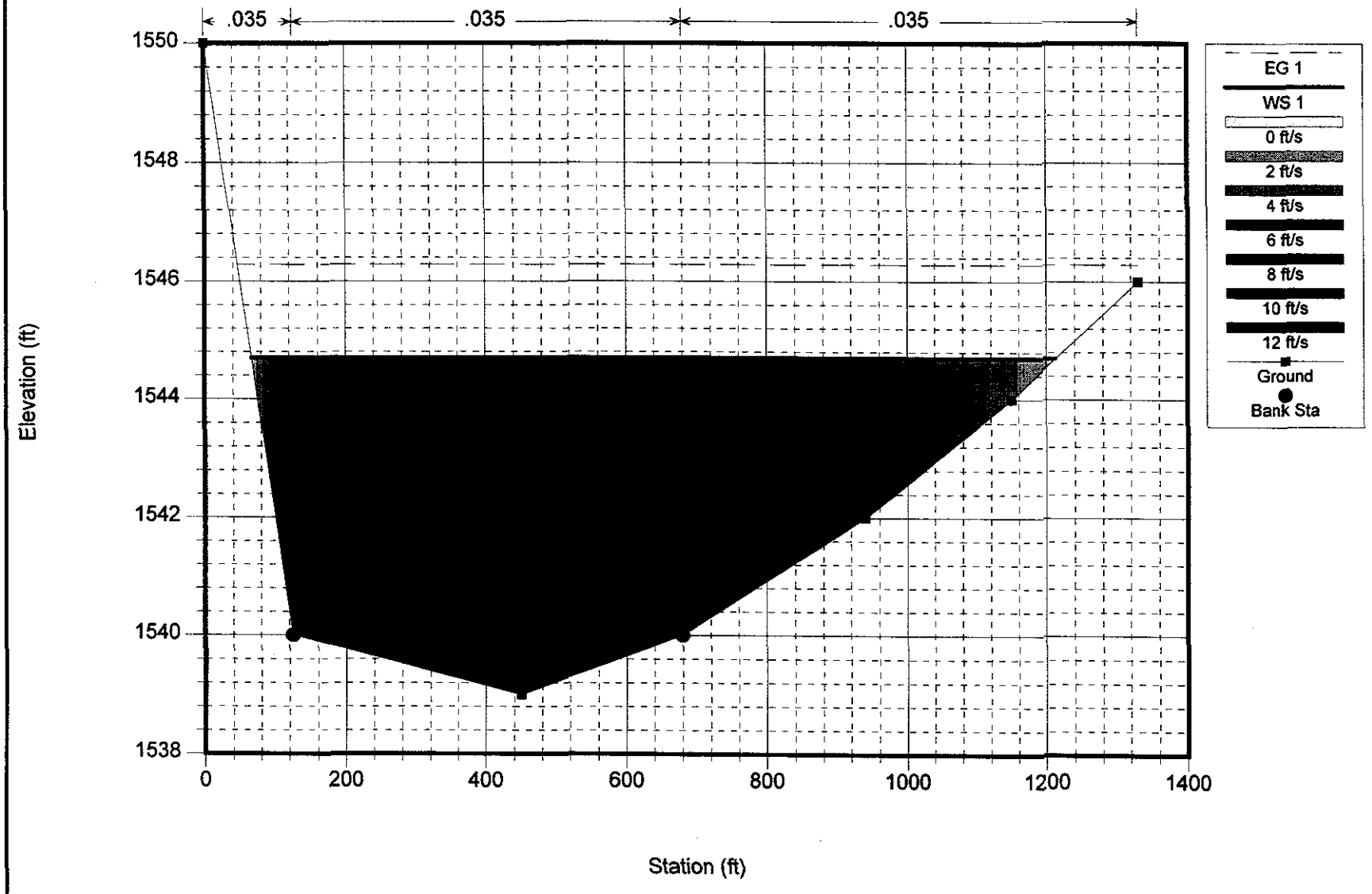

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK Bottom of Baffled Drop
Riv Sta = 4
.035
0
4
.035
1540
1530
1520
1510
1500
1490
1480
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
4.0 ft/s
4.5 ft/s
5.0 ft/s
5.5 ft/s
6.0 ft/s
Ground
Ineff
Bank Sta

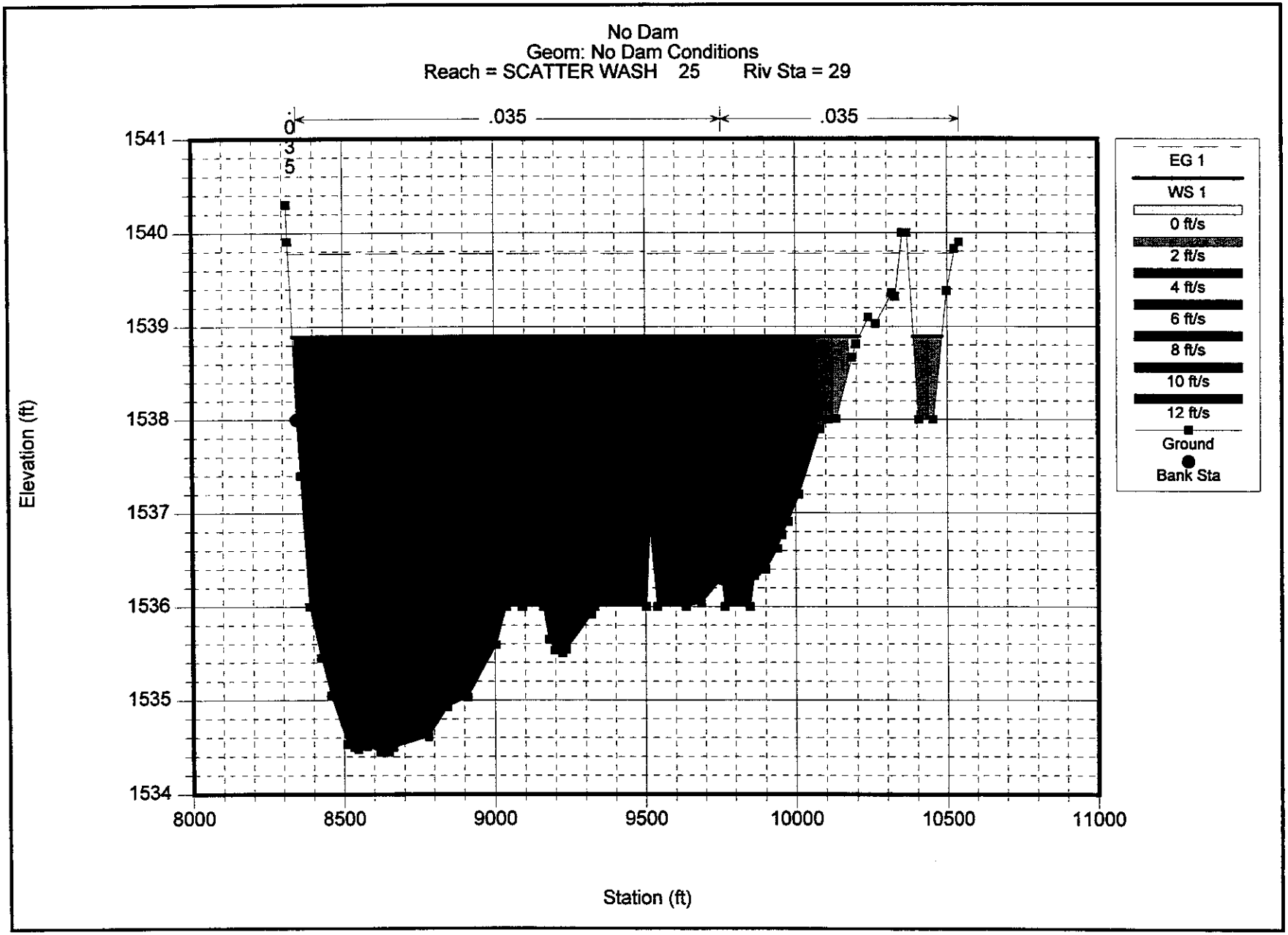

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK Bottom of Baffled Drop Riv Sta = 3
.035
.035
0.035
1540
1530
1520
1510
1500
1490
1480
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
2.0 ft/s
2.5 ft/s
3.0 ft/s
3.5 ft/s
4.0 ft/s
4.5 ft/s
5.0 ft/s
5.5 ft/s
6.0 ft/s
6.5 ft/s
Ground
Ineff
Bank Sta

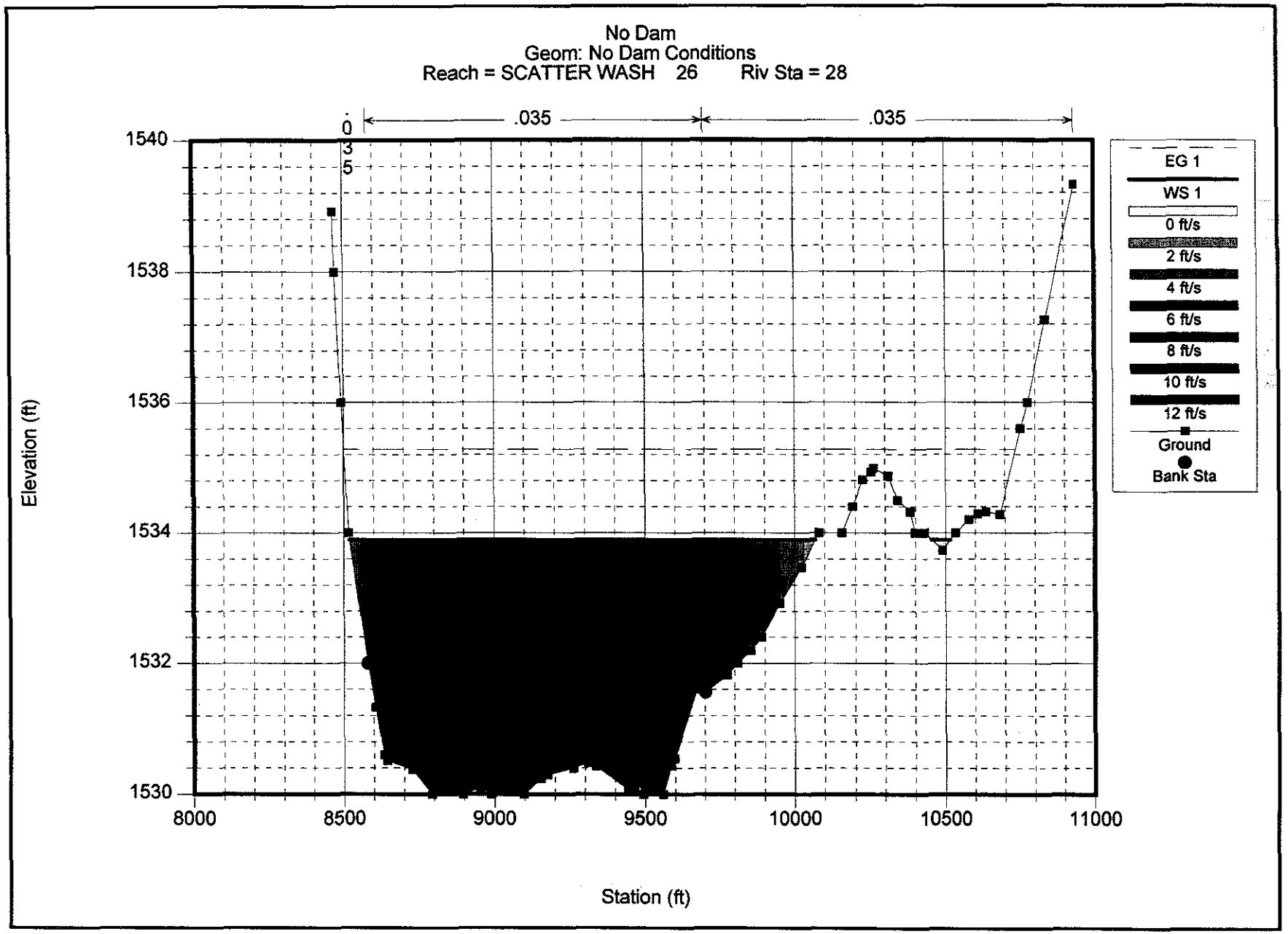

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 21 Riv Sta = 2
.035
.035
.035
1530
1525
1520
1515
1510
1505
Elevation (ft)
7500
8000
8500
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
14 ft/s
15 ft/s
16 ft/s
17 ft/s
18 ft/s
19 ft/s
20 ft/s
21 ft/s
22 ft/s
Ground
Ineff
Bank Sta

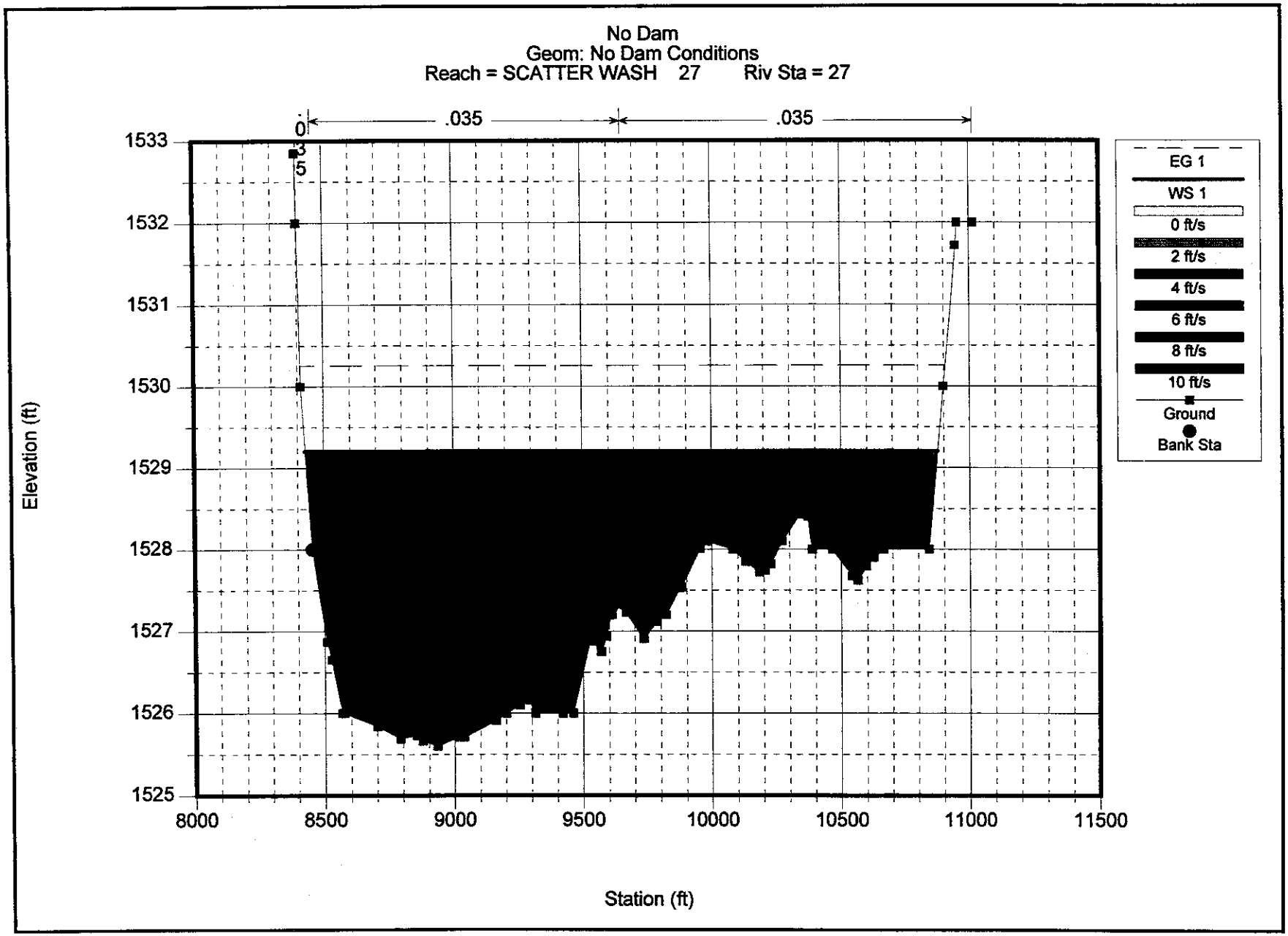

No Dam
Geom: No Dam Conditions
Reach = CAVE CREEK 22 Riv Sta = 1
.035
.035
.035
1525
1520
1515
1510
1505
1500
1495
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 1
WS 1
15 ft/s
20 ft/s
25 ft/s
30 ft/s
35 ft/s
40 ft/s
45 ft/s
Ground
Ineff
Bank Sta

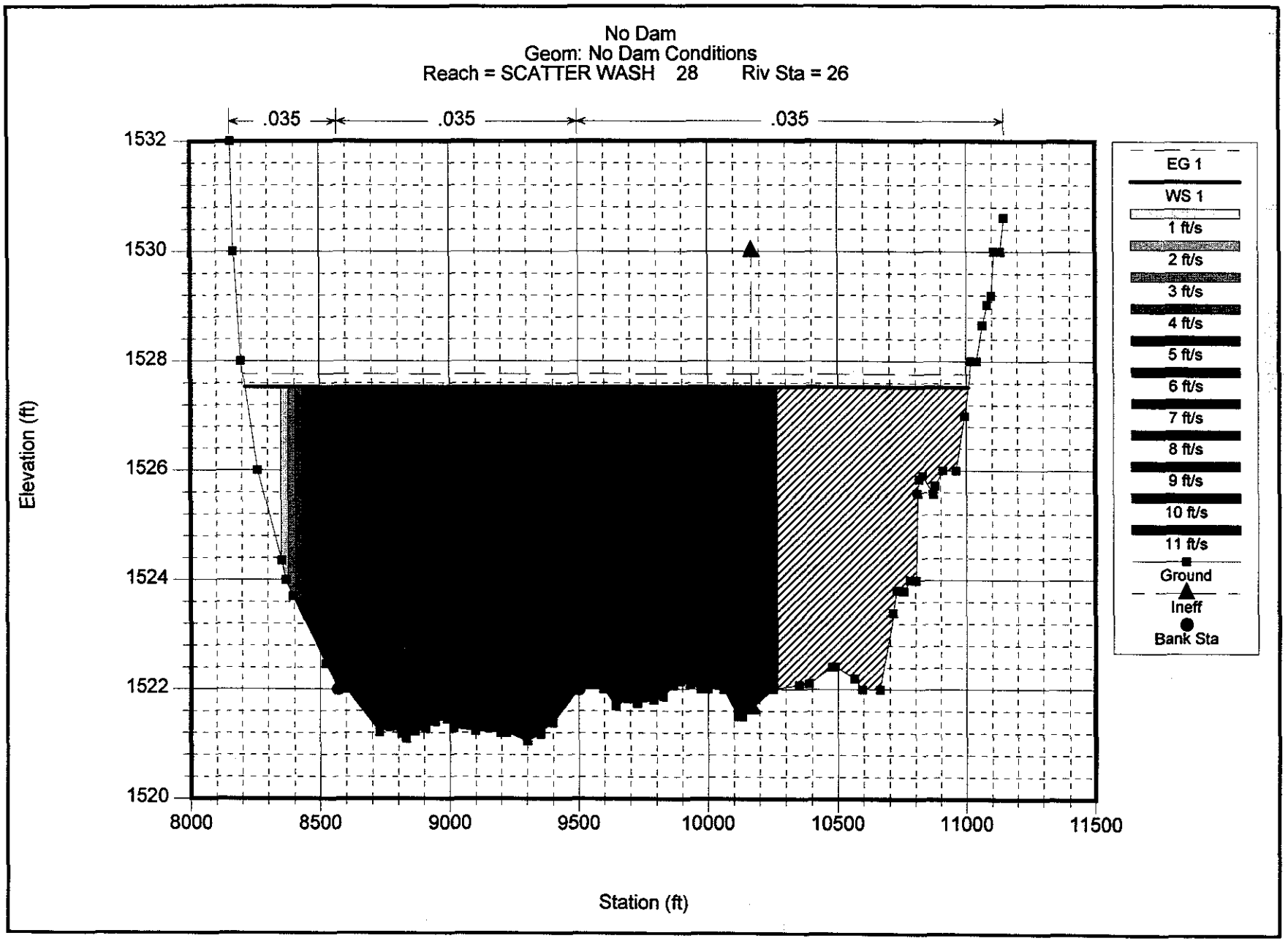
No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH Weir Section Riv Sta = 30

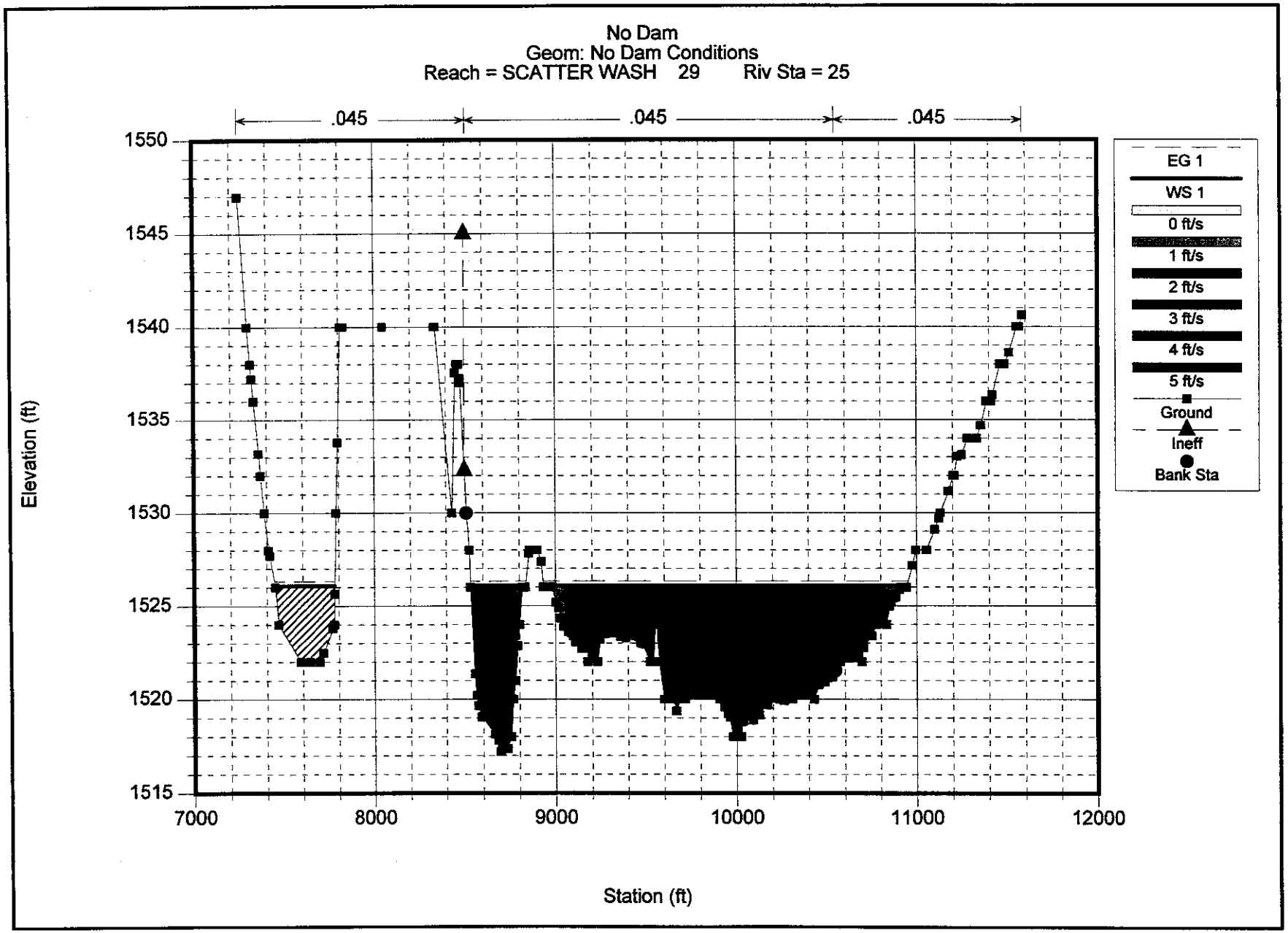


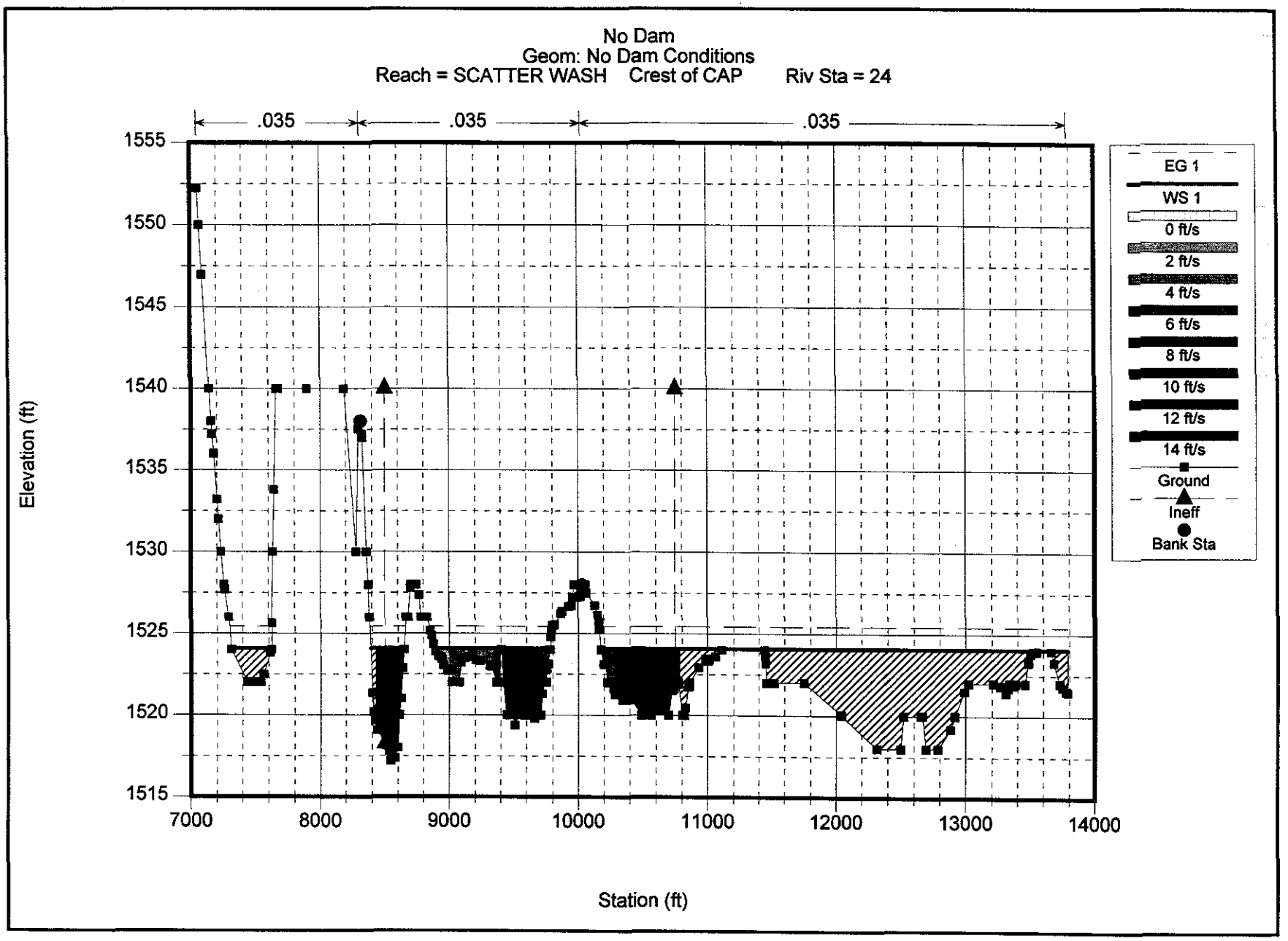

No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH 25 Riv Sta = 29
.035
.035
0
.3
.5
1541
1540
1539
1538
1537
1536
1535
1534
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Bank Sta

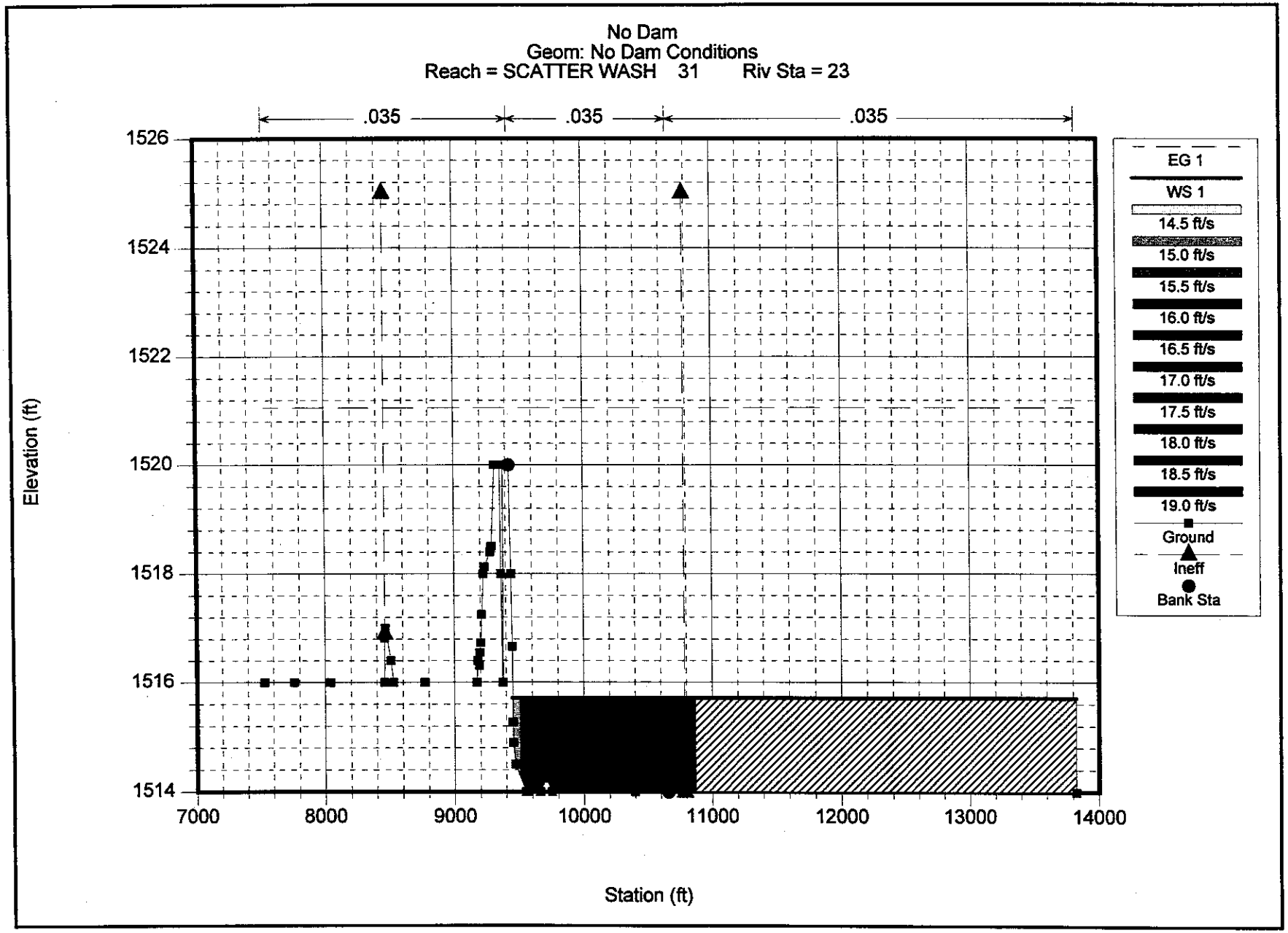

No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH 26 Riv Sta = 28
.035
.035
0.035
1540
1538
1536
1534
1532
1530
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
Ground
Bank Sta

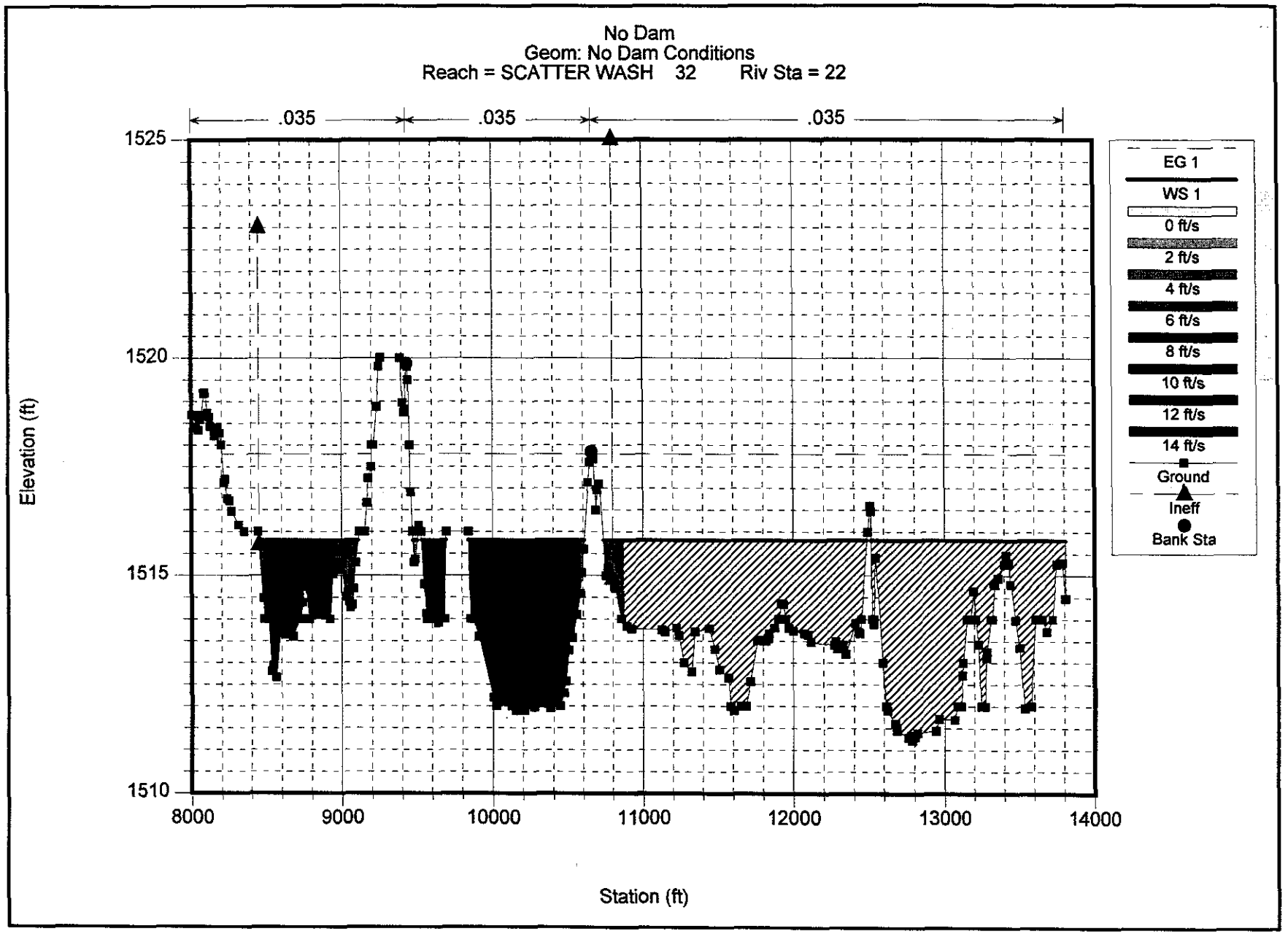

No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH 27 Riv Sta = 27
.035
.035
0
3
5
1533
1532
1531
1530
1529
1528
1527
1526
1525
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
Ground
Bank Sta

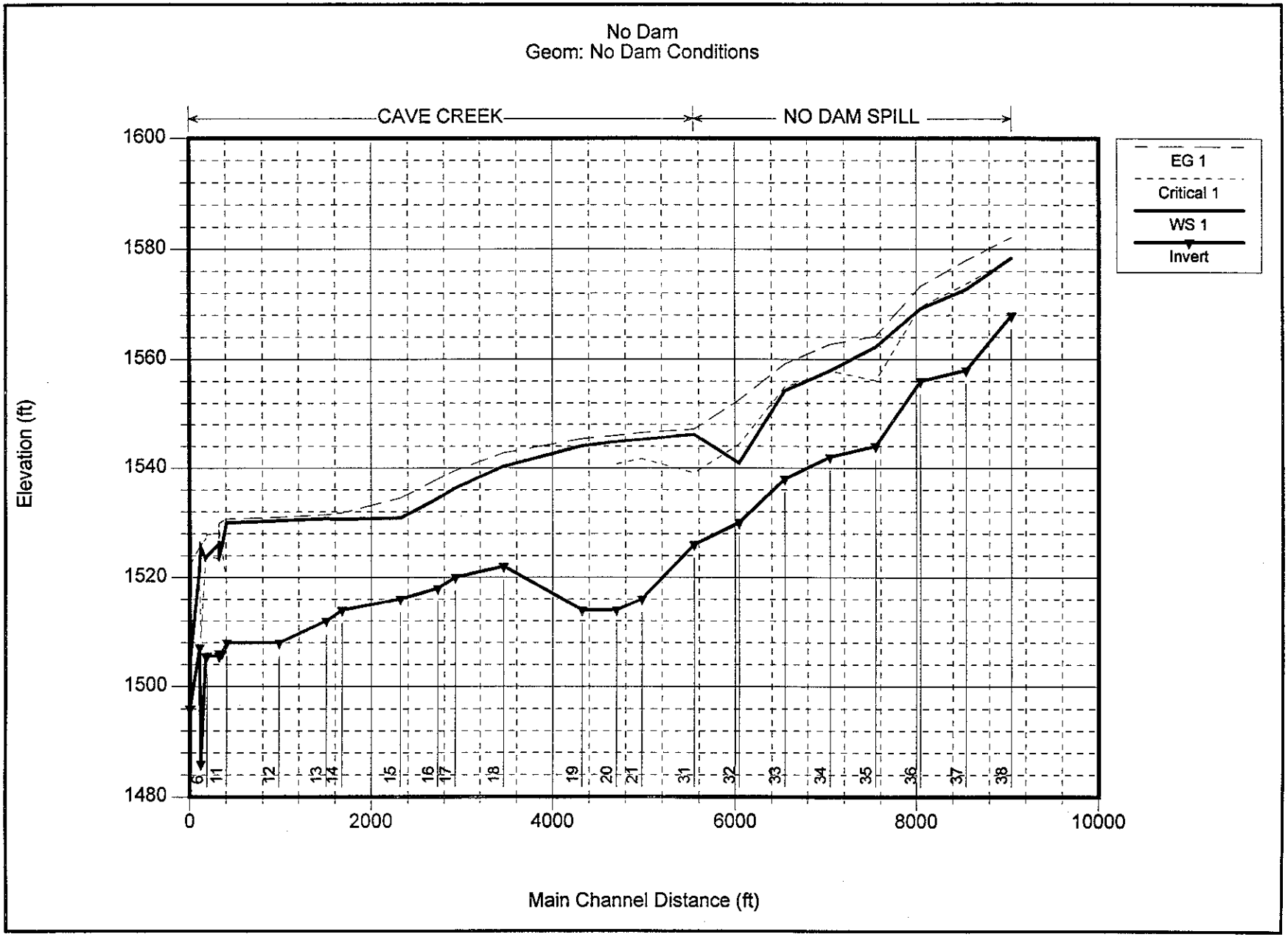

No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH 28 Riv Sta = 26
.035
.035
.035
1532
1530
1528
1526
1524
1522
1520
Elevation (ft)
8000
8500
9000
9500
10000
10500
11000
11500
Station (ft)
EG 1
WS 1
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
6 ft/s
7 ft/s
8 ft/s
9 ft/s
10 ft/s
11 ft/s
Ground
Ineff
Bank Sta

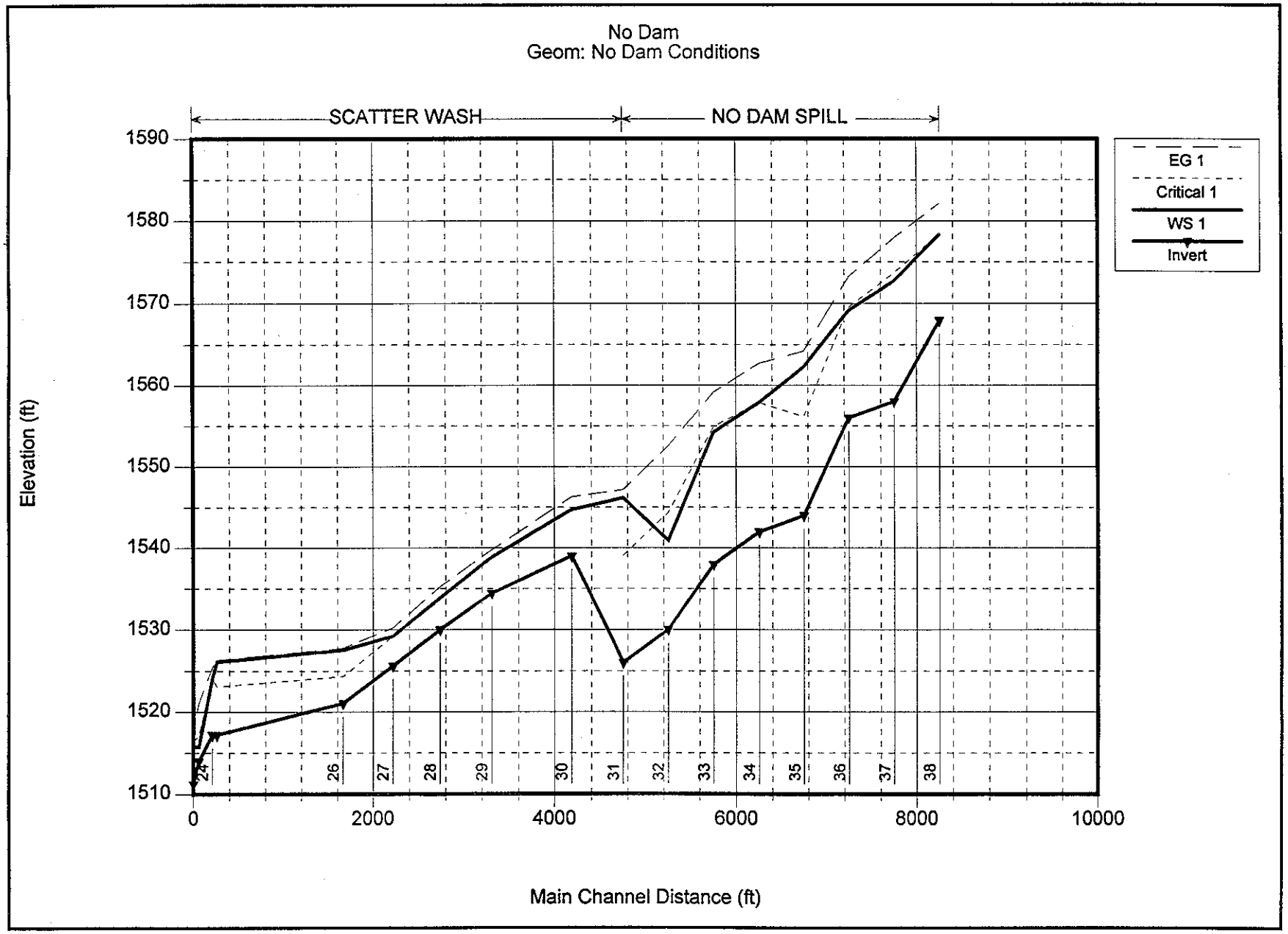

No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH 29 Riv Sta = 25
.045
.045
.045
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
Station (ft)
EG 1
WS 1
0 ft/s
1 ft/s
2 ft/s
3 ft/s
4 ft/s
5 ft/s
Ground
Ineff
Bank Sta


No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH Crest of CAP Riv Sta = 24
.035
.035
.035
1555
1550
1545
1540
1535
1530
1525
1520
1515
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta


No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH 31 Riv Sta = 23
.035
.035
.035
1526
1524
1522
1520
1518
1516
1514
Elevation (ft)
7000
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
14.5 ft/s
15.0 ft/s
15.5 ft/s
16.0 ft/s
16.5 ft/s
17.0 ft/s
17.5 ft/s
18.0 ft/s
18.5 ft/s
19.0 ft/s
Ground
Ineff
Bank Sta


No Dam
Geom: No Dam Conditions
Reach = SCATTER WASH 32 Riv Sta = 22
.035
.035
.035
1525
1520
1515
1510
Elevation (ft)
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 1
WS 1
0 ft/s
2 ft/s
4 ft/s
6 ft/s
8 ft/s
10 ft/s
12 ft/s
14 ft/s
Ground
Ineff
Bank Sta


No Dam
Geom: No Dam Conditions
CAVE CREEK
NO DAM SPILL
EG 1
Critical 1
WS 1
Invert
Elevation (ft)
1600
1580
1560
1540
1520
1500
1480
0
2000
4000
6000
8000
10000
Main Channel Distance (ft)
6
11
12
13
14
15
16
17
18
19
20
21
31
32
33
34
35
36
37
38


No Dam
Geom: No Dam Conditions
SCATTER WASH
NO DAM SPILL
EG 1
Critical 1
WS 1
Invert
Elevation (ft)
1590
1580
1570
1560
1550
1540
1530
1520
1510
0
2000
4000
6000
8000
10000
24
26
27
28
29
30
31
32
33
34
35
36
37
38
Main Channel Distance (ft)

HEC-RAS Version 1.1 January 1996
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
XXXXXXX  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: first split to Scatter Wash
Project File : firstspl.prj
Run Date and Time: 6/28/96 10:44:02 AM

Project in English units

FLOW DATA

Flow Title: Imported Flow 05
Flow File : c:\hec\ras\data\cbdam\submit2\firstspl.f05

Flow Data (cfs)

Reach	Riv Sta	PF#1	PF#2	PF#3	PF#4	PF#5	PF#6
SPILLWAY	20	1000	2000	3000	5000	10000	15000
CAVE CREEK	19.54	1000	2000	3000	5000	10000	15000
SCATTER WASH	19.54	1000	2000	3000	5000	10000	15000

Boundary Conditions

Reach	Profile	Upstream	Downstream
SPILLWAY	1	Critical	
SPILLWAY	2	Critical	
SPILLWAY	3	Critical	
SPILLWAY	4	Critical	
SPILLWAY	5	Critical	
SPILLWAY	6	Critical	
CAVE CREEK	1		Critical
CAVE CREEK	2		Critical
CAVE CREEK	3		Critical
CAVE CREEK	4		Critical
CAVE CREEK	5		Critical
CAVE CREEK	6		Critical
SCATTER WASH	1		Critical
SCATTER WASH	2		Critical
SCATTER WASH	3		Critical
SCATTER WASH	4		Critical
SCATTER WASH	5		Critical
SCATTER WASH	6		Critical

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
SCATTER WASH	19.54	1000.00	1582.00	1591.36	1586.99	1591.51	0.000677	3.12	320.53	64.43	0.25
SCATTER WASH	19.54	2000.00	1582.00	1592.72	1588.80	1593.08	0.001275	4.80	424.32	88.88	0.35
SCATTER WASH	19.54	3000.00	1582.00	1587.39	1590.16	1597.35	0.084732	25.32	118.46	38.59	2.55
SCATTER WASH	19.54	5000.00	1582.00	1589.03	1592.33	1599.74	0.066172	26.26	190.37	48.71	2.34
SCATTER WASH	19.54	10000.00	1582.00	1591.97	1595.90	1603.87	0.050659	27.69	361.20	70.03	2.15
SCATTER WASH	19.54	15000.00	1582.00	1593.91	1597.81	1606.97	0.037384	29.36	549.57	129.69	1.95
SCATTER WASH	19.51	1000.00	1588.00	1590.31	1590.31	1591.12	0.013820	7.41	142.27	217.84	0.97
SCATTER WASH	19.51	2000.00	1588.00	1591.29	1591.29	1592.47	0.011698	9.10	238.42	237.50	0.96
SCATTER WASH	19.51	3000.00	1588.00	1592.09	1592.09	1593.53	0.010449	10.17	326.71	253.88	0.95
SCATTER WASH	19.51	5000.00	1588.00	1593.36	1593.36	1595.19	0.009179	11.67	486.55	275.28	0.93
SCATTER WASH	19.51	10000.00	1588.00	1595.36	1595.59	1598.26	0.009579	14.99	773.21	308.62	1.01
SCATTER WASH	19.51	15000.00	1588.00	1596.47	1597.41	1600.81	0.011943	18.51	950.66	325.61	1.15
SCATTER WASH	19.46	1000.00	1576.00	1578.39	1580.10	1584.96	0.118870	20.56	48.63	28.49	2.77
SCATTER WASH	19.46	2000.00	1576.00	1579.66	1581.80	1587.28	0.086749	22.16	90.27	37.19	2.51
SCATTER WASH	19.46	3000.00	1576.00	1580.64	1583.64	1588.89	0.072641	23.05	130.15	44.15	2.37
SCATTER WASH	19.46	5000.00	1576.00	1582.23	1584.98	1591.10	0.056557	23.91	209.44	60.42	2.17
SCATTER WASH	19.46	10000.00	1576.00	1584.17	1586.86	1594.13	0.051442	26.70	458.54	212.58	2.16
SCATTER WASH	19.46	15000.00	1576.00	1585.03	1587.78	1596.26	0.051186	29.74	659.19	255.24	2.21
SCATTER WASH	19.42	1000.00	1574.00	1577.08	1577.08	1578.09	0.014360	8.04	124.43	62.09	1.11
SCATTER WASH	19.42	2000.00	1574.00	1578.42	1578.49	1579.63	0.012272	8.89	232.16	114.97	0.97
SCATTER WASH	19.42	3000.00	1574.00	1578.96	1579.37	1580.65	0.015203	10.61	302.47	142.64	1.10
SCATTER WASH	19.42	5000.00	1574.00	1579.65	1580.55	1582.26	0.020075	13.45	415.30	186.21	1.29
SCATTER WASH	19.42	10000.00	1574.00	1580.92	1581.97	1584.93	0.023018	17.49	738.26	372.60	1.45
SCATTER WASH	19.42	15000.00	1574.00	1581.58	1583.22	1586.54	0.025912	20.32	1021.83	477.82	1.57
SCATTER WASH	19.37	1000.00	1570.00	1573.27	1573.38	1574.20	0.015897	8.01	133.66	86.18	1.04
SCATTER WASH	19.37	2000.00	1570.00	1574.03	1574.52	1575.54	0.020682	10.29	208.89	127.48	1.22
SCATTER WASH	19.37	3000.00	1570.00	1574.70	1575.22	1576.29	0.018385	10.88	320.29	205.85	1.19
SCATTER WASH	19.37	5000.00	1570.00	1575.53	1575.99	1577.21	0.017112	11.76	530.71	304.46	1.18
SCATTER WASH	19.37	10000.00	1570.00	1576.58	1577.43	1578.94	0.019863	14.89	954.43	555.34	1.32
SCATTER WASH	19.37	15000.00	1570.00	1577.19	1577.97	1579.92	0.020932	16.83	1362.30	711.20	1.39
SCATTER WASH	19.31	1000.00	1565.70	1568.23	1568.23	1569.03	0.014599	7.20	139.94	271.80	1.87
SCATTER WASH	19.31	2000.00	1565.70	1569.29	1569.29	1570.21	0.012014	7.83	270.55	474.00	0.93
SCATTER WASH	19.31	3000.00	1565.70	1569.95	1569.98	1570.95	0.010882	8.41	402.31	630.18	0.91
SCATTER WASH	19.31	5000.00	1565.70	1570.56	1570.90	1571.79	0.011377	9.87	683.18	969.40	0.97
SCATTER WASH	19.31	10000.00	1565.70	1571.46	1571.83	1572.95	0.011654	11.76	1195.46	1070.62	1.02

SCATTER WASH	19.31	15000.00	1565.70	1572.11	1572.46	1573.83	0.011447	12.85	1598.22	1129.05	1.04
SCATTER WASH	19.30	1000.00	1560.99	1560.69	1560.95	1561.56	0.035433		134.03	167.59	0.00
SCATTER WASH	19.30	2000.00	1560.99	1561.05	1561.59	1562.57	0.052028	0.96	202.51	215.10	0.96
SCATTER WASH	19.30	3000.00	1560.99	1561.31	1562.07	1563.34	0.061330	3.28	264.27	292.41	1.38
SCATTER WASH	19.30	5000.00	1560.99	1561.77	1562.48	1564.07	0.058381	5.70	418.57	495.01	1.56
SCATTER WASH	19.30	10000.00	1560.99	1562.42	1563.19	1564.92	0.063986	8.64	814.27	1089.97	1.79
SCATTER WASH	19.30	15000.00	1560.99	1562.78	1563.65	1565.79	0.066267	9.74	1116.18	1266.72	1.87
SCATTER WASH	19.05	1000.00	1549.27	1549.99	1549.98	1550.15	0.015330	3.09	312.77	782.31	0.81
SCATTER WASH	19.05	2000.00	1549.27	1550.22	1550.18	1550.44	0.014501	3.94	546.36	1067.63	0.84
SCATTER WASH	19.05	3000.00	1549.27	1550.37	1550.34	1550.66	0.015158	4.62	717.36	1157.88	0.89
SCATTER WASH	19.05	5000.00	1549.27	1550.63	1550.62	1551.02	0.014789	5.47	1029.58	1260.57	0.92
SCATTER WASH	19.05	10000.00	1549.27	1551.12	1551.12	1551.71	0.013985	6.80	1687.05	1458.76	0.95
SCATTER WASH	19.05	15000.00	1549.27	1551.53	1551.53	1552.23	0.012738	7.58	2331.62	1711.43	0.95
SCATTER WASH	18.96	1000.00	1540.00	1541.61	1541.61	1542.20	0.017172	6.14	161.76	137.47	1.00
SCATTER WASH	18.96	2000.00	1540.00	1542.42	1542.42	1543.00	0.016151	5.46	333.44	289.64	0.95
SCATTER WASH	18.96	3000.00	1540.00	1542.82	1542.82	1543.50	0.014608	6.09	459.30	337.95	0.94
SCATTER WASH	18.96	5000.00	1540.00	1543.44	1543.44	1544.22	0.013624	7.18	702.58	464.21	0.96
SCATTER WASH	18.96	10000.00	1540.00	1544.40	1544.51	1545.29	0.012868	8.03	1404.41	1024.09	0.96
SCATTER WASH	18.96	15000.00	1540.00	1544.85	1545.15	1545.98	0.013414	9.21	1937.65	1308.79	1.01
SCATTER WASH	18.99	1000.00	1534.45	1535.34		1535.49	0.010100	3.08	324.44	528.39	0.69
SCATTER WASH	18.99	2000.00	1534.45	1535.77		1535.95	0.008468	3.39	589.35	728.00	0.66
SCATTER WASH	18.99	3000.00	1534.45	1535.52	1535.76	1536.30	0.044052	7.11	421.70	591.15	1.48
SCATTER WASH	18.99	5000.00	1534.45	1535.76	1536.19	1536.89	0.053580	8.52	586.69	726.44	1.67
SCATTER WASH	18.99	10000.00	1534.45	1536.22	1536.64	1537.59	0.066815	9.42	1073.46	1423.93	1.86
SCATTER WASH	18.99	15000.00	1534.45	1536.45	1536.99	1538.25	0.064641	10.82	1411.70	1512.35	1.90
SCATTER WASH	18.91	1000.00	1530.00	1530.67		1530.74	0.006899	2.15	464.71	974.85	0.55
SCATTER WASH	18.91	2000.00	1530.00	1530.87		1531.01	0.008564	3.00	666.22	997.41	0.65
SCATTER WASH	18.91	3000.00	1530.00	1531.23		1531.36	0.004739	2.91	1030.65	1036.96	0.51
SCATTER WASH	18.91	5000.00	1530.00	1531.59		1531.78	0.005014	3.55	1406.82	1101.46	0.55
SCATTER WASH	18.91	10000.00	1530.00	1532.18		1532.53	0.005648	4.80	2117.70	1275.64	0.62
SCATTER WASH	18.91	15000.00	1530.00	1532.60		1533.11	0.006267	5.79	2667.70	1351.06	0.68
SCATTER WASH	18.82	1000.00	1525.60	1526.30		1526.39	0.010804	2.50	399.47	934.97	0.67
SCATTER WASH	18.82	2000.00	1525.60	1526.58		1526.72	0.008126	2.98	670.11	973.00	0.63
SCATTER WASH	18.82	3000.00	1525.60	1526.55	1526.55	1526.89	0.020780	4.66	643.91	969.38	1.01
SCATTER WASH	18.82	5000.00	1525.60	1526.84	1526.84	1527.29	0.018771	5.38	930.18	1047.03	1.01
SCATTER WASH	18.82	10000.00	1525.60	1527.41	1527.41	1528.02	0.015183	6.34	1614.71	1369.27	0.97
SCATTER WASH	18.82	15000.00	1525.60	1527.83	1527.83	1528.57	0.013182	7.02	2230.73	1649.00	0.94
SCATTER WASH	18.72	1000.00	1521.05	1521.82		1521.90	0.006352	2.20	474.62	1153.58	0.54

SCATTER WASH	18.72	2000.00	1521.05	1522.03		1522.16	0.008393	2.98	744.52	1692.92	0.64
SCATTER WASH	18.72	3000.00	1521.05	1522.33		1522.42	0.004009	2.64	1332.98	2074.13	0.47
SCATTER WASH	18.72	5000.00	1521.05	1522.80		1522.88	0.002064	2.47	2354.52	2204.94	0.36
SCATTER WASH	18.72	10000.00	1521.05	1523.81		1523.88	0.000979	2.41	4639.45	2364.70	0.27
SCATTER WASH	18.72	15000.00	1521.05	1524.57		1524.65	0.000782	2.58	6483.17	2465.06	0.25
SCATTER WASH	18.569	1000.00	1517.20	1519.97	1518.85	1520.02	0.001737	1.97	617.65	595.02	0.27
SCATTER WASH	18.569	2000.00	1517.20	1520.90	1519.44	1520.93	0.000794	1.68	1586.14	1097.81	0.19
SCATTER WASH	18.569	3000.00	1517.20	1521.30	1519.80	1521.34	0.000873	1.92	2041.08	1175.76	0.20
SCATTER WASH	18.569	5000.00	1517.20	1521.90	1520.44	1521.96	0.000960	2.25	2769.21	1223.21	0.22
SCATTER WASH	18.569	10000.00	1517.20	1523.07	1520.97	1523.15	0.001180	2.07	4478.94	1840.14	0.23
SCATTER WASH	18.569	15000.00	1517.20	1523.87	1521.41	1523.97	0.001278	1.99	5935.86	2263.59	0.24
SCATTER WASH	18.51	1000.00	1517.20	1519.09	1519.09	1519.61	0.017560	5.75	173.99	707.39	1.00
SCATTER WASH	18.51	2000.00	1517.20	1519.74	1519.74	1520.46	0.016405	6.79	294.60	887.27	1.01
SCATTER WASH	18.51	3000.00	1517.20	1520.35	1520.35	1520.78	0.014523	5.41	597.89	1681.61	0.92
SCATTER WASH	18.51	5000.00	1517.20	1520.73	1520.73	1521.28	0.013392	6.22	877.90	1820.99	0.93
SCATTER WASH	18.51	10000.00	1517.20	1521.46	1521.46	1522.19	0.011593	7.36	1526.02	2196.54	0.93
SCATTER WASH	18.51	15000.00	1517.20	1522.02	1522.02	1522.86	0.012246	7.85	2098.92	3441.52	0.94
SCATTER WASH	31	1000.00	1514.00	1514.21	1514.29	1514.48	0.084266	4.11	239.81	4294.00	1.65
SCATTER WASH	31	2000.00	1514.00	1514.26	1514.44	1514.94	0.162379	6.55	300.55	4314.76	2.37
SCATTER WASH	31	3000.00	1514.00	1514.30	1514.58	1515.40	0.208894	8.30	356.27	4321.95	2.77
SCATTER WASH	31	5000.00	1514.00	1514.80	1514.80	1515.19	0.019657	4.96	997.86	4367.24	1.00
SCATTER WASH	31	10000.00	1514.00	1514.60	1515.26	1517.48	0.216772	13.46	734.02	4358.29	3.16
SCATTER WASH	31	15000.00	1514.00	1514.83	1515.64	1518.11	0.158276	14.39	1032.12	4368.40	2.86
SCATTER WASH	32	1000.00	1511.22	1512.28	1512.50	1513.05	0.134139	7.03	142.31	1185.37	2.25
SCATTER WASH	32	2000.00	1511.22	1512.81	1512.81	1513.18	0.019753	4.93	405.56	1400.23	4.24
SCATTER WASH	32	3000.00	1511.22	1513.05	1513.05	1513.52	0.018571	5.49	546.88	1567.20	1.01
SCATTER WASH	32	5000.00	1511.22	1513.45	1513.45	1514.07	0.016886	6.32	791.23	1952.15	1.01
SCATTER WASH	32	10000.00	1511.22	1514.10	1514.29	1514.96	0.026510	7.43	1346.40	3765.44	1.24
SCATTER WASH	32	15000.00	1511.22	1514.67	1514.71	1515.48	0.016724	7.24	2071.70	4103.29	1.04
CAVE CREEK	19.54	1000.00	1582.00	1584.90	1586.99	1593.75	0.154460	23.87	41.89	23.55	3.15
CAVE CREEK	19.54	2000.00	1582.00	1586.31	1588.80	1595.87	0.103477	24.81	80.61	31.47	2.73
CAVE CREEK	19.54	3000.00	1582.00	1587.39	1590.14	1597.35	0.084732	25.32	118.46	38.59	2.55
CAVE CREEK	19.54	5000.00	1582.00	1589.03	1592.30	1599.74	0.066172	26.26	190.37	48.71	2.34
CAVE CREEK	19.54	10000.00	1582.00	1591.97	1595.52	1603.87	0.050659	27.69	361.20	70.03	2.15
CAVE CREEK	19.54	15000.00	1582.00	1593.95	1597.94	1606.98	0.036767	29.25	530.93	133.29	1.93
CAVE CREEK	19.51	1000.00	1579.22	1584.08	1584.11	1585.51	0.014010	9.62	103.95	37.87	1.02
CAVE CREEK	19.51	2000.00	1579.22	1585.55	1585.91	1587.78	0.015633	11.98	166.99	47.44	1.12
CAVE CREEK	19.51	3000.00	1579.22	1586.56	1587.16	1589.51	0.016499	13.80	217.98	54.64	1.19

CAVE CREEK	19.51	5000.00	1579.22	1588.05	1589.17	1592.28	0.017303	16.59	308.36	95.91	1.27
CAVE CREEK	19.51	10000.00	1579.22	1590.57	1592.79	1597.33	0.017235	21.42	513.59	223.01	1.35
CAVE CREEK	19.51	15000.00	1579.22	1592.06	1594.87	1601.11	0.019148	25.36	679.26	253.43	1.46
CAVE CREEK	19.46	1000.00	1576.00	1579.57	1580.11	1581.63	0.024016	11.50	86.94	36.55	1.31
CAVE CREEK	19.46	2000.00	1576.00	1581.10	1581.81	1583.82	0.021636	13.24	151.02	47.40	1.31
CAVE CREEK	19.46	3000.00	1576.00	1582.14	1583.20	1585.49	0.021628	14.68	204.41	56.55	1.34
CAVE CREEK	19.46	5000.00	1576.00	1583.58	1585.05	1588.01	0.023429	16.97	304.56	158.73	1.43
CAVE CREEK	19.46	10000.00	1576.00	1585.20	1587.71	1592.62	0.028547	22.67	498.14	264.06	1.66
CAVE CREEK	19.46	15000.00	1576.00	1586.33	1588.95	1595.95	0.030965	26.57	705.33	400.20	1.78
CAVE CREEK	19.42	1000.00	1574.00	1577.13	1577.07	1578.09	0.013589	7.87	127.11	62.84	0.97
CAVE CREEK	19.42	2000.00	1574.00	1578.34	1578.35	1579.67	0.013561	9.25	216.12	111.09	1.01
CAVE CREEK	19.42	3000.00	1574.00	1578.93	1579.28	1580.87	0.017005	11.17	268.64	141.16	1.16
CAVE CREEK	19.42	5000.00	1574.00	1579.90	1580.74	1582.81	0.019661	13.72	369.29	203.00	1.29
CAVE CREEK	19.42	10000.00	1574.00	1581.42	1583.30	1586.40	0.021830	18.28	595.72	455.89	1.44
CAVE CREEK	19.42	15000.00	1574.00	1582.47	1584.47	1589.13	0.023682	21.61	822.25	685.78	1.55
CAVE CREEK	19.37	1000.00	1570.00	1573.50	1573.50	1574.48	0.014475	7.96	125.57	92.71	1.01
CAVE CREEK	19.37	2000.00	1570.00	1574.62	1574.78	1576.04	0.014625	9.58	211.01	196.34	1.05
CAVE CREEK	19.37	3000.00	1570.00	1575.60	1575.71	1577.10	0.012055	9.96	313.71	313.26	0.99
CAVE CREEK	19.37	5000.00	1570.00	1576.66	1577.08	1578.66	0.011886	11.68	470.09	588.43	1.02
CAVE CREEK	19.37	10000.00	1570.00	1578.10	1579.02	1581.41	0.014116	15.60	754.49	837.52	1.18
CAVE CREEK	19.37	15000.00	1570.00	1579.01	1580.27	1583.49	0.016144	18.48	954.08	931.18	1.29
CAVE CREEK	19.3	1000.00	1566.00	1568.28	1567.89	1568.76	0.009032	5.51	181.50	279.34	0.77
CAVE CREEK	19.3	2000.00	1566.00	1569.20	1568.95	1569.85	0.010464	6.45	310.24	431.13	0.84
CAVE CREEK	19.3	3000.00	1566.00	1569.18	1569.61	1570.67	0.024544	9.81	306.07	426.22	1.29
CAVE CREEK	19.3	5000.00	1566.00	1569.72	1570.40	1571.99	0.027507	12.21	427.15	580.28	1.42
CAVE CREEK	19.3	10000.00	1566.00	1570.85	1571.82	1574.27	0.025587	15.27	691.68	1009.92	1.46
CAVE CREEK	19.3	15000.00	1566.00	1571.81	1572.99	1576.10	0.023136	17.16	918.78	1083.50	1.45
CAVE CREEK	19.21	1000.00	1561.18	1562.54	1562.54	1562.86	0.017839	5.13	223.46	1130.25	0.97
CAVE CREEK	19.21	2000.00	1561.18	1562.93	1562.93	1563.42	0.018092	5.61	354.94	1358.58	1.00
CAVE CREEK	19.21	3000.00	1561.18	1563.24	1563.24	1563.87	0.016445	6.22	473.79	1499.79	0.99
CAVE CREEK	19.21	5000.00	1561.18	1563.77	1563.77	1564.61	0.013700	7.24	693.47	1587.71	46.16
CAVE CREEK	19.21	10000.00	1561.18	1564.57	1564.79	1566.05	0.015252	9.80	1048.32	1740.90	1.08
CAVE CREEK	19.21	15000.00	1561.18	1565.36	1565.57	1567.19	0.013401	11.00	1414.89	1765.58	1.06
CAVE CREEK	19.05	1000.00	1549.27	1550.12	1550.00	1550.24	0.008949	2.80	378.63	1038.92	0.65
CAVE CREEK	19.05	2000.00	1549.27	1550.31	1550.25	1550.54	0.012296	3.97	544.06	1104.92	0.79
CAVE CREEK	19.05	3000.00	1549.27	1550.22	1550.45	1550.94	0.045536	6.99	460.31	1067.71	1.50
CAVE CREEK	19.05	5000.00	1549.27	1550.85	1550.73	1551.23	0.010368	5.18	1056.82	1333.37	0.80
CAVE CREEK	19.05	10000.00	1549.27	1551.52	1551.29	1552.06	0.008877	6.31	1733.83	1705.70	0.79
CAVE CREEK	19.05	15000.00	1549.27	1552.12	1551.77	1552.79	0.007711	7.01	2409.53	2467.71	0.77

CAVE CREEK	18.96	1000.00	1540.00	1543.55	1543.55	1544.15	0.016928	6.22	160.66	510.60	1.00
CAVE CREEK	18.96	2000.00	1540.00	1544.36	1544.36	1544.81	0.010923	5.71	412.43	1010.59	0.83
CAVE CREEK	18.96	3000.00	1540.00	1544.67	1544.67	1545.20	0.010763	6.37	558.88	1199.72	0.85
CAVE CREEK	18.96	5000.00	1540.00	1545.10	1545.10	1545.83	0.011455	7.54	772.02	1505.76	0.91
CAVE CREEK	18.96	10000.00	1540.00	1545.97	1545.97	1547.09	0.011517	9.29	1203.09	2101.98	0.96
CAVE CREEK	18.96	15000.00	1540.00	1546.68	1546.68	1548.15	0.011392	10.53	1563.92	2592.47	0.98
CAVE CREEK	18.95	1000.00	1523.50	1541.20	1540.87	1541.28	0.003397	0.47	432.92	2361.51	0.29
CAVE CREEK	18.95	2000.00	1523.50	1541.61	1541.18	1541.73	0.003646	1.11	715.49	2671.45	0.37
CAVE CREEK	18.95	3000.00	1523.50	1541.90	1541.42	1542.06	0.003818	1.50	934.00	2940.95	0.40
CAVE CREEK	18.95	5000.00	1523.50	1542.11	1541.76	1542.43	0.006944	1.92	1090.90	3841.31	0.53
CAVE CREEK	18.95	10000.00	1523.50	1542.80	1542.43	1543.36	0.007645	3.19	1665.52	4299.97	0.63
CAVE CREEK	18.95	15000.00	1523.50	1543.47	1542.98	1544.17	0.006663	4.48	2234.57	4413.44	0.65
CAVE CREEK	18.89	1000.00	1538.00	1538.48	1538.48	1538.71	0.022360	3.89	261.93	1553.62	0.99
CAVE CREEK	18.89	2000.00	1538.00	1538.76	1538.76	1539.11	0.019053	4.85	424.26	1586.98	0.98
CAVE CREEK	18.89	3000.00	1538.00	1538.98	1538.98	1539.44	0.017258	5.50	565.48	1613.74	0.98
CAVE CREEK	18.89	5000.00	1538.00	1539.81	1539.37	1540.13	0.005731	4.73	1123.01	1713.56	0.62
CAVE CREEK	18.89	10000.00	1538.00	1540.83	1540.13	1541.28	0.004387	5.57	1895.18	1759.31	0.59
CAVE CREEK	18.89	15000.00	1538.00	1541.38	1540.67	1542.05	0.005217	6.81	2306.79	1764.97	0.66
CAVE CREEK	18.84	1000.00	1530.00	1534.48	1533.35	1534.75	0.003222	4.17	239.62	278.33	0.48
CAVE CREEK	18.84	2000.00	1530.00	1535.75	1534.42	1536.16	0.003475	5.19	385.06	1000.89	0.53
CAVE CREEK	18.84	3000.00	1530.00	1536.56	1535.22	1537.13	0.003985	6.05	495.49	1027.21	0.58
CAVE CREEK	18.84	5000.00	1530.00	1537.57	1536.44	1538.48	0.005341	7.68	650.88	1056.97	0.68
CAVE CREEK	18.84	10000.00	1530.00	1539.21	1539.12	1540.01	0.004153	8.05	1763.37	1831.47	0.63
CAVE CREEK	18.84	15000.00	1530.00	1540.43	1539.75	1540.98	0.002603	7.25	2976.92	1938.74	0.51
CAVE CREEK	18.79	1000.00	1526.00	1531.65	1531.65	1533.14	0.014768	9.78	102.21	195.87	1.04
CAVE CREEK	18.79	2000.00	1526.00	1533.48	1533.48	1534.54	0.014384	8.25	242.33	324.86	1.02
CAVE CREEK	18.79	3000.00	1526.00	1534.38	1534.38	1535.37	0.014563	7.97	376.62	420.18	1.01
CAVE CREEK	18.79	5000.00	1526.00	1535.32	1535.32	1536.44	0.013552	8.52	586.68	1054.27	1.02
CAVE CREEK	18.79	10000.00	1526.00	1536.75	1536.75	1538.28	0.012373	9.93	1007.46	1139.62	0.99
CAVE CREEK	18.79	15000.00	1526.00	1537.79	1537.79	1539.66	0.011567	10.99	1364.98	1176.58	1.00
CAVE CREEK	18.68	1000.00	1522.00	1525.45	1523.97	1525.66	0.001976	3.65	274.27	101.61	0.39
CAVE CREEK	18.68	2000.00	1522.00	1526.74	1524.98	1527.05	0.002892	4.47	447.88	163.00	0.47
CAVE CREEK	18.68	3000.00	1522.00	1527.50	1525.80	1527.92	0.003096	5.21	575.84	174.92	0.51
CAVE CREEK	18.68	5000.00	1522.00	1528.65	1527.09	1529.28	0.003447	6.34	788.24	193.01	0.55
CAVE CREEK	18.68	10000.00	1522.00	1530.61	1528.96	1531.54	0.007053	7.71	1296.19	446.56	0.76
CAVE CREEK	18.68	15000.00	1522.00	1531.62	1530.89	1532.80	0.006850	8.70	1724.45	507.42	0.78
CAVE CREEK	18.57	1000.00	1520.00	1523.40	1522.98	1523.78	0.007413	4.92	203.12	129.13	0.69
CAVE CREEK	18.57	2000.00	1520.00	1524.69	1523.83	1525.08	0.004657	5.03	397.96	173.07	0.58

CAVE CREEK	18.57	3000.00	1520.00	1525.56	1524.45	1526.00	0.004062	5.35	560.39	200.01	0.56
CAVE CREEK	18.57	5000.00	1520.00	1526.88	1525.41	1527.28	0.003778	5.14	1021.00	450.11	0.54
CAVE CREEK	18.57	10000.00	1520.00	1528.28	1527.18	1528.84	0.003656	6.27	1720.68	550.53	0.56
CAVE CREEK	18.57	15000.00	1520.00	1529.01	1528.00	1529.83	0.004551	7.61	2141.74	604.33	0.64
CAVE CREEK	18.54	1000.00	1518.00	1522.62	1521.23	1522.88	0.002967	4.12	242.81	101.17	0.47
CAVE CREEK	18.54	2000.00	1518.00	1523.90	1522.47	1524.28	0.003650	4.97	402.45	147.94	0.53
CAVE CREEK	18.54	3000.00	1518.00	1524.75	1523.37	1525.23	0.003866	5.54	541.28	176.40	0.56
CAVE CREEK	18.54	5000.00	1518.00	1525.41	1524.56	1526.29	0.006334	7.52	665.16	198.79	0.72
CAVE CREEK	18.54	10000.00	1518.00	1527.16	1526.89	1527.89	0.006271	7.25	1570.18	767.36	0.72
CAVE CREEK	18.54	15000.00	1518.00	1527.99	1527.52	1528.81	0.005630	7.85	2187.43	841.38	0.70
CAVE CREEK	18.46	1000.00	1516.00	1520.55	1520.29	1520.93	0.008726	4.92	203.40	146.50	0.74
CAVE CREEK	18.46	2000.00	1516.00	1521.18	1520.94	1521.88	0.010396	6.75	296.17	150.89	0.85
CAVE CREEK	18.46	3000.00	1516.00	1521.71	1521.50	1522.69	0.010831	7.96	376.96	155.85	0.90
CAVE CREEK	18.46	5000.00	1516.00	1522.88	1522.88	1523.54	0.006615	7.06	883.60	602.99	0.72
CAVE CREEK	18.46	10000.00	1516.00	1523.71	1523.71	1524.59	0.009875	8.33	1393.46	712.40	0.88
CAVE CREEK	18.46	15000.00	1516.00	1524.24	1524.24	1525.42	0.011783	9.55	1766.75	851.74	0.96
CAVE CREEK	18.34	1000.00	1514.00	1516.69	1516.48	1516.84	0.004943	3.63	346.68	406.90	0.55
CAVE CREEK	18.34	2000.00	1514.00	1517.21	1516.83	1517.41	0.004903	3.94	574.47	465.29	0.56
CAVE CREEK	18.34	3000.00	1514.00	1517.54	1517.08	1517.81	0.005421	4.50	732.54	497.84	0.60
CAVE CREEK	18.34	5000.00	1514.00	1518.22	1517.54	1518.56	0.005766	4.27	1127.58	768.39	0.61
CAVE CREEK	18.34	10000.00	1514.00	1519.40	1518.67	1519.74	0.003469	4.33	2193.42	970.25	0.51
CAVE CREEK	18.34	15000.00	1514.00	1519.78	1519.15	1520.34	0.004846	5.67	2544.86	986.98	0.61
CAVE CREEK	18.31	1000.00	1512.00	1515.22	1515.08	1515.56	0.010733	4.92	223.55	232.63	0.79
CAVE CREEK	18.31	2000.00	1512.00	1516.21	1515.67	1516.43	0.005802	4.01	555.39	548.89	0.60
CAVE CREEK	18.31	3000.00	1512.00	1516.66	1516.18	1516.89	0.004469	4.09	818.85	616.19	0.55
CAVE CREEK	18.31	5000.00	1512.00	1516.94	1516.65	1517.37	0.007092	5.57	999.17	658.30	0.70
CAVE CREEK	18.31	10000.00	1512.00	1519.06	1517.51	1519.27	0.001648	4.01	2721.46	883.72	0.37
CAVE CREEK	18.31	15000.00	1512.00	1519.03	1518.11	1519.52	0.003846	6.09	2691.48	883.54	0.57
CAVE CREEK	18.21	1000.00	1508.00	1513.10	1512.26	1513.20	0.002370	2.50	403.96	326.45	0.38
CAVE CREEK	18.21	2000.00	1508.00	1513.44	1512.83	1513.67	0.004963	3.92	522.06	386.23	0.56
CAVE CREEK	18.21	3000.00	1508.00	1513.72	1513.28	1514.08	0.006728	4.85	639.00	437.80	0.66
CAVE CREEK	18.21	5000.00	1508.00	1514.81	1513.83	1515.05	0.003085	4.10	1296.98	653.51	0.48
CAVE CREEK	18.21	10000.00	1508.00	1518.92	1514.79	1518.99	0.000238	2.25	5095.17	1109.13	0.16
CAVE CREEK	18.21	15000.00	1508.00	1518.61	1515.42	1518.78	0.000659	3.62	4747.39	1104.57	0.26
CAVE CREEK	19	1000.00	1508.00	1509.29	1509.29	1509.84	0.017405	5.94	168.26	153.79	1.00
CAVE CREEK	19	2000.00	1508.00	1510.84	1510.15	1510.99	0.003391	3.16	633.81	439.12	0.46
CAVE CREEK	19	3000.00	1508.00	1512.19	1510.48	1512.26	0.001396	2.08	1438.85	997.47	0.30
CAVE CREEK	19	5000.00	1508.00	1514.71	1511.03	1514.74	0.000140	1.21	4132.54	1418.94	0.11
CAVE CREEK	19	10000.00	1508.00	1518.89	1512.17	1518.91	0.000046	1.14	8755.31	2652.84	0.07

CAVE CREEK	19	15000.00	1508.00	1518.54	1512.67	1518.59	0.000121	1.79	8359.44	2642.22	0.12
CAVE CREEK	659	1000.00	1506.00	1509.17		1509.32	0.002527	3.11	321.95	183.14	0.41
CAVE CREEK	659	2000.00	1506.00	1510.72		1510.87	0.001287	3.17	630.13	209.04	0.32
CAVE CREEK	659	3000.00	1506.00	1512.01		1512.18	0.000938	3.30	909.95	224.72	0.29
CAVE CREEK	659	5000.00	1506.00	1514.56		1514.71	0.000695	3.07	1637.58	392.30	0.25
CAVE CREEK	659	10000.00	1506.00	1518.78		1518.90	0.000284	2.87	3709.94	554.06	0.18
CAVE CREEK	659	15000.00	1506.00	1518.22		1518.54	0.000809	4.68	3405.97	538.50	0.30
CAVE CREEK	18.08	1000.00	1506.00	1509.09	1507.97	1509.26	0.002024	3.26	306.32	136.64	0.38
CAVE CREEK	18.08	2000.00	1506.00	1510.60	1508.73	1510.83	0.001530	3.85	519.72	146.38	0.36
CAVE CREEK	18.08	3000.00	1506.00	1511.86	1509.33	1512.14	0.001313	4.23	708.77	153.92	0.35
CAVE CREEK	18.08	5000.00	1506.00	1514.40	1510.35	1514.67	0.001984	4.16	1200.95	365.58	0.40
CAVE CREEK	18.08	10000.00	1506.00	1518.74	1512.38	1518.89	0.000493	3.08	3251.50	695.91	0.22
CAVE CREEK	18.08	15000.00	1506.00	1518.09	1514.96	1518.51	0.001539	5.17	2902.81	635.28	0.39
CAVE CREEK	5	1000.00	1505.54	1508.15	1507.35	1508.59	0.004814	5.33	187.74	72.00	0.58
CAVE CREEK	5	2000.00	1505.54	1509.40	1508.42	1510.21	0.005424	7.19	278.10	72.00	0.64
CAVE CREEK	5	3000.00	1505.54	1510.36	1509.31	1511.52	0.006004	8.64	347.35	72.00	0.69
CAVE CREEK	5	5000.00	1505.54	1512.01	1510.84	1513.80	0.006600	10.73	466.04	72.00	0.74
CAVE CREEK	5	10000.00	1505.54	1513.96	1513.96	1518.19	0.011655	16.49	606.38	72.00	1.00
CAVE CREEK	5	15000.00	1505.54	1517.89	1516.83	1518.20	0.001069	6.34	4248.00	2687.00	0.32
CAVE CREEK	4	1000.00	1505.54	1508.15	1507.35	1508.59	0.000772	5.33	187.63	72.00	0.58
CAVE CREEK	4	2000.00	1505.54	1509.40	1508.42	1510.20	0.000869	7.19	277.97	72.00	0.65
CAVE CREEK	4	3000.00	1505.54	1510.36	1509.31	1511.52	0.000962	8.64	347.21	72.00	0.69
CAVE CREEK	4	5000.00	1505.54	1512.01	1510.84	1513.80	0.001057	10.73	465.88	72.00	0.74
CAVE CREEK	4	10000.00	1505.54	1513.96	1513.96	1518.19	0.001867	16.50	606.10	72.00	1.00
CAVE CREEK	4	15000.00	1505.54	1517.46	1517.07	1518.16	0.000361	9.00	3715.16	2687.00	0.46
CAVE CREEK	3	1000.00	1505.54	1507.96	1507.35	1508.47	0.000985	5.75	174.04	72.00	0.65
CAVE CREEK	3	2000.00	1505.54	1509.15	1508.42	1510.07	0.001079	7.70	259.88	72.00	0.71
CAVE CREEK	3	3000.00	1505.54	1510.04	1509.31	1511.37	0.001199	9.26	323.97	72.00	0.77
CAVE CREEK	3	5000.00	1505.54	1511.56	1510.83	1513.63	0.001326	11.54	433.44	72.00	0.83
CAVE CREEK	3	10000.00	1505.54	1513.72	1513.96	1518.20	0.002038	16.97	589.17	72.00	1.05
CAVE CREEK	3	15000.00	1505.54	1517.07	1517.07	1518.08	0.000504	10.40	3217.87	2687.00	0.54
CAVE CREEK	2	1000.00	1505.54	1507.87	1507.35	1508.42	0.009088	5.97	167.62	72.00	0.69
CAVE CREEK	2	2000.00	1505.54	1509.03	1508.41	1510.01	0.009838	7.97	251.06	72.00	0.75
CAVE CREEK	2	3000.00	1505.54	1509.85	1509.31	1511.30	0.011267	9.68	309.97	72.00	0.82
CAVE CREEK	2	5000.00	1505.54	1510.84	1510.84	1513.51	0.016126	13.09	381.92	72.00	1.00
CAVE CREEK	2	10000.00	1505.54	1513.63	1513.96	1518.21	0.017210	17.16	582.72	72.00	1.06
CAVE CREEK	2	15000.00	1505.54	1515.77	1516.42	1517.94	0.008516	13.82	1600.75	2687.00	0.76
CAVE CREEK	1	1000.00	1486.00	1508.25	1487.81	1508.25	0.000000	0.13	10147.84	2687.00	0.01

CAVE CREEK	1	2000.00	1486.00	1509.72	1488.88	1509.72	0.000001	0.22	11974.47	2687.00	0.01
CAVE CREEK	1	3000.00	1486.00	1510.86	1489.77	1510.86	0.000000	0.14	27580.01	2687.00	0.00
CAVE CREEK	1	5000.00	1486.00	1512.08	1491.31	1512.08	0.000001	0.20	30844.63	2687.00	0.01
CAVE CREEK	1	10000.00	1486.00	1513.74	1494.41	1513.74	0.000001	0.33	35315.30	2687.00	0.01
CAVE CREEK	1	15000.00	1486.00	1514.66	1497.03	1514.66	0.000003	0.45	37774.34	2687.00	0.01
CAVE CREEK	.5	1000.00	1486.00	1508.25	1487.81	1508.25	0.000000	0.15	10147.84	2687.00	0.01
CAVE CREEK	.5	2000.00	1486.00	1509.72	1488.88	1509.72	0.000001	0.24	11974.47	2687.00	0.01
CAVE CREEK	.5	3000.00	1486.00	1510.86	1489.79	1510.86	0.000000	0.16	27580.01	2687.00	0.01
CAVE CREEK	.5	5000.00	1486.00	1512.08	1491.32	1512.08	0.000001	0.22	30844.63	2687.00	0.01
CAVE CREEK	.5	10000.00	1486.00	1513.74	1494.45	1513.74	0.000001	0.37	35315.30	2687.00	0.01
CAVE CREEK	.5	15000.00	1486.00	1514.66	1497.06	1514.66	0.000003	0.51	37774.34	2687.00	0.02
CAVE CREEK	18.04	1000.00	1504.57	1507.35	1507.35	1508.17	0.015263	7.29	137.21	83.24	1.00
CAVE CREEK	18.04	2000.00	1504.57	1508.33	1508.33	1509.59	0.013368	9.00	222.34	88.59	1.00
CAVE CREEK	18.04	3000.00	1504.57	1509.22	1509.22	1510.71	0.011614	9.84	310.59	256.98	0.97
CAVE CREEK	18.04	5000.00	1504.57	1510.71	1510.71	1511.95	0.008558	9.41	604.65	677.57	0.86
CAVE CREEK	18.04	10000.00	1504.57	1512.50	1512.50	1513.63	0.008683	9.41	1253.57	1326.28	0.85
CAVE CREEK	18.04	15000.00	1504.57	1513.34	1513.34	1514.54	0.009128	10.01	1847.51	1653.27	0.89
CAVE CREEK	18.02	1000.00	1496.00	1497.36	1498.28	1503.36	0.258900	19.66	50.85	58.46	3.72
CAVE CREEK	18.02	2000.00	1496.00	1497.80	1498.63	1505.21	0.259422	22.75	103.83	234.78	3.86
CAVE CREEK	18.02	3000.00	1496.00	1497.97	1498.88	1506.77	0.308147	26.02	151.92	330.45	4.25
CAVE CREEK	18.02	5000.00	1496.00	1498.18	1499.25	1508.32	0.343308	29.94	239.07	445.30	4.59
CAVE CREEK	18.02	10000.00	1496.00	1498.56	1499.95	1509.84	0.336874	33.89	427.07	558.30	4.70
CAVE CREEK	18.02	15000.00	1496.00	1498.86	1500.50	1510.52	0.305281	35.21	606.67	635.93	4.57
SPILLWAY	20	1000.00	1654.96	1655.80	1655.80	1656.06	0.021916	4.07	245.64	471.21	0.99
SPILLWAY	20	2000.00	1654.96	1656.11	1656.11	1656.51	0.019161	5.09	393.31	488.60	1.00
SPILLWAY	20	3000.00	1654.96	1656.36	1656.36	1656.88	0.017703	5.83	514.66	490.84	1.00
SPILLWAY	20	5000.00	1654.96	1656.78	1656.78	1657.52	0.015979	6.91	723.39	494.67	1.01
SPILLWAY	20	10000.00	1654.96	1657.67	1657.67	1658.81	0.013299	8.58	1164.94	501.23	0.99
SPILLWAY	20	15000.00	1654.96	1658.37	1658.37	1659.88	0.012414	9.86	1520.96	504.37	1.00
SPILLWAY	19.89	1000.00	1641.50	1642.24	1642.24	1642.49	0.023197	4.00	249.79	512.67	1.01
SPILLWAY	19.89	2000.00	1641.50	1642.45	1642.53	1642.94	0.028199	5.59	357.64	514.69	1.18
SPILLWAY	19.89	3000.00	1641.50	1642.63	1642.77	1643.32	0.028995	6.62	452.99	516.46	1.25
SPILLWAY	19.89	5000.00	1641.50	1642.90	1643.20	1644.01	0.033305	8.45	591.51	518.82	1.40
SPILLWAY	19.89	10000.00	1641.50	1643.37	1644.02	1645.59	0.042459	11.96	836.21	522.79	1.67
SPILLWAY	19.89	15000.00	1641.50	1643.79	1644.72	1646.93	0.044604	14.23	1053.79	526.29	1.77
SPILLWAY	19.77	1000.00	1612.00	1614.25	1614.95	1616.66	0.103188	12.47	80.18	91.29	2.35
SPILLWAY	19.77	2000.00	1612.00	1614.94	1615.67	1617.21	0.072242	12.09	165.37	151.05	2.04
SPILLWAY	19.77	3000.00	1612.00	1615.32	1616.19	1618.01	0.065883	13.14	228.39	173.59	2.01

SPILLWAY	19.77	5000.00	1612.00	1615.97	1616.94	1619.14	0.052461	14.32	351.25	202.32	1.88
SPILLWAY	19.77	10000.00	1612.00	1617.15	1618.53	1621.17	0.038705	16.18	627.50	243.62	1.73
SPILLWAY	19.77	15000.00	1612.00	1618.03	1619.64	1623.13	0.035136	18.25	851.02	300.70	1.72
SPILLWAY	19.72	1000.00	1604.00	1607.45	1607.45	1608.22	0.014922	7.19	144.42	95.69	0.98
SPILLWAY	19.72	2000.00	1604.00	1608.13	1608.41	1609.45	0.023765	9.42	218.81	132.68	1.26
SPILLWAY	19.72	3000.00	1604.00	1609.03	1609.05	1610.21	0.014228	8.95	347.90	157.05	1.02
SPILLWAY	19.72	5000.00	1604.00	1609.83	1610.05	1611.53	0.015306	10.77	481.83	173.59	1.10
SPILLWAY	19.72	10000.00	1604.00	1611.28	1611.85	1614.08	0.016550	13.75	747.98	193.86	1.21
SPILLWAY	19.72	15000.00	1604.00	1612.36	1613.41	1616.10	0.017170	15.92	986.24	268.45	1.27
SPILLWAY	19.65	1000.00	1596.00	1599.20	1599.76	1601.15	0.027222	11.19	89.33	43.40	1.37
SPILLWAY	19.65	2000.00	1596.00	1601.03	1601.23	1602.77	0.015328	10.57	189.17	65.15	1.09
SPILLWAY	19.65	3000.00	1596.00	1601.68	1602.29	1604.23	0.019553	12.81	234.12	72.54	1.26
SPILLWAY	19.65	5000.00	1596.00	1603.47	1603.91	1606.12	0.014968	13.07	382.64	94.28	1.14
SPILLWAY	19.65	10000.00	1596.00	1606.58	1606.66	1609.44	0.010746	13.56	737.54	134.25	1.02
SPILLWAY	19.65	15000.00	1596.00	1608.54	1608.54	1611.87	0.009644	14.64	1027.83	167.61	1.00
SPILLWAY	19.59	1000.00	1590.00	1593.33	1593.62	1594.89	0.018749	10.03	99.74	43.23	1.16
SPILLWAY	19.59	2000.00	1590.00	1594.70	1595.15	1596.95	0.018231	12.05	165.95	53.25	1.20
SPILLWAY	19.59	3000.00	1590.00	1596.00	1596.33	1598.40	0.014589	12.43	241.26	62.33	1.11
SPILLWAY	19.59	5000.00	1590.00	1597.51	1598.16	1600.78	0.015689	14.51	344.51	74.46	1.19
SPILLWAY	19.59	10000.00	1590.00	1600.27	1601.27	1604.88	0.015237	17.23	580.61	97.53	1.23
SPILLWAY	19.59	15000.00	1590.00	1602.43	1603.64	1607.93	0.012242	18.90	813.92	117.60	1.16

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)
SCATTER WASH	19.54	1591.51	1591.36	0.15	0.33	0.07		1000.00		64.43
SCATTER WASH	19.54	1593.08	1592.72	0.36	0.53	0.08		2000.00		88.88
SCATTER WASH	19.54	1597.35	1587.39	9.96	0.29	0.76		3000.00		38.59
SCATTER WASH	19.54	1599.74	1589.03	10.71	0.28	0.75		5000.00		48.71
SCATTER WASH	19.54	1603.87	1591.97	11.90	0.25	0.73		10000.00		70.03
SCATTER WASH	19.54	1606.97	1593.91	13.06	0.20	0.76	41.11	14611.90	346.99	129.69
SCATTER WASH	19.51	1591.12	1590.31	0.81	2.49	0.05		925.37	74.63	217.84
SCATTER WASH	19.51	1592.47	1591.29	1.18	2.19	0.06		1753.88	246.12	237.50
SCATTER WASH	19.51	1593.53	1592.09	1.44	1.58	0.03		2519.32	480.68	253.88
SCATTER WASH	19.51	1595.19	1593.36	1.83				3918.16	1081.84	275.28
SCATTER WASH	19.51	1598.26	1595.36	2.90	3.08	2.78		7095.60	2904.40	308.62
SCATTER WASH	19.51	1600.81	1596.47	4.33	3.54	2.62		10183.59	4816.41	325.61
SCATTER WASH	19.46	1584.96	1578.39	6.57	5.58	0.58		1000.00		28.49
SCATTER WASH	19.46	1587.28	1579.66	7.62	4.55	0.64		2000.00		37.19
SCATTER WASH	19.46	1588.89	1580.64	8.25	3.99	0.68		3000.00		44.15
SCATTER WASH	19.46	1591.10	1582.23	8.87	3.39	0.70		4999.50	0.50	60.42
SCATTER WASH	19.46	1594.13	1584.17	9.96	3.40	0.71	0.39	8870.92	1128.70	212.58
SCATTER WASH	19.46	1596.26	1585.03	11.23	3.94	0.68	46.43	11661.93	3291.63	255.24
SCATTER WASH	19.42	1578.09	1577.08	1.00				1000.00		62.09
SCATTER WASH	19.42	1579.63	1578.42	1.21	5.73	1.92	17.55	1978.76	3.69	114.97
SCATTER WASH	19.42	1580.65	1578.96	1.69	6.28	1.97	90.00	2878.04	31.96	142.64
SCATTER WASH	19.42	1582.26	1579.65	2.60	6.96	1.88	308.46	4549.13	142.41	186.21
SCATTER WASH	19.42	1584.93	1580.92	4.02	7.32	1.78	1060.85	8194.06	745.09	372.60
SCATTER WASH	19.42	1586.54	1581.58	4.97	7.83	1.88	2537.66	10917.32	1545.03	477.82
SCATTER WASH	19.37	1574.20	1573.27	0.93	3.87	0.02		892.74	107.26	86.18
SCATTER WASH	19.37	1575.54	1574.03	1.51	4.05	0.03	0.36	1673.85	325.79	127.48
SCATTER WASH	19.37	1576.29	1574.70	1.58	4.32	0.03	74.78	2336.69	588.53	205.85
SCATTER WASH	19.37	1577.21	1575.53	1.68	4.77	0.28	364.22	3375.76	1260.02	304.46
SCATTER WASH	19.37	1578.94	1576.58	2.36	5.50	0.50	1327.39	5793.14	2879.47	555.34
SCATTER WASH	19.37	1579.92	1577.19	2.73	5.96	0.68	2420.27	7564.09	5015.63	711.20
SCATTER WASH	19.31	1569.03	1568.23	0.80			1.52	998.48		271.80
SCATTER WASH	19.31	1570.21	1569.29	0.91	4.49	0.12	105.53	1894.47		474.00
SCATTER WASH	19.31	1570.95	1569.95	1.00	5.19	0.18	321.92	2678.08		630.18
SCATTER WASH	19.31	1571.79	1570.56	1.23	5.29	0.14	1111.19	3879.36	9.45	969.40
SCATTER WASH	19.31	1572.95	1571.46	1.49	5.73	0.26	3968.26	5905.70	126.04	1070.62

SCATTER WASH	19.31	1573.83	1572.11	1.72	5.79	0.31	7175.25	7483.17	341.58	1129.05
SCATTER WASH	19.30	1561.56	1560.69	0.86	7.47	0.01	1000.00			167.59
SCATTER WASH	19.30	1562.57	1561.05	1.52	7.58	0.06	1999.85	0.15		215.10
SCATTER WASH	19.30	1563.34	1561.31	2.03	7.48	0.11	2988.89	11.11		292.41
SCATTER WASH	19.30	1564.07	1561.77	2.29	7.60	0.11	4894.73	102.81	2.46	495.01
SCATTER WASH	19.30	1564.92	1562.42	2.51	7.92	0.10	9209.98	498.02	292.00	1089.97
SCATTER WASH	19.30	1565.79	1562.78	3.01	7.90	0.13	13266.92	884.21	848.87	1266.72
SCATTER WASH	19.05	1550.15	1549.99	0.16	7.91	0.04		819.62	180.38	782.31
SCATTER WASH	19.05	1550.44	1550.22	0.22	7.41	0.04	15.91	1600.34	383.75	1067.63
SCATTER WASH	19.05	1550.66	1550.37	0.29	7.12	0.04	50.08	2294.71	655.22	1157.88
SCATTER WASH	19.05	1551.02	1550.63	0.40	6.76	0.04	147.78	3540.31	1311.91	1260.57
SCATTER WASH	19.05	1551.71	1551.12	0.59	5.74	0.02	444.77	6354.40	3200.82	1458.76
SCATTER WASH	19.05	1552.23	1551.53	0.71	4.90	0.01	793.67	8931.36	5274.97	1711.43
SCATTER WASH	18.96	1542.20	1541.61	0.59	4.13	0.13	445.20	554.80		137.47
SCATTER WASH	18.96	1543.00	1542.42	0.58	3.67	0.12	914.28	1085.72		289.64
SCATTER WASH	18.96	1543.50	1542.82	0.68	5.10	0.09	1274.54	1725.46		337.95
SCATTER WASH	18.96	1544.22	1543.44	0.79	4.60	0.13	1954.84	3045.16		464.21
SCATTER WASH	18.96	1545.29	1544.40	0.90	6.38	0.03	3952.48	5578.59	468.92	1024.09
SCATTER WASH	18.96	1545.98	1544.85	1.13	6.21	0.04	5686.97	7775.24	1537.79	1308.79
SCATTER WASH	18.99	1535.49	1535.34	0.15	4.73	0.02		1000.00		528.39
SCATTER WASH	18.99	1535.95	1535.77	0.18	4.93	0.01		2000.00		728.00
SCATTER WASH	18.99	1536.30	1535.52	0.79	7.18	0.01		3000.00		591.15
SCATTER WASH	18.99	1536.89	1535.76	1.13	7.30	0.03		5000.00		726.44
SCATTER WASH	18.99	1537.59	1536.22	1.37	7.66	0.05		9922.79	77.21	1423.93
SCATTER WASH	18.99	1538.25	1536.45	1.80	7.71	0.06		14764.71	235.29	1512.35
SCATTER WASH	18.91	1530.74	1530.67	0.07	4.34	0.00		1000.00		974.85
SCATTER WASH	18.91	1531.01	1530.87	0.14	4.29	0.00		2000.00		997.41
SCATTER WASH	18.91	1531.36	1531.23	0.13	4.45	0.02		3000.00		1036.96
SCATTER WASH	18.91	1531.78	1531.59	0.20	4.47	0.03		5000.00		1101.46
SCATTER WASH	18.91	1532.53	1532.18	0.36	4.49	0.03		9998.46	1.54	1275.64
SCATTER WASH	18.91	1533.11	1532.60	0.51	4.51	0.02	0.21	14906.07	93.72	1351.06
SCATTER WASH	18.82	1526.39	1526.30	0.10	4.49	0.01		1000.00		934.97
SCATTER WASH	18.82	1526.72	1526.58	0.14	4.56	0.00		2000.00		973.00
SCATTER WASH	18.82	1526.89	1526.55	0.34	4.33	0.07		3000.00		969.38
SCATTER WASH	18.82	1527.29	1526.84	0.45	2.60	0.11		5000.00		1047.03
SCATTER WASH	18.82	1528.02	1527.41	0.62	1.39	0.16		9873.25	126.75	1369.27
SCATTER WASH	18.82	1528.57	1527.83	0.74	1.13	0.20		14453.58	546.42	1649.00
SCATTER WASH	18.72	1521.90	1521.82	0.07	1.87	0.01		969.80	30.20	1153.58

SCATTER WASH	18.72	1522.16	1522.03	0.13	1.20	0.03	0.01	1853.38	146.61	1692.92
SCATTER WASH	18.72	1522.42	1522.33	0.09	1.07	0.02		2776.83	223.17	2074.13
SCATTER WASH	18.72	1522.88	1522.80	0.08	0.91	0.01	5.76	4076.55	917.69	2204.94
SCATTER WASH	18.72	1523.88	1523.81	0.08	0.74	0.00	51.01	6977.33	2971.66	2364.70
SCATTER WASH	18.72	1524.65	1524.57	0.09	0.68	0.00	129.64	9626.14	5244.22	2465.06
SCATTER WASH	18.569	1520.02	1519.97	0.05	0.39	0.05		658.38	341.62	595.02
SCATTER WASH	18.569	1520.93	1520.90	0.03	0.40	0.07		885.70	1114.30	1097.81
SCATTER WASH	18.569	1521.34	1521.30	0.04	0.51	0.04		1177.84	1822.16	1175.76
SCATTER WASH	18.569	1521.96	1521.90	0.05	0.63	0.05		1689.59	3310.41	1223.21
SCATTER WASH	18.569	1523.15	1523.07	0.08	0.89	0.07		2399.80	7600.20	1840.14
SCATTER WASH	18.569	1523.97	1523.87	0.10	1.04	0.07		3308.74	11691.26	2263.59
SCATTER WASH	18.51	1519.61	1519.09	0.51	3.20	0.11		1000.00		707.39
SCATTER WASH	18.51	1520.46	1519.74	0.72	2.94	0.15		2000.00		887.27
SCATTER WASH	18.51	1520.78	1520.35	0.43				2807.38	192.62	1681.61
SCATTER WASH	18.51	1521.28	1520.73	0.55				4356.30	643.70	1820.99
SCATTER WASH	18.51	1522.19	1521.46	0.73				7883.60	2116.40	2196.54
SCATTER WASH	18.51	1522.86	1522.02	0.84	2.06	0.01	0.81	10806.02	4193.17	3441.52
SCATTER WASH	31	1514.48	1514.21	0.27	5.05	0.07		686.74	313.26	4294.00
SCATTER WASH	31	1514.94	1514.26	0.69	5.54	0.02		1378.19	621.81	4314.76
SCATTER WASH	31	1515.40	1514.30	1.10	5.37	0.06		2076.69	923.31	4321.95
SCATTER WASH	31	1515.19	1514.80	0.39	0.91	0.02		3484.14	1515.86	4367.24
SCATTER WASH	31	1517.48	1514.60	2.89	4.56	0.21		7035.12	2964.88	4358.29
SCATTER WASH	31	1518.11	1514.83	3.28	4.50	0.24		10629.89	4370.11	4368.40
SCATTER WASH	32	1513.05	1512.28	0.77	4.19	0.03		1000.00		1185.37
SCATTER WASH	32	1513.18	1512.81	0.38				2000.00		1400.23
SCATTER WASH	32	1513.52	1513.05	0.47	0.00	0.00		3000.00		1567.20
SCATTER WASH	32	1514.07	1513.45	0.62	0.00	0.00		5000.00		1952.15
SCATTER WASH	32	1514.96	1514.10	0.86	2.07	0.67		10000.00		3765.44
SCATTER WASH	32	1515.48	1514.67	0.81	1.89	0.74		15000.00		4103.29
CAVE CREEK	19.54	1593.75	1584.90	8.85	0.41	0.73		1000.00		23.55
CAVE CREEK	19.54	1595.87	1586.31	9.56	0.36	0.73		2000.00		31.47
CAVE CREEK	19.54	1597.35	1587.39	9.96	0.29	0.76		3000.00		38.59
CAVE CREEK	19.54	1599.74	1589.03	10.71	0.28	0.75		5000.00		48.71
CAVE CREEK	19.54	1603.87	1591.97	11.90	0.25	0.73		10000.00		70.03
CAVE CREEK	19.54	1606.98	1593.95	13.03	0.20	0.75	43.58	14655.49	300.94	133.29
CAVE CREEK	19.51	1585.51	1584.08	1.44	6.01	2.22		1000.00		37.87
CAVE CREEK	19.51	1587.78	1585.55	2.23	5.89	2.20		2000.00		47.44
CAVE CREEK	19.51	1589.51	1586.56	2.96	5.75	2.10	1.76	2998.24		54.64

CAVE CREEK	19.51	1592.28	1588.05	4.23	5.51	1.94	58.70	4941.30	0.00	95.91
CAVE CREEK	19.51	1597.33	1590.57	6.77	4.99	1.54	493.52	9392.57	113.91	223.01
CAVE CREEK	19.51	1601.11	1592.06	9.05	4.69	1.20	1098.21	13237.64	664.15	253.43
CAVE CREEK	19.46	1581.63	1579.57	2.05	3.82	0.06		1000.00		36.55
CAVE CREEK	19.46	1583.82	1581.10	2.72	3.89	0.05		2000.00		47.40
CAVE CREEK	19.46	1585.49	1582.14	3.34	3.99	0.04		3000.00		56.55
CAVE CREEK	19.46	1588.01	1583.58	4.43	4.25	0.02		4949.19	50.81	158.73
CAVE CREEK	19.46	1592.62	1585.20	7.42	4.64	0.07	52.61	9163.37	784.02	264.06
CAVE CREEK	19.46	1595.95	1586.33	9.62	5.10	0.06	359.07	12820.73	1820.20	400.20
CAVE CREEK	19.42	1578.09	1577.13	0.96	3.60	0.00		1000.00		62.84
CAVE CREEK	19.42	1579.67	1578.34	1.33	3.73	0.42		2000.00		111.09
CAVE CREEK	19.42	1580.87	1578.93	1.94	4.20	0.43	0.01	2999.99		141.16
CAVE CREEK	19.42	1582.81	1579.90	2.91	4.74	0.45	22.25	4977.75		203.00
CAVE CREEK	19.42	1586.40	1581.42	4.98	5.49	0.73	350.88	9526.91	122.20	455.89
CAVE CREEK	19.42	1589.13	1582.47	6.66	5.95	0.90	801.13	13616.35	582.52	685.78
CAVE CREEK	19.37	1574.48	1573.50	0.98				1000.00		92.71
CAVE CREEK	19.37	1576.04	1574.62	1.42	3.62	0.01	6.76	1993.24		196.34
CAVE CREEK	19.37	1577.10	1575.60	1.51	3.64	0.13	77.94	2922.06		313.26
CAVE CREEK	19.37	1578.66	1576.66	2.00	3.88	0.27	328.68	4635.58	35.74	588.43
CAVE CREEK	19.37	1581.41	1578.10	3.31	4.48	0.50	1005.92	8406.53	587.55	837.52
CAVE CREEK	19.37	1583.49	1579.01	4.48	4.99	0.65	2135.40	11608.62	1255.98	931.18
CAVE CREEK	19.3	1568.76	1568.28	0.47	5.85	0.04		1000.00		279.34
CAVE CREEK	19.3	1569.85	1569.20	0.65	6.38	0.05		2000.00		431.13
CAVE CREEK	19.3	1570.67	1569.18	1.49	6.42	0.00		2999.84	0.16	426.22
CAVE CREEK	19.3	1571.99	1569.72	2.27	6.64	0.03		4888.55	111.45	580.28
CAVE CREEK	19.3	1574.27	1570.85	3.42	7.13	0.01	2.26	9151.49	846.24	1009.92
CAVE CREEK	19.3	1576.10	1571.81	4.29	7.34	0.06	7.63	13215.40	1776.97	1083.50
CAVE CREEK	19.21	1562.86	1562.54	0.32	10.21	0.06		462.06	537.94	1130.25
CAVE CREEK	19.21	1563.42	1562.93	0.49	12.30	0.08	0.11	761.68	1238.21	1358.58
CAVE CREEK	19.21	1563.87	1563.24	0.63	11.59	0.10	8.61	1128.25	1863.14	1499.79
CAVE CREEK	19.21	1564.61	1563.77	0.83			69.46	1893.71	3036.83	1587.71
CAVE CREEK	19.21	1566.05	1564.57	1.48	34.22	1.35	429.89	3723.37	5846.74	1740.90
CAVE CREEK	19.21	1567.19	1565.36	1.83	8.18	0.74	1041.37	5467.54	8491.08	1765.58
CAVE CREEK	19.05	1550.24	1550.12	0.12	6.04	0.05		998.79	1.21	1038.92
CAVE CREEK	19.05	1550.54	1550.31	0.23	5.71	0.02	28.31	1849.33	122.36	1104.92
CAVE CREEK	19.05	1550.94	1550.22	0.72	13.22	0.09	35.76	2803.87	160.38	1067.71
CAVE CREEK	19.05	1551.23	1550.85	0.37	5.36	0.04	186.83	4187.06	626.11	1333.37
CAVE CREEK	19.05	1552.06	1551.52	0.55	4.91	0.06	560.97	7699.87	1739.16	1705.70
CAVE CREEK	19.05	1552.79	1552.12	0.67	4.57	0.08	959.81	11176.65	2863.54	2467.71

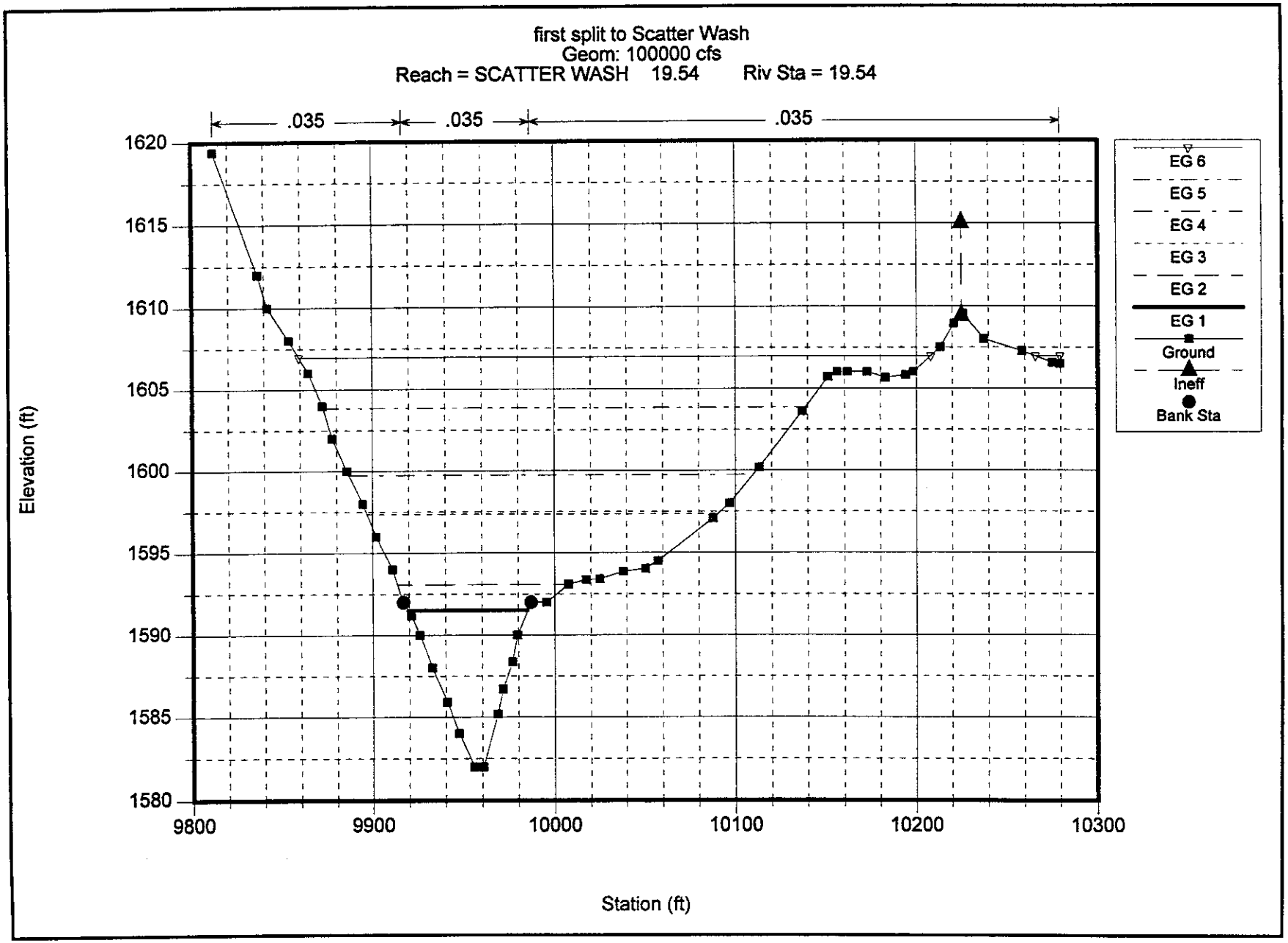
CAVE CREEK	18.96	1544.15	1543.55	0.60	1.62	0.16	1000.00		510.60
CAVE CREEK	18.96	1544.81	1544.36	0.45	1.51	0.10	1713.07	286.93	1010.59
CAVE CREEK	18.96	1545.20	1544.67	0.53	1.57	0.11	2316.53	683.47	1199.72
CAVE CREEK	18.96	1545.83	1545.10	0.72	2.33	0.12	3434.49	1565.51	1505.76
CAVE CREEK	18.96	1547.09	1545.97	1.12	2.50	0.17	5982.83	4017.17	2101.98
CAVE CREEK	18.96	1548.15	1546.68	1.47	2.32	0.23	8440.33	6559.67	2592.47
CAVE CREEK	18.95	1541.28	1541.20	0.08	2.56	0.01		1000.00	2361.51
CAVE CREEK	18.95	1541.73	1541.61	0.12	2.59	0.02	0.13	1999.87	2671.45
CAVE CREEK	18.95	1542.06	1541.90	0.16	2.60	0.03	1.81	2998.19	2940.95
CAVE CREEK	18.95	1542.43	1542.11	0.33	2.30	0.00	10.81	4989.19	3841.31
CAVE CREEK	18.95	1543.36	1542.80	0.57	2.05	0.04	52.49	9947.51	4299.97
CAVE CREEK	18.95	1544.17	1543.47	0.71	2.12	0.01	163.46	14836.54	4413.44
CAVE CREEK	18.89	1538.71	1538.48	0.23	0.61	0.02	967.65	32.35	1553.62
CAVE CREEK	18.89	1539.11	1538.76	0.35	1.98	0.01	1899.94	100.06	1586.98
CAVE CREEK	18.89	1539.44	1538.98	0.45	2.11	0.01	2807.82	192.18	1613.74
CAVE CREEK	18.89	1540.13	1539.81	0.33	1.59	0.06	4456.21	543.79	1713.56
CAVE CREEK	18.89	1541.28	1540.83	0.45	1.23	0.04	8271.96	1728.04	1759.31
CAVE CREEK	18.89	1542.05	1541.38	0.67	1.03	0.04	12096.83	2903.17	1764.97
CAVE CREEK	18.84	1534.75	1534.48	0.27	1.50	0.12	1000.00		278.33
CAVE CREEK	18.84	1536.16	1535.75	0.42	1.56	0.06	2000.00		1000.89
CAVE CREEK	18.84	1537.13	1536.56	0.57	1.72	0.04	3000.00		1027.21
CAVE CREEK	18.84	1538.48	1537.57	0.92	2.02	0.02	5000.00		1056.97
CAVE CREEK	18.84	1540.01	1539.21	0.80	1.66	0.07	7623.14	2376.86	1831.47
CAVE CREEK	18.84	1540.98	1540.43	0.55	1.19	0.13	8519.54	6480.46	1938.74
CAVE CREEK	18.79	1533.14	1531.65	1.49			1000.00		195.87
CAVE CREEK	18.79	1534.54	1533.48	1.06			2000.00		324.86
CAVE CREEK	18.79	1535.37	1534.38	0.99			3000.00		420.18
CAVE CREEK	18.79	1536.44	1535.32	1.13			5000.00		1054.27
CAVE CREEK	18.79	1538.28	1536.75	1.53			10000.00		1139.62
CAVE CREEK	18.79	1539.66	1537.79	1.88			15000.00		1176.58
CAVE CREEK	18.68	1525.66	1525.45	0.21	1.86	0.02	1000.00		101.61
CAVE CREEK	18.68	1527.05	1526.74	0.31	1.96	0.01	2000.00		163.00
CAVE CREEK	18.68	1527.92	1527.50	0.42	1.92	0.00	3000.00		174.92
CAVE CREEK	18.68	1529.28	1528.65	0.62	1.93	0.07	5000.00		193.01
CAVE CREEK	18.68	1531.54	1530.61	0.92	2.59	0.11	10000.00		446.56
CAVE CREEK	18.68	1532.80	1531.62	1.18	2.86	0.11	15000.00		507.42
CAVE CREEK	18.57	1523.78	1523.40	0.38	0.86	0.03	1000.00		129.13
CAVE CREEK	18.57	1525.08	1524.69	0.39	0.79	0.00	2000.00		173.07

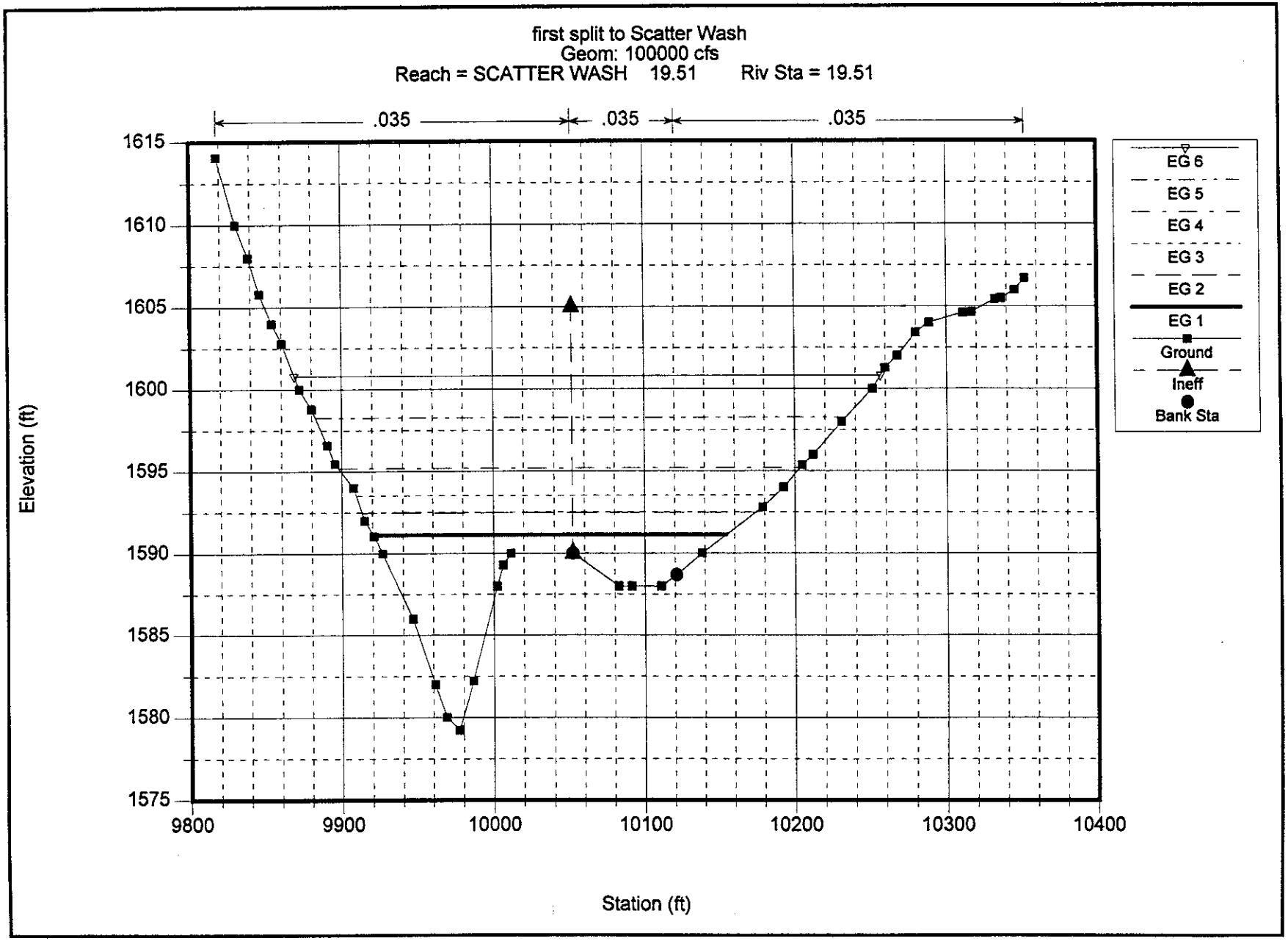
CAVE CREEK	18.57	1526.00	1525.56	0.45	0.77	0.00		3000.00		200.01
CAVE CREEK	18.57	1527.28	1526.88	0.40	0.94	0.05	177.37	4822.63		450.11
CAVE CREEK	18.57	1528.84	1528.28	0.57	0.94	0.02	1008.79	8991.21		550.53
CAVE CREEK	18.57	1529.83	1529.01	0.82	1.02	0.00	1955.37	13044.63		604.33
CAVE CREEK	18.54	1522.88	1522.62	0.26	1.94	0.01		1000.00		101.17
CAVE CREEK	18.54	1524.28	1523.90	0.38	2.36	0.03		2000.00		147.94
CAVE CREEK	18.54	1525.23	1524.75	0.48	2.49	0.05		3000.00		176.40
CAVE CREEK	18.54	1526.29	1525.41	0.88	2.69	0.07		5000.00		198.79
CAVE CREEK	18.54	1527.89	1527.16	0.73	3.29	0.01	1418.84	8564.88	16.28	767.36
CAVE CREEK	18.54	1528.81	1527.99	0.82	3.36	0.04	3211.92	11750.06	38.02	841.38
CAVE CREEK	18.46	1520.93	1520.55	0.38	4.02	0.07		1000.00		146.50
CAVE CREEK	18.46	1521.88	1521.18	0.71	4.32	0.15		2000.00		150.89
CAVE CREEK	18.46	1522.69	1521.71	0.98	4.67	0.21	0.00	3000.00		155.85
CAVE CREEK	18.46	1523.54	1522.88	0.66			934.52	4065.48		602.99
CAVE CREEK	18.46	1524.59	1523.71	0.88			3581.27	6418.73		712.40
CAVE CREEK	18.46	1525.42	1524.24	1.18			6130.66	8869.29	0.05	851.74
CAVE CREEK	18.34	1516.84	1516.69	0.15	1.27	0.02	93.48	587.10	319.42	406.90
CAVE CREEK	18.34	1517.41	1517.21	0.20	0.98	0.00	261.92	919.45	818.63	465.29
CAVE CREEK	18.34	1517.81	1517.54	0.27	0.91	0.01	427.53	1285.14	1287.33	497.84
CAVE CREEK	18.34	1518.56	1518.22	0.34	1.19	0.01	712.38	2142.35	2145.27	768.39
CAVE CREEK	18.34	1519.74	1519.40	0.34	0.43	0.04	1904.24	3427.67	4668.09	970.25
CAVE CREEK	18.34	1520.34	1519.78	0.56	0.80	0.02	3315.65	5427.46	6256.89	986.98
CAVE CREEK	18.31	1515.56	1515.22	0.34	2.29	0.07	160.33	821.07	18.59	232.63
CAVE CREEK	18.31	1516.43	1516.21	0.22	2.75	0.00	532.94	1389.04	78.02	548.89
CAVE CREEK	18.31	1516.89	1516.66	0.23	2.80	0.01	870.24	1892.88	236.88	616.19
CAVE CREEK	18.31	1517.37	1516.94	0.42	2.26	0.05	1475.22	3001.35	523.44	658.30
CAVE CREEK	18.31	1519.27	1519.06	0.21	0.24	0.04	2616.08	4864.16	2519.76	883.72
CAVE CREEK	18.31	1519.52	1519.03	0.49	0.64	0.10	3922.62	7312.04	3765.34	883.54
CAVE CREEK	18.21	1513.20	1513.10	0.10	3.31	0.05		995.45	4.55	326.45
CAVE CREEK	18.21	1513.67	1513.44	0.24	2.65	0.02		1968.45	31.55	386.23
CAVE CREEK	18.21	1514.08	1513.72	0.36	1.73	0.09		2913.17	86.83	437.80
CAVE CREEK	18.21	1515.05	1514.81	0.24	0.25	0.07		4458.42	541.58	653.51
CAVE CREEK	18.21	1518.99	1518.92	0.07	0.06	0.01	1285.47	6838.59	1875.94	1109.13
CAVE CREEK	18.21	1518.78	1518.61	0.18	0.16	0.04	1712.87	10468.55	2818.57	1104.57
CAVE CREEK	19	1509.84	1509.29	0.55	0.32	0.12		1000.00		153.79
CAVE CREEK	19	1510.99	1510.84	0.15	0.12	0.00		2000.00		439.12
CAVE CREEK	19	1512.26	1512.19	0.07	0.07	0.01		3000.00		997.47
CAVE CREEK	19	1514.74	1514.71	0.02	0.02	0.01		5000.00		1418.94
CAVE CREEK	19	1518.91	1518.89	0.02	0.01	0.01		10000.00		2652.84

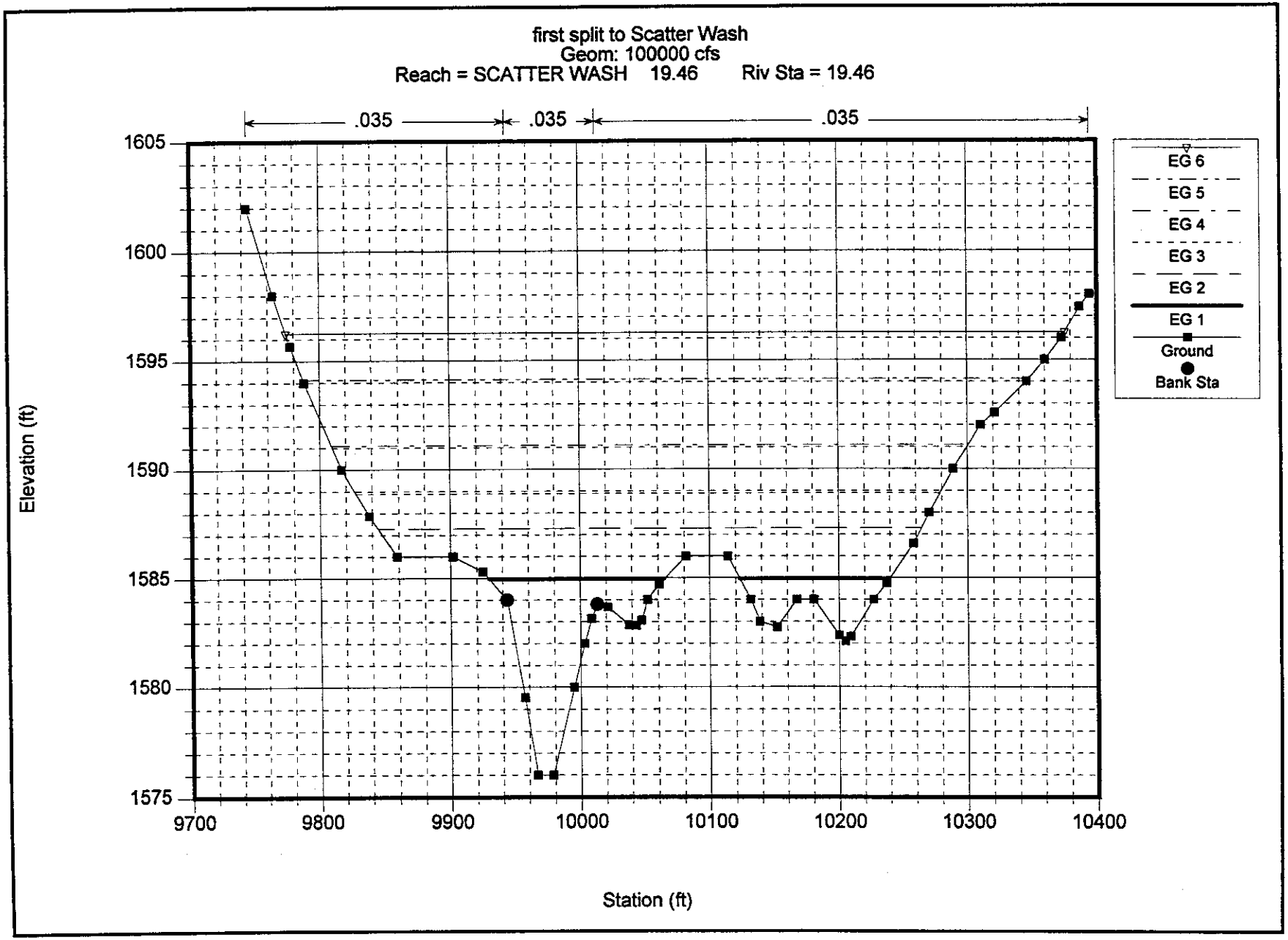
CAVE CREEK	19	1518.59	1518.54	0.05	0.02	0.03		15000.00		2642.22
CAVE CREEK	659	1509.32	1509.17	0.15	0.06	0.00		1000.00		183.14
CAVE CREEK	659	1510.87	1510.72	0.16	0.04	0.01		2000.00		209.04
CAVE CREEK	659	1512.18	1512.01	0.17	0.03	0.01		3000.00		224.72
CAVE CREEK	659	1514.71	1514.56	0.15	0.03	0.01		4995.85	4.15	392.30
CAVE CREEK	659	1518.90	1518.78	0.12	0.01	0.00		9233.04	766.96	554.06
CAVE CREEK	659	1518.54	1518.22	0.32	0.03	0.01		14017.68	982.32	538.50
CAVE CREEK	18.08	1509.26	1509.09	0.17	0.64	0.03		1000.00		136.64
CAVE CREEK	18.08	1510.83	1510.60	0.23	0.57	0.06		2000.00		146.38
CAVE CREEK	18.08	1512.14	1511.86	0.28	0.53	0.09		3000.00		153.92
CAVE CREEK	18.08	1514.67	1514.40	0.27	0.72	0.15		5000.00		365.58
CAVE CREEK	18.08	1518.89	1518.74	0.15	0.29	0.41		10000.00		695.91
CAVE CREEK	18.08	1518.51	1518.09	0.41	0.28	0.03		15000.00		635.28
CAVE CREEK	5	1508.59	1508.15	0.44	0.00	0.00		1000.00		72.00
CAVE CREEK	5	1510.21	1509.40	0.80	0.00	0.00		2000.00		72.00
CAVE CREEK	5	1511.52	1510.36	1.16	0.00	0.00		3000.00		72.00
CAVE CREEK	5	1513.80	1512.01	1.79	0.00	0.00		5000.00		72.00
CAVE CREEK	5	1518.19	1513.96	4.22	0.00	0.00		10000.00		72.00
CAVE CREEK	5	1518.20	1517.89	0.31	0.00	0.04	3692.05	5641.73	5666.22	2687.00
CAVE CREEK	4	1508.59	1508.15	0.44	0.11	0.01		1000.00		72.00
CAVE CREEK	4	1510.20	1509.40	0.80	0.12	0.01		2000.00		72.00
CAVE CREEK	4	1511.52	1510.36	1.16	0.13	0.02		3000.00		72.00
CAVE CREEK	4	1513.80	1512.01	1.79	0.15	0.03		5000.00		72.00
CAVE CREEK	4	1518.19	1513.96	4.23	0.23	0.01		10000.00		72.00
CAVE CREEK	4	1518.16	1517.46	0.70	0.05	0.03	2866.94	7731.39	4401.67	2687.00
CAVE CREEK	3	1508.47	1507.96	0.51	0.04	0.00		1000.00		72.00
CAVE CREEK	3	1510.07	1509.15	0.92	0.05	0.01		2000.00		72.00
CAVE CREEK	3	1511.37	1510.04	1.33	0.05	0.01		3000.00		72.00
CAVE CREEK	3	1513.63	1511.56	2.07	0.06	0.06		5000.00		72.00
CAVE CREEK	3	1518.20	1513.72	4.47	0.44	0.75		10000.00		72.00
CAVE CREEK	3	1518.08	1517.07	1.01			2511.99	8629.87	3858.14	2687.00
CAVE CREEK	2	1508.42	1507.87	0.55	0.00	0.17		1000.00		72.00
CAVE CREEK	2	1510.01	1509.03	0.99	0.00	0.30		2000.00		72.00
CAVE CREEK	2	1511.30	1509.85	1.45	0.00	0.44		3000.00		72.00
CAVE CREEK	2	1513.51	1510.84	2.66				5000.00		72.00
CAVE CREEK	2	1518.21	1513.63	4.57	0.09	0.07		10000.00		72.00
CAVE CREEK	2	1517.94	1515.77	2.17	0.03	0.12	1897.46	10184.75	2917.80	2687.00
CAVE CREEK	1	1508.25	1508.25	0.00	0.00	0.00	310.02	216.14	473.85	2687.00

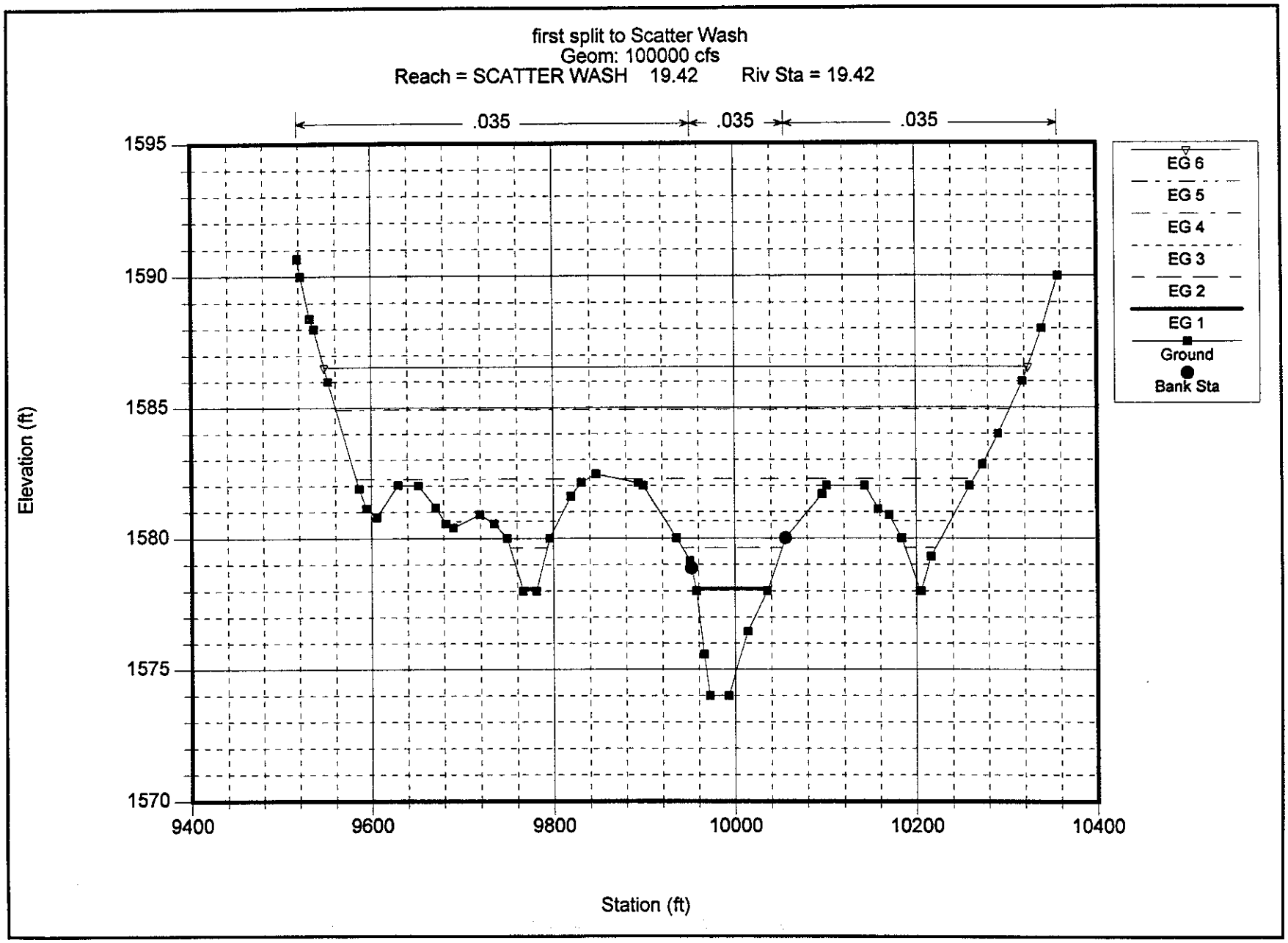
CAVE CREEK	1	1509.72	1509.72	0.00	0.00	0.00	645.73	368.63	985.64	2687.00
CAVE CREEK	1	1510.86	1510.86	0.00	0.00	0.00	2004.59	246.78	748.63	2687.00
CAVE CREEK	1	1512.08	1512.08	0.00	0.00	0.00		5000.00		2687.00
CAVE CREEK	1	1513.74	1513.74	0.00	0.00	0.00		10000.00		2687.00
CAVE CREEK	1	1514.66	1514.66	0.00	0.00	0.00		15000.00		2687.00
CAVE CREEK	.5	1508.25	1508.25	0.00	0.00	0.08	300.73	239.61	459.65	2687.00
CAVE CREEK	.5	1509.72	1509.72	0.00	0.00	0.13	629.16	410.48	960.35	2687.00
CAVE CREEK	.5	1510.86	1510.86	0.00	0.00	0.15	1981.31	278.76	739.94	2687.00
CAVE CREEK	.5	1512.08	1512.08	0.00	0.00	0.12	3336.06	418.93	1245.02	2687.00
CAVE CREEK	.5	1513.74	1513.74	0.00	0.00	0.11	6742.36	743.78	2513.86	2687.00
CAVE CREEK	.5	1514.66	1514.66	0.00	0.00	0.12	10159.72	1054.24	3786.04	2687.00
CAVE CREEK	18.04	1508.17	1507.35	0.82				1000.00		83.24
CAVE CREEK	18.04	1509.59	1508.33	1.26				2000.00		88.59
CAVE CREEK	18.04	1510.71	1509.22	1.50				2984.73	15.27	256.98
CAVE CREEK	18.04	1511.95	1510.71	1.25				4401.19	598.81	677.57
CAVE CREEK	18.04	1513.63	1512.50	1.13			62.39	6970.80	2966.81	1326.28
CAVE CREEK	18.04	1514.54	1513.34	1.20			270.05	9300.33	5429.61	1653.27
CAVE CREEK	18.02	1503.36	1497.36	6.00	4.23	0.52		1000.00		58.46
CAVE CREEK	18.02	1505.21	1497.80	7.41	3.79	0.61		1825.37	174.63	234.78
CAVE CREEK	18.02	1506.77	1497.97	8.80	3.55	0.70		2430.63	569.37	330.45
CAVE CREEK	18.02	1508.32	1498.18	10.13	2.68	0.90		3316.61	1683.39	445.30
CAVE CREEK	18.02	1509.84	1498.56	11.28	2.74	1.02		4849.05	5150.95	558.30
CAVE CREEK	18.02	1510.52	1498.86	11.66	2.83	1.06		5990.77	9009.23	635.93
SPILLWAY	20	1656.06	1655.80	0.26	13.50	0.00		1000.00		471.21
SPILLWAY	20	1656.51	1656.11	0.40	11.72	0.00		2000.00		488.60
SPILLWAY	20	1656.88	1656.36	0.53	10.77	0.00		3000.00		490.84
SPILLWAY	20	1657.52	1656.78	0.74	9.48	0.01		5000.00		494.67
SPILLWAY	20	1658.81	1657.67	1.14	8.15	0.01		10000.00		501.23
SPILLWAY	20	1659.88	1658.37	1.51	7.50	0.02		15000.00		504.37
SPILLWAY	19.89	1642.49	1642.24	0.25	13.57	0.00		1000.00		512.67
SPILLWAY	19.89	1642.94	1642.45	0.49	13.58	0.01		2000.00		514.69
SPILLWAY	19.89	1643.32	1642.63	0.68	13.54	0.02		3000.00		516.46
SPILLWAY	19.89	1644.01	1642.90	1.11	13.47	0.04		5000.00		518.82
SPILLWAY	19.89	1645.59	1643.37	2.22	13.12	0.11		10000.00		522.79
SPILLWAY	19.89	1646.93	1643.79	3.15	12.79	0.16		15000.00		526.29
SPILLWAY	19.77	1616.66	1614.25	2.42	25.60	0.22		1000.00		91.29
SPILLWAY	19.77	1617.21	1614.94	2.27	25.56	0.18		2000.00		151.05
SPILLWAY	19.77	1618.01	1615.32	2.68	25.11	0.20	0.38	2999.62		173.59

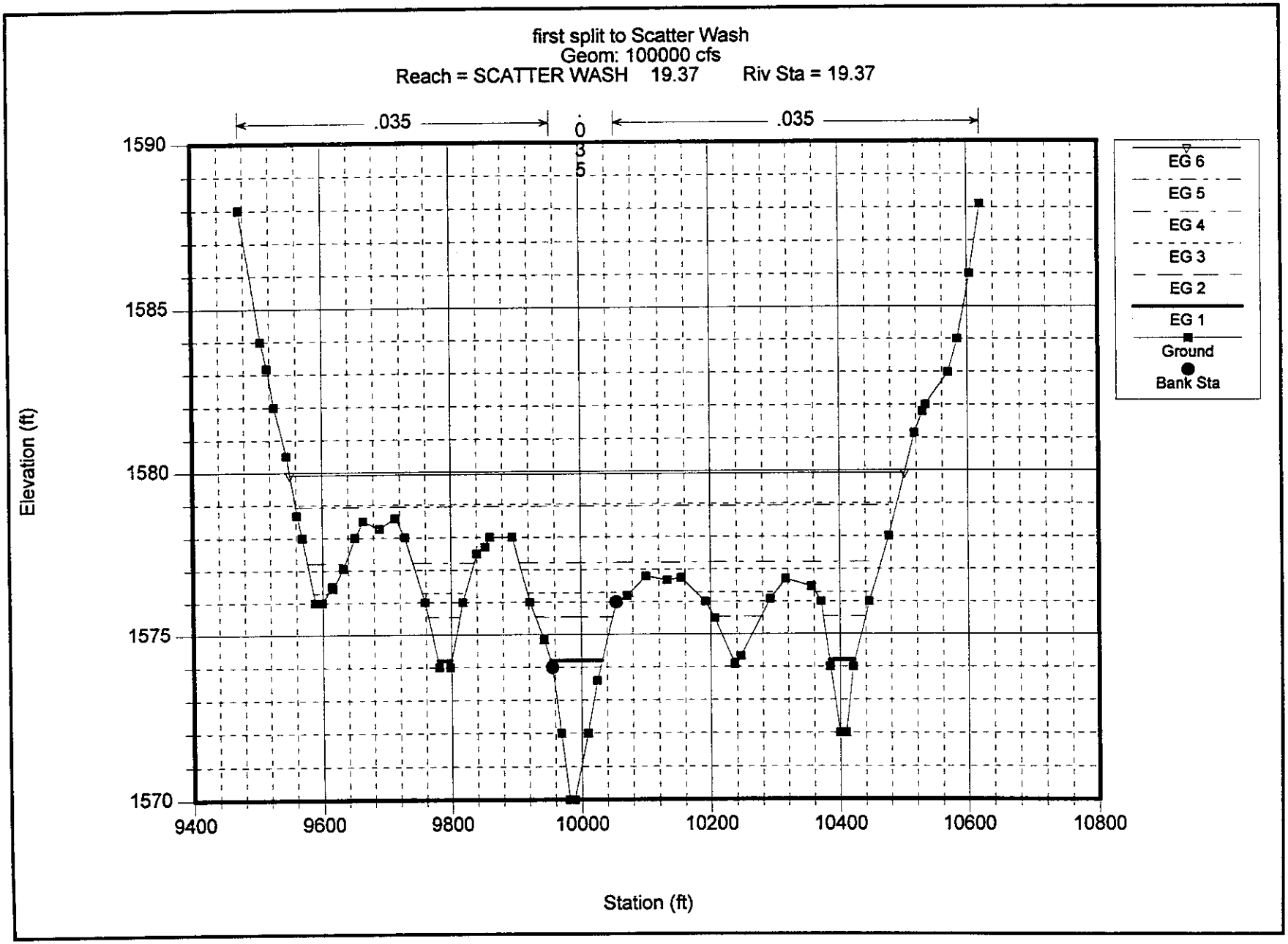
SPILLWAY	19.77	1619.14	1615.97	3.18	24.67	0.21	18.66	4981.34		202.32
SPILLWAY	19.77	1621.17	1617.15	4.01	24.25	0.18	175.81	9824.19		243.62
SPILLWAY	19.77	1623.13	1618.03	5.09	23.62	0.19	245.28	14754.72	0.00	300.70
SPILLWAY	19.72	1608.22	1607.45	0.77	5.11	0.04	67.10	932.90		95.69
SPILLWAY	19.72	1609.45	1608.13	1.32	7.73	0.39	208.26	1791.74		132.68
SPILLWAY	19.72	1610.21	1609.03	1.18	7.35	0.45	375.16	2624.84		157.05
SPILLWAY	19.72	1611.53	1609.83	1.70	7.17	0.44	726.55	4273.45		173.59
SPILLWAY	19.72	1614.08	1611.28	2.80	6.72	0.37	1733.05	8266.95		193.86
SPILLWAY	19.72	1616.10	1612.36	3.74	6.62	0.41	2724.38	12218.51	57.11	268.45
SPILLWAY	19.65	1601.15	1599.20	1.95	6.96	0.12		1000.00		43.40
SPILLWAY	19.65	1602.77	1601.03	1.74	6.65	0.04		2000.00		65.15
SPILLWAY	19.65	1604.23	1601.68	2.55	5.84	0.14		3000.00		72.54
SPILLWAY	19.65	1606.12	1603.47	2.65	5.33	0.09		5000.00		94.28
SPILLWAY	19.65	1609.44	1606.58	2.85	4.65	0.00		10000.00		134.25
SPILLWAY	19.65	1611.87	1608.54	3.33	2.94	0.07	4.34	14993.28	2.38	167.61
SPILLWAY	19.59	1594.89	1593.33	1.56	6.38	0.22		1000.00		43.23
SPILLWAY	19.59	1596.95	1594.70	2.26	5.76	0.05		2000.00		53.25
SPILLWAY	19.59	1598.40	1596.00	2.40	5.79	0.05		3000.00		62.33
SPILLWAY	19.59	1600.78	1597.51	3.27	5.28	0.06		5000.00		74.46
SPILLWAY	19.59	1604.88	1600.27	4.61	4.38	0.18	0.36	9999.50	0.14	97.53
SPILLWAY	19.59	1607.93	1602.43	5.50	3.73	0.22	106.43	14847.92	45.65	117.60

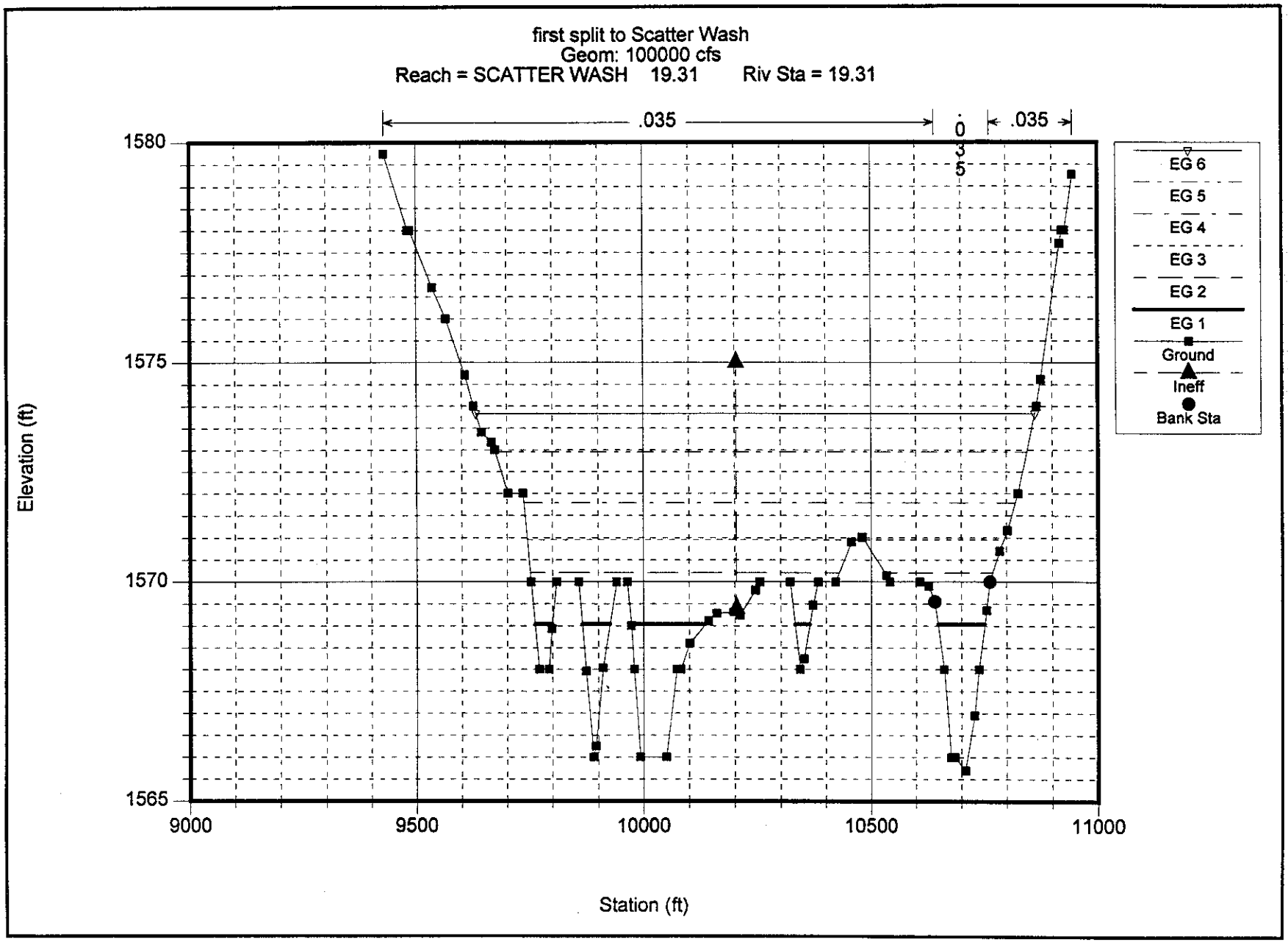

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.54 Riv Sta = 19.54
.035
.035
.035
1620
1615
1610
1605
1600
1595
1590
1585
1580
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

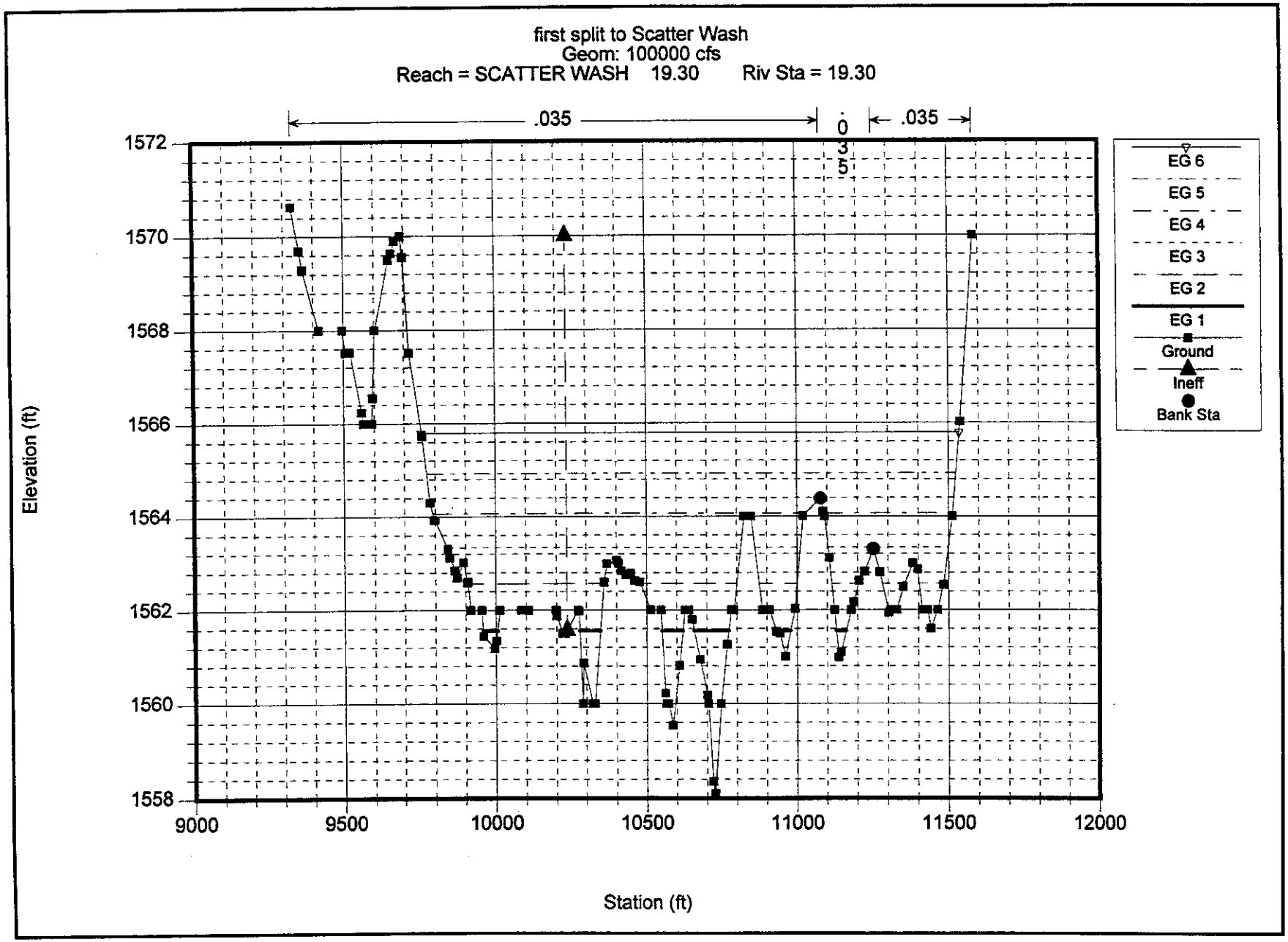

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.51 Riv Sta = 19.51
.035
.035
.035
1615
1610
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

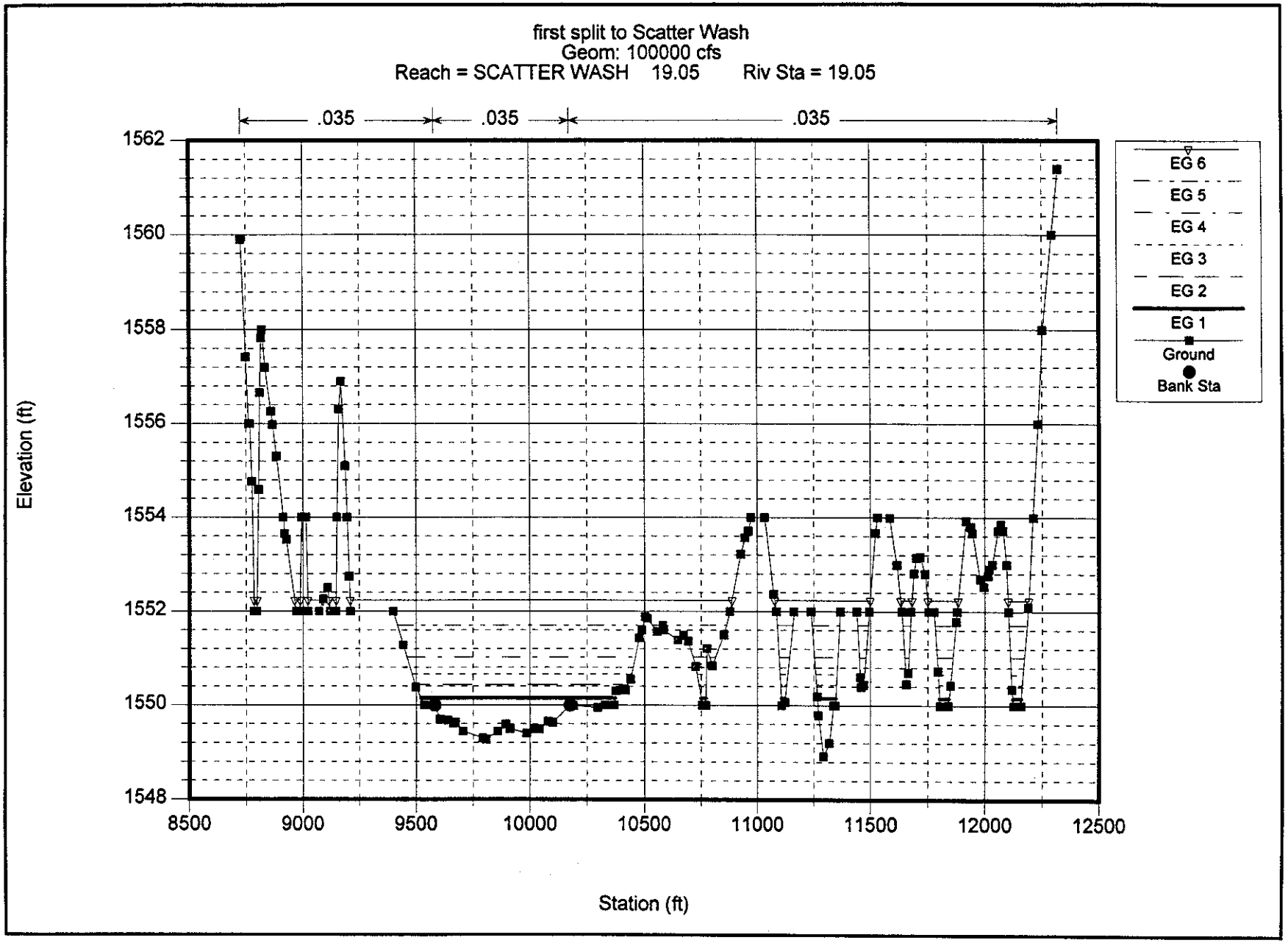

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.46 Riv Sta = 19.46
.035
.035
.035
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Bank Sta

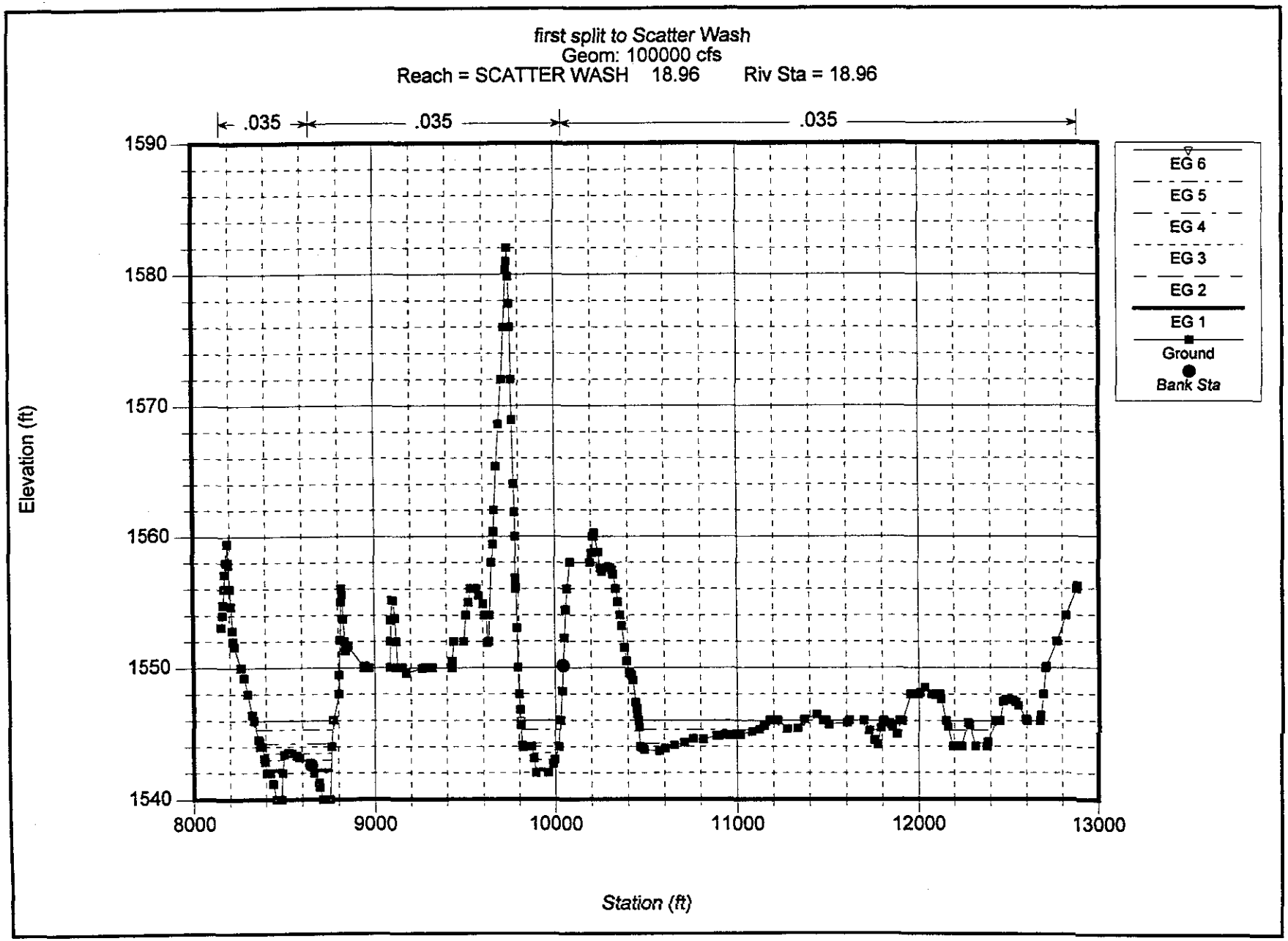

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.42 Riv Sta = 19.42
.035
.035
.035
1595
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Bank Sta

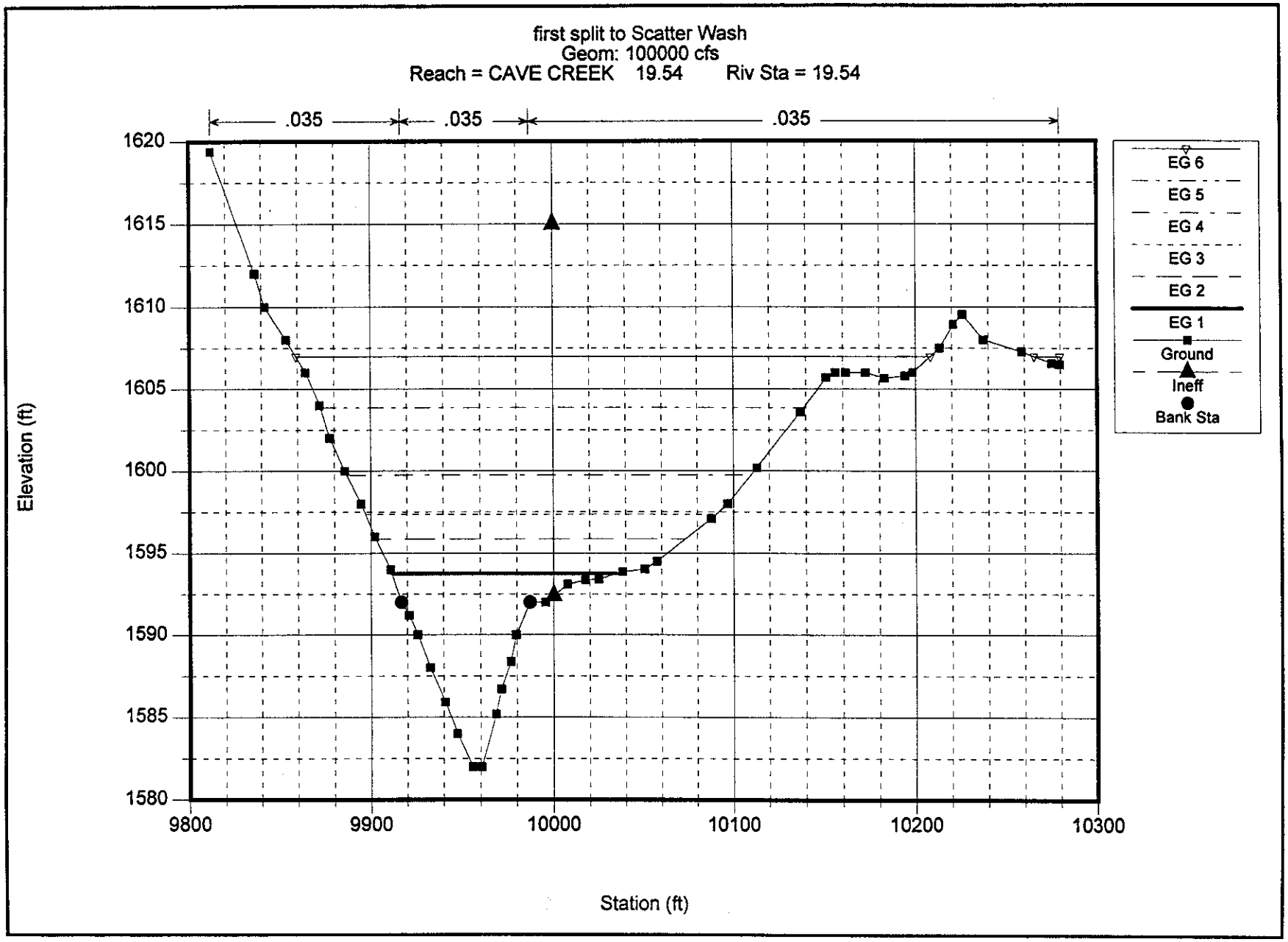

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.37 Riv Sta = 19.37
.035
.035
0.035
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
10800
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Bank Sta

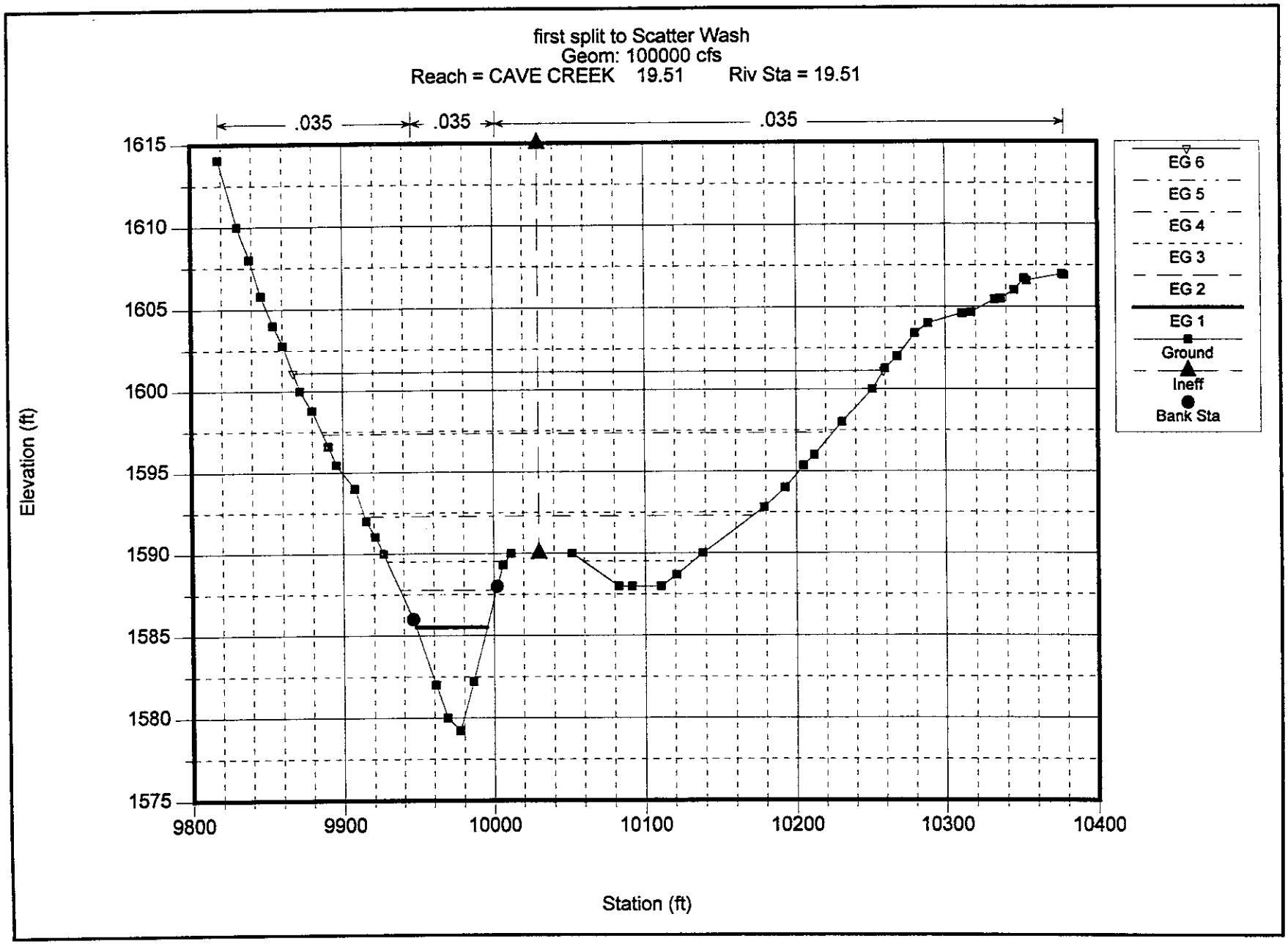

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.31 Riv Sta = 19.31
.035
.035
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta
Elevation (ft)
1580
1575
1570
1565
9000
9500
10000
10500
11000
Station (ft)

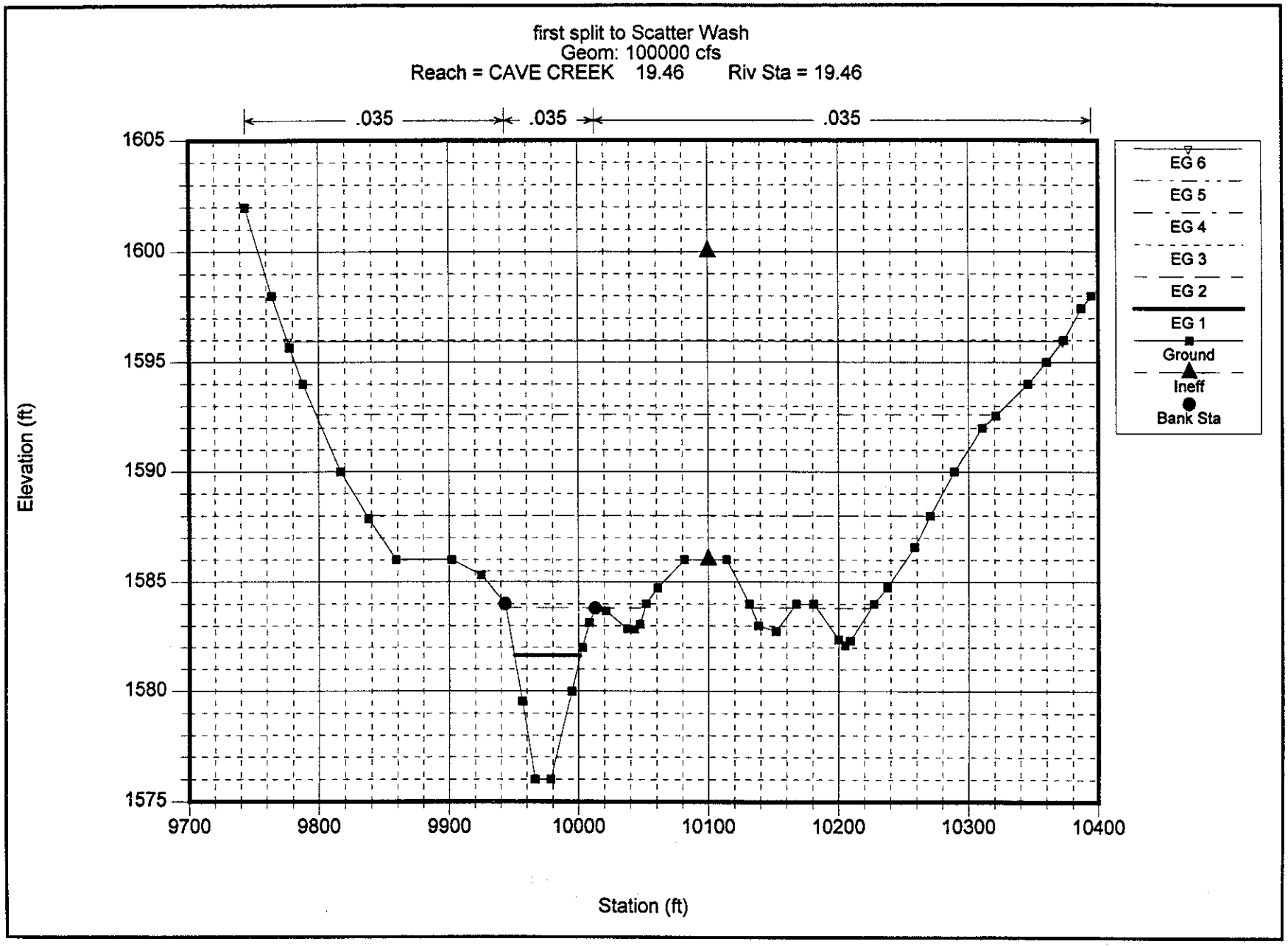

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.30 Riv Sta = 19.30
.035
.035
.035
1572
1570
1568
1566
1564
1562
1560
1558
Elevation (ft)
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

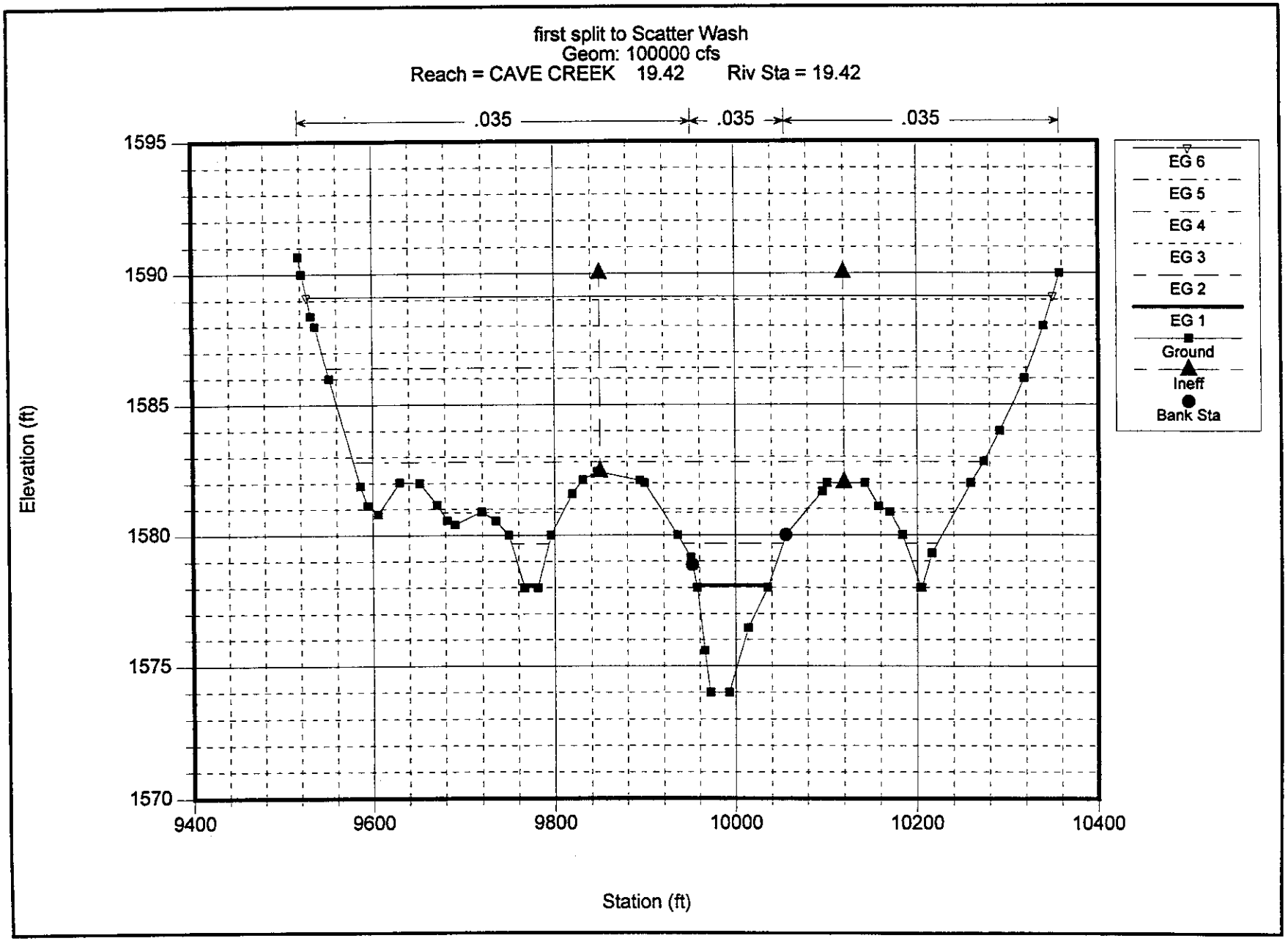

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.05 Riv Sta = 19.05
.035
.035
.035
1562
1560
1558
1556
1554
1552
1550
1548
Elevation (ft)
8500
9000
9500
10000
10500
11000
11500
12000
12500
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Bank Sta

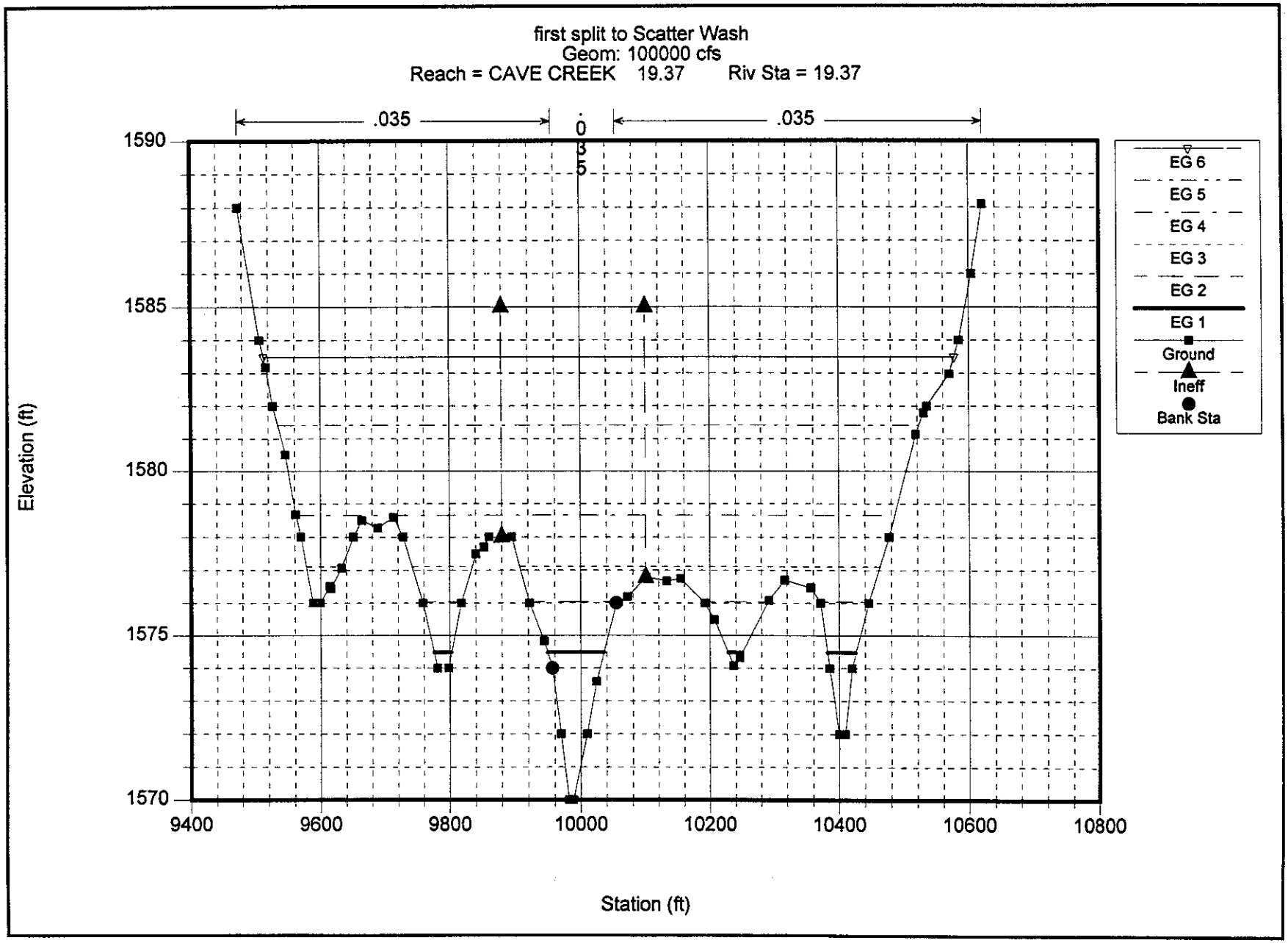

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 18.96 Riv Sta = 18.96
.035
.035
.035
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
9000
10000
11000
12000
13000
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Bank Sta

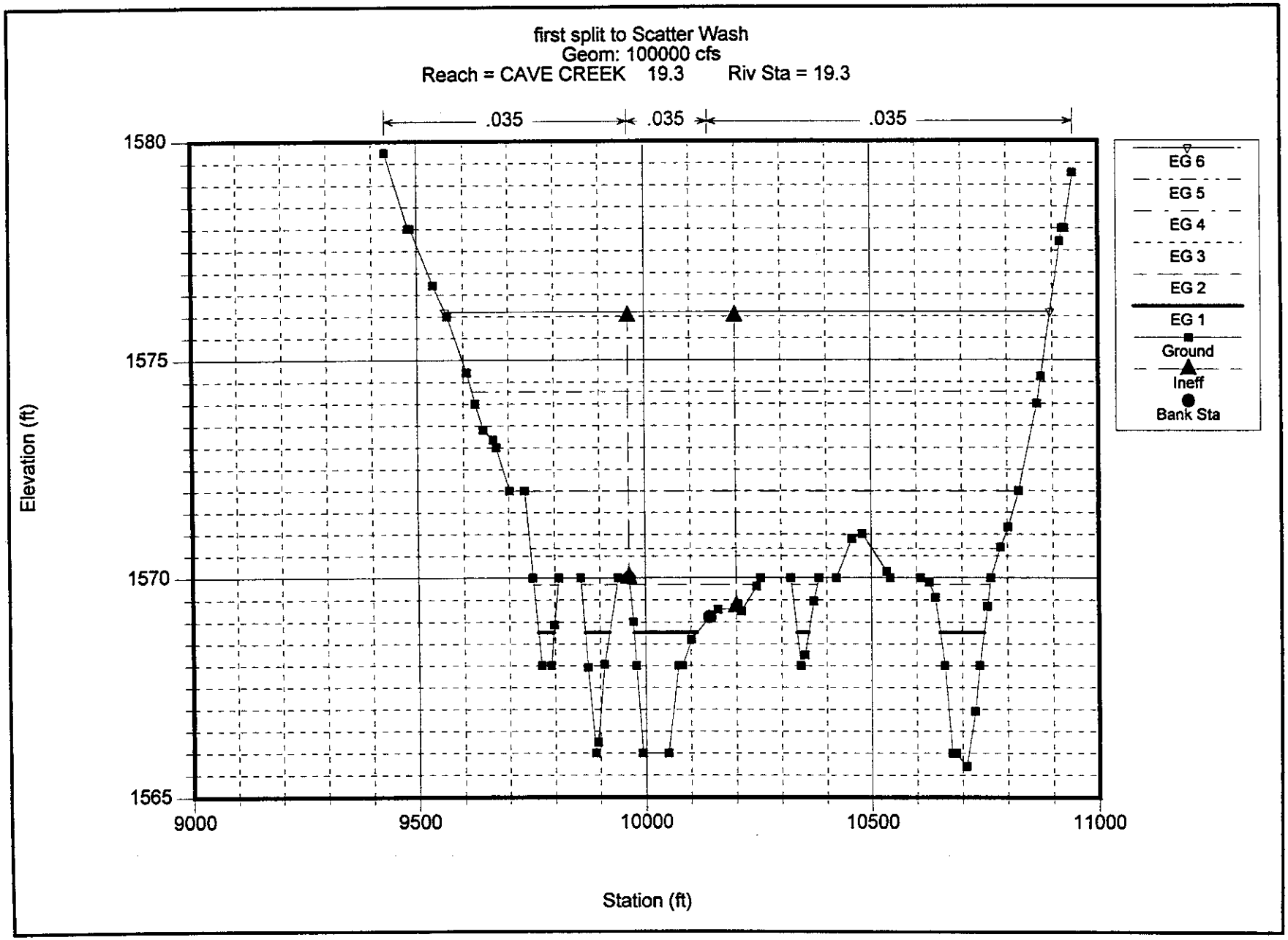

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.54 Riv Sta = 19.54
.035
.035
.035
1620
1615
1610
1605
1600
1595
1590
1585
1580
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

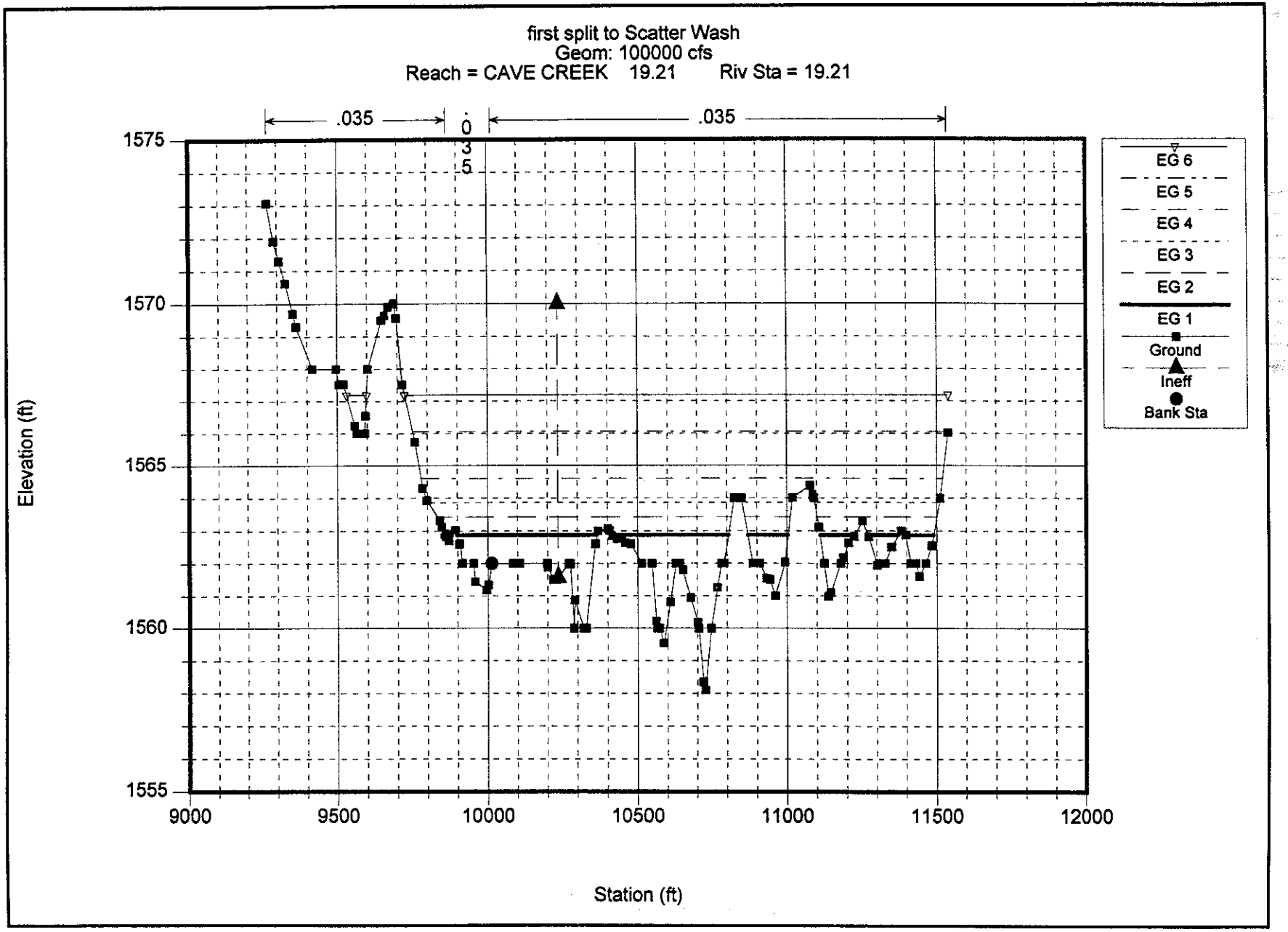

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.51 Riv Sta = 19.51
.035
.035
.035
1615
1610
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

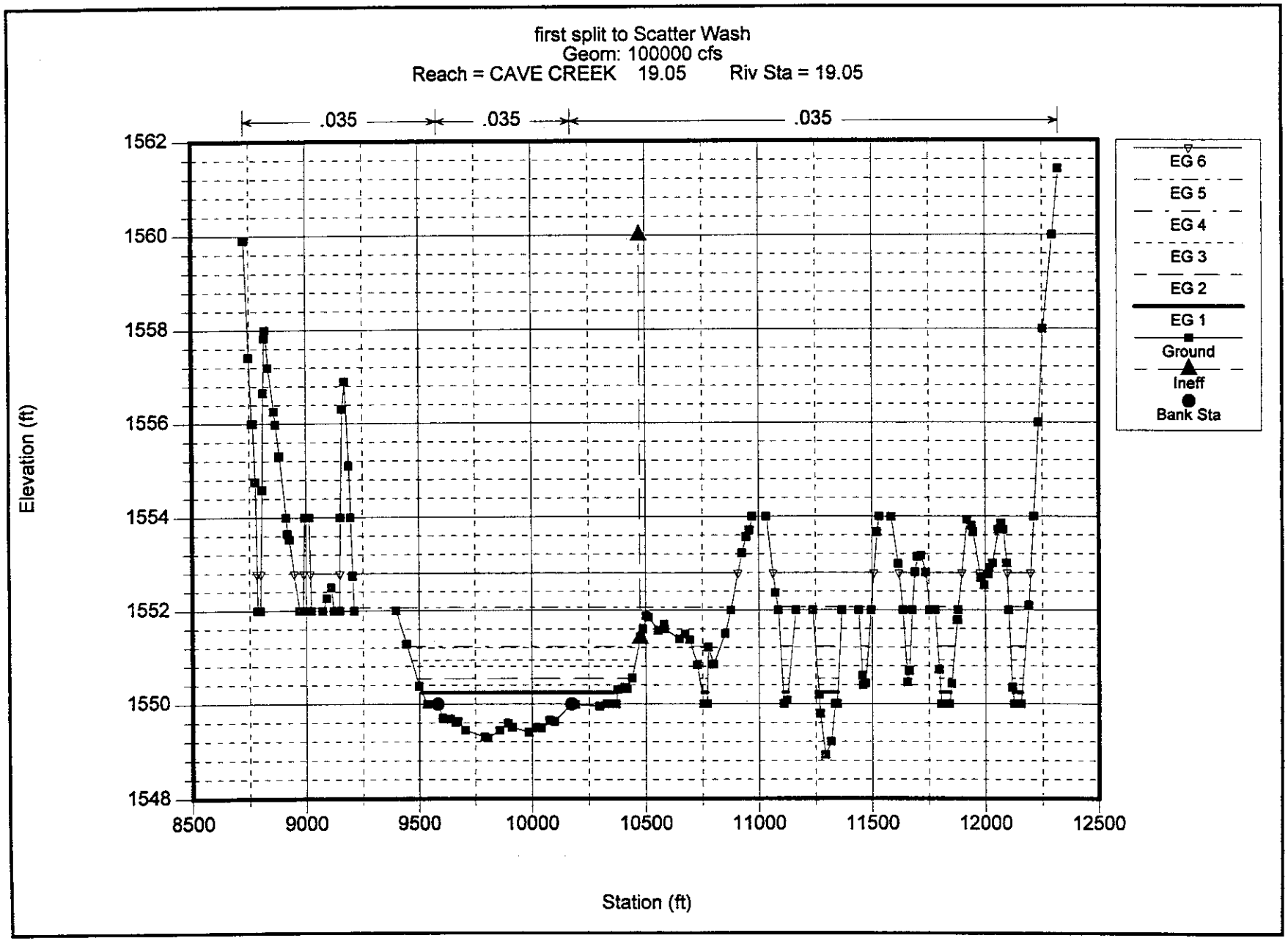

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.46 Riv Sta = 19.46
.035
.035
.035
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

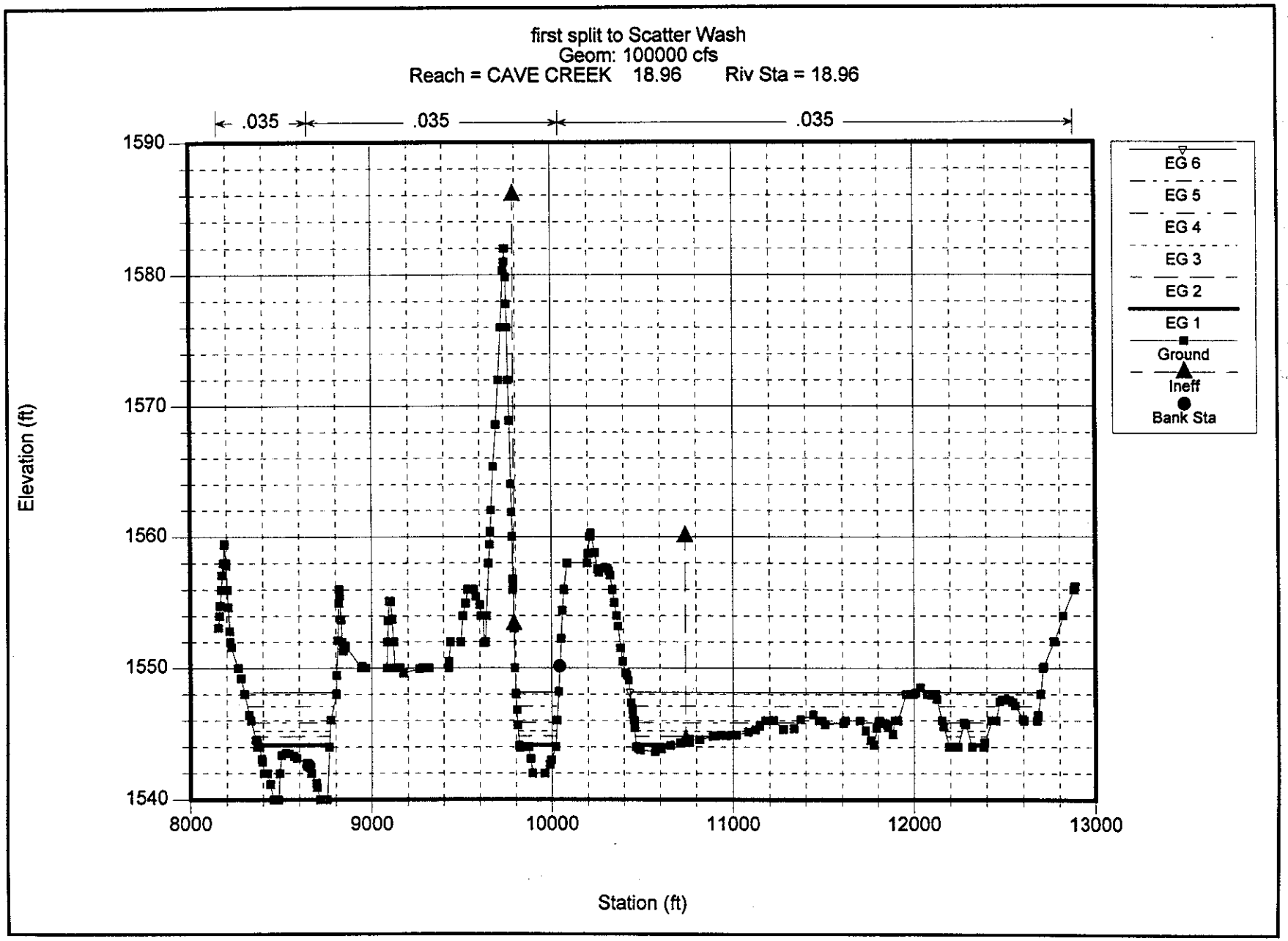

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.42 Riv Sta = 19.42
.035
.035
.035
1595
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

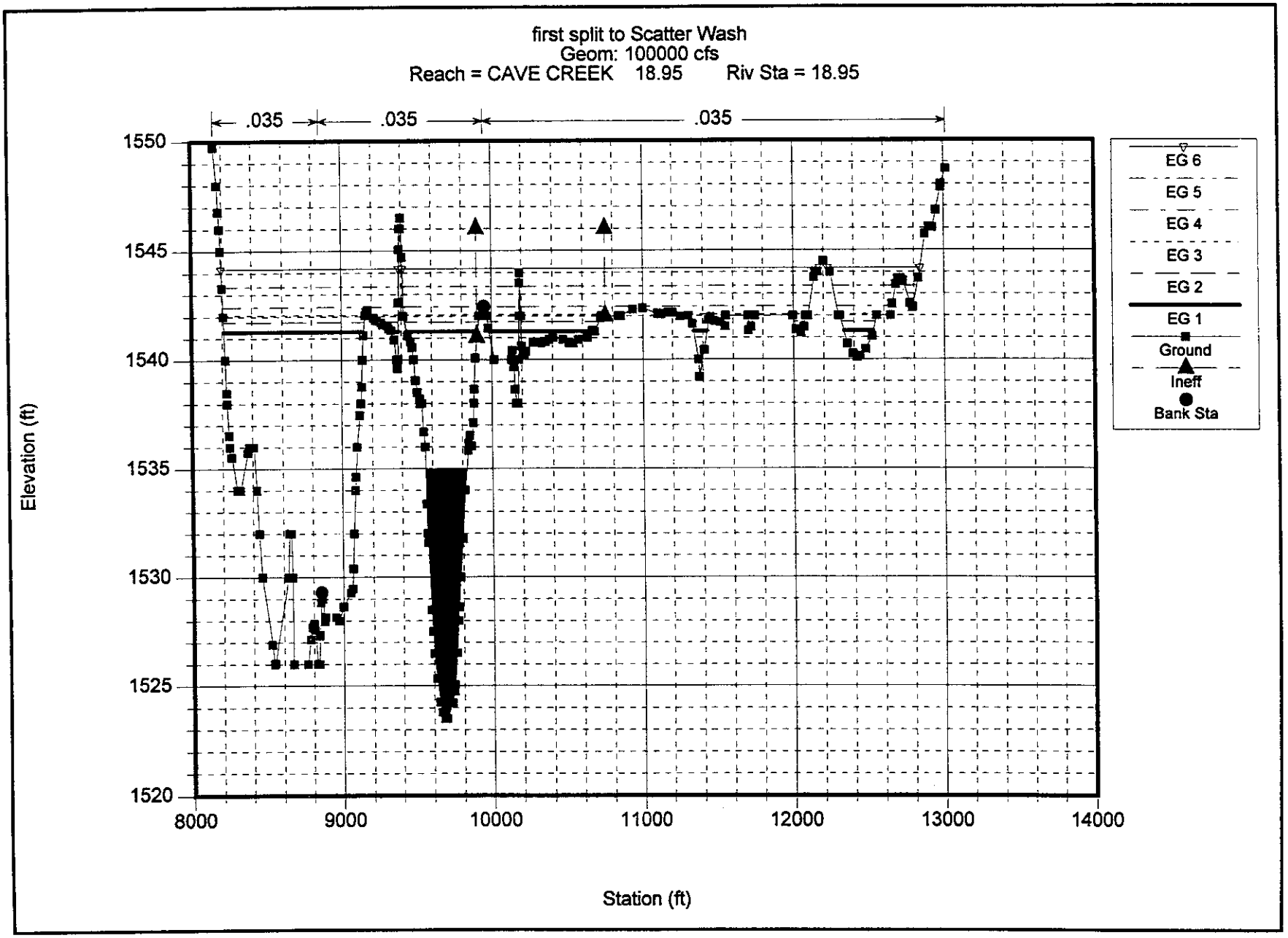

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.37 Riv Sta = 19.37
.035
.035
0
3
5
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
10800
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

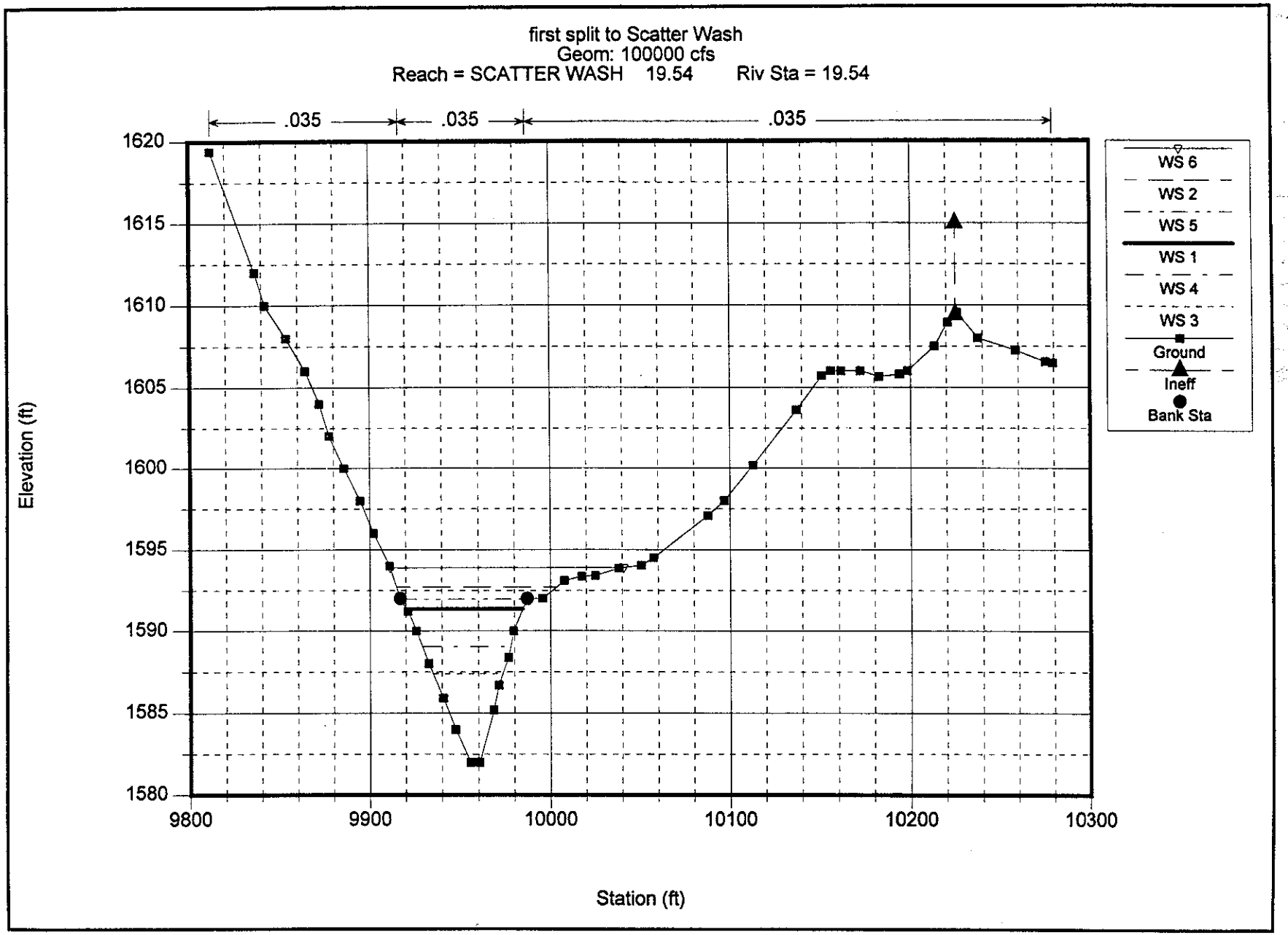

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.3 Riv Sta = 19.3
.035
.035
.035
1580
1575
1570
1565
Elevation (ft)
9000
9500
10000
10500
11000
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

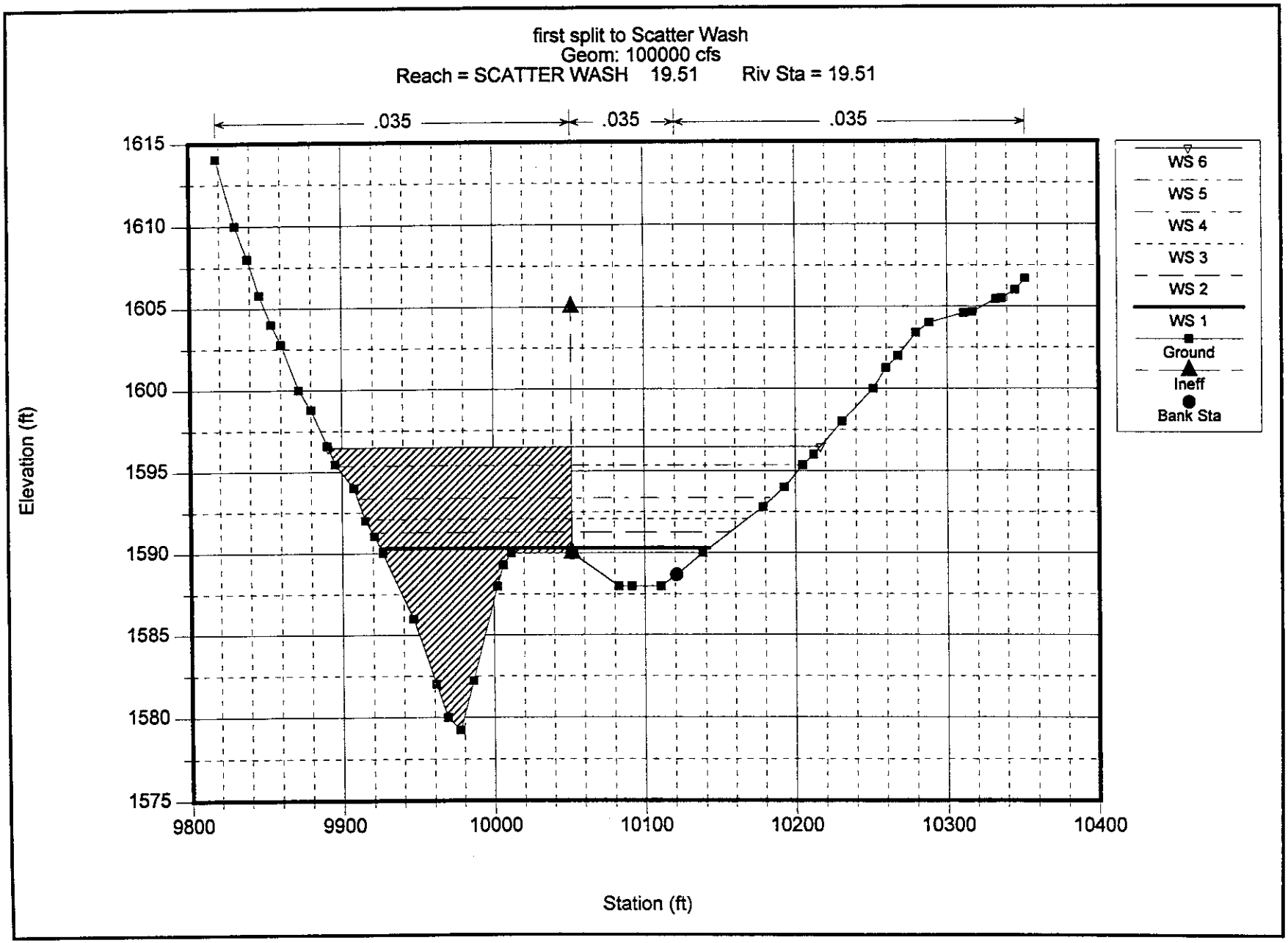

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.21 Riv Sta = 19.21
.035
.035
.035
1575
1570
1565
1560
1555
Elevation (ft)
9000
9500
10000
10500
11000
11500
12000
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

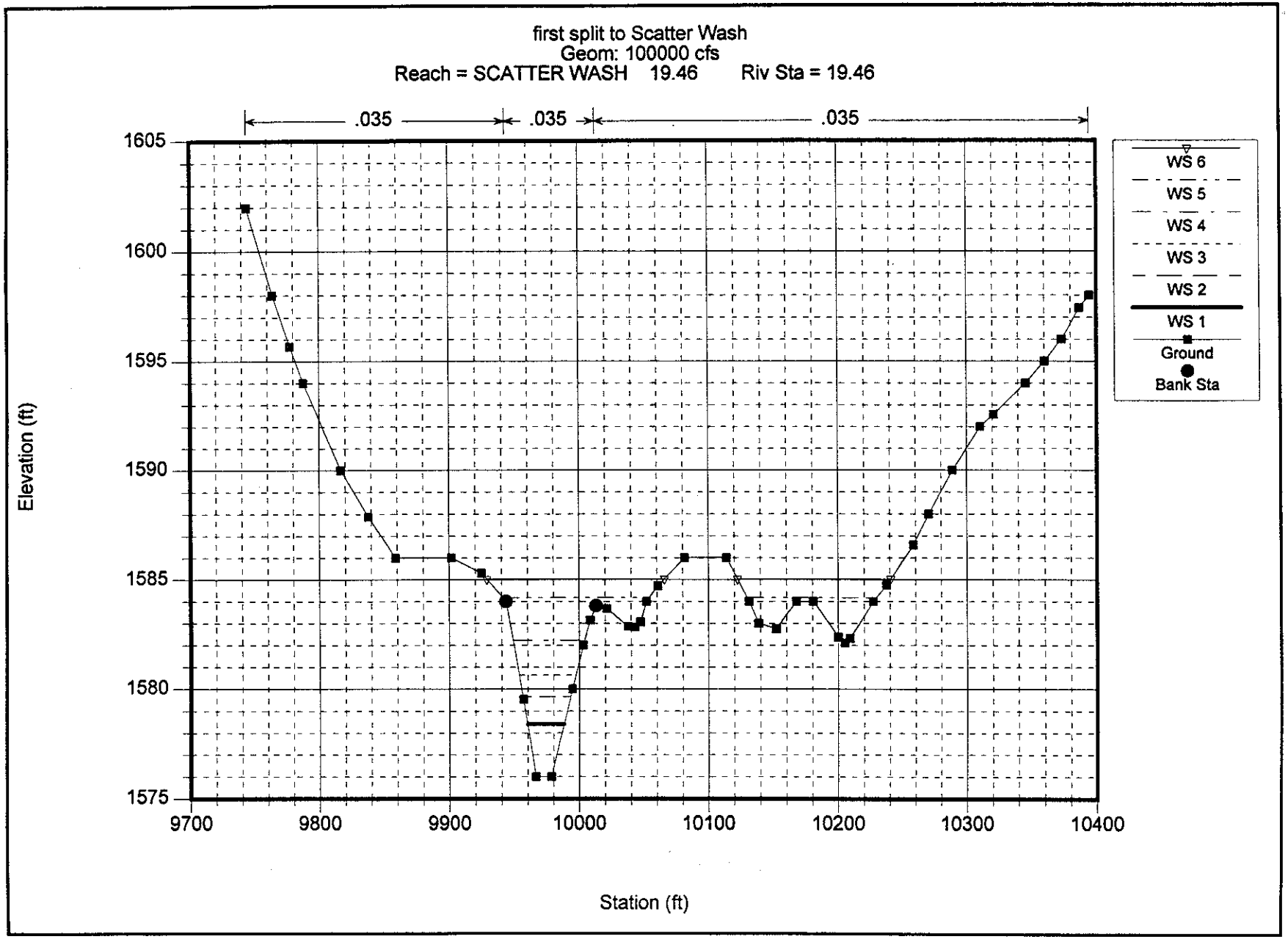

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.05 Riv Sta = 19.05
.035
.035
.035
1562
1560
1558
1556
1554
1552
1550
1548
Elevation (ft)
8500
9000
9500
10000
10500
11000
11500
12000
12500
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

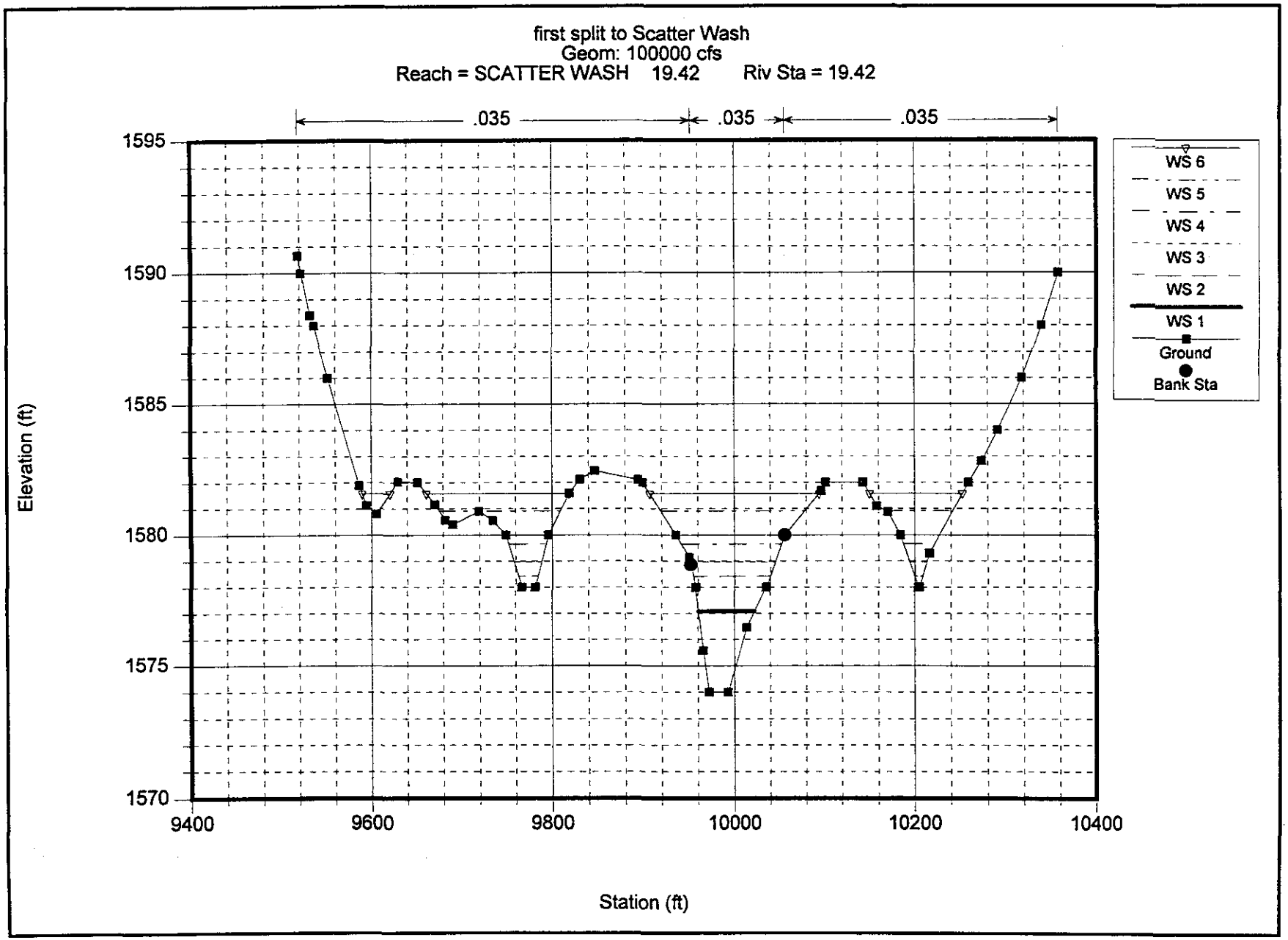

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 18.96 Riv Sta = 18.96
.035
.035
.035
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
9000
10000
11000
12000
13000
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

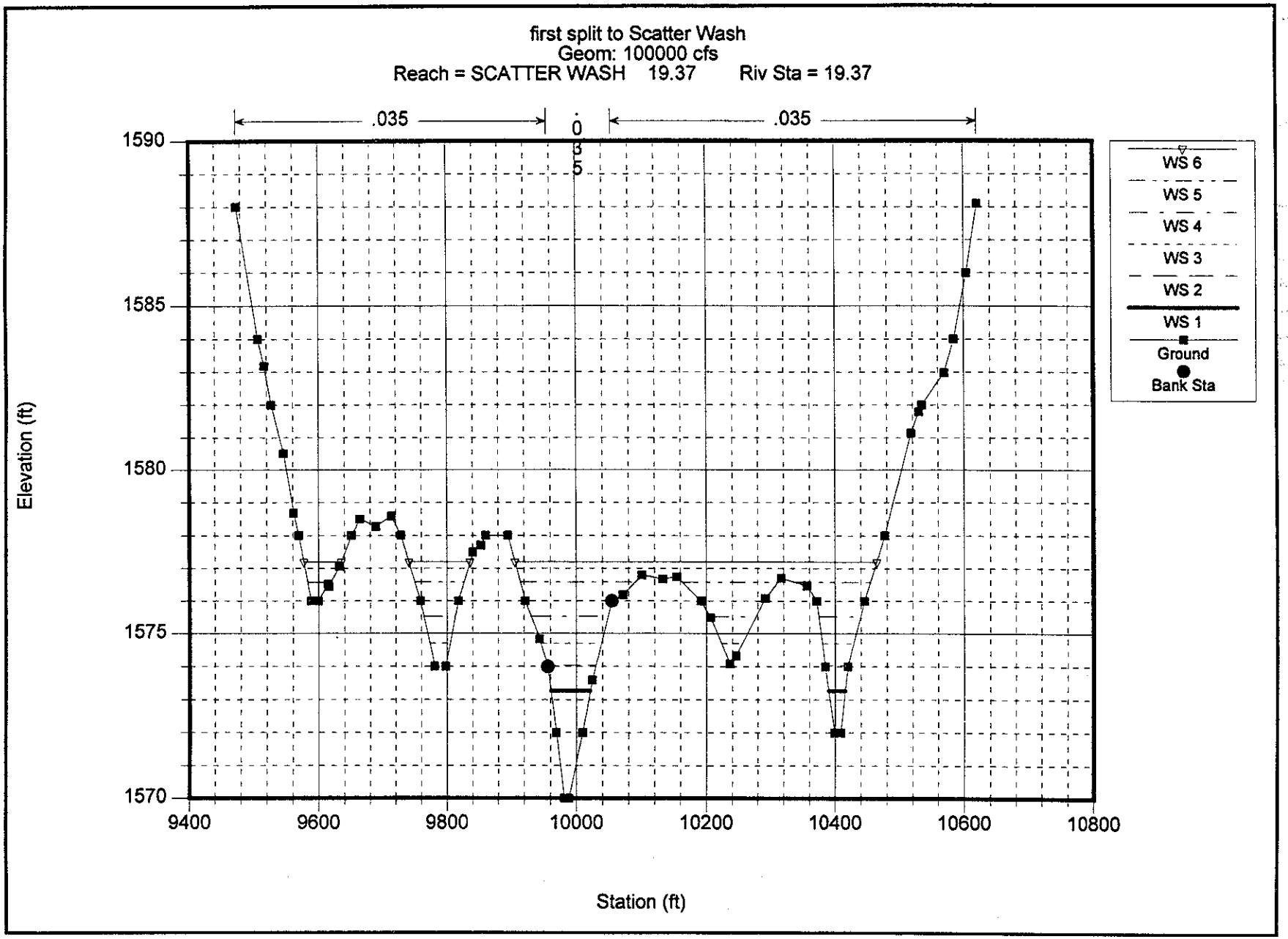

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 18.95 Riv Sta = 18.95
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
Elevation (ft)
8000
9000
10000
11000
12000
13000
14000
Station (ft)
EG 6
EG 5
EG 4
EG 3
EG 2
EG 1
Ground
Ineff
Bank Sta

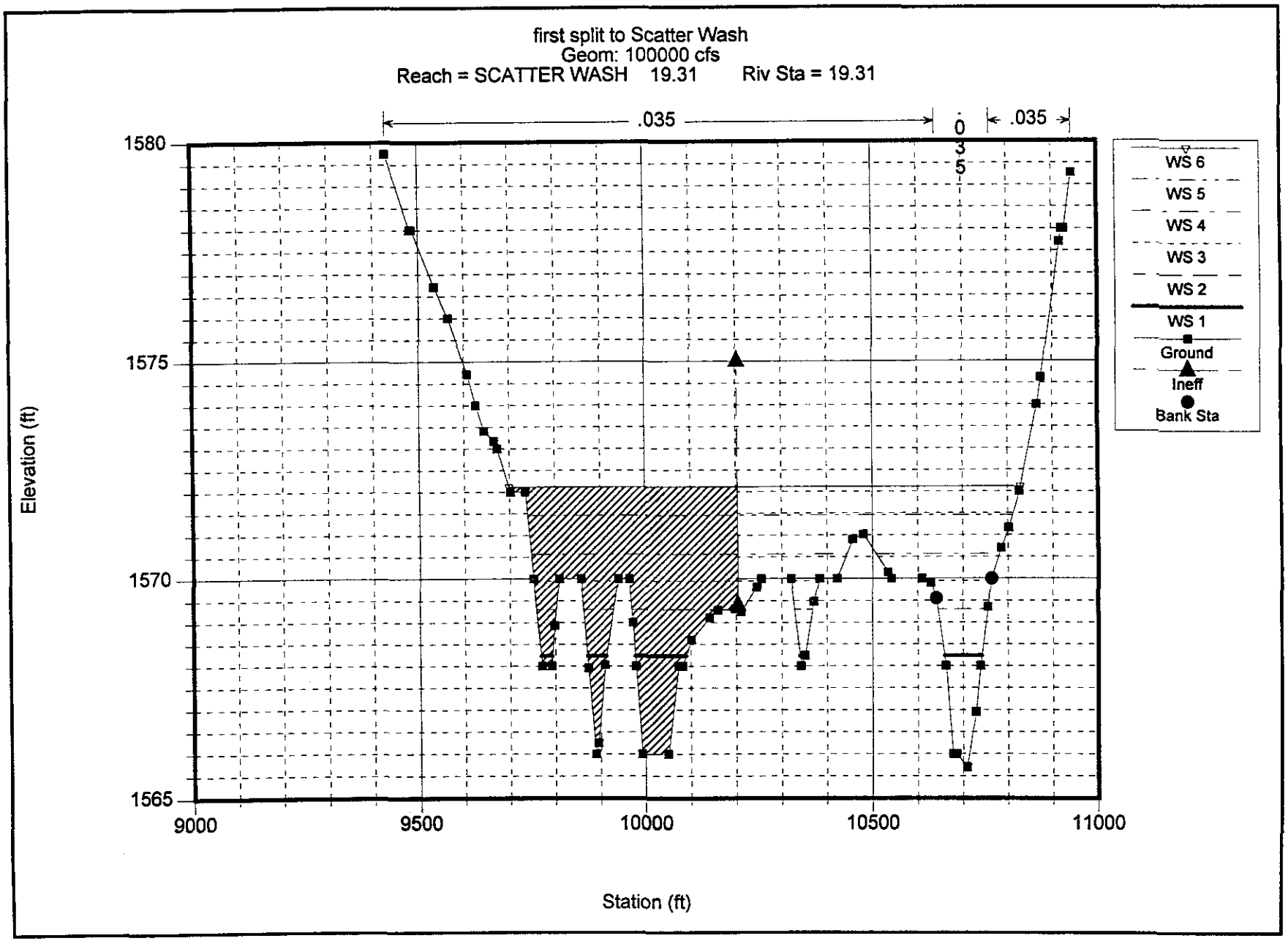

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.54 Riv Sta = 19.54
.035
.035
.035
1620
1615
1610
1605
1600
1595
1590
1585
1580
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
WS 6
WS 2
WS 5
WS 1
WS 4
WS 3
Ground
Ineff
Bank Sta

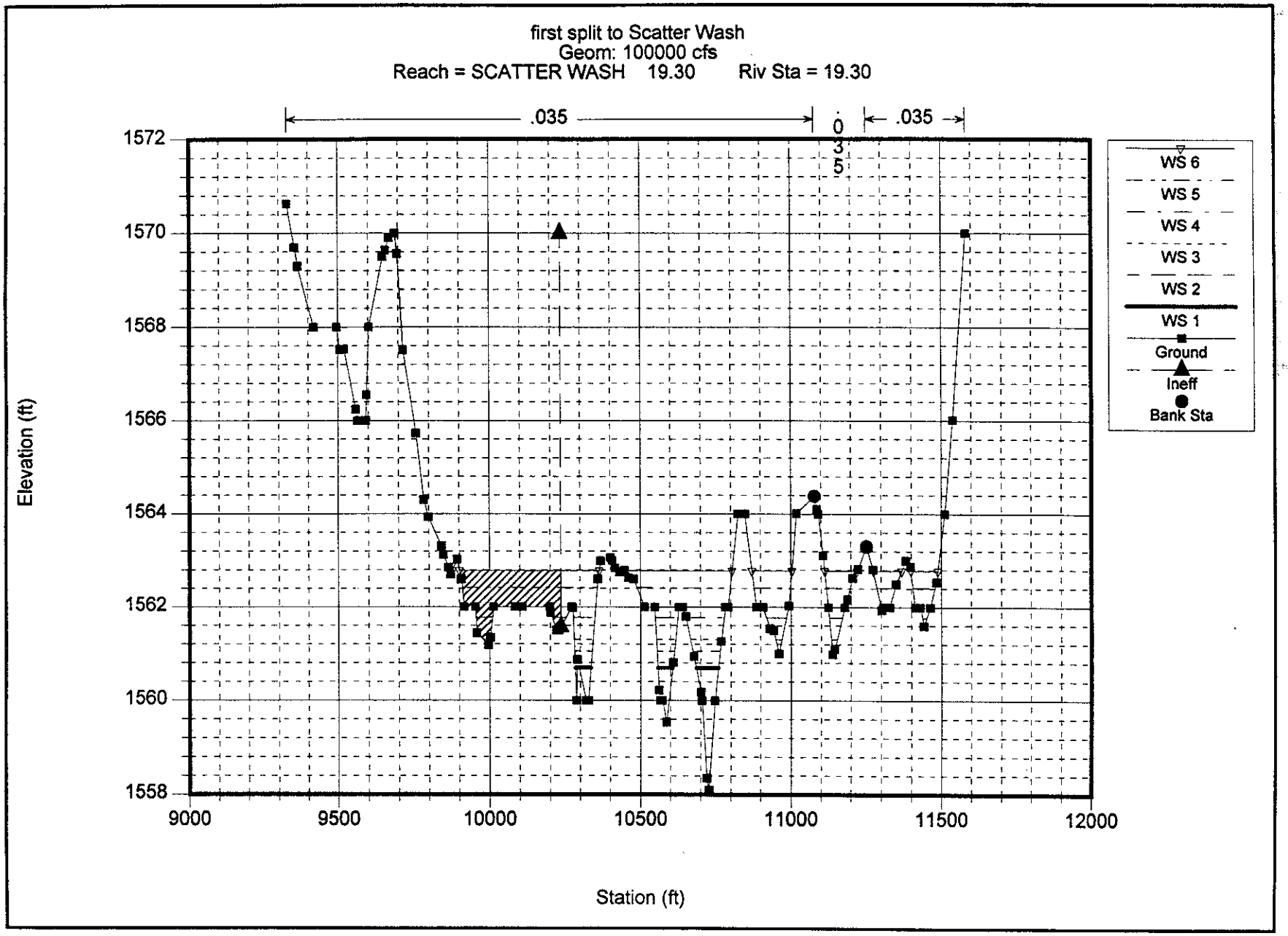

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.51 Riv Sta = 19.51
.035
.035
.035
1615
1610
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9800
9900
10000
10100
10200
10300
10400
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

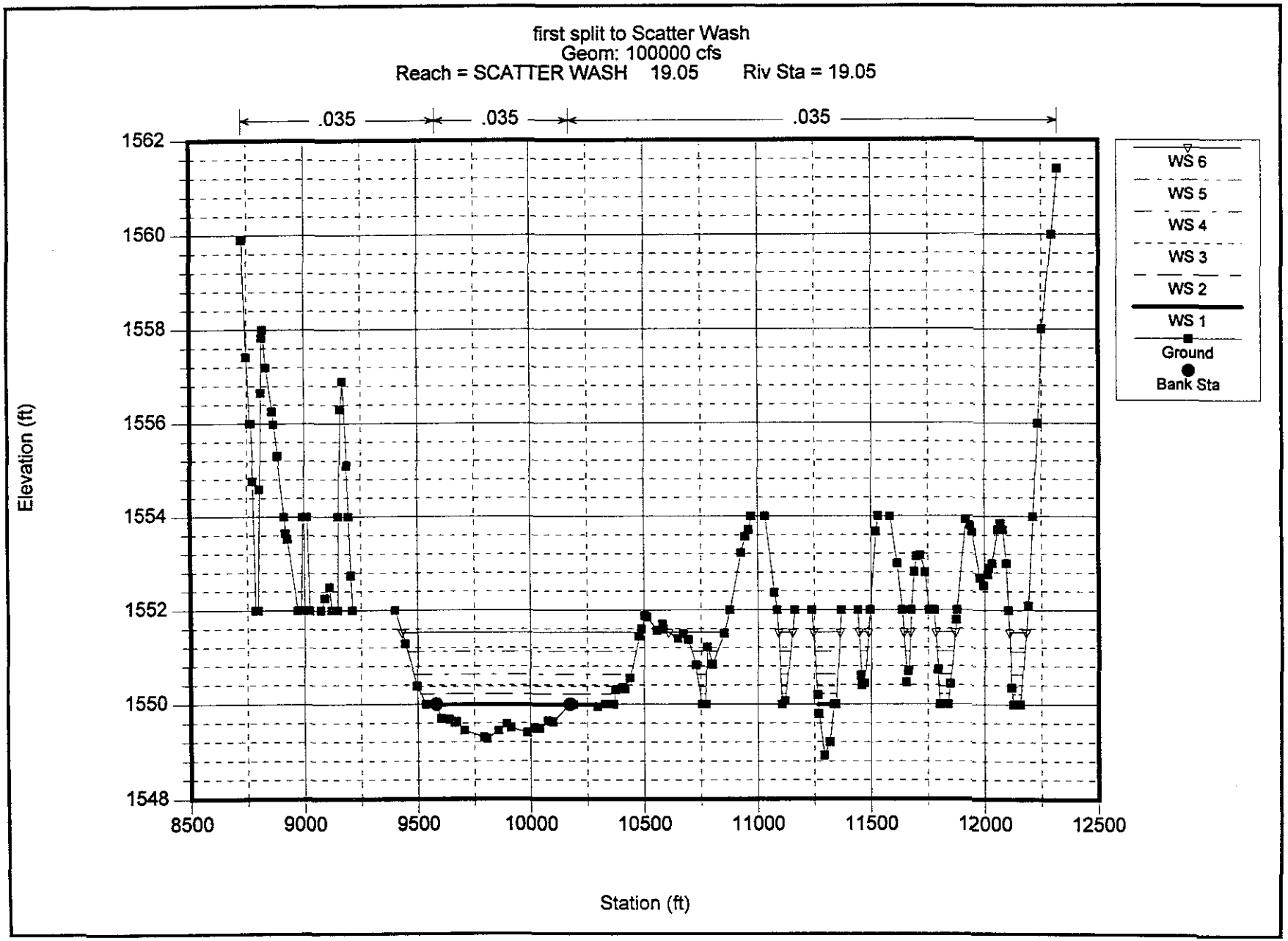

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.46 Riv Sta = 19.46
.035
.035
.035
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Bank Sta

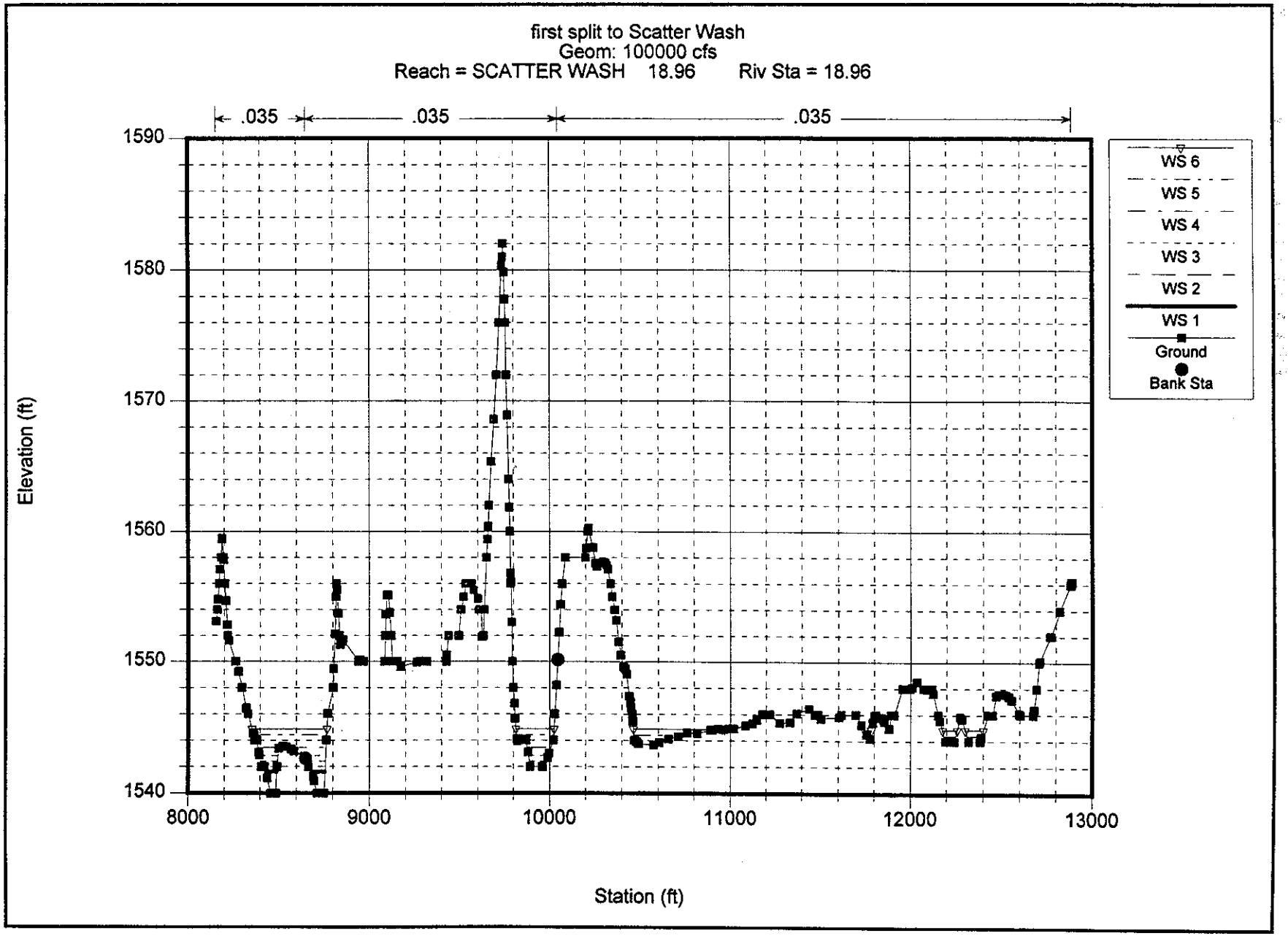

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.42 Riv Sta = 19.42
.035
.035
.035
1595
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Bank Sta

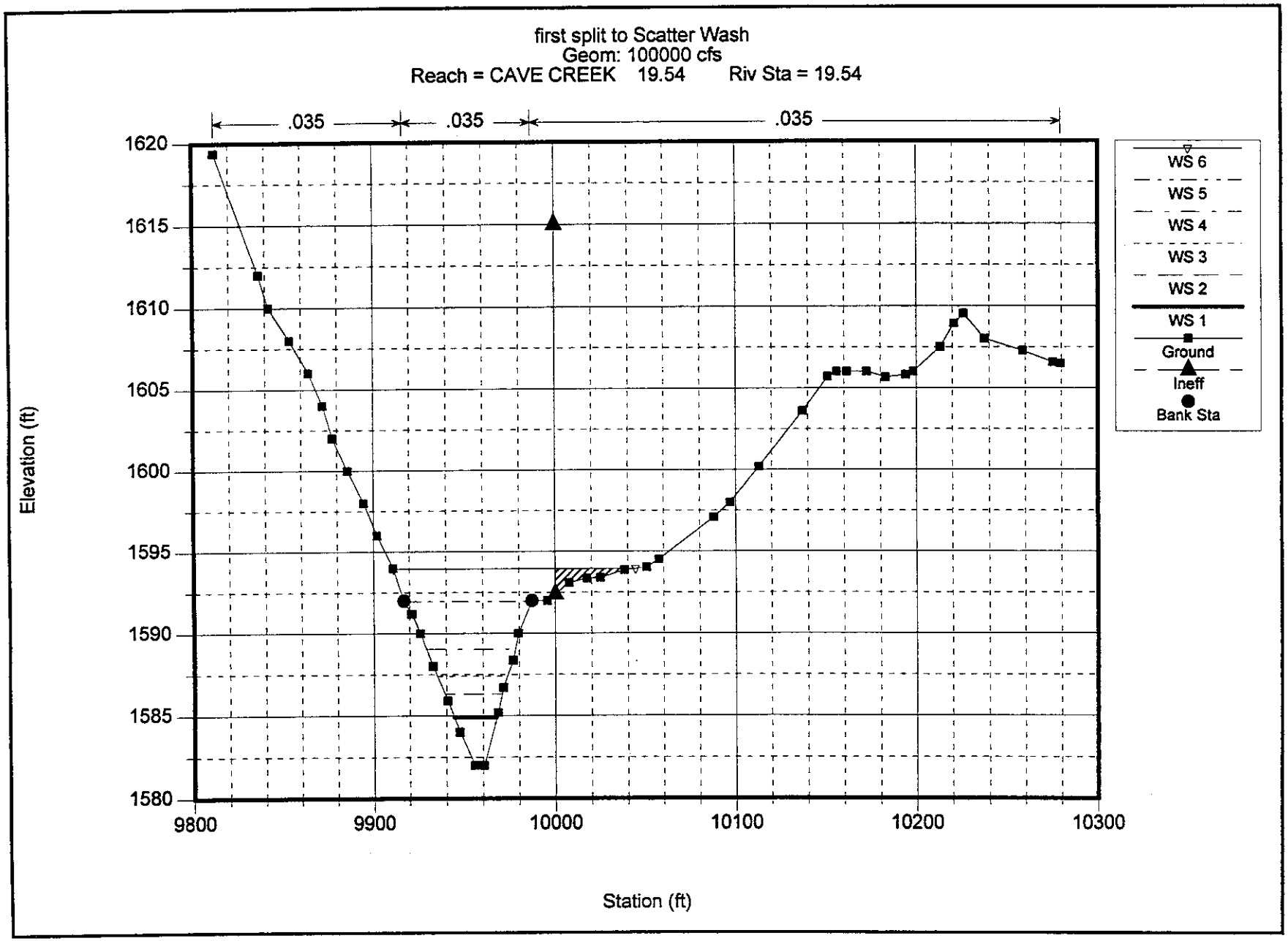

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.37 Riv Sta = 19.37
.035
.035
0.05
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
10800
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Bank Sta

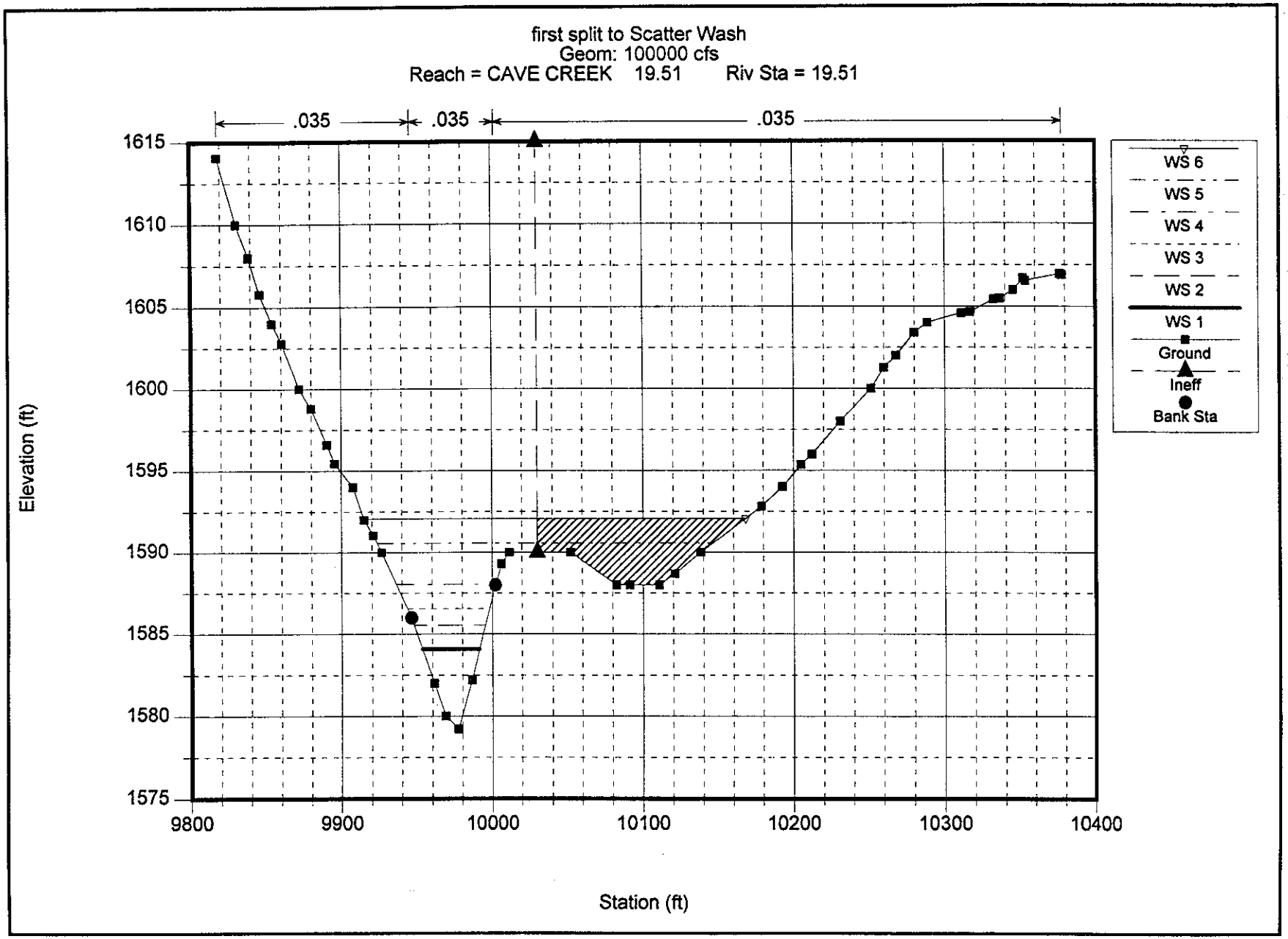

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.31 Riv Sta = 19.31
.035
.035
1580
1575
1570
1565
Elevation (ft)
9000
9500
10000
10500
11000
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

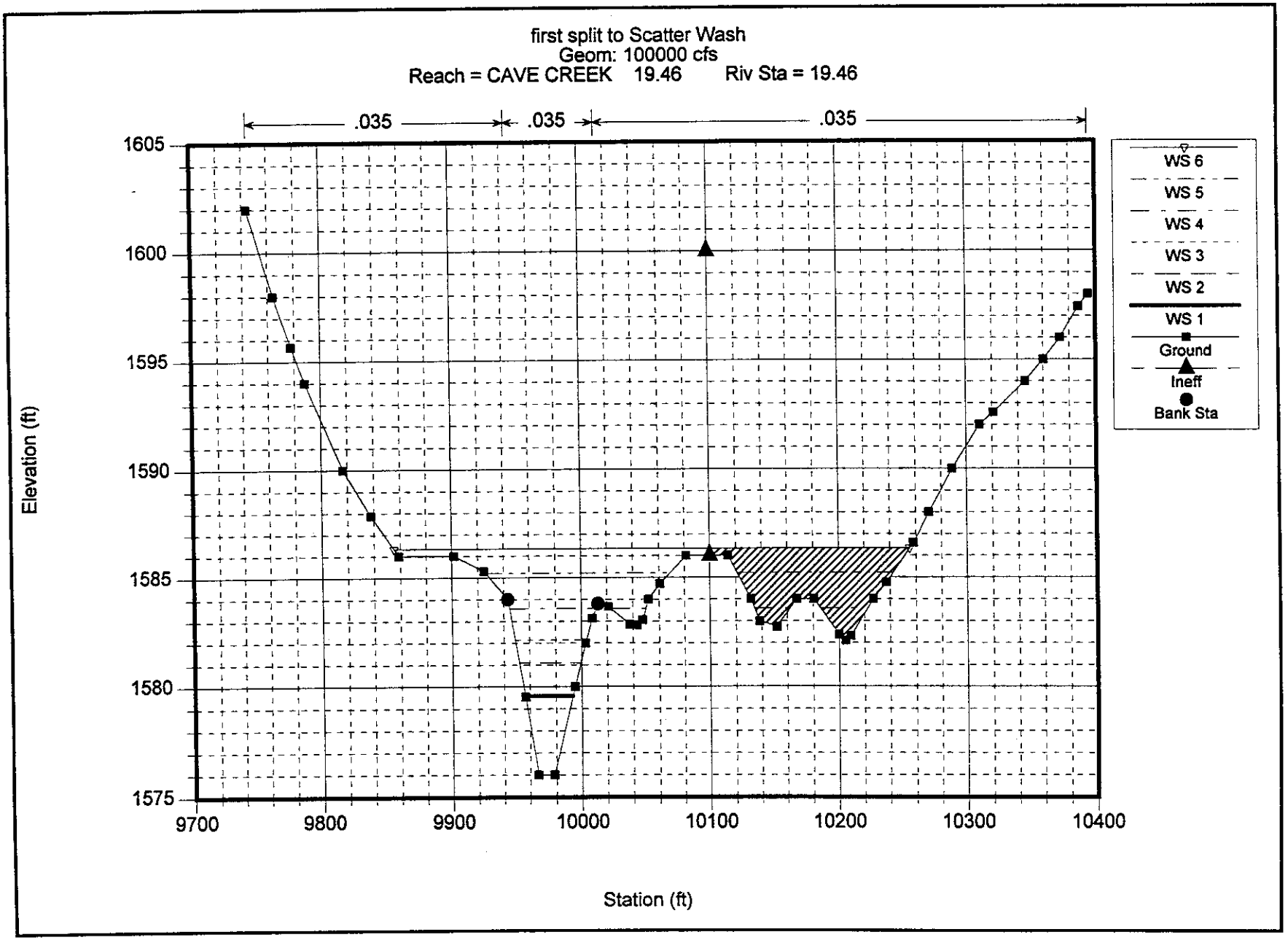

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.30 Riv Sta = 19.30
.035
.035
0.035
1572
1570
1568
1566
1564
1562
1560
1558
Elevation (ft)
9000
9500
10000
10500
11000
11500
12000
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

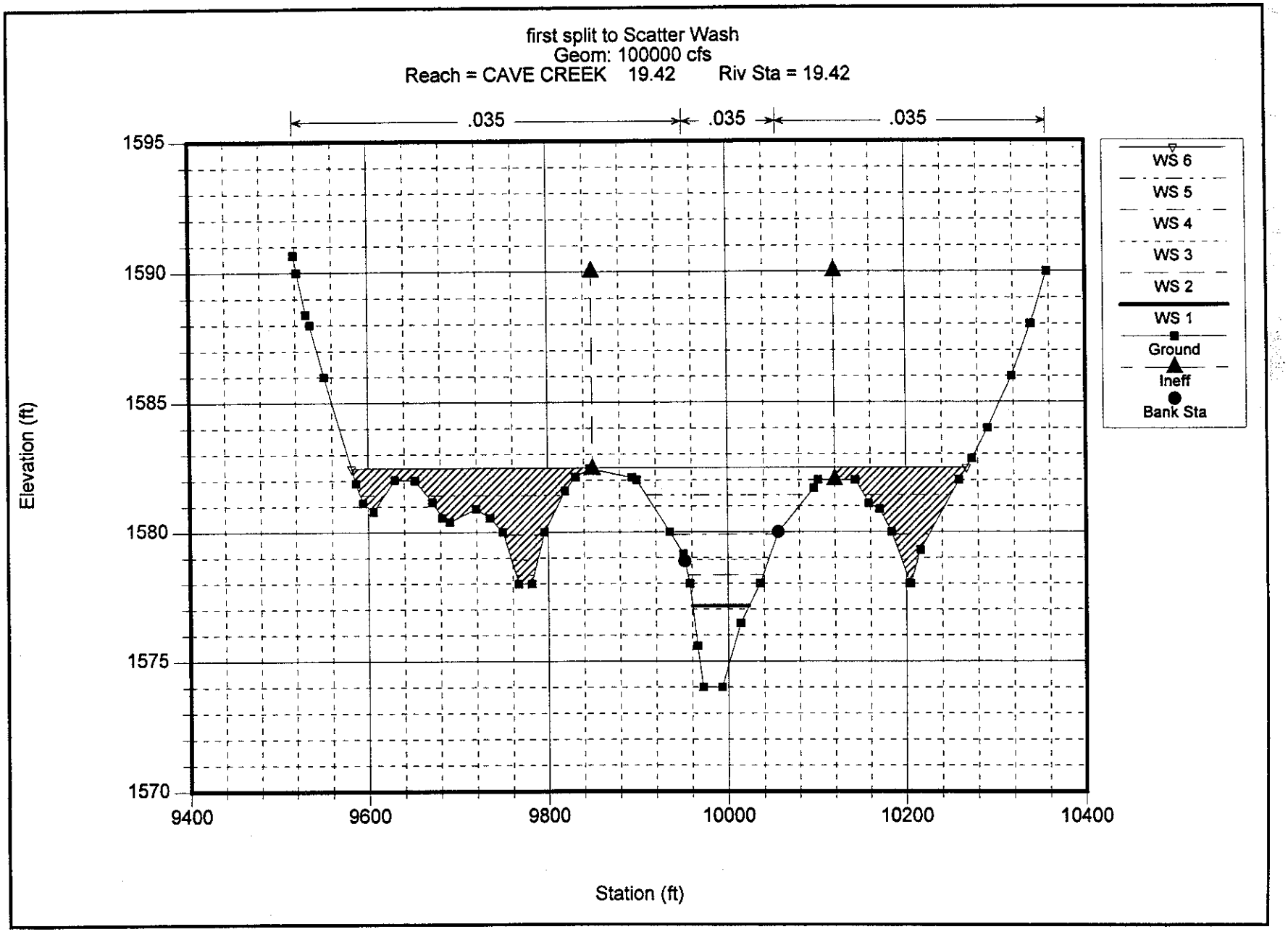

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 19.05 Riv Sta = 19.05
.035
.035
.035
1562
1560
1558
1556
1554
1552
1550
1548
Elevation (ft)
8500
9000
9500
10000
10500
11000
11500
12000
12500
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Bank Sta

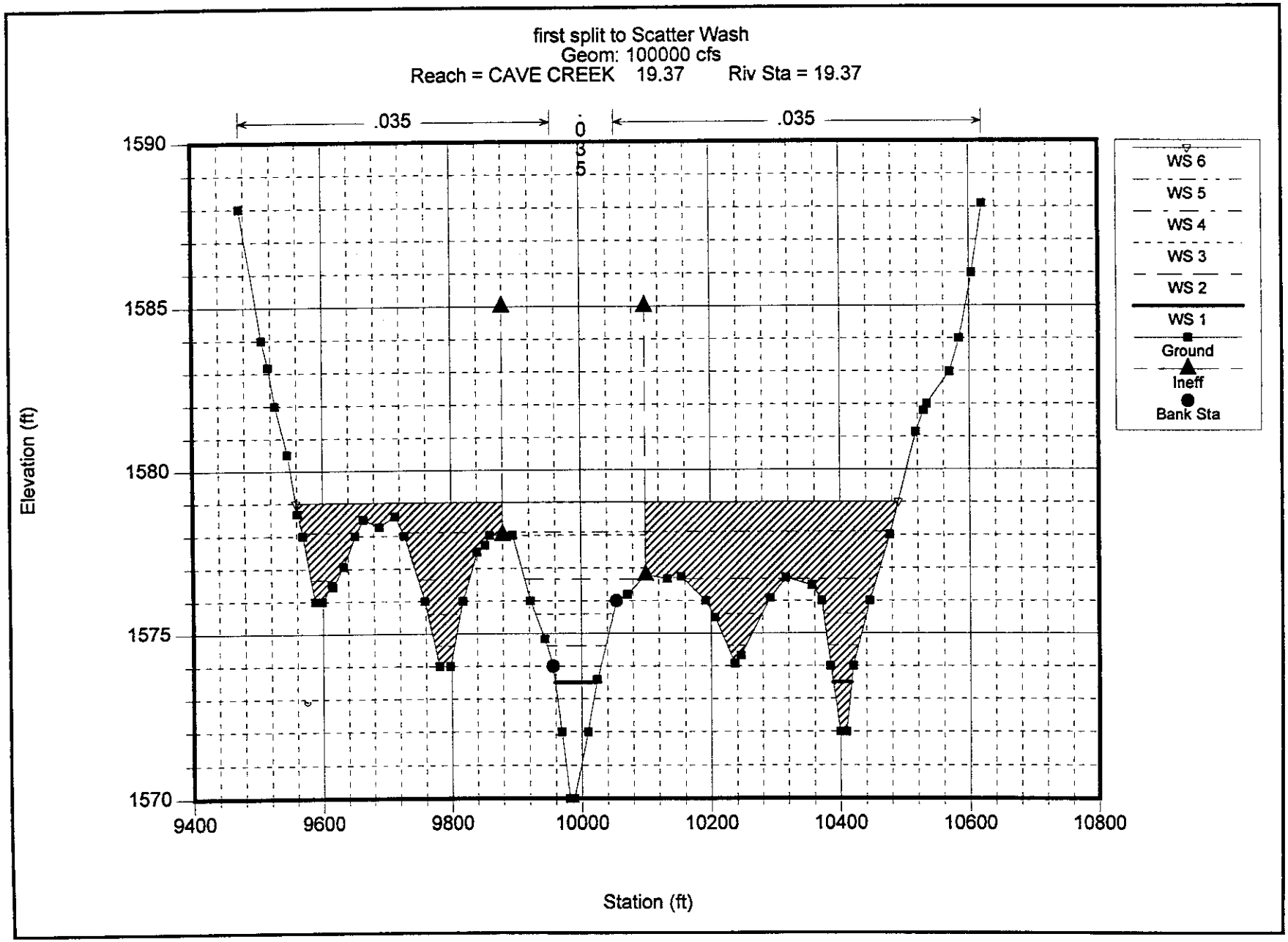

first split to Scatter Wash
Geom: 100000 cfs
Reach = SCATTER WASH 18.96 Riv Sta = 18.96
.035
.035
.035
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
9000
10000
11000
12000
13000
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Bank Sta

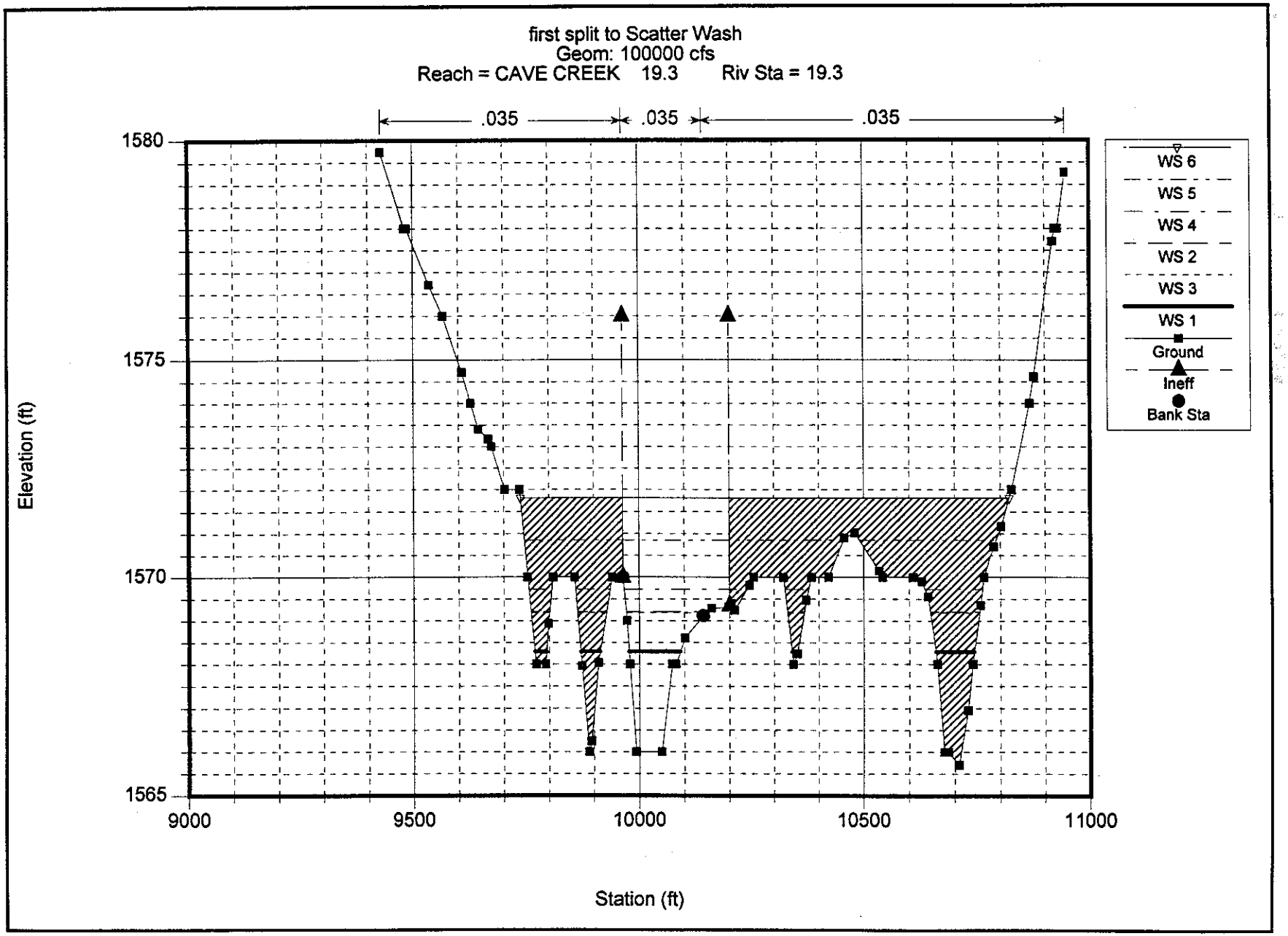

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.54 Riv Sta = 19.54
.035
.035
.035
1620
1615
1610
1605
1600
1595
1590
1585
1580
Elevation (ft)
9800
9900
10000
10100
10200
10300
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

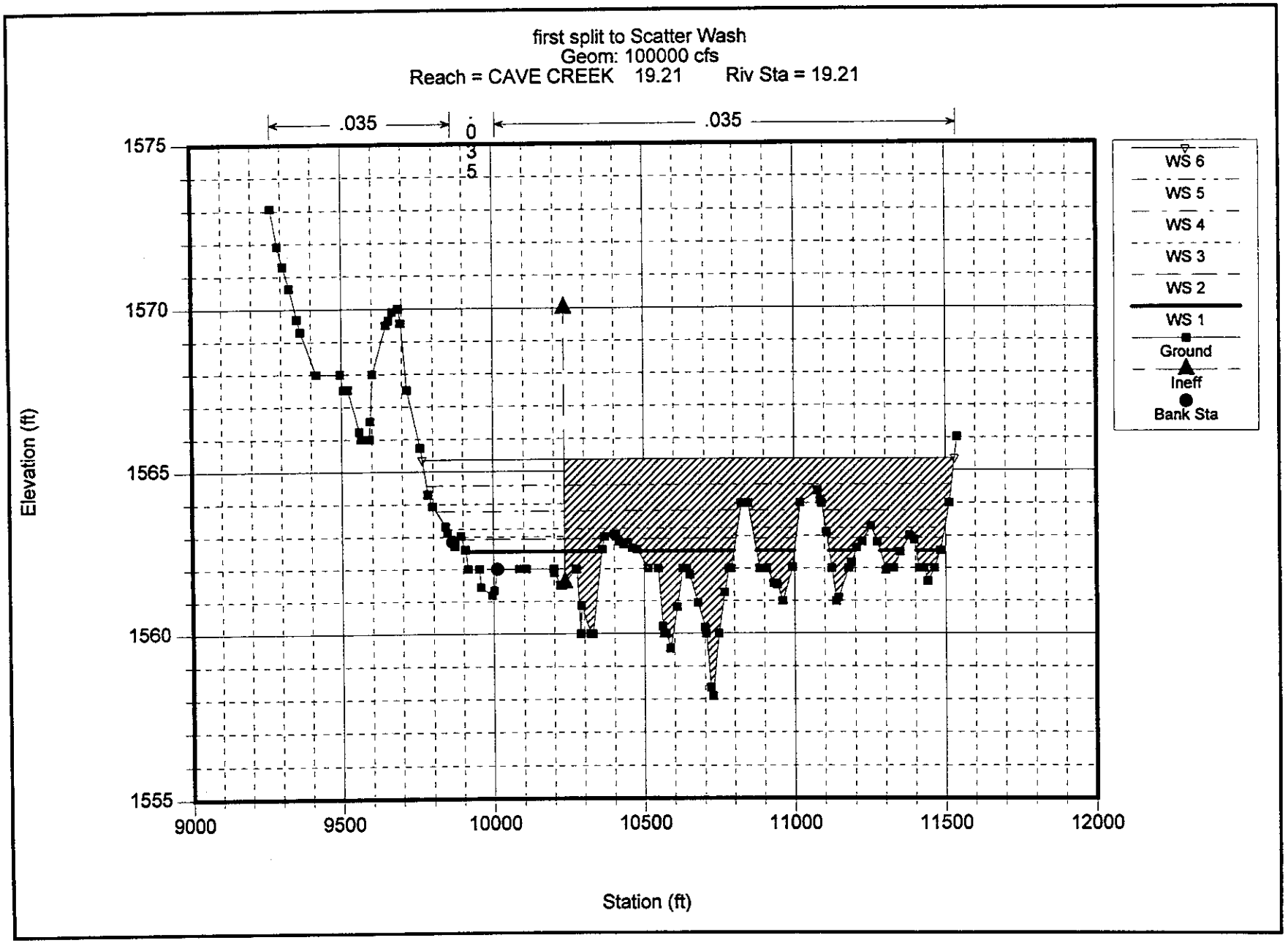

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.51 Riv Sta = 19.51
.035
.035
.035
1615
1610
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9800
9900
10000
10100
10200
10300
10400
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

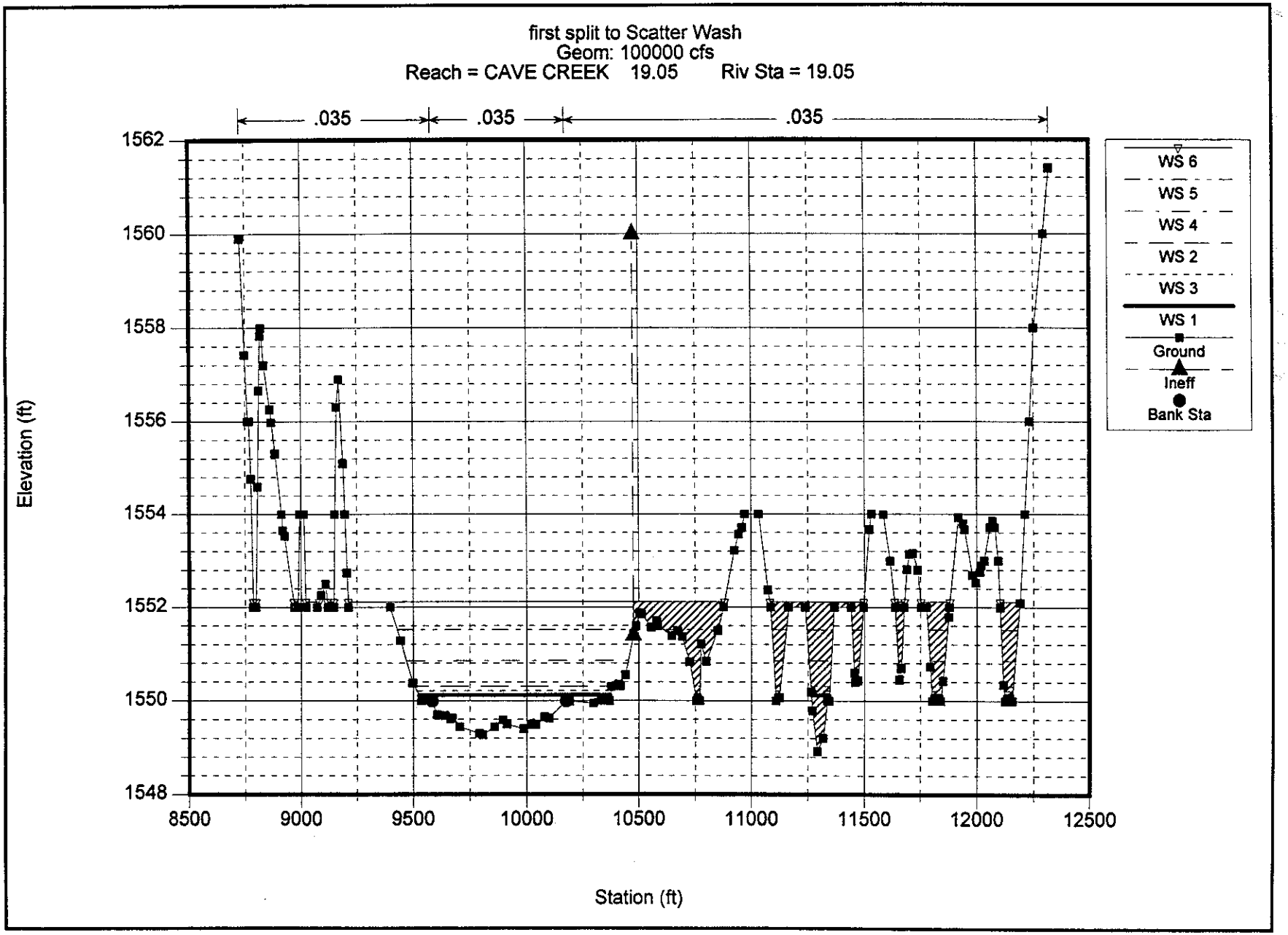

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.46 Riv Sta = 19.46
.035
.035
.035
1605
1600
1595
1590
1585
1580
1575
Elevation (ft)
9700
9800
9900
10000
10100
10200
10300
10400
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

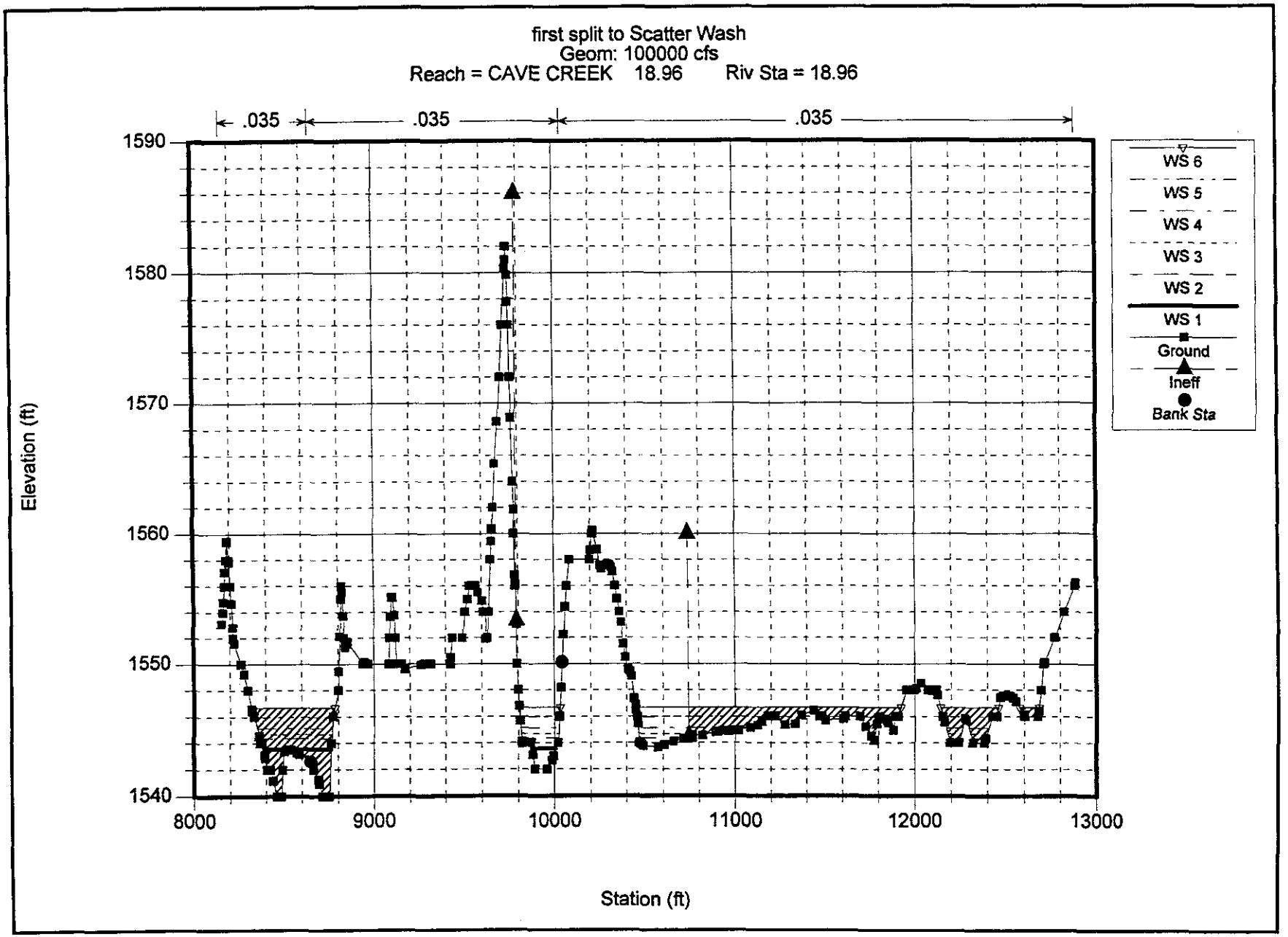

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.42 Riv Sta = 19.42
.035
.035
.035
1595
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

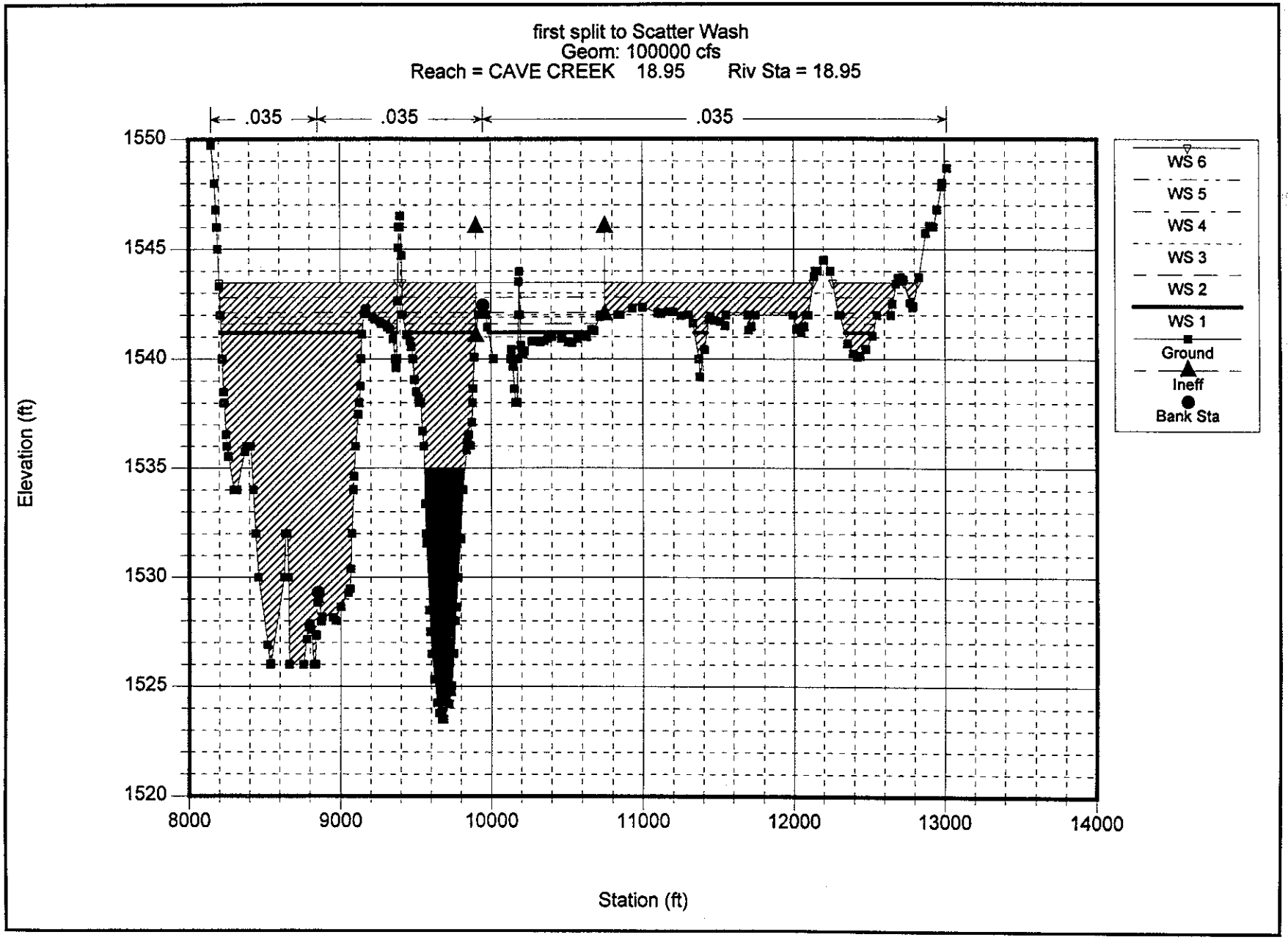

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.37 Riv Sta = 19.37
.035
.035
0.035
1590
1585
1580
1575
1570
Elevation (ft)
9400
9600
9800
10000
10200
10400
10600
10800
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta

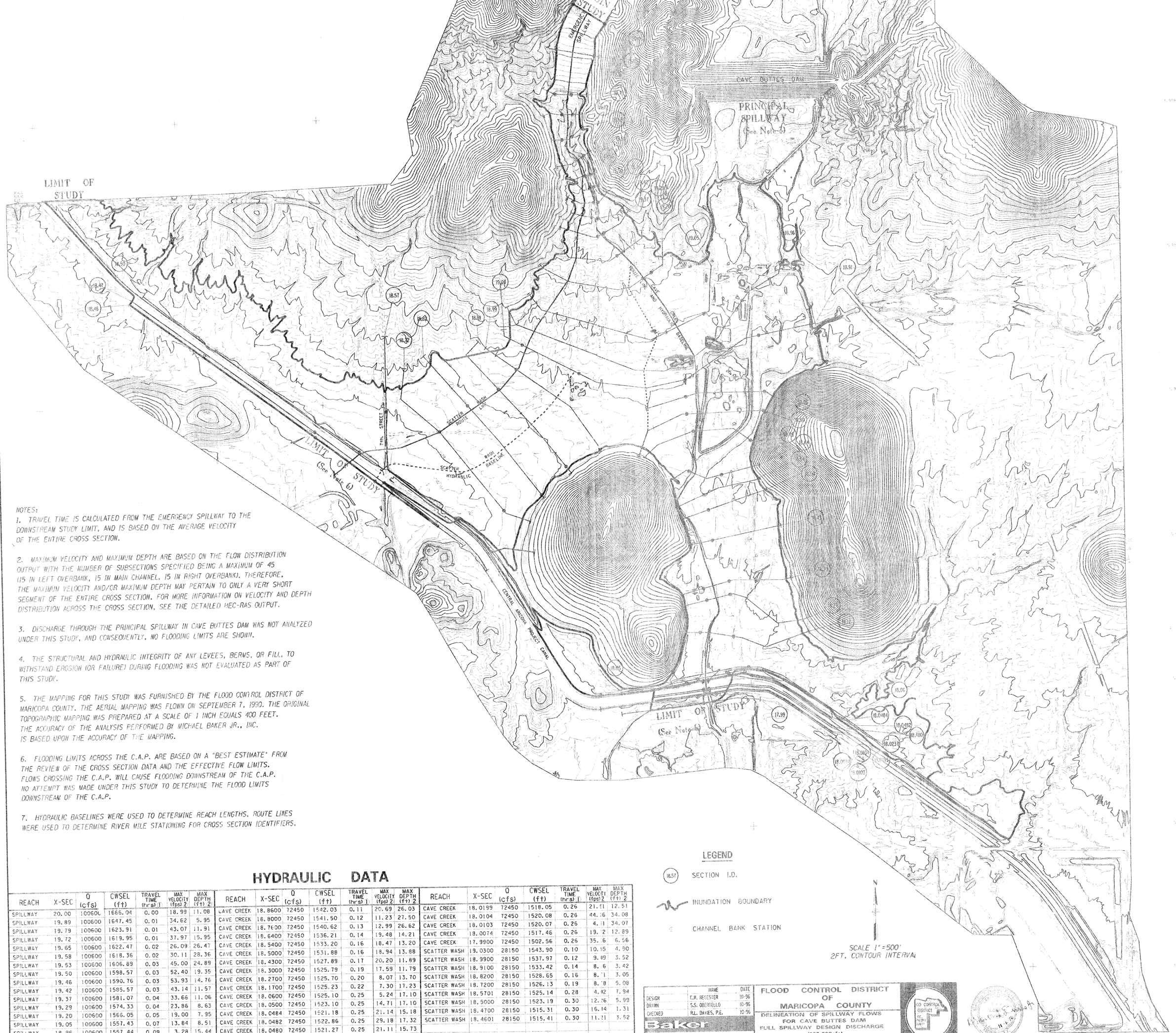

first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.3 Riv Sta = 19.3
.035
.035
.035
1580
1575
1570
1565
Elevation (ft)
9000
9500
10000
10500
11000
Station (ft)
WS 6
WS 5
WS 4
WS 2
WS 3
WS 1
Ground
Ineff
Bank Sta


first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.21 Riv Sta = 19.21
.035
.035
0.035
1575
1570
1565
1560
1555
Elevation (ft)
9000
9500
10000
10500
11000
11500
12000
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta


first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 19.05 Riv Sta = 19.05
.035
.035
.035
1562
1560
1558
1556
1554
1552
1550
1548
Elevation (ft)
8500
9000
9500
10000
10500
11000
11500
12000
12500
Station (ft)
WS 6
WS 5
WS 4
WS 2
WS 3
WS 1
Ground
Ineff
Bank Sta


first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 18.96 Riv Sta = 18.96
.035
.035
.035
1590
1580
1570
1560
1550
1540
Elevation (ft)
8000
9000
10000
11000
12000
13000
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta


first split to Scatter Wash
Geom: 100000 cfs
Reach = CAVE CREEK 18.95 Riv Sta = 18.95
.035
.035
.035
1550
1545
1540
1535
1530
1525
1520
Elevation (ft)
8000
9000
10000
11000
12000
13000
14000
Station (ft)
WS 6
WS 5
WS 4
WS 3
WS 2
WS 1
Ground
Ineff
Bank Sta



NOTES:

1. TRAVEL TIME IS CALCULATED FROM THE EMERGENCY SPILLWAY TO THE DOWNSTREAM STUDY LIMIT, AND IS BASED ON THE AVERAGE VELOCITY OF THE ENTIRE CROSS SECTION.

2. MAXIMUM VELOCITY AND MAXIMUM DEPTH ARE BASED ON THE FLOW DISTRIBUTION OUTPUT WITH THE NUMBER OF SUBSECTIONS SPECIFIED BEING A MAXIMUM OF 45 (15 IN LEFT OVERBANK, 15 IN MAIN CHANNEL, 15 IN RIGHT OVERBANK). THEREFORE, THE MAXIMUM VELOCITY AND/OR MAXIMUM DEPTH MAY PERTAIN TO ONLY A VERY SHORT SEGMENT OF THE ENTIRE CROSS SECTION. FOR MORE INFORMATION ON VELOCITY AND DEPTH DISTRIBUTION ACROSS THE CROSS SECTION, SEE THE DETAILED HEC-RAS OUTPUT.

3. DISCHARGE THROUGH THE PRINCIPAL SPILLWAY IN CAVE BUTTES DAM WAS NOT ANALYZED UNDER THIS STUDY, AND CONSEQUENTLY, NO FLOODING LIMITS ARE SHOWN.

4. THE STRUCTURAL AND HYDRAULIC INTEGRITY OF ANY LEVEES, BERMS, OR FILL, TO WITHSTAND EROSION (OR FAILURE) DURING FLOODING WAS NOT EVALUATED AS PART OF THIS STUDY.

5. THE MAPPING FOR THIS STUDY WAS FURNISHED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. THE AERIAL MAPPING WAS FLOWN ON SEPTEMBER 7, 1990. THE ORIGINAL TOPOGRAPHIC MAPPING WAS PREPARED AT A SCALE OF 1 INCH EQUALS 400 FEET. THE ACCURACY OF THE ANALYSIS PERFORMED BY MICHAEL BAKER JR., INC. IS BASED UPON THE ACCURACY OF THE MAPPING.

6. FLOODING LIMITS ACROSS THE C.A.P. ARE BASED ON A "BEST ESTIMATE" FROM THE REVIEW OF THE CROSS SECTION DATA AND THE EFFECTIVE FLOW LIMITS. FLOWS CROSSING THE C.A.P. WILL CAUSE FLOODING DOWNSTREAM OF THE C.A.P. NO ATTEMPT WAS MADE UNDER THIS STUDY TO DETERMINE THE FLOOD LIMITS DOWNSTREAM OF THE C.A.P.

7. HYDRAULIC BASELINES WERE USED TO DETERMINE REACH LENGTHS. ROUTE LINES WERE USED TO DETERMINE RIVER MILE STATIONING FOR CROSS SECTION IDENTIFIERS.

HYDRAULIC DATA

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
SPILLWAY	20.00	100600	1666.04	0.00	18.99	11.08
SPILLWAY	19.89	100600	1647.45	0.01	34.62	5.95
SPILLWAY	19.79	100600	1623.91	0.01	43.07	11.91
SPILLWAY	19.72	100600	1619.95	0.01	37.97	15.95
SPILLWAY	19.65	100600	1622.47	0.02	26.09	26.47
SPILLWAY	19.58	100600	1618.36	0.02	30.11	28.36
SPILLWAY	19.53	100600	1606.89	0.03	45.00	24.89
SPILLWAY	19.50	100600	1598.57	0.03	52.40	19.35
SPILLWAY	19.46	100600	1590.76	0.03	53.93	14.76
SPILLWAY	19.42	100600	1585.57	0.03	43.14	11.57
SPILLWAY	19.37	100600	1581.07	0.04	33.66	11.06
SPILLWAY	19.29	100600	1574.33	0.04	23.86	8.63
SPILLWAY	19.20	100600	1566.05	0.05	19.00	7.95
SPILLWAY	19.05	100600	1557.43	0.07	13.84	8.51
SPILLWAY	18.96	100600	1557.44	0.09	3.28	15.44
CAVE CREEK	18.91	72450	1542.84	0.10	17.68	19.34

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
CAVE CREEK	18.8600	72450	1542.03	0.11	20.69	26.03
CAVE CREEK	18.8000	72450	1541.50	0.12	11.23	27.50
CAVE CREEK	18.7600	72450	1540.62	0.13	12.99	26.62
CAVE CREEK	18.6400	72450	1536.21	0.14	19.48	14.21
CAVE CREEK	18.5400	72450	1533.20	0.16	18.47	13.20
CAVE CREEK	18.5000	72450	1531.88	0.16	18.94	13.88
CAVE CREEK	18.4300	72450	1527.89	0.17	20.20	11.89
CAVE CREEK	18.3000	72450	1525.79	0.19	17.59	11.79
CAVE CREEK	18.2700	72450	1525.70	0.20	8.07	13.70
CAVE CREEK	18.1700	72450	1525.23	0.22	7.30	17.23
CAVE CREEK	18.0600	72450	1525.10	0.25	5.24	17.10
CAVE CREEK	18.0500	72450	1523.10	0.25	14.71	17.10
CAVE CREEK	18.0484	72450	1521.18	0.25	21.14	15.18
CAVE CREEK	18.0482	72450	1522.86	0.25	29.18	17.32
CAVE CREEK	18.0480	72450	1521.27	0.25	21.11	15.73
CAVE CREEK	18.0237	72450	1520.55	0.26	23.07	15.01

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
CAVE CREEK	18.0199	72450	1518.05	0.26	21.51	12.51
CAVE CREEK	18.0104	72450	1520.08	0.26	44.26	34.08
CAVE CREEK	18.0103	72450	1520.07	0.26	4.11	34.07
CAVE CREEK	18.0074	72450	1517.46	0.26	19.2	12.89
CAVE CREEK	17.9900	72450	1502.56	0.26	35.6	6.56
SCATTER WASH	19.0300	28150	1543.90	0.10	10.55	4.90
SCATTER WASH	18.9900	28150	1537.97	0.12	9.09	3.52
SCATTER WASH	18.9100	28150	1533.42	0.14	8.6	3.42
SCATTER WASH	18.8200	28150	1528.65	0.16	8.1	3.05
SCATTER WASH	18.7200	28150	1526.13	0.19	8.8	5.08
SCATTER WASH	18.5701	28150	1525.14	0.28	4.02	7.94
SCATTER WASH	18.5000	28150	1523.19	0.30	12.26	5.99
SCATTER WASH	18.4700	28150	1515.31	0.30	16.14	1.31
SCATTER WASH	18.4601	28150	1515.41	0.30	11.21	3.52

LEGEND

18.57 SECTION I.D.

INUNDATION BOUNDARY

CHANNEL BANK STATION

N

SCALE 1" = 500'
2FT. CONTOUR INTERVAL

	NAME	DATE
DESIGN	C.W. REGESTER	10-96
DRAWN	S.S. OBERTELLO	10-96
CHECKED	R.L. DAVIES, P.E.	10-96

Baker
Michael Baker Jr., Inc.

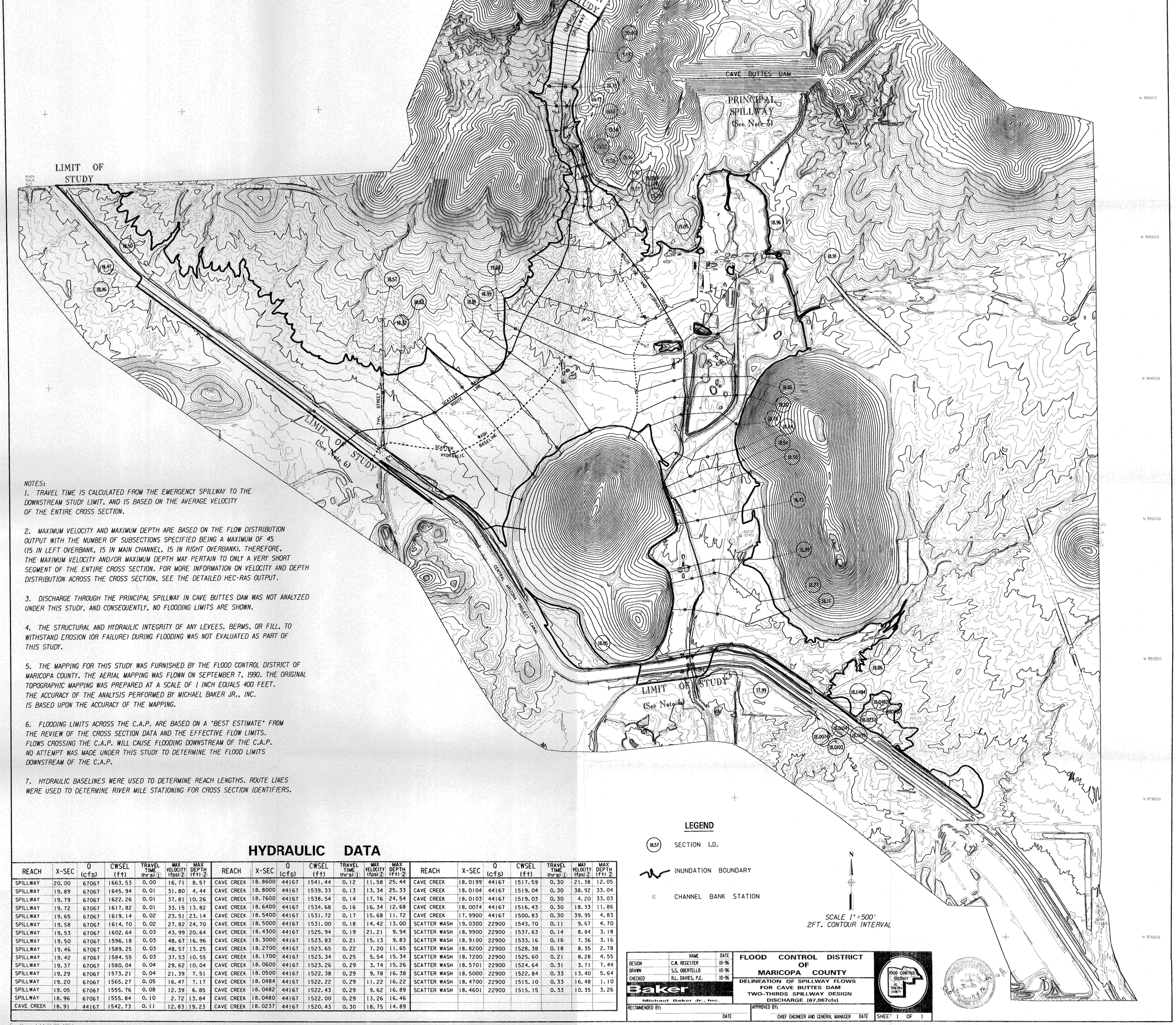
RECOMMENDED BY: _____ DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

DELINEATION OF SPILLWAY FLOWS FOR CAVE BUTTES DAM FULL SPILLWAY DESIGN DISCHARGE (100,600cfs)

APPROVED BY: _____ CHIEF ENGINEER AND GENERAL MANAGER DATE

SHEET 1 OF 1



NOTES:

1. TRAVEL TIME IS CALCULATED FROM THE EMERGENCY SPILLWAY TO THE DOWNSTREAM STUDY LIMIT, AND IS BASED ON THE AVERAGE VELOCITY OF THE ENTIRE CROSS SECTION.

2. MAXIMUM VELOCITY AND MAXIMUM DEPTH ARE BASED ON THE FLOW DISTRIBUTION OUTPUT WITH THE NUMBER OF SUBSECTIONS SPECIFIED BEING A MAXIMUM OF 45 (15 IN LEFT OVERBANK, 15 IN MAIN CHANNEL, 15 IN RIGHT OVERBANK). THEREFORE, THE MAXIMUM VELOCITY AND/OR MAXIMUM DEPTH MAY PERTAIN TO ONLY A VERY SHORT SEGMENT OF THE ENTIRE CROSS SECTION. FOR MORE INFORMATION ON VELOCITY AND DEPTH DISTRIBUTION ACROSS THE CROSS SECTION, SEE THE DETAILED HEC-RAS OUTPUT.

3. DISCHARGE THROUGH THE PRINCIPAL SPILLWAY IN CAVE BUTTES DAM WAS NOT ANALYZED UNDER THIS STUDY, AND CONSEQUENTLY, NO FLOODING LIMITS ARE SHOWN.

4. THE STRUCTURAL AND HYDRAULIC INTEGRITY OF ANY LEVEES, BERMS, OR FILL, TO WITHSTAND EROSION (OR FAILURE) DURING FLOODING WAS NOT EVALUATED AS PART OF THIS STUDY.

5. THE MAPPING FOR THIS STUDY WAS FURNISHED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. THE AERIAL MAPPING WAS FLOWN ON SEPTEMBER 7, 1990. THE ORIGINAL TOPOGRAPHIC MAPPING WAS PREPARED AT A SCALE OF 1 INCH EQUALS 400 FEET. THE ACCURACY OF THE ANALYSIS PERFORMED BY MICHAEL BAKER JR., INC. IS BASED UPON THE ACCURACY OF THE MAPPING.

6. FLOODING LIMITS ACROSS THE C.A.P. ARE BASED ON A "BEST ESTIMATE" FROM THE REVIEW OF THE CROSS SECTION DATA AND THE EFFECTIVE FLOW LIMITS. FLOWS CROSSING THE C.A.P. WILL CAUSE FLOODING DOWNSTREAM OF THE C.A.P. NO ATTEMPT WAS MADE UNDER THIS STUDY TO DETERMINE THE FLOOD LIMITS DOWNSTREAM OF THE C.A.P.

7. HYDRAULIC BASELINES WERE USED TO DETERMINE REACH LENGTHS. ROUTE LINES WERE USED TO DETERMINE RIVER MILE STATIONING FOR CROSS SECTION IDENTIFIERS.

HYDRAULIC DATA

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2	REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2	REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
SPILLWAY	20.00	67067	1663.53	0.00	16.71	8.57	CAVE CREEK	18.8600	44167	1541.44	0.12	11.58	25.44	CAVE CREEK	18.0199	44167	1517.59	0.30	21.38	12.05
SPILLWAY	19.89	67067	1645.94	0.01	31.80	4.44	CAVE CREEK	18.8000	44167	1539.33	0.13	13.34	25.33	CAVE CREEK	18.0104	44167	1519.04	0.30	38.92	33.04
SPILLWAY	19.79	67067	1622.26	0.01	37.81	10.26	CAVE CREEK	18.7600	44167	1538.54	0.14	17.76	24.54	CAVE CREEK	18.0103	44167	1519.03	0.30	4.20	33.03
SPILLWAY	19.72	67067	1617.82	0.01	33.15	13.82	CAVE CREEK	18.6400	44167	1534.68	0.16	16.34	12.68	CAVE CREEK	18.0074	44167	1516.43	0.30	18.33	11.86
SPILLWAY	19.65	67067	1619.14	0.02	23.51	23.14	CAVE CREEK	18.5400	44167	1531.72	0.17	15.68	11.72	CAVE CREEK	17.9900	44167	1500.83	0.30	39.95	4.83
SPILLWAY	19.58	67067	1614.70	0.02	27.82	24.70	CAVE CREEK	18.5000	44167	1531.00	0.18	14.42	13.00	SCATTER WASH	19.0300	22900	1543.70	0.11	9.67	4.70
SPILLWAY	19.53	67067	1602.64	0.03	43.99	20.64	CAVE CREEK	18.4300	44167	1525.94	0.19	21.21	9.94	SCATTER WASH	18.9900	22900	1537.63	0.14	8.84	3.18
SPILLWAY	19.50	67067	1596.18	0.03	48.67	16.96	CAVE CREEK	18.3000	44167	1523.83	0.21	15.13	9.83	SCATTER WASH	18.9100	22900	1533.16	0.16	7.36	3.16
SPILLWAY	19.46	67067	1589.25	0.03	48.57	13.25	CAVE CREEK	18.2700	44167	1523.65	0.22	7.20	11.65	SCATTER WASH	18.8200	22900	1528.38	0.18	8.35	2.78
SPILLWAY	19.42	67067	1584.55	0.03	37.53	10.55	CAVE CREEK	18.1700	44167	1523.34	0.25	5.54	15.34	SCATTER WASH	18.7200	22900	1525.60	0.21	8.28	4.55
SPILLWAY	19.37	67067	1580.04	0.04	29.62	10.04	CAVE CREEK	18.0600	44167	1523.26	0.29	3.74	15.26	SCATTER WASH	18.5701	22900	1524.64	0.31	3.71	7.44
SPILLWAY	19.29	67067	1573.21	0.04	21.39	7.51	CAVE CREEK	18.0500	44167	1522.38	0.29	9.78	16.38	SCATTER WASH	18.5000	22900	1522.84	0.33	13.40	5.64
SPILLWAY	19.20	67067	1565.27	0.05	16.47	7.17	CAVE CREEK	18.0484	44167	1522.22	0.29	11.22	16.22	SCATTER WASH	18.4700	22900	1515.10	0.33	16.48	1.10
SPILLWAY	19.05	67067	1555.76	0.08	12.39	6.85	CAVE CREEK	18.0482	44167	1522.43	0.29	9.62	16.89	SCATTER WASH	18.4601	22900	1515.15	0.33	10.35	3.26
SPILLWAY	18.96	67067	1555.84	0.10	2.72	13.84	CAVE CREEK	18.0480	44167	1522.00	0.29	13.26	16.46							
CAVE CREEK	18.91	44167	1542.73	0.11	12.83	19.23	CAVE CREEK	18.0237	44167	1520.43	0.30	18.75	14.89							

	NAME	DATE
DESIGN	C.W. REGESTER	10-96
DRAWN	S.S. OBERTELLO	10-96
CHECKED	R.L. DAVIES, P.E.	10-96

Baker
Michael Baker Jr., Inc.

RECOMMENDED BY: DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

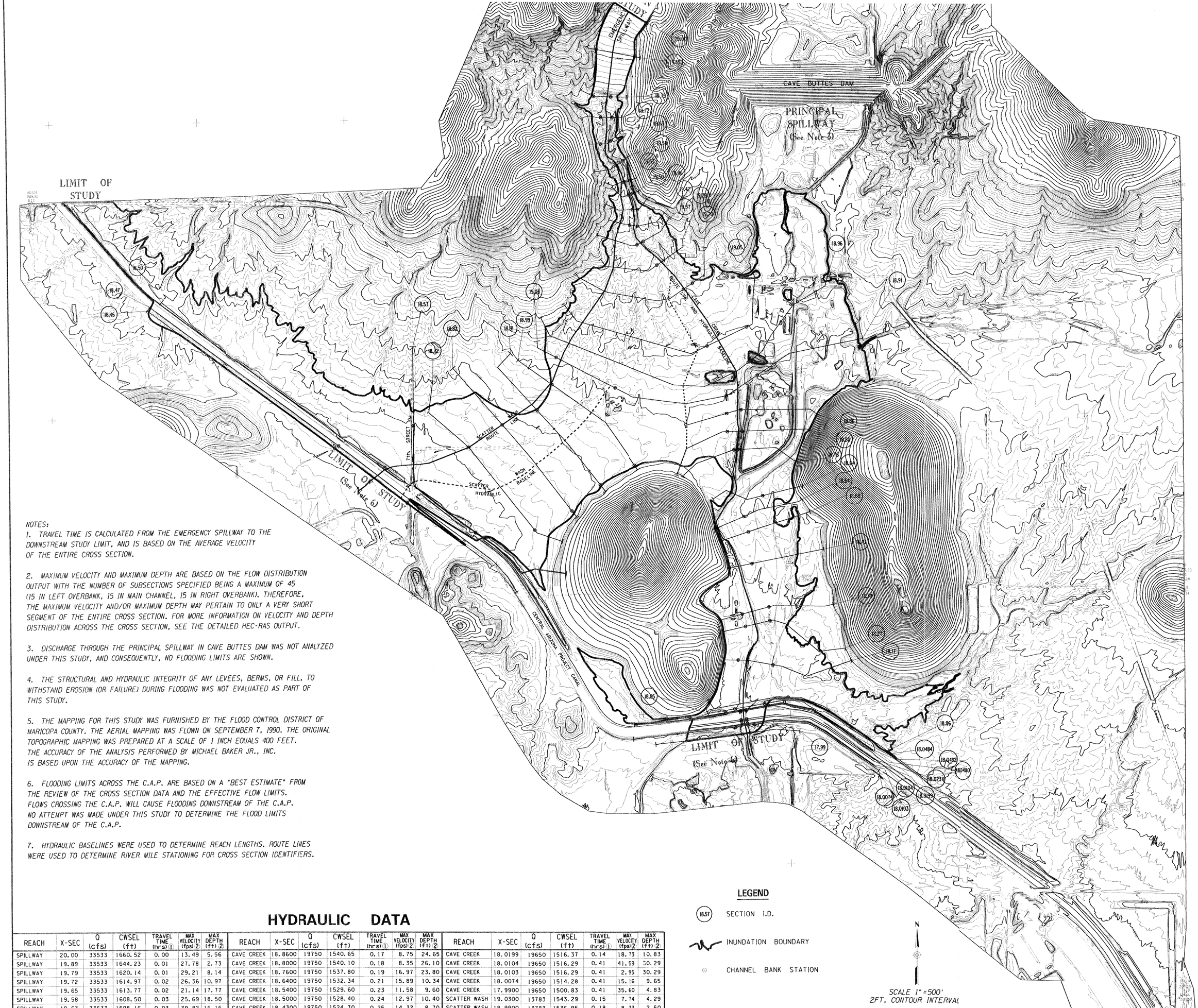
DELINEATION OF SPILLWAY FLOWS FOR CAVE BUTTES DAM TWO-THIRDS SPILLWAY DESIGN DISCHARGE (67,067cfs)

APPROVED BY: CHIEF ENGINEER AND GENERAL MANAGER DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

SHEET 1 OF 1

Fri Nov 1 14:21:39 1996



NOTES:

1. TRAVEL TIME IS CALCULATED FROM THE EMERGENCY SPILLWAY TO THE DOWNSTREAM STUDY LIMIT, AND IS BASED ON THE AVERAGE VELOCITY OF THE ENTIRE CROSS SECTION.

2. MAXIMUM VELOCITY AND MAXIMUM DEPTH ARE BASED ON THE FLOW DISTRIBUTION OUTPUT WITH THE NUMBER OF SUBSECTIONS SPECIFIED BEING A MAXIMUM OF 45 (15 IN LEFT OVERBANK, 15 IN MAIN CHANNEL, 15 IN RIGHT OVERBANK). THEREFORE, THE MAXIMUM VELOCITY AND/OR MAXIMUM DEPTH MAY PERTAIN TO ONLY A VERY SHORT SEGMENT OF THE ENTIRE CROSS SECTION. FOR MORE INFORMATION ON VELOCITY AND DEPTH DISTRIBUTION ACROSS THE CROSS SECTION, SEE THE DETAILED HEC-RAS OUTPUT.

3. DISCHARGE THROUGH THE PRINCIPAL SPILLWAY IN CAVE BUTTES DAM WAS NOT ANALYZED UNDER THIS STUDY, AND CONSEQUENTLY, NO FLOODING LIMITS ARE SHOWN.

4. THE STRUCTURAL AND HYDRAULIC INTEGRITY OF ANY LEVEES, BERMS, OR FILL, TO WITHSTAND EROSION (OR FAILURE) DURING FLOODING WAS NOT EVALUATED AS PART OF THIS STUDY.

5. THE MAPPING FOR THIS STUDY WAS FURNISHED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. THE AERIAL MAPPING WAS FLOWN ON SEPTEMBER 7, 1990. THE ORIGINAL TOPOGRAPHIC MAPPING WAS PREPARED AT A SCALE OF 1 INCH EQUALS 400 FEET. THE ACCURACY OF THE ANALYSIS PERFORMED BY MICHAEL BAKER JR., INC. IS BASED UPON THE ACCURACY OF THE MAPPING.

6. FLOODING LIMITS ACROSS THE C.A.P. ARE BASED ON A "BEST ESTIMATE" FROM THE REVIEW OF THE CROSS SECTION DATA AND THE EFFECTIVE FLOW LIMITS. FLOWS CROSSING THE C.A.P. WILL CAUSE FLOODING DOWNSTREAM OF THE C.A.P. NO ATTEMPT WAS MADE UNDER THIS STUDY TO DETERMINE THE FLOOD LIMITS DOWNSTREAM OF THE C.A.P.

7. HYDRAULIC BASELINES WERE USED TO DETERMINE REACH LENGTHS. ROUTE LINES WERE USED TO DETERMINE RIVER MILE STATIONING FOR CROSS SECTION IDENTIFIERS.

HYDRAULIC DATA

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
SPILLWAY	20.00	33533	1660.52	0.00	13.49	5.56
SPILLWAY	19.89	33533	1644.23	0.01	27.78	2.73
SPILLWAY	19.79	33533	1620.14	0.01	29.21	8.14
SPILLWAY	19.72	33533	1614.97	0.02	26.36	10.97
SPILLWAY	19.65	33533	1613.77	0.02	21.14	17.77
SPILLWAY	19.58	33533	1608.50	0.03	25.69	18.50
SPILLWAY	19.53	33533	1598.16	0.03	39.82	16.16
SPILLWAY	19.50	33533	1593.24	0.04	41.05	14.02
SPILLWAY	19.46	33533	1587.33	0.04	40.01	11.33
SPILLWAY	19.42	33533	1583.16	0.04	29.88	9.16
SPILLWAY	19.37	33533	1578.59	0.05	24.98	8.59
SPILLWAY	19.29	33533	1571.72	0.05	18.12	6.02
SPILLWAY	19.20	33533	1564.24	0.07	13.09	6.14
SPILLWAY	19.05	33533	1554.96	0.10	10.40	6.04
SPILLWAY	18.96	33533	1555.00	0.13	1.69	13.00
CAVE CREEK	18.91	19750	1542.95	0.15	9.45	19.45

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
CAVE CREEK	18.8600	19750	1540.65	0.17	8.75	24.65
CAVE CREEK	18.8000	19750	1540.10	0.18	8.35	26.10
CAVE CREEK	18.7600	19750	1537.80	0.19	16.97	23.80
CAVE CREEK	18.6400	19750	1532.34	0.21	15.89	10.34
CAVE CREEK	18.5400	19750	1529.60	0.23	11.58	9.60
CAVE CREEK	18.5000	19750	1528.40	0.24	12.97	10.40
CAVE CREEK	18.4300	19750	1524.70	0.25	14.32	8.70
CAVE CREEK	18.3000	19750	1521.09	0.28	11.98	7.09
CAVE CREEK	18.2700	19750	1520.80	0.29	6.15	8.80
CAVE CREEK	18.1700	19750	1520.61	0.32	3.78	12.61
CAVE CREEK	18.0600	19750	1520.57	0.39	2.19	12.57
CAVE CREEK	18.0500	19750	1520.28	0.40	5.64	14.28
CAVE CREEK	18.0484	19750	1520.20	0.40	6.63	14.20
CAVE CREEK	18.0482	19750	1520.01	0.40	8.15	14.47
CAVE CREEK	18.0480	19750	1591.60	0.40	10.73	14.06
CAVE CREEK	18.0237	19750	1518.40	0.40	14.59	12.86

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
CAVE CREEK	18.0199	19650	1516.37	0.14	18.73	10.83
CAVE CREEK	18.0104	19650	1516.29	0.41	41.59	30.29
CAVE CREEK	18.0103	19650	1516.29	0.41	2.95	30.29
CAVE CREEK	18.0074	19650	1514.28	0.41	15.16	9.65
CAVE CREEK	17.9900	19650	1500.83	0.41	35.60	4.83
SCATTER WASH	19.0300	13783	1543.29	0.15	7.74	4.29
SCATTER WASH	18.9900	13783	1536.95	0.18	8.33	2.50
SCATTER WASH	18.9100	13783	1532.58	0.20	5.78	2.58
SCATTER WASH	18.8200	13783	1527.71	0.23	7.85	2.11
SCATTER WASH	18.7200	13783	1524.56	0.26	7.24	3.51
SCATTER WASH	18.5701	13783	1523.57	0.38	3.08	6.37
SCATTER WASH	18.5000	13783	1522.14	0.39	11.71	4.94
SCATTER WASH	18.4700	13783	1514.73	0.40	15.18	0.73
SCATTER WASH	18.4601	13783	1514.66	0.40	8.20	2.77

LEGEND

(18.57) SECTION I.D.

INUNDATION BOUNDARY

CHANNEL BANK STATION

N

SCALE 1" = 500'
2FT. CONTOUR INTERVAL

	NAME	DATE
DESIGN	C.W. REGESTER	10-96
DRAWN	S.S. OBERTELLO	10-96
CHECKED	R.L. DAVIES, P.E.	10-96

Baker
Michael Baker Jr., Inc.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

DELINEATION OF SPILLWAY FLOWS FOR CAVE BUTTES DAM ONE-THIRD SPILLWAY DESIGN DISCHARGE (33,533cfs)

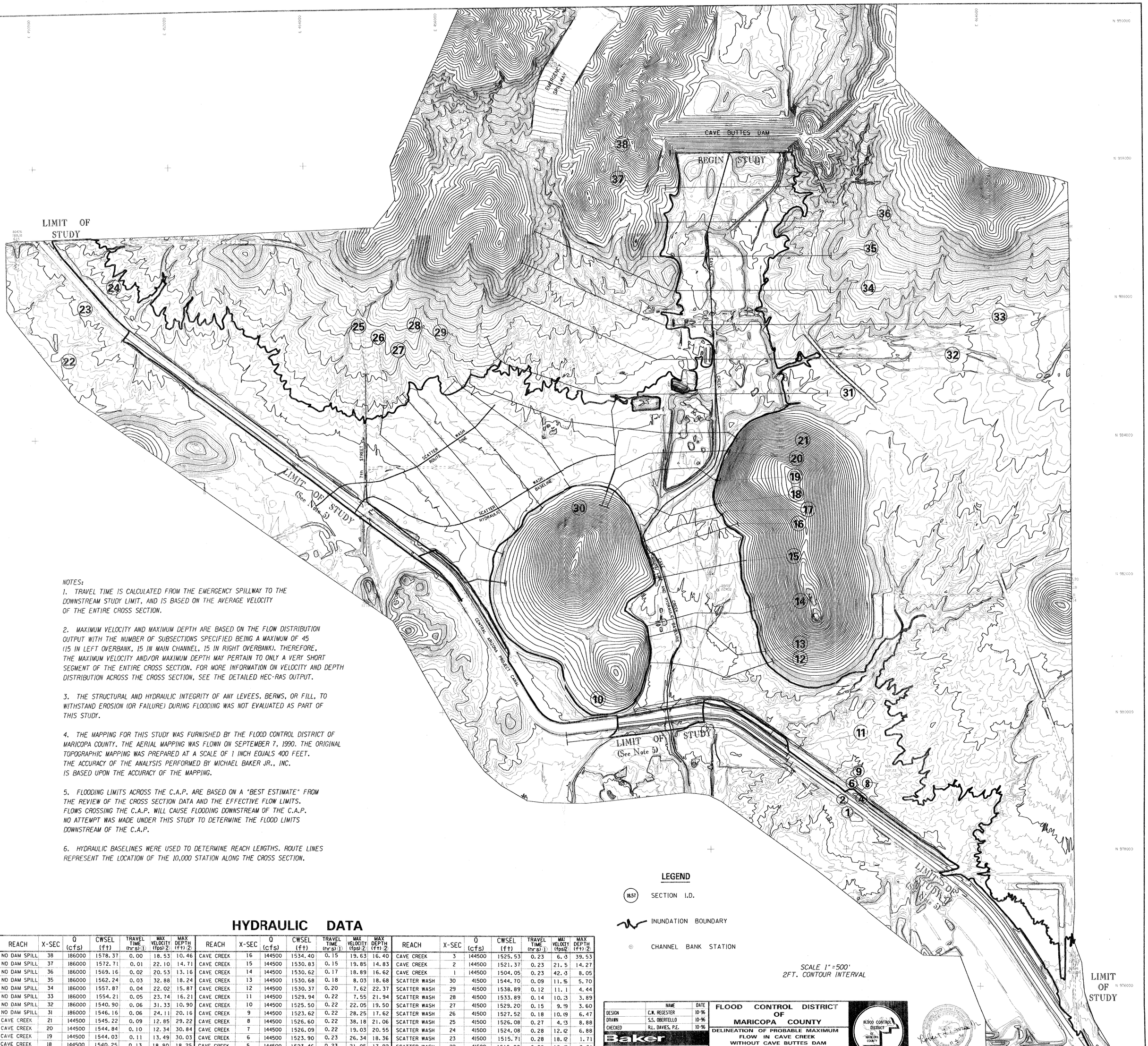
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: CHIEF ENGINEER AND GENERAL MANAGER DATE

SHEET 1 OF 1

Fri Nov 1 14:25:06 1996



NOTES:

1. TRAVEL TIME IS CALCULATED FROM THE EMERGENCY SPILLWAY TO THE DOWNSTREAM STUDY LIMIT, AND IS BASED ON THE AVERAGE VELOCITY OF THE ENTIRE CROSS SECTION.

2. MAXIMUM VELOCITY AND MAXIMUM DEPTH ARE BASED ON THE FLOW DISTRIBUTION OUTPUT WITH THE NUMBER OF SUBSECTIONS SPECIFIED BEING A MAXIMUM OF 45 (15 IN LEFT OVERBANK, 15 IN MAIN CHANNEL, 15 IN RIGHT OVERBANK). THEREFORE, THE MAXIMUM VELOCITY AND/OR MAXIMUM DEPTH MAY PERTAIN TO ONLY A VERY SHORT SEGMENT OF THE ENTIRE CROSS SECTION. FOR MORE INFORMATION ON VELOCITY AND DEPTH DISTRIBUTION ACROSS THE CROSS SECTION, SEE THE DETAILED HEC-RAS OUTPUT.

3. THE STRUCTURAL AND HYDRAULIC INTEGRITY OF ANY LEVEES, BERMS, OR FILL, TO WITHSTAND EROSION (OR FAILURE) DURING FLOODING WAS NOT EVALUATED AS PART OF THIS STUDY.

4. THE MAPPING FOR THIS STUDY WAS FURNISHED BY THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. THE AERIAL MAPPING WAS FLOWN ON SEPTEMBER 7, 1990. THE ORIGINAL TOPOGRAPHIC MAPPING WAS PREPARED AT A SCALE OF 1 INCH EQUALS 400 FEET. THE ACCURACY OF THE ANALYSIS PERFORMED BY MICHAEL BAKER JR., INC. IS BASED UPON THE ACCURACY OF THE MAPPING.

5. FLOODING LIMITS ACROSS THE C.A.P. ARE BASED ON A "BEST ESTIMATE" FROM THE REVIEW OF THE CROSS SECTION DATA AND THE EFFECTIVE FLOW LIMITS. FLOWS CROSSING THE C.A.P. WILL CAUSE FLOODING DOWNSTREAM OF THE C.A.P. NO ATTEMPT WAS MADE UNDER THIS STUDY TO DETERMINE THE FLOOD LIMITS DOWNSTREAM OF THE C.A.P.

6. HYDRAULIC BASELINES WERE USED TO DETERMINE REACH LENGTHS. ROUTE LINES REPRESENT THE LOCATION OF THE 10,000 STATION ALONG THE CROSS SECTION.

HYDRAULIC DATA

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
NO DAM SPILL	38	186000	1578.37	0.00	18.53	10.46
NO DAM SPILL	37	186000	1572.71	0.01	22.10	14.71
NO DAM SPILL	36	186000	1569.16	0.02	20.53	13.16
NO DAM SPILL	35	186000	1562.24	0.03	32.88	18.24
NO DAM SPILL	34	186000	1557.87	0.04	22.02	15.87
NO DAM SPILL	33	186000	1554.21	0.05	23.74	16.21
NO DAM SPILL	32	186000	1540.90	0.06	31.33	10.90
NO DAM SPILL	31	186000	1546.16	0.06	24.11	20.16
CAVE CREEK	21	144500	1545.22	0.09	12.85	29.22
CAVE CREEK	20	144500	1544.84	0.10	12.34	30.84
CAVE CREEK	19	144500	1544.03	0.11	13.49	30.03
CAVE CREEK	18	144500	1540.25	0.13	18.80	18.25
CAVE CREEK	17	144500	1536.30	0.14	19.09	16.30

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
CAVE CREEK	16	144500	1534.40	0.15	19.63	16.40
CAVE CREEK	15	144500	1530.83	0.15	19.85	14.83
CAVE CREEK	14	144500	1530.62	0.17	18.89	16.62
CAVE CREEK	13	144500	1530.68	0.18	8.03	18.68
CAVE CREEK	12	144500	1530.37	0.20	7.62	22.37
CAVE CREEK	11	144500	1529.94	0.22	7.55	21.94
CAVE CREEK	10	144500	1525.50	0.22	22.05	19.50
CAVE CREEK	9	144500	1523.62	0.22	28.25	17.62
CAVE CREEK	8	144500	1526.60	0.22	38.18	21.06
CAVE CREEK	7	144500	1526.09	0.22	19.03	20.55
CAVE CREEK	6	144500	1523.90	0.23	26.34	18.36
CAVE CREEK	5	144500	1523.46	0.23	21.05	17.92
CAVE CREEK	4	138410	1525.53	0.23	5.71	39.53

REACH	X-SEC	Q (cfs)	CWSEL (ft)	TRAVEL TIME (hrs) 1	MAX VELOCITY (fps) 2	MAX DEPTH (ft) 2
CAVE CREEK	3	144500	1525.53	0.23	6.3	39.53
CAVE CREEK	2	144500	1521.37	0.23	21.5	14.27
CAVE CREEK	1	144500	1504.05	0.23	42.3	8.05
SCATTER WASH	30	41500	1544.70	0.09	11.5	5.70
SCATTER WASH	29	41500	1538.89	0.12	11.1	4.44
SCATTER WASH	28	41500	1533.89	0.14	10.3	3.89
SCATTER WASH	27	41500	1529.20	0.15	9.9	3.60
SCATTER WASH	26	41500	1527.52	0.18	10.9	6.47
SCATTER WASH	25	41500	1526.08	0.27	4.3	8.88
SCATTER WASH	24	41500	1524.08	0.28	12.2	6.88
SCATTER WASH	23	41500	1515.71	0.28	18.2	1.71
SCATTER WASH	22	41500	1515.80	0.28	13.2	3.91

LEGEND

(18.57) SECTION I.D.

INUNDATION BOUNDARY

⊗ CHANNEL BANK STATION

SCALE 1" = 500'
2FT. CONTOUR INTERVAL

	NAME	DATE
DESIGN	C.W. REGESTER	10-96
DRAWN	S.S. OBERTELLO	10-96
CHECKED	R.L. DAVIES, P.E.	10-96

Baker
Michael Baker Jr., Inc.

RECOMMENDED BY: DATE

APPROVED BY: CHIEF ENGINEER AND GENERAL MANAGER DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

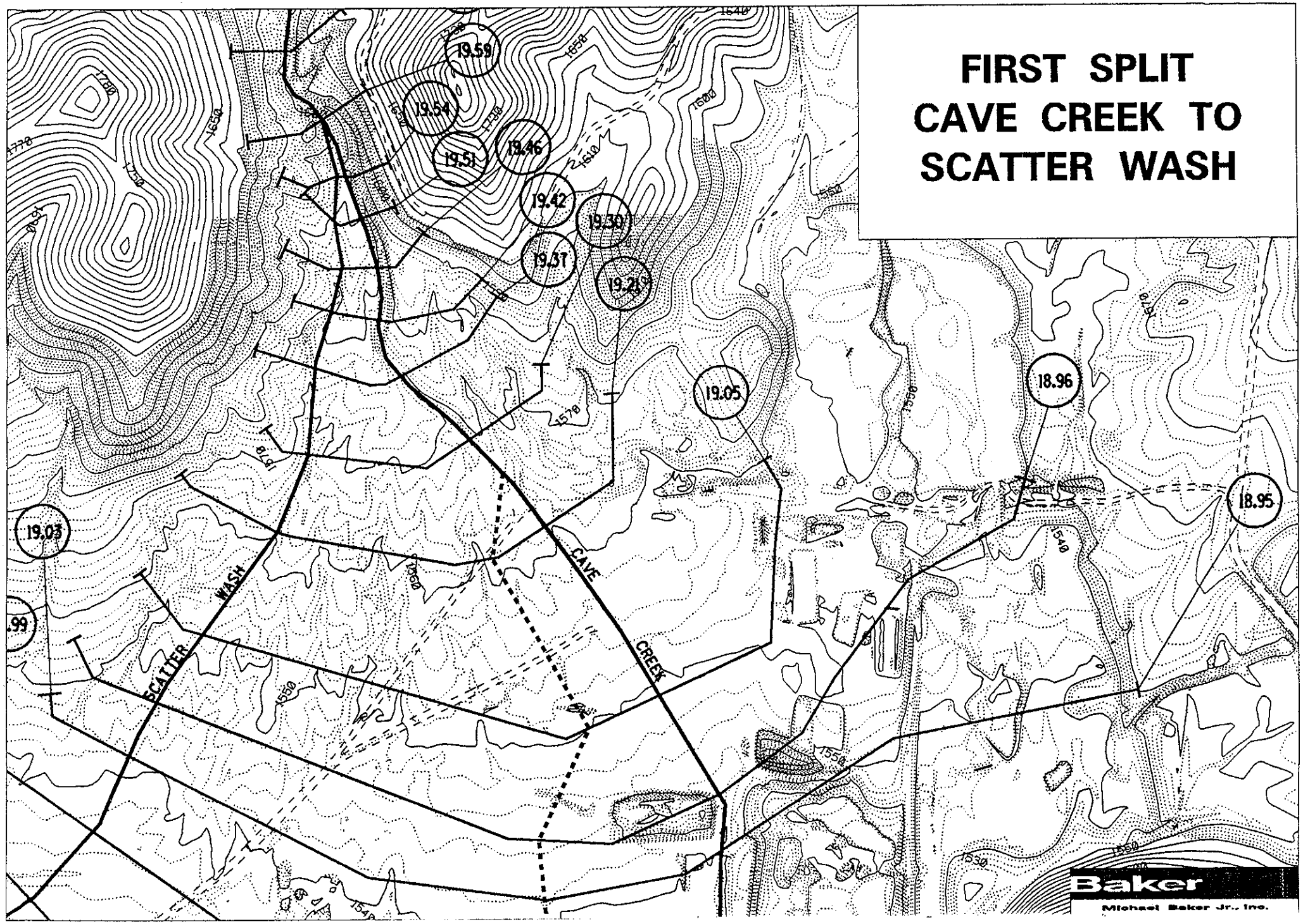
DELINEATION OF PROBABLE MAXIMUM FLOW IN CAVE CREEK WITHOUT CAVE BUTTES DAM (186,000cfs)

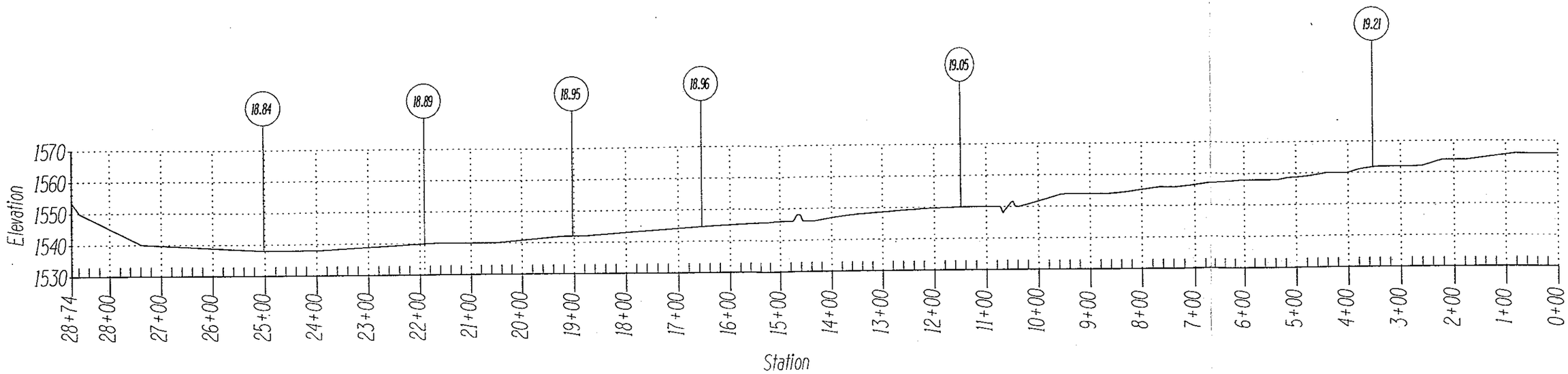
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

SHEET 1 OF 1

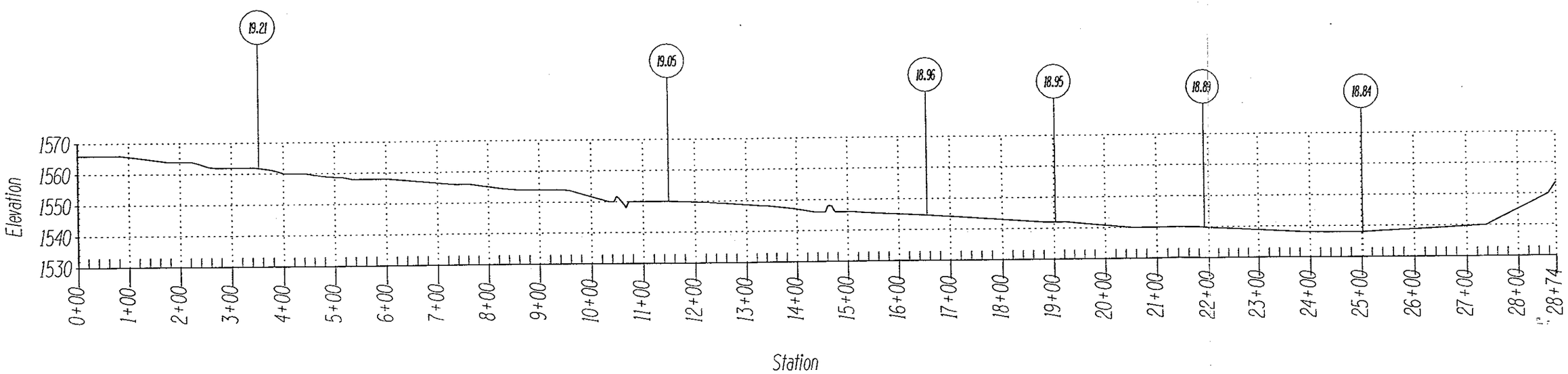
Fri Nov 1 14:28:35 1996

FIRST SPLIT CAVE CREEK TO SCATTER WASH



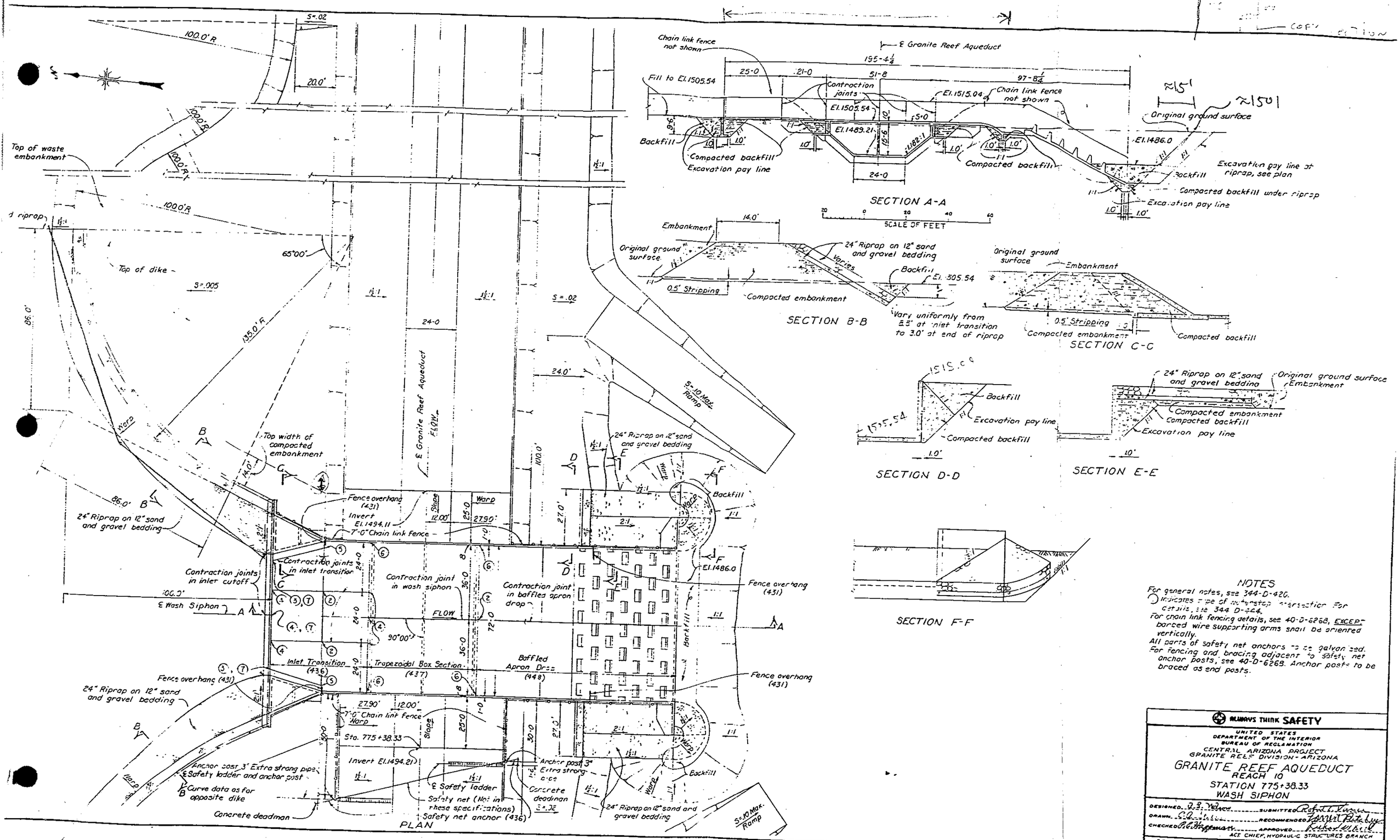


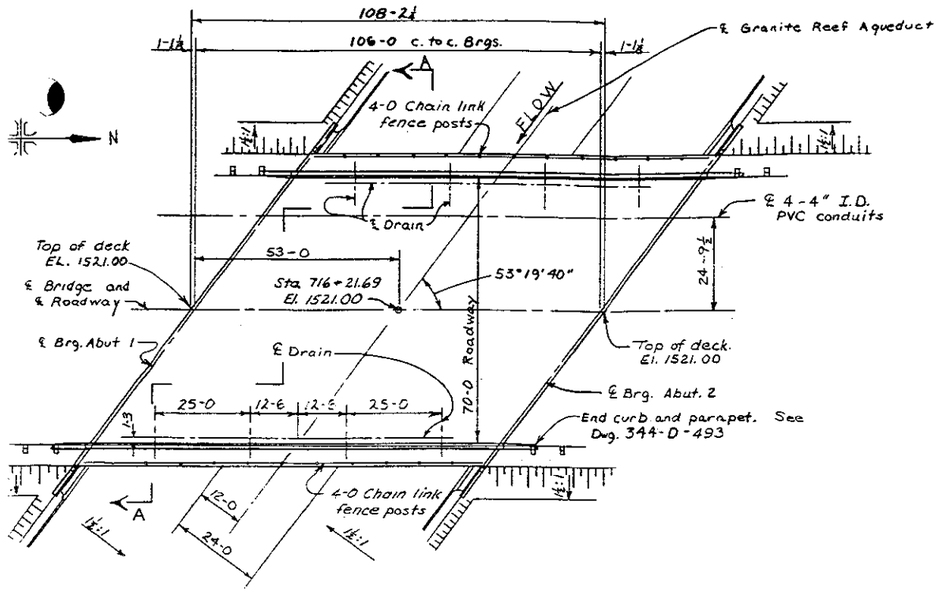
Profile Facing West



Profile Facing East

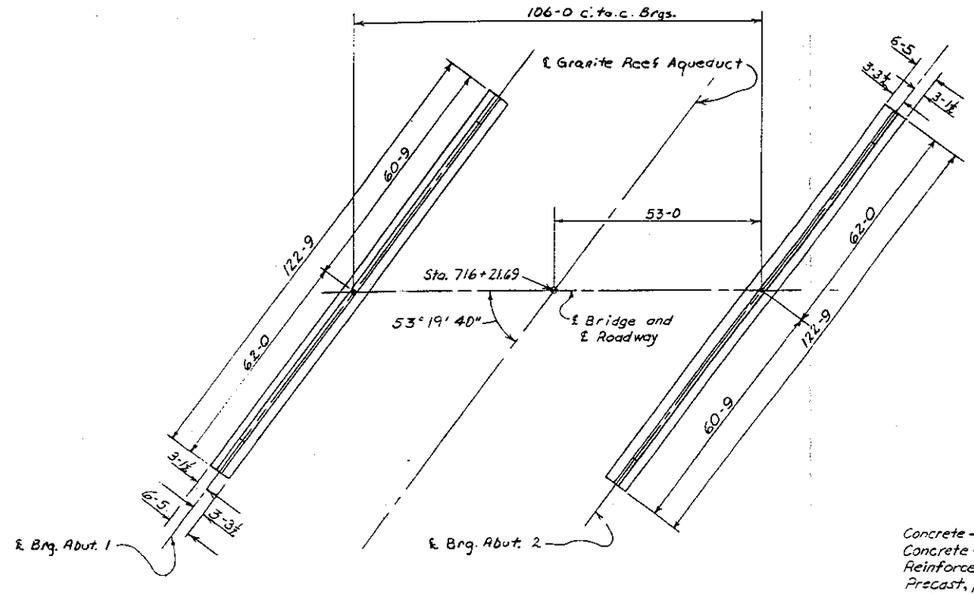
EXHIBIT G 1
PROFILE ALONG DRAINAGE AREA DIVIDE BETWEEN CAVE CREEK AND SCATTER WASH


PLAN
SECTION A-A
SCALE OF FEET
SECTION B-B
SECTION C-C
SECTION D-D
SECTION E-E
SECTION F-F
℄ Granite Reef Aqueduct
℄ Wash Siphon
Chain link fence not shown
Fill to El.1505.54
Contraction joints
El.1515.04
El.1505.54
El.1489.21
El.1486.0
Backfill
Compacted backfill
Excavation pay line
Original ground surface
Excavation pay line at riprap, see plan
Compacted backfill under riprap
Embankment
24" Riprap on 12" sand and gravel bedding
Varies
0.5' Stripping
Compacted embankment
Vary uniformly from 2.5' at inlet transition to 3.0' at end of riprap
Top of waste embankment
Top of dike
Top width of compacted embankment
Fence overhang (431)
Invert El.1494.11
7'-0" Chain link fence
Contraction joints in inlet cutoff
Contraction joints in inlet transition
Contraction joint in wash siphon
Contraction joint in baffled apron drop
FLOW
Inlet Transition (436)
Trapezoidal Box Section (437)
Baffled Apron Drop (448)
Sta. 775+38.33
Invert El.1494.21
Anchor post 3" Extra strong pipe
℄ Safety ladder and anchor post
Curve data as for opposite dike
Concrete deadman
℄ Safety ladder
Safety net (Not in these specifications)
Safety net anchor (436)
Concrete deadman
Warp
Slope
S=.10 Max. Ramp
NOTES
For general notes, see 344-D-420.
Indicates type of walkway intersection. For details, see 344-D-444.
For chain link fencing details, see 40-D-6268, EXCEPT barbed wire supporting arms shall be oriented vertically.
All parts of safety net anchors to be galvanized.
For fencing and bracing adjacent to safety net anchor posts, see 40-D-6268. Anchor posts to be braced as end posts.
ALWAYS THINK SAFETY
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
CENTRAL ARIZONA PROJECT
GRANITE REEF DIVISION - ARIZONA
GRANITE REEF AQUEDUCT
REACH 10
STATION 775+38.33
WASH SIPHON
DESIGNED
DRAWN
CHECKED
SUBMITTED
RECOMMENDED
APPROVED
ACT. CHIEF, HYDRAULIC STRUCTURES BRANCH
DENVER, COLORADO JUNE 30, 1975
344-D-435



PLAN

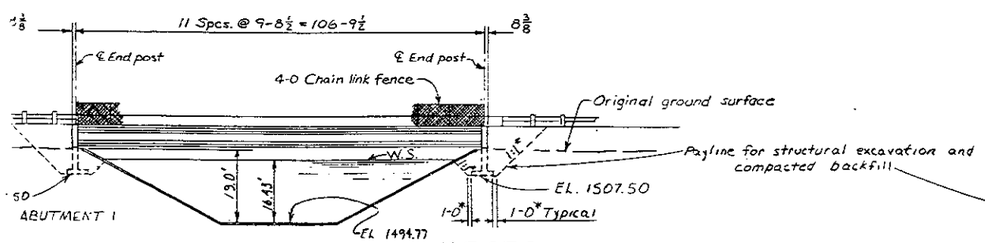
SCALE OF FEET



FOOTING PLAN

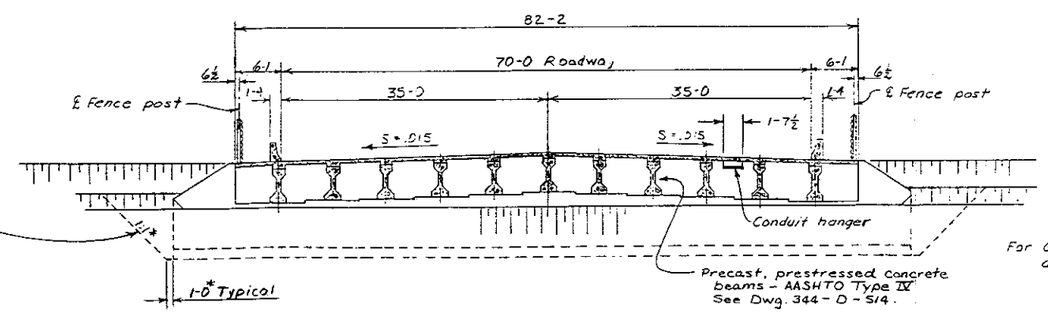
ESTIMATED QUANTITIES

Concrete - Bridge deck and parapets	250 Cu. Yds.
Concrete - Abutments	155 Cu. Yds.
Reinforcement steel	57,000 Lbs.
Precast, prestressed concrete beams Type IV (L = 107-4½)	11 Beams



ELEVATION

* Note: Measured normal to ℄ abutment.



SECTION A-A

SCALE OF FEET

NOTE

For General Notes, Design Specifications, Design Loads, and Materials see Dwg. 344-D-493.

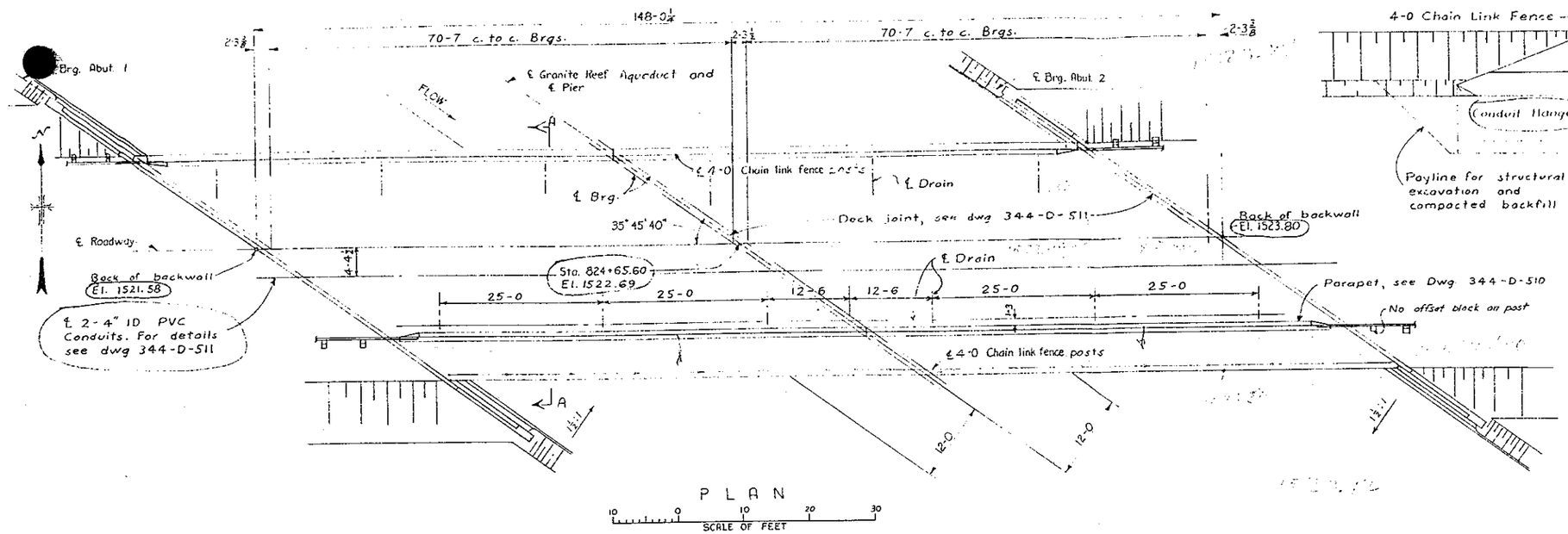
ALWAYS THINK SAFETY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
CENTRAL ARIZONA PROJECT
GRANITE REEF DIVISION - ARIZONA

GRANITE REEF AQUEDUCT
REACH 10
STA. 716+21.69
7TH STREET BRIDGE
PLANS - ELEVATION - SECTION

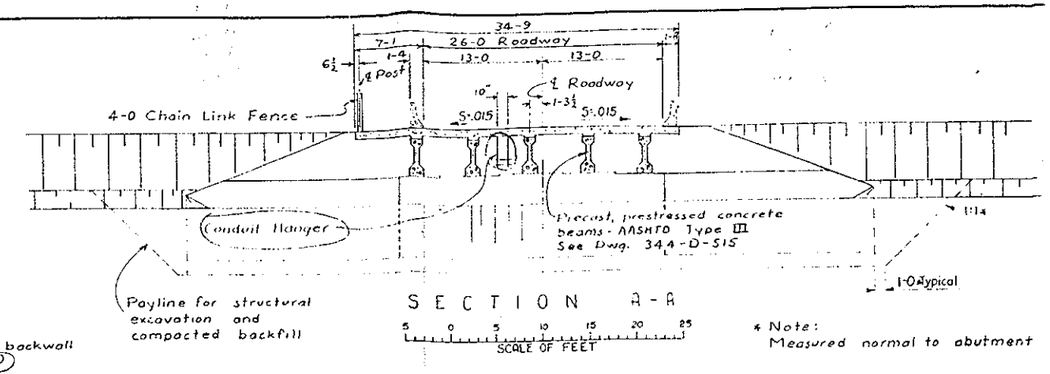
DESIGNED Jacob Mack SUBMITTED R. Strubbe
DRAWN Sally Mack RECOMMENDED Thomas Ritchey
CHECKED [illegible] APPROVED R. E. Williams
CHIEF, WATER CONVEYANCE BRANCH

DENVER, COLORADO SHEET 1 OF 3 DEC. 1, 1975 344-D-503



PLAN

SCALE OF FEET



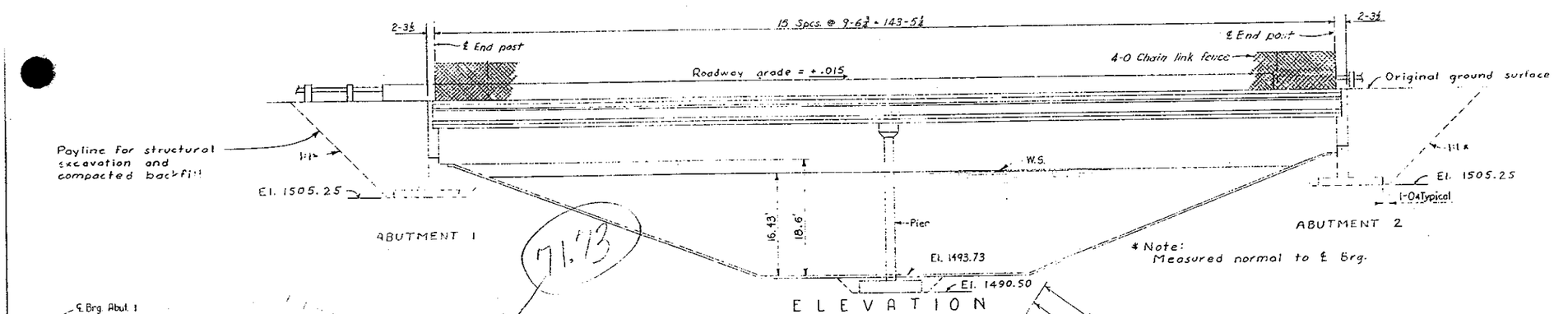
SECTION A-A

SCALE OF FEET

* Note: Measured normal to abutment

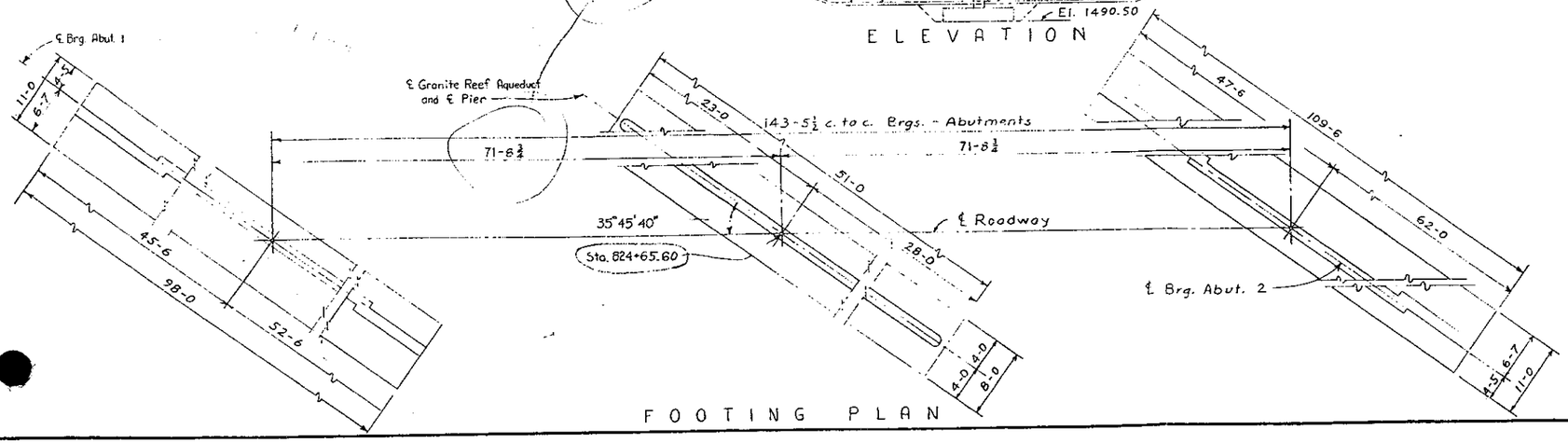
ESTIMATED QUANTITIES

Concrete - Bridge deck and parapets	170 Cu. Yds
Concrete - Abutments and pier	400 Cu. Yds
Reinforcement steel	60,000 Lbs.
Precast, prestressed concrete beams Type III (L=72-7)	10 Beams



* Note: Measured normal to ℄ Brg.

ELEVATION



FOOTING PLAN

NOTE

For General Notes, Design Specifications, Design Loads, and Materials, see Dwg. 344-D-493.

2-20-76 D. D.R.O.	REVISED CANAL STA. AND ADDED CONDUIT

ALWAYS THINK SAFETY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
CENTRAL ARIZONA PROJECT
GRANITE REEF DIVISION-ARIZONA

GRANITE REEF AQUEDUCT
REACH 10
STA. 824+65.60
DEER VALLEY ROAD BRIDGE
PLANS-ELEVATION-SECTION

DESIGNED J. R. S. Ruiz SUBMITTED R. D. Lorbeer
DRAWN J. R. S. Ruiz RECOMMENDED Lowell Pitts
CHECKED David R. Crowe APPROVED R. E. McKinney
CHIEF, WATER CONVEYANCE BRAN

DENVER, COLORADO SHEET 1 OF 4 DEC 1, 1975 344-D-506

Baker

MICHAEL BAKER JR., INC.

PHONE CALL REPORT

PROJECT/LOCATION: Cave Buttes Dam

S.O. NO.: 22426-000-0000
DATE: 3-01-96
CONTRACT NO.: FCD 95-36

To:	Dempsey Helms	From:	Bob Davies
Repres.:	Arizona State Land Department	Repres.:	Baker
Phone No.:	542-3508	Phone No.:	279-1234

Subject: **Notification of Cave Buttes Dam Study Initiation**

I called to notify the State Land Department that the Cave Buttes Dam Inundation Study has begun. I called for Ott Chatupron who was not available. I then requested Clyde Anderson who was on vacation. I was transferred to Dempsey Helms (Project Manager in Drainage and Engineering and works for Ott). I gave Dempsey and overview of the scope and explained that the study was being done for Emergency Management purposes, not Flood Insurance purposes. I told him that there would be no submittal to FEMA. I gave Dempsey an idea of the duration of the contract and told him that we expected to be done by about July 1, 1996. Dempsey thought State Lands would want a copy of the report when finished.

cc: WBM/CF

PREPARED BY Robert L. Davies, P.E. TITLE Senior Engineer PAGE 1 OF 1

Baker

MICHAEL BAKER JR., INC.

PHONE CALL REPORT

PROJECT/LOCATION: Cave Buttes Dam

S.O. NO.: 22426
DATE: 3-01-96
CONTRACT NO.: FCD 95-36

To:	Ray Acuna	From:	Bob Davies
Repres.:	City of Phoenix Floodplain Administrator	Repres.:	Baker
Phone No.:	262-4026	Phone No.:	279-1234

Subject: **Notification of Cave Buttes Dam Study Initiation**

I called to notify the City of Phoenix that the Cave Buttes Dam Inundation Study has begun. I gave Ray an overview of the scope and explained that the study was being done for Emergency Management purposes, not Flood Insurance purposes. I told him that there would be no submittal to FEMA. I gave Ray an idea of the duration of the contract and told him that we expected to be done by about July 1, 1996. Ray thought that the City would want a copy of the report when finished.

Ray said he was concerned that there has been situations where Phoenix has been informed of the results of a flood study after the fact. In some cases some landowners ended up paying flood insurance who weren't before. Phoenix City Council members have been called in the past and have really stirred up the pot. Employees have been terminated in some cases. Ray has had to come in and mop up the aftermath before.

I reiterated that this is not a FIS and will not be submitted to FEMA. Ray indicated that the City may be interested in getting a copy of the report when it is done. The results of the study may help Phoenix with floodplain management. I told him I would mention this to Tim Murphy.

cc: WBM/CF

PREPARED BY Robert L. Davies, P.E. TITLE Senior Engineer PAGE 1 OF 1

Baker

MICHAEL BAKER JR., INC.

PHONE CALL REPORT

PROJECT/LOCATION: Cave Buttes Dam

S.O. NO.: 22426
DATE: 3-01-96
CONTRACT NO.: FCD 95-36

To:	Ken Hussain	From:	Bob Davies
Repres.:	Arizona Department of Water Resources	Repres.:	Baker
Phone No.:	417-2400	Phone No.:	279-1234

Subject: **Notification of Cave Buttes Dam Study Initiation**

I called for Bill Jenkins and his assistant Ken Hussain in Safety of Dams called me back. I told Ken I had called to notify ADWR that the Cave Buttes Dam Inundation Study has begun. I gave Ken an overview of the scope and explained that the study was being done for Emergency Management purposes, not Flood Insurance purposes. I told him that there would be no submittal to FEMA. I gave Ken an idea of the duration of the contract and told him that we expected to be done by about July 1, 1996. Ken thought ADWR would want a copy of the report when finished. He thought he would call Joe Tram. He thanked me for the information.

cc: WBM/CF

PREPARED BY Robert L. Davies, P.E. TITLE Senior Engineer PAGE 1 OF 1

Baker

MICHAEL BAKER JR., INC.

PHONE CALL REPORT

PROJECT/LOCATION: Cave Buttes Dam

S.O. NO.: 22426
DATE: 3-07-96
CONTRACT NO.: FCD 95-36

To:	Tom Rankley/Steve Johnson	From:	Bob Davies
Repres.:	U.S. Bureau of Reclamation	Repres.:	Baker
Phone No.:	870-2229	Phone No.:	279-1234

Subject: **Notification of Cave Buttes Dam Study Initiation**

I called Tom Rankley at Reclamation. I told Tom I had called to notify USBR that the Cave Buttes Dam Inundation Study has begun. I gave Tom an overview of the scope and explained that the study was being done for Emergency Management purposes, not Flood Insurance purposes. I told him that there would be no submittal to FEMA. Tom recommended I contact Steve Johnson regarding this study. I told him I would call him tomorrow.

I called Steve Johnson at Reclamation. I gave Steve the same project overview. Steve said that if we need more information to let him know. He thought that Greg Gulsvig would be of the most benefit regarding H & H design data for this reach of the CAP. (Denver 303-236-9000) I told Steve that we have worked with Greg on the Squaw Peak - Outer Loop Drainage Study. Steve's supervisor is Chris Brechler whom provided us with design drawings of overchutes last week. He thanked me for the information.

cc: WBM/CF

PREPARED BY Robert L. Davies, P.E. TITLE Senior Engineer PAGE 1 OF 1

Baker

Michael Baker Jr., Inc.
1313 E. Osborn Road, Suite 150
Phoenix, Arizona 85014

(602) 279-1234
FAX (602) 279-1411

MEETING MINUTES

Date: March 5, 1996

Location: Baker's Phoenix Office

Project: Cave Buttes Dam Delineation Study

Topic: Progress Meeting

Attendees: **Flood Control District of Maricopa County**
Tim Murphy

Michael Baker Jr., Inc.
Tim Kelly
Bob Davies RLD
Cathy Regester

Bob gave an overview of Baker's TQM process. Discussed items on the Agenda (see attached). Some general discussion points were:

- FCD will look into DTM problem.
- Leaning toward ID-ing sections from spwy down but that is not final yet. If this way is chosen, then Section 0 will probably be at the concrete sill in the spillway.
- Tim M. will discuss delineation of critical vs. supercritical vs. EG with Joe Tram.
- Will probably want to use the 6-hour PMF for analysis 5 but Tim M. will let us know for sure.
- HEC-1 routing is not expected. Extent/elevation of impoundment refers to delineation rather than routing.
- Baker will use whatever is appropriate for boundary conditions.
- Baker will research how Burgess & Niple modeled the CAP overchute and see if that is appropriate to this study. Baker will model the overchute.
- For the final exhibit, Tim M. likes the screened contours because it makes the results of the study stand out. Also, will probably want to see approximately 3 divisions along the section plus the channel with info on velocities and depths. Baker will come up with a proposed table and get FCD approval before finalizing.
- Tim M. will let Baker know how many reports to make for distribution. (i.e., ADWR, C.O.P., Reclamation, State Lands)

The next meeting is scheduled for Thursday, March 14, 1996 at 10:30 AM.

Attachments: Agenda
Phone Call Reports (4)

cc: Attendees
WBM/CF

22426- 206-4601

A Total Quality Corporation

Baker

AGENDA

PROGRESS MEETING

Delineation of Spillway Flows for Cave Buttes Dam

March 5, 1996

I. Status of Study
   A. Data Collection
   B. 'n' Value Report
   C. Modeling Update

II. Discussion Items
   A. Mapping (DTM)
   B. Cross Section IDs
   C. Delineation under Supercritical Flow Conditions (critical vs. supercritical)
   D. 72-hour PMF vs. 6-hour PMF (analysis of condition no. 5)
   E. Determination of Extent/Elevation of Impoundment along the CAP
   F. Boundary Conditions
   G. CAP (full)
   H. CAP Overchute Modeling

III. Next Meeting Date

Baker

Michael Baker Jr., Inc.
1313 E. Osborn Road, Suite 150
Phoenix, Arizona 85014

(602) 279-1234
FAX (602) 279-1411

MEETING MINUTES

Date: March 26, 1996

Location: Michael Baker Jr., Inc.

Project: Flood Control District of Maricopa County
Delineation of Spillway Flows for Cave Buttes Dam
Contract No. FCD 95-36
Progress Meeting

Attendees: **Flood Control District of Maricopa County**
Tim Murphy

Michael Baker Jr., Inc.
Bob Davies
Cathy Regester

I. Status of Study

- Baker reported that Manning "n"-value estimates are almost done. Photos from the field view have been identified and located. Vegetation and obstructions will probably not be a major factor.
- The basic approach to modeling was discussed. The flow splits are probably the major challenge. It appears that the split percentage between Cave Creek and Scatter Wash will be different for flow scenarios 1-3 and 5. The ineffective areas will vary for the various flow scenarios and the main channel locations may vary.

II. Discussion Items

- Baker inquired whether the FCDMC had resolved the mapping and DTM problems for the Cave Buttes Dam area. Tim M. said he didn't think so and directed Baker to proceed with the DTM as Baker has revised it.
- Baker inquired if there was a preference of how cross sections were identified. The discussion centered around the cross section ID's for the first four flow scenarios. Tim M. said the stationing should start at river mile 20.00 and decrease going downstream.
- Baker inquired whether the FCDMC had a preference of starting boundary conditions for the models. Baker proposed using normal depth upstream on the spillway and critical depth downstream at the CAP. Tim M. acknowledged that these seem like reasonable starting boundary conditions.
- Baker asked if Tim M. had specific billing requirements for this job regarding the frequency of invoicing, etc. Tim M. said he had no specific requirements for frequency of billing, and the normal FCDMC billing documentation is fine.

III. The next proposed meeting date is April 11, 1996.

cc: Attendees, WBM/CF

Baker

Michael Baker Jr., Inc.
1313 E. Osborn Road, Suite 150
Phoenix, Arizona 85014

(602) 279-1234
FAX (602) 279-1411

MEETING MINUTES

Date: April 25, 1996

Location: Michael Baker Jr., Inc.

Project: Flood Control District of Maricopa County
Delineation of Spillway Flows for Cave Buttes Dam
Contract No. FCD 95-36
Progress Meeting

Attendees: **Flood Control District of Maricopa County**
Tim Murphy

Michael Baker Jr., Inc.
Bob Davies

I. Status of Study

- Bob presented the 'n'-value report to Tim and leafed through the color photographs, their descriptions, and the computations for the 'n'-values. Tim wondered if some variation in 'n'-value might be appropriate in some of the more vegetated areas. A field view may confirm this.
- Bob briefly summarized the status of the five flow scenario models and their present status. The 'No-Dam" plot with section layout was briefly discussed. The base RAS model has already been developed but the flow split and ineffective areas need additional work.

II. Discussion Items

- Bob and Tim walked through parts of two of the models section by section, reach by reach. Bob pointed out that the cross sections would be trimmed back to a minimum vertical relief (vertical distance between maximum and minimum GR data). This process will result in visual cross sections which make more sense. There were some areas, in the lower Cave Creek area in particular, where the locations of the main channels looked way too narrow. Bob said Baker would review the main channel stationing to assure that they made sense. The horizontal and vertical ineffective areas were noted while stepping through the various reaches.

III. The next meeting date is Tuesday, May 7, 1996.

cc: Attendees
WBM/CF

Baker

Michael Baker Jr., Inc.
1313 E. Osborn Road, Suite 150
Phoenix, Arizona 85014

(602) 279-1234
FAX (602) 279-1411

MEETING MINUTES

Date: May 7, 1996

Location: Michael Baker Jr., Inc.

Project: Flood Control District of Maricopa County
Delineation of Spillway Flows for Cave Buttes Dam
Contract No. FCD 95-36
Progress Meeting

Attendees: **Flood Control District of Maricopa County**
Tim Murphy

Michael Baker Jr., Inc.
Tim Kelly
Bob Davies RJD
Cathy Regester

I. Status of Study

- We went over the results of the "n"-value development and estimation. In addition to following the "n"-value estimation procedures as outlined in the Maricopa County procedures, Baker performed a sensitivity evaluation. Cathy described the incremental approach she used to evaluate the sensitivity and the results of this evaluation. If a significant flood does occur, any vegetation which exists will probably be washed out.
- A modeling update was presented to Tim M. The modeling of ineffective areas, main channel locations, and flow split progress was discussed. Most of these modeling considerations will vary for each flow scenario.

II. Discussion Items

- Baker requested input from the FCDMC on where the 'No-Dam" baseline should be placed since the flow split location has moved from the first four flow scenarios. Tim M. responded that it was his understanding that the GIS requirements for this project will dictate where the baseline must extend to. He believed that the Scatter Wash baseline must extend far enough so that the baseline touches all of the sections which are solely in the Scatter Wash. Tim M. said he would get with FCDMC's GIS department to identify any special requirements regarding and would pass info back to Baker.
- Baker asked Tim M. for any special requirements regarding the section labeling for the "No-Dam" scenario. Tim said that sequential numbering would be fine (i.e., 1,2,3,4...).

- Bob presented Tim M. with a sample table with column headings which would be used to show the hydraulic output data for the final exhibits. Tim said he would discuss the proposed table with Joe Tram to get feedback, and then communicate to Baker.
- Baker proposed to Tim M. that at the next progress meeting a draft submittal be submitted to him for review and comments.
- Baker intends to meet the FCDMC's fiscal year end deadline at the end of June 1996.

III. The next meeting date is Thursday, May 16, 1996.

cc: Attendees
WBM/CF

Baker

Michael Baker Jr., Inc.
1313 E. Osborn Road, Suite 150
Phoenix, Arizona 85014

(602) 279-1234
FAX (602) 279-1411

MEETING MINUTES

Date: May 16, 1996

Location: Michael Baker Jr., Inc.

Project: Flood Control District of Maricopa County
Delineation of Spillway Flows for Cave Buttes Dam
Contract No. FCD 95-36
Progress Meeting

Attendees: **Flood Control District of Maricopa County**
Tim Murphy

Michael Baker Jr., Inc.
Bob Davies
Cathy Regester

I. Status of Study

- Baker presented an updated plot representing the section layout for the first four flow scenarios.
- Baker presented a modeling update for all five flow scenarios. The discussion included selected details regarding each of the scenarios as it relates to ineffective areas, main channel locations, and flow splits.

II. Discussion Items

- Tim M. responded to one of the questions from last meeting. He penciled in table headings to be shown on the various exhibits. These headings included: X-SEC, Q, CWSEL, TRAVEL TIME, VELOCITY RANGE, and DEPTH RANGE. Baker pointed out that the maximum and minimum velocity and depth values may not occur at the same conveyance slice using flow distribution at a given cross section. The end conveyance slice typically will be smaller than any other conveyance slice in the section and will therefore skew the minimum depth and velocity values. Tim acknowledged this phenomena and said Baker could show either the maximum and minimum depth and velocity values or just show the maximum values.
- Tim M. requested that Baker provide two values for the discharge at which flow begins to spill to Scatter Wash (flow scenario four). One discharge will reflect a water surface elevation equal to the spill elevation, and the second discharge will reflect an energy grade elevation equal to the spill elevation.
- Baker went over the items to be transmitted to Tim M. for review. One of the ponding limit maps still needed to be completed. Cathy proposed to complete and submit to the

FCDMC. Tim M. said submit what we have to expedite the review. A floppy with zipped files of all five flow scenarios and the narrative document were provided to Tim as well as the hard copy plots.

- Baker inquired whether the FCDMC could provide comments for the submittal by the next proposed meeting in two weeks, or sooner. Tim M. said that his schedule is fairly tight right now and it would be difficult for him to commit to a two week turnaround, but he would do the best that he could. Baker pointed out that they wanted to make sure that any comments were incorporated so that a final review submittal could be made and any lingering comments be picked up prior to the end of June.

III. The next proposed meeting date is Thursday, May 30, 1996.

cc: Attendees
WBM/CF